

**Inside the Model:  
Politics, Enterprise Strategies and Employment  
Quality in Chile**

Dissertation

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## Glossary of acronyms and Spanish-language terms

AFP	Administradora de Fondos de Pensiones – Private pension fund in Chile
AMPICH	Asociación de la Mediana y Pequeña Industria de Chile
ASIMET	Asociación de Industrias Metalúrgicas y Metalmecánicas – Business association of the metallurgical and metalworking industries
BSIS	Bolsa de Subcontratación Industrial de Santiago
CASEN	Caracterización Socioeconómica Nacional – Chilean household survey carried out by the Ministry of Planification (MIDEPLAN)
CIEPLAN	Corporación de Investigaciones Económicas para Latinoamérica
Ch\$	Chilean Pesos
CIF	Cost, Insurance and Freight
CONTEVECH	Confederación Nacional de Trabajadores Textiles, del Vestuario, la Confección y Ramos Conexos de Chile
CONTEXTIL	Confederación Nacional de Federaciones y Sindicatos de Trabajadores Textiles de la Confección, Vestuario, Pieles y Ramos Similares y/o Conexos de Chile
CORFO	Corporación de Fomento de la Producción – The state development agency, created in the context of the ISI development strategy. It was in charge of the creation and administration of state enterprises and of industrial policy measures.
CPC	Confederación de la Producción y Comercio - The main organization of large- and medium-scale business in Chile. Most sectoral business associations such as the Sociedad de Fomento Fabril are affiliated to the CPC.
CUT	Central Única de Trabajadores (up to 1973) / Central Unitaria de Trabajadores (since 1990) – National trade union confederation
ECLAC	Economic Commission for Latin America and the Caribbean
EDI	Electronic Data Interchange
ENE	Encuesta Nacional del Empleo – National employment survey (household survey carried out by the INE)
ENIA	Encuesta Nacional Industrial Anual – National manufacturing survey (establishment survey carried out by the INE)
FENSITECO	Federación Nacional de Sindicatos Textiles de la Confección, Comercio, Servicios y Ramos Conexos
FISA	Feria Internacional de Santiago
IBGE	Instituto Brasileiro de Geografia e Estadística, Rio de Janeiro
ILO	International Labour Organization / International Labour Office, Geneva
ILO Task Force	ILO Task Force on the Country Studies on the Social Dimensions of Globalization, Geneva
IMF	International Monetary Fund, Washington
INE	Instituto Nacional de Estadísticas - National Statistical Institute, Santiago
ISAPRE	Institución de Salud Previsional – Private health insurance company in Chile
ISI	Import-Substituting Industrialization

ISIC	International Standard Industrial Classification - This classification of economic activities is used in its revision 2 (1968).
ISO	International Standard Organisation, Geneva
IT	Information Technologies
GDP	Gross Domestic Product
GNP	Gross National Product
JIT	Just-In-Time
Mercosur	Mercado Común del Sur – Full members of this trade agreement are Argentina, Brazil, Paraguay and Uruguay
NAFTA	North American Free-Trade Agreement
n.d.	no date
n.p.	no page numbers
PC	Personal Computer
PET	Programa de Economía del Trabajo
PIT	Programa de Innovación Tecnológica
PROFO	Proyecto de Fomento – Development project (instrument of Chilean industrial policy)
SENCE	Servicio Nacional de Capacitación y Empleo
SERCOTEC	Servicio de Cooperación Técnica
SITC	Standard International Trade Classification
UNDP	United Nations Development Programme, New York
UNIDO	United Nations Industrial Development Organization, Vienna
UP	Unidad Popular
WTO	World Trade Organization

# 1. Introduction

*Tucked away between the Andes and the Pacific, and on the way to nowhere in particular, Chile almost resembles an Asian tiger mistakenly attached to a different continent.*

*The Economist*, 25 February 1995, p.29

## 1.1. Chile in the context of recent development debates

For over a decade, a recurrent discourse has stated the necessity of adapting economic and social policies to the requirements of globalized markets in order to remain (or become) competitive. In the contemporary world of greater openness of goods and capital markets and increased mobility of capital, a stronger reliance on private initiative is promoted, while state interventions are seen with increasing suspicion.

This debate has not only occurred in developed countries; in fact, it could even be argued that the trend towards a reduction of trade barriers and diminishing state interventions has been stronger in developing countries than in the industrialized world. This is partly due to the fact that developing countries are more readily influenced by the recommendations and conditionalities of agencies such as the International Monetary Fund (IMF), for which the new orientation holds the promise - via improved allocation of resources and more efficiency - to increase prosperity:

Countries that align themselves with the forces of globalization and embrace the reforms needed to do so, liberalizing markets and pursuing disciplined macroeconomic policies, are likely to put themselves on a path of convergence with the advanced economies, following the successful Asian newly industrialized economies (NIEs). These countries may expect to benefit from trade, gain global market share, and be increasingly rewarded with larger private capital flows. (IMF, 1997: 72)

For other observers, however, the negative aspects of such an approach prevail: import-competing industries decline, causing increased unemployment; the balance of power is shifted in favour of business at the expense of workers' interests; employment becomes increasingly precarious. While no definitive conclusions to this debate are in sight, there is increasing evidence that at least in the short run, and especially for low-skilled workers, the recommended policy package often fails to deliver.

Chile is a good example of a developing country that adopted these policies much earlier than others. Indeed, soon after the military coup against the elected socialist president Salvador Allende in 1973, the military regime started to liberalize domestic and foreign markets and to reduce the state's involvement in productive activities. Chile can thus be used as a case study to analyze the results in a country that is generally considered to be a success story and a "window into the future of Latin America".<sup>1</sup>

With its record of 15 years of uninterrupted economic growth and macroeconomic stability between 1984 and 1998 (at a yearly average of 6.9 per cent), Chile has for several years

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<sup>1</sup> This expression was used by US president Bill Clinton when he received the Chilean president Eduardo Frei in early 1997 (as cited by Leiva, 1998: 10).

been assimilated with the Asian "tigers" in public discussion. While serious analyses reveal that Chile should probably be considered as a "candidate for tiger status" rather than a "tiger proper", the Chilean case is nevertheless an important element of the international development debate. As Edwards and Lederman (1998: 1) put it:

Chile has become a model for reforming economies throughout the world. Policy-makers, academics and consultants in Latin America, Eastern Europe, South Asia, and Africa are analyzing the Chilean experiment to get insights on "how" to reform their economies.

Indeed, Chile appears to be *the* example for the application of the market-oriented development strategy that the IMF and the World Bank are recommending. Chile thus contrasts with the original Asian tigers (South Korea, Taiwan, Hongkong, Singapore) which, according to the research accumulated during the last ten years or so, are not very credible examples of a liberal hands-off policy with minimal state intervention anymore. Even the World Bank had to admit in its "Miracle Study" (World Bank, 1993) that state intervention in some areas did not necessarily harm the Asian growth record<sup>2</sup>, and economists less committed to neo-classical textbook economics collected an impressive amount of evidence on the degree of state intervention and its clearly market distorting characteristics in a number of cases (see Amsden, 1989; Wade, 1996). In many aspects, the early interpretations of the tigers' success – export orientation and market-oriented economic policies - (see Balassa, 1981; Westphal, 1978; Tsiang, 1984)<sup>3</sup> fit the Chilean case much better than the Asian economies they were originally designed to explain. For all these reasons, the Chilean case has acquired paradigmatic importance for both the defenders and the critics of the pro-market policy recommendations.

However, this development debate is essentially situated at the macro-level. It thus focuses on aggregate data such as GDP growth and, more recently, poverty rates. It typically neglects micro-level and political variables:

- An economic incentive system does not come into existence nor does it work independently of the relationship between the state and social actors. In Chile, the departure from the previous strategy of import-substituting industrialization was introduced by a repressive state under the military dictatorship of Augusto Pinochet (1973-1990). The openly dictatorial characteristics of the Pinochet regime are a strong limitation for a "model", given that the term implies the convenience of applying it in other countries: no one has as yet proposed a Latin American "value debate" in order

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<sup>2</sup> For a detailed critical review of the history and content of the "Miracle Report", see Wade (1996). Wade concludes that despite abundant empirical evidence, the World Bank did everything to protect the main paradigm on which its work is based: "The weakness of evidence notwithstanding, the argument sweeps to its paradigm-protecting conclusions on the strength of several rhetorical techniques. One is to structure an argument as a triptych with two extremes and a middle, our confidence in the middle being elevated by the foolishness of what flanks it. In the *Miracle* we are shown two cartoonish interpretations of East Asian success - laissez faire and government intervention - and then the sensible market-friendly approach in between." (Wade, 1996: 25).

<sup>3</sup> Admittedly, these studies do not claim that the Asian "tigers" have applied a "free market" policy in a strict sense. Rather, the argument goes, the existing state intervention was moderate and did not influence ("distort") allocation of resources to a considerable extent, resulting in a resource allocation "according to comparative advantage".

to justify Chilean authoritarianism.<sup>4</sup> Although the country has since then returned to democratic government under the presidents Patricio Aylwin (1990-1994), Eduardo Frei (1994-2000) and Ricardo Lagos (since March 2000), permanent changes in the balance of power have remained. The Chilean state has become "smaller", but "stronger" in its capacity of action; it definitely appears to be among the most efficient in the Latin American context (Muñoz, 1996a: 19; Eßer, 1999). The labour movement in contemporary Chile is weak and clearly subordinated to a dominant business community.

- Moreover, what has occurred at the enterprise level has not been studied very extensively. The simplified economic model suggests that the "right" prices and the "right" incentives will automatically lead to more efficiency, but does not take the strategies of economic actors and the micro level into account. Enterprises remain a "black box" and adaptation processes are implicitly conceived as automatic and immediate. However, in reality positive or negative outcomes of modified policies are neither automatic nor immediate. Rather they depend on the response of the economic actors to the new incentive system. Similar incentive structures cause different responses that are the result of complex learning processes that deserve themselves a more detailed analysis and indeed support by adequate policies.
- Another fundamental doubt concerns the consequences of these changes for workers. If enterprises become more competitive, does this mean that workers welfare will increase? Evidence on weaker trade unions and higher job insecurity suggests that the link is not straightforward. Strategies that increase enterprises' competitiveness do not necessarily mean greater welfare for all workers. In many cases, some will gain, but the less skilled workers are likely to lose. It is true that both the successful macro-economic performance of the Chilean economy and the issue of employment quality in Chile have already been studied by a number of authors. However, the former issue has usually been studied by defenders of the "Chilean model", while the latter one has been a preferred object of study for its critics. As a result, no integral vision and interpretation of the Chilean model emerges from these studies.

For these reasons, the Chilean case deserves a detailed study in which national, sectoral and enterprise-level evidence are brought together into one integral vision. This study constitutes one attempt at such an analysis, using both national evidence and an analysis of the innovation and flexibility strategies of Chilean enterprises in two manufacturing sectors.

## **1.2. Positive or negative model?**

From a contemporary perspective, Chile's status as a model for economic development may appear quite obvious to most observers. However, the positive interpretation of Chile's reforms during the Pinochet government is not without problems. Given the data, the widespread praise for the economic transformation under the military regime is, to say the least, surprising:

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<sup>4</sup> On the Asian value debate and its instrumentalization in order to justify authoritarian political systems, see Lee (1997).

- The Chilean experience was not one of continued growth; there was a first economic crisis in 1975, and a second one in 1982. It is important to note that during each of the recessions GDP diminished much more than during the last two years of the socialist Allende government (1972 and 1973), generally remembered as years of economic chaos. While the first recession under Pinochet (1975) may be explained by the necessary adjustment in order to reduce the inflation and unsustainable fiscal deficit left behind by the Allende government, the second one was to a large extent due to misguided economic policies, especially in the area of exchange-rate management.
- Average yearly economic growth for the period 1974-1990 was only 3.5 per cent, a figure that is by no means impressive compared to the historical averages under the Import Substitution scheme. The average yearly growth rate during the 1960-1973 period was 3.8 per cent, while it was 3.4 per cent for the 1941-1959 period (see chapter 3. below). Only the last years of the military regime (1984-1989) are impressive in terms of economic growth.

In consequence, if there is any justification for the widespread praise of the Chilean model, it can only be due to the conviction that the radical structural changes under the military regime laid the bases for a future growth period. In other words, to evaluate the model, it makes much sense to base the analysis on the 1990s and not only the second half of the 1980s, when the miraculous growth was mainly a recovery from the previous crises.

Indeed, rather than suffering the economic setback that many feared as a consequence of social unrest after democratization, during 1990 - 1998, Chile's fast economic growth continued at an average annual rate of 7.7 per cent while inflation decreased and investment increased. 1999 was marked by the first recession since the economic crisis in 1981/1982 and a drop in GDP of 1.1 per cent.<sup>5</sup> However, an economic recovery has started during the last months of 1999 and a return to economic growth is predicted for 2000 (5.5 to 6.0 per cent according to the Central Bank, and up to 6.5 per cent according to some economists).<sup>6</sup> Thus, although the economic and social consequences of the recent slowdown need to be analyzed, it is too early to predict the end of the "Chilean model", and the Chilean case will certainly maintain its paradigmatic importance in the development debate during the coming years.

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<sup>5</sup> Banco Central (2000): Informe Económico y Financiero al 15 de Marzo. As a consequence of the crisis, the national unemployment rate rose from under 6 per cent before the crisis to a peak of 11.5 per cent in mid-1999 (although it has been slowly decreasing since then). The reasons for the crisis were both external and internal in nature. The main external causes were the economic crises in Asia and, to a lesser extent, in Brazil, as well as the decline of the price of copper (copper is by far the most important export product of the Chilean economy). Some critics have argued that the decline in copper prices is of internal origin, given that the increase in Chile's copper production via new foreign investment projects has contributed to the excess supply in international copper markets. The debate on the internal errors in economic policy which have contributed to the crisis is far from concluded. Most criticism focuses on uncertainties and fluctuations in the exchange rate and interest rate policies (see for example *Estrategia Internet*, 2 August 1999).

<sup>6</sup> For forecasts of economic growth, see Massad (2000); *La Tercera en Internet*, 31 July 1999 and 24 August 1999; *Estrategia Internet*, 16 August 1999 and Instituto Libertad y Desarrollo (1999).

For the supporters of the Pinochet regime, the reforms between 1973 and 1990 are key components of the economic success of the 1990s. For example, José Piñera<sup>7</sup>, protagonist of the pension reform (from a collective social security system towards an individual savings scheme with subsidiary state responsibility for minimum pensions)<sup>8</sup> and the labour reform (introduction of a flexible legal framework with few rights for trade unions and decentralized collective bargaining at enterprise level), continues to praise these reforms. He sees them as a model not only for other developing countries, but even for the industrialized countries of Western Europe (*El Mercurio*, 26 July 1997: D6).

At the symbolic level at least, the supporters of the military government continue to see themselves as the winners, rather than the losers, of recent history. The claim is that the positive economic results of the last years are not a genuine result of policies of the democratic government in office, but rather the fruits of the transformations carried out by the military government (Instituto Libertad y Desarrollo, 1997b) and the opposition's capacity to block a radical departure from the way chosen in the 1970s and 1980s.

In this sense, business representatives accused the democratic governments after 1990 of not continuing economic reforms at a sufficiently high speed. The comment by the conservative newspaper *El Mercurio* that Chile could soon "cease to be a model in Latin America" (6 July 1997: A3)<sup>9</sup> is as clear as the remark by the president of the entrepreneurs association *Confederación de la Producción y el Comercio* (CPC), Walter Riesco, in an interview with the newspaper *La Época*: "The model that this country has pioneered, and which has proven very successful, is now stagnating" (29 July 1997: B2). The president of the industrial business association *Sociedad de Fomento Fabril* also declared recently that Chile is not a leader for Latin America anymore, as other countries have carried out the same reforms that Chile had carried out earlier: "We have not carried out new reforms and the world has progressed in many regards" (Lamarca, 1999: 4). In a way, the 1999 economic recession seems to confirm the relative stagnation of the Chilean model, although it is still too early to assess the consequences of the current crisis on the future of the Chilean development strategy.

It is hardly surprising that business representatives and former ministers of the Pinochet regime defend the model which has been implemented under military dictatorship. By contrast, it appears to be a paradox that the present government administrates the model inherited from the military government and seems to recognize it as such, although the coalition parties now in power were opposed to it during the military dictatorship.

As Petras and Leiva (1994: 46) put it in their critical account:

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<sup>7</sup> José Piñera was Minister of Labour from December 1978 to December 1981. He has published his own accounts of the struggle for pension reform (Piñera, 1991) and the introduction of a new labour legislation (Piñera, 1990).

<sup>8</sup> Although the Chilean pension system began to be seen as a model soon after its introduction in 1981, the implementation of similar reforms in other Latin American countries started only in the early 1990s. The new pension systems in Peru, Argentina, Colombia, Mexico and Uruguay all include an individual savings scheme similar to the Chilean one, although significant differences exist with regards to other components of the schemes (Mitchell/Barreto, 1997).

<sup>9</sup> Unless otherwise mentioned, quotations are translated into English by the author.



The convoluted process by which Christian Democratic and Socialist intellectuals converted from being critics of Pinochet's economic model to becoming architects of its continuity constitutes a crucial but heretofore insufficiently examined aspect of the Chilean transition.

This process did not begin with the start of the democratic government but much earlier, during the first years after the 1982 crisis, and ended with largely positive evaluations of the transformations under the military regime. For example, the Christian Democrat Alejandro Foxley, Minister of Finance from 1990 to 1994, declared in 1989 that after the 1982/83 crisis, a "fundamental recomposition of the mode of functioning of the Chilean economy [...] which I would dare to assess as extraordinarily successful" had occurred (Foxley, 1990 as cited in Petras/Leiva, 1994: 53). Eugenio Tironi, Socialist Minister of Information in the Aylwin government, stated in 1990 that during the second half of the 1980s, "Chile experienced a modernizing thrust" with the same purpose that "has also been the purpose of modernizing processes in all of the contemporary world, whether countries are developed or undeveloped, capitalist or socialist" (Tironi, 1990 as cited in Petras/Leiva, 1994: 63).

Of course, this recognition of the "model" and especially of the value of macroeconomic stability was not unconditional. For the first democratic government, there were at least two big challenges at the time of political transition. First, given that Chilean exports were still largely concentrated in natural resource-based products with little value-added, it was of prime importance to enhance competitiveness in sectors and sub-sectors intensive in value-added, technology and knowledge. The second challenge consisted of reverting the social costs of the Chilean experience, namely that a large percentage of Chileans were living in poverty and that Chile displayed an extreme degree of inequality in income distribution. Both aspects made the Chilean case quite different from the Asian tigers.

With the return to (albeit protected) democracy, a new political legitimacy and a new emphasis for more equitable social policies, Chile has become an appreciated model for economic and social policy reforms far beyond advocates of a neoliberal development strategy (see Imbusch, 1995: 22-34; Nolte, 1992; Marmora/Messner, 1992). Unlike the Chile under Pinochet which was a model mainly for economists of the World Bank, the University of Chicago and other organizations inspired by neo-classical thinking, the Chile of the 1990s has also become a model for the Economic Commission for Latin America and the Caribbean (ECLAC) as a country which could permit the application of the ECLAC doctrine of "productive transformation with equity" (ECLAC, 1990; 1992).<sup>10</sup> Indeed, due in part to personal links between ECLAC staff and the first democratic

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<sup>10</sup> This was paralleled by a broadening of the "exportable" features of the Chilean model. Institutional solutions such as the demand-driven professional training system have more recently become interesting cases for neighbouring countries in Latin America (section 7.2.).

government under President Aylwin, this doctrine was used as an official slogan of the Chilean government (see Mármodora/Messner, 1992; Aylwin, 1994).<sup>11</sup>

The pragmatic approach towards the inheritance permitted the emergence of consensus around certain areas of economic policy between the government and the opposition parties under the first two democratically elected governments after Pinochet. The need to believe in the success of the economic model and the technical administration of that model draw the attention away from the model's ideological content and from other, less consensual subjects. The negative side of the justified pride of having an orderly economy is a somewhat exaggerated and uncritical triumphalism (*exitismo*), and while the comparison with the Asian tigers has been replaced by a somewhat more careful imagery of "jaguars" and "pumas", a tendency to separate the country from its Latin American context in its presentations outside the region subsists (see Pinedo, 1996).

The positive interpretation of the current economic policies is shared by most political observers in Chile, but it is not universal. Interestingly however, even those who are against the current political and socio-economic regimes recognize the paradigmatic importance of the Chilean case by referring to it as "the model", with the only difference that in this case it is meant to describe the worst characteristics of neoliberalism, inherited undemocratic structures, an individualized and atomized society lacking solidarity, and an extremely unequal distribution of income. The concept of "model" is used by critical academics (Agacino, 1996), the left-wing extra-parliamentary opposition and left-wing newspapers as a pejorative shorthand for the economic and political system.<sup>12</sup> In this context, the "tiger" and "jaguar" terminology is used only in a sarcastic way<sup>13</sup>, or replaced by the description of Chile as a "wet cat" (*gato mojado*).

Despite all differences, the use of the term "model" by supporters of the Pinochet regime, by supporters of the democratic governments of the 1990s, and even - albeit in a negative

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<sup>11</sup> This conceptual closeness is no coincidence. Both ECLAC and the former PREALC (ILO Program for Latin America and the Caribbean, now ILO Multidisciplinary Team) have their headquarters in Santiago, and both institutions provided many Chilean Socialist and Christian Democratic economists and social scientists with employment as researchers and consultants during the Pinochet regime. The result is a strong intellectual link between the revision of traditional ECLAC development strategies and the renewal of Christian Democratic and Socialist leaders' and intellectuals' socio-economic thinking. The recently elected President Ricardo Lagos was an ILO official during the 1980s. Varying on the ECLAC "growth with equity", he used the slogan "growth with equality" (*Creciendo con igualdad*) during his campaign.

<sup>12</sup> See the weekly newspapers *El Siglo* (published by the Communist Party) and *Punto Final*. For example, Javier Chavez of the Communist Party makes the following comments in an article on the electoral system and the failure of many young people to register themselves in the voter registers: "The model is interested in that the people does not express its critical opinion. The model is interested in ensuring that there exists no identity of the big majority which asks for changes" (*El Siglo*, 8 August 1997: 6). It is interesting that academic criticism against "the model" such as Agacino's (1996) article triggers surprisingly violent reactions by defenders of the current economic system (Osvaldo Rosales, Comment during the presentation of the Report "*Economía y Trabajo en Chile*" - the book that includes Agacino's text -, Santiago, 1997). In Germany, a conference of critical intellectuals held in 1998 also dealt explicitly with the paradigmatic character of the Chilean model (*Neoliberalismus weltweit. 25 Jahre "Modell" Chile*, Münster, 19-21 November 1998).

<sup>13</sup> See for example the headline in *El Siglo* (8 July 1997: 1) referring to the US dumping accusations against Chilean salmon producers: "Salmons can drown Chilean jaguar".

sense - by the left-wing opposition, illustrates the paradigmatic importance of the Chilean case. This debate around Chile's model character indicates that, while there is still a consensus between the government and the opposition with regards to the main features of the economic model (export orientation and trade opening, central role of the private enterprise, etc.), their visions of the present and future challenges are fundamentally different.

In particular, some of these challenges cause considerable dissent between the government and the right-wing opposition:

- The government's conviction that a "second exporting phase", consisting in a shift towards the export of more elaborated and value-added intensive products, is necessary to make Chilean growth sustainable in the long run, is not shared by all opposition forces. The diagnostic of an exaggerated participation of primary resources in Chilean exports, the consequent vulnerability to changes in international market conditions and the perspectives for the second exporting phase have been presented by authors close to the present government (Ominami/Madrid, 1989; Rosales, 1993; Díaz, 1995).<sup>14</sup> It justifies some degree of industrial policy to encourage the desired shift towards more value added intensive exports. Parts of the opposition forces, represented for example by the editorial of the conservative newspaper *El Mercurio*, defend the position that Chile should export whatever comparative advantages suggest. They reject a specific policy oriented towards a second exporting phase because, to them, it suggests economic planification and a distortion of free market forces (*El Mercurio*, 15 March 1997: A3).
- With regards to poverty eradication and the improvement of income distribution, the government implements a combination of active social policy and trust in the beneficial effects of economic growth on the economic situation of the poorest.<sup>15</sup> Although poverty reduction is considered a priority, the improvement of the extremely unequal income distribution is also an explicit goal of government policy. The right-wing opposition, by contrast, criticizes the government's social policy as expensive, ill-focused and inefficient, considering economic growth as the decisive force behind the poverty reduction during the last decade. Moreover, the opposition is against any specific policy in favour of a more equal income distribution, arguing that distribution will automatically improve under free market conditions once the levels of education and training amongst the poorest have improved. In any case, the target of poverty eradication is much more important in this view than the modification of income distribution. The Chilean business periodical *Capital* and Cristián Larroulet of the pro-

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<sup>14</sup> Carlos Ominami is currently member of the Upper House of parliament (*Senado*) for the Socialist Party; Osvaldo Rosales is working with ECLAC and active member of the *Partido por la Democracia* (PPD); Álvaro Díaz is Deputy Minister of the Economy.

<sup>15</sup> No data are as yet available on the impact of the current crisis on the poverty situation in Chile, although it is obvious that the poor are strongly affected by the rise in the unemployment rate. The last measurement of the poverty rate was carried out in November 1998 when the economic slowdown had already started, but the unemployment rate had still not reached its peak. It indicated a slowdown in the diminution of poverty, but not a reversal. The poverty rate decreased from 23.2 per cent in 1996 to 21.7 per cent in 1998 (MIDEPLAN, 1999a).

opposition *Instituto Libertad y Desarrollo* rhetorically ask if the goal is "a country without poor or a country without rich" (*Capital*, September 1996: 3-6).

- More generally, the role of the state in development is a highly controversial issue between government and opposition. This can be illustrated by the continuous opposition complaints against the "excessive size of the state" (see, for example, *El Mercurio*, 31 August 1997: C3) and the discussion on privatisation. Whereas a general consensus exists as to the role for private enterprises in the production of goods, differences exist with regards to the role for the state in the provision of infrastructure and social services such as education and health. While the government insists that the public sector is necessary to provide these services for all those who do not have the money to pay for them in the private system, the dominant opinion in the opposition is that they could be organized more efficiently by private entities, and the best form of state intervention would be to subsidize demand.<sup>16</sup>

To some extent, these differences arise because the neoliberal model, although very specific on the path to take ("how to go") is not specific at all on the ultimate goals of development ("where to go"). Neoliberalism sees economic and social development largely as spontaneous outcome of market forces; any strategic vision of a future society is therefore suspicious in the sense that it sounds like planification and thus constitutes a departure from the path of the free market. In the early stages of neoliberal reforms, this problem is not very obvious because there are still enough market-enhancing reforms to be made. These pending reforms constitute political goals for the near and medium-term future. However, once the neoliberal institutional framework is close to be complete – in Chile this seems to be the case – the question of "where to go" becomes more urgent.<sup>17</sup>

The old industrialist goals of the import substitution phase are not "*en vogue*" any more, but alternative concepts of an economy strong in resource-based products and modern services are not very clear yet. In any case, it is important to bear in mind that Chile could reach a more developed stage without being strong in cars or electronics – if it can develop strengths in fine wines, processed food, insurance and software. Compared to the situation some years ago, when it almost appeared as if the issue of the development model for the Chilean economy and society had been definitely solved, debates on Chile's future have recently become more frequent. For example, the *Foro de Desarrollo Productivo*, one of

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<sup>16</sup> This vision is presented very clearly by José Piñera in an article for *El Mercurio* (2 November 1997: A2): "A deep educational reform is the most urgent and important task of our society. Schools cannot continue to be considered part of the social spending destined to alleviate the effects of poverty and teach the workers' sons – very imperfectly – to read and write. On the contrary, schools are crucial to the process of creation and distribution of wealth and must be in the hands of those most able to carry out the best educational projects – projects, methodologies, infrastructure -, competing amongst each other to offer a hopeful future to youth. This can only be done by private entrepreneurs who are ready to develop their initiative and to risk their capital in exchange for a legitimate utility. [...] The role of the state has to be centred in subsidizing the demand for education by the poorest, through the delivery of 'educational vouchers' to parents in order to finance the education of their sons at the school of their choice, and in assuring the transparency and competitiveness of the system."

<sup>17</sup> Sebastián Piñera identified this lack of vision as one of Chile's main problems (interview in *Capital*, January 1998: 35). Sebastián Piñera is José Piñera's brother, a successful businessman and moderate right-wing politician. He was pre-candidate for the 1999 presidential elections before abandoning his candidature in favour of Joaquín Lavín.

the few instances of social dialogue at the national level, recently held a series of workshop-type debates under the title "Chile 2010", where different perspectives of a possible future for the economy and society were discussed.

In sum, with the successful continuation of the neoliberal model inherited from the military government by a democratically elected centre-left government, the discussion on the "Chilean model" becomes more complex and more interesting. Some of the least acceptable features of the model have been corrected under democratic government, but the discussion on its shortcomings and the new challenges remains important.

### **1.3. Opening the black box: inside the model**

Chile is an interesting case not only because of its successful record of economic growth and its political transition. Given that Chile is one of the countries with the longest experience in the application of neoliberal policies, it is also an excellent case to study the micro-level characteristics and the social consequences of that model. Most characterizations of the Chilean model in academic circles or international development debates, be they positive or negative, take mainly macroeconomic data (GDP, exports and trade balance, productivity, etc.) as a base for their evaluation.<sup>18</sup> Even the social aspects of the Chilean model are mainly analyzed in terms of two single data: the poverty rates and the income distribution (see chapter 3.). These data, although generated from the micro-level (household surveys) are thus generally interpreted in their most aggregated version, which by definition present a distant and one-dimensional vision.

Although poverty rates and income distribution data are the most obvious short-hand indicators for social development, other types of inequalities and social problems such as unequal access to health and education and deficiencies in employment quality, are also an important part of the picture.

The micro-level characteristics of the Chilean economy and society are very often treated as a "black box". This is to some extent encouraged by theories that see the efficiency of enterprises practically as an automatic outcome of sound macro-level settings and "right" prices. However, several authors (Meyer-Stahmer, 1996; Katz/Vera, 1997) have pointed out that the emergence of creative and efficient enterprises is not an automatic outcome of a determined set of macroeconomic policies. Intermediate institutions and patterns of work organization have their own dynamism and are issues for study in their own right. On the level of discourse, innovation, efficiency and flexibility *are* indeed omnipresent in today's Chilean economy. However, the extent to which efficiency and flexibility have actually increased and the characteristics of the new Chilean enterprise are issues worth studying in more detail and will be addressed in chapters 4., 5. and 6. of this study.

Another reason to study the Chilean case "from within" is that it is a society where the extremely strong reliance on market mechanisms has had time to take root. Economic mechanisms are often thought to dominate not only the economic sphere, but society as a

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<sup>18</sup> See, however, the critical studies by Leiva (1998) and Collins/Lear (1995) which systematically incorporate micro-level observations.

whole. While advocates of the current model emphasize enhanced individual freedom and development of initiative and entrepreneurship at all levels of social and economic life, critics focus on consumerism and a lack of solidarity as primary social consequences.

Moulian (1997) describes the comprehensive change from a populist matrix to a productivist-consumerist matrix as a "capitalist revolution". The populist matrix was characterized by an inward-oriented industrialization with a weak form of welfare statism based upon the Western European models. Workers' pressure could be absorbed by higher inflation, leading to an inflationary spiral. A certain convergence between the interests of the industrial workforce and enterprises was based on the importance of domestic demand in this economic system (Agacino, 1994: 116-117). The modest but real welfare for formal sector workers was accompanied by the exclusion of large parts of the agricultural population and urban workers in small enterprises and in the informal sector. The radical opening of the Chilean economy under the Pinochet government forced domestic enterprises into direct competition with imported products at international market prices. At the same time, the increased export orientation diminished the importance of the domestic demand for Chilean enterprises. The accumulated effect of these developments was a pressure to keep wage levels down, at least as long as competitive pressure did not lead to significant productivity increases in Chilean enterprises. The deterioration in the functional distribution of income to the disadvantage of workers shows indeed that the costs of this adjustment process were not equally shared.

Although the Chilean configuration during the era of import substitution was at best a peripheral copy of the fordist pattern prevalent in the advanced industrialized countries at the time, the emergence of a new capitalist model of minimal state intervention and the crisis of fordism increased the importance of the Chilean case for discussion beyond Chile. The crisis of fordism has been discussed in a number of different ways; the concept of fordism is very broad and contains a number of dimensions, constituting altogether what the French regulationist school (Boyer, 1986) would call a *régime d'accumulation*: mass production, market expansion, demand management and income stabilisation policies, and a taylorist pattern of work organization (Loveman/Sengenberger, 1990).

The important point taken from the analysis of Moulian and the more general conceptual discussions on fordism and the crisis of fordism is that the model of socio-economic development is closely related to the micro-level aspects of economic organization – industrial organization, work organization, strategies of innovation and flexibility.

In an open economy such as Chile's, the permanent competitive pressure in international markets forces enterprises to adopt strategies of innovation and flexibility in order to remain competitive. These strategies have different consequences for the concerned workers according to the country they live in and its institutional framework, the economic sector they work in, their skill level and their sex. It is impossible to make predictions on the overall impact of these strategies on workers and employment quality without a careful empirical analysis.

Comparative investigations published by the ILO identify two strategies of economic restructuring in the face of competitive challenges with radically different consequences for the labour force (Sengenberger/Pyke, 1992). The first, called "low road" by the authors, consists in seeking competitiveness by means of low labour costs and a deregulated institutional environment. In addition to negative consequences for the work force,

competitiveness gains reached by this method can be of short duration because deficient working conditions tend to cause high levels of worker turnover, hindering necessary investments in human capital. Unrestricted competition between enterprises based on low prices implies degrees of rivalry that can hinder forms of co-operation between enterprises in order to jointly access resources, infrastructure and economies of scale.

The second strategy, called "high road", consists in developing constructive competition, increasing efficiency and applying innovative measures. Hence, economic progress allows salary increases and improving working conditions. This strategy needs some basic rules to avoid competition by lowering salaries and working conditions. A mix of competition and co-operation also forms part of this strategy. This second strategy is more desirable than the first one not only in terms of the quality of employment, but also in terms of enterprise development. Sengenberger and Pyke thus maintain that good working conditions and competitive development do not exclude each other, but can rather mutually reinforce each other, although the beneficial effects of a good quality of employment may be more difficult to measure than its costs. It has to be recognized, however, that the distinction between "low road" and "high road" strategies, useful as it is conceptually, proves more difficult to apply empirically.

Some studies have analyzed the impact of enterprise strategies in Chile. Interestingly, most studies that have a positive view of the changes in Chilean workplaces do not analyze employment quality in detail. Rather, the rise in real wages is taken as the only indicator for the improving situation of Chilean workers. Some critical studies of the Chilean model, on the contrary, analyze in a detailed manner the patterns of flexibility. For example, Leiva (1998) sees flexibilization as a main characteristic of Chilean enterprises' responses to competitive challenges within the conditions set by the current model of development. According to Leiva, workers suffer the consequences of flexibilization as they have to cope with declining job security, fluctuating income levels and the lack of collective bargaining mechanisms in the face of employers' arbitrary decisions. One of the main objectives of this study is to bring out the extent to which the search for competitiveness by means of innovations and flexibilization affects employment quality and other dimensions of social development.

However, enterprise strategies are not only the result of competitiveness challenges, but also depend on the institutional framework in which enterprises are operating. Although the Chilean economy has tended to be analyzed mainly in terms of its macroeconomic framework and policies, neglecting the impact of institutions and social actors, it is obvious that an institution-less economy does not exist. Paradoxically, the very nature of the transformation towards a new economic model based on the initiative of private enterprise required a high degree of state intervention. Hence, for a detailed analysis, it is not sufficient to oppose "regulation" and "deregulation" or "state" and "market" - rather, different types of regulation have to be distinguished (see section 2.1.2.). Actors and institutions do make a difference as they try to modify the outcomes according to their policy goals and interests.

## 1.4. Research questions and methods

Having contextually situated the present study, the research questions and the methods to answer these questions will now be presented. The main research questions are:

- **Is the "Chilean model", a model at the enterprise level? In particular, what are the dominant strategies of innovation and flexibility, and what are the perspectives of industrial upgrading?**
- **What is the social impact of these strategies? In particular, does economic success involve improvements in employment quality, and if so, is progress in employment quality shared by all categories of workers? Do production workers benefit from more participatory work organization practices?**
- **Can the institutional framework explain some characteristics of enterprise strategies? In which way does the balance of power between business and labour at the national level shape enterprise strategies? How could state policies correct detected shortcomings?**

In this study's aim to characterize the Chilean model in its economic, social and political dimensions, the conceptualization and empirical research are necessarily selective and neglect many dimensions in favour of others. This section explains the choices that have been made.

The first important choice is to put the employment relationship and the situation at work at the centre of analysis. It is obvious that other issues could have been chosen with equally interesting results as to what the Chilean model is like from within (such as the political relationships within particular political groups, or cultural life). However, employment and work have a privileged place when it comes to analyze social and economic characteristics at a micro-level.

The workplaces in enterprises are at the same time an economic and a social reality. First, they are the place where economic life is primarily located; it is people at work who produce goods and services which in their aggregation finally provide a figure for the GDP or other indicators of a nation's aggregate welfare. The way production and work are organized in an enterprise thus has a direct economic relevance. Second, employment and work are also and above all parts of the social life of individuals. Indeed, beyond being the main source of income for most households, work is also the place where most employed persons spend most of their available time. The way employment relationships and work are organized thus has an immediate impact on the workers' welfare. This not only refers to the amount of monetary income earned, but also to a series of other dimensions, such as opportunities for future professional development, health and security at the workplace, social status and identity of the worker, to mention but a few (for a more detailed list of these dimensions of employment quality see section 2.2.3.) Both the economic and social dimensions of work are influenced by institutional and political factors. For example, industrial policies, incentives for professional training and labour regulations all have an impact on both enterprises' strategies and workers' welfare.

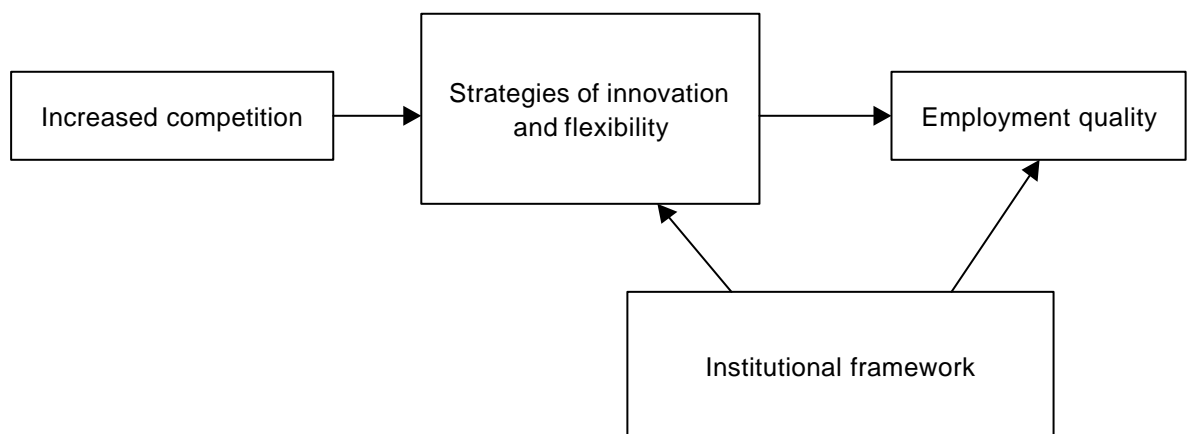


Before going into the details of the concepts, a rough sketch of the analytical framework can be provided for easier orientation:

- **Chilean enterprises try to cope with the challenges of increased competition in the context of globalization and fluctuating markets with strategies of innovation and flexibility. The choice of these strategies is influenced by the nature of the economic challenges enterprises face and the institutional framework in which enterprises are inserted.**
- **Enterprises' strategies have, on the one hand, an impact on the economic performance of the enterprise. On the other hand, they have a series of consequences for the workers in these enterprises, through the total volume of employment and wage levels, but also with regards to other dimensions of employment quality (e.g. job security, access to professional training and subjective dimensions such as work satisfaction).**
- **As has already been mentioned, the institutional context has an impact on enterprise strategies. Different types of regulation at the macro-level as well as the relationship between social actors give incentives for certain innovation and flexibility strategies while blocking others. These strategies in turn have an impact on workers' employment quality. On the other hand, some regulations (such as the labour legislation) also have a direct impact on employment quality.**

These links are summarized in figure 1.1. The schematic graphic representation merely aims to enhance the clarity of exposition and does not imply that causalities are restricted to those indicated by the pointers.

**Figure 1.1. Schematic representation of the links between enterprise strategies, employment quality and institutional framework**



Source: Own elaboration.

In order to open the black box, a combination of field research and statistical data was necessary. While statistical data and a careful analysis of these data can reveal new aspects of employment quality, social problems and precariousness, field research permits to put them in the context of the strategies of enterprises, which constitute the motor of development in the Chilean model. In order to interpret the results in the context of the broad questions raised in this study, it is necessary to situate them in, and contrast them with, a broader review of literature and macro-level data. The analysis of specific cases and aggregate data can benefit each other in order to reach a better understanding of the empirical reality and to improve concepts and theories (see Scheff, 1997).

The empirical research carried out for this study uses two main research strategies in addition to the revision of the existing literature:

- An analysis of nationally representative statistical data from household and establishment surveys. The main household surveys are (i) the National Employment Survey (*Encuesta Nacional del Empleo*), carried out monthly by the National Statistical Institute (*Instituto Nacional de Estadísticas*, INE); (ii) the National Socio-Economic Survey CASEN (*Caracterización Socioeconómica Nacional*, CASEN), carried out in 1987, 1990, 1992, 1994, 1996 and 1998 by the Chilean Ministry of Planification (*Ministerio de Planificación y Cooperación*, MIDEPLAN) and (iii) a special survey on human security (including employment security) carried out by the *Centro de Estudios Públicos* (CEP) and the United Nations Development Programme (UNDP). The establishment survey is the National Annual Manufacturing Survey (*Encuesta Nacional Industrial Nacional*, ENIA) carried out by the INE. In the case of the CASEN and the CEP/UNDP surveys, microdata have been used to construct own special tabulations<sup>19</sup>, while in the case of the ENE, special tabulations have been provided by the INE.
- Field research by means of enterprise visits, the application of a semi-structured questionnaire and interviews with key informants. Two manufacturing subsectors were chosen: the textile and garment sector ("classical" traditional industries) and the metalworking sector (with substantially higher technological requirements).<sup>20</sup> Unlike other studies on innovations and flexibility, which often focus on the most innovative and successful enterprises, an attempt has been made to avoid this bias in the enterprise sample. The sample used in this study is not representative in a statistical sense, but includes enterprises from the different segments of the production chain (production of intermediate and final goods, subcontracting etc.), of different sizes (small, medium and big), and producing for different markets (domestic and export). Moreover, each enterprise reflects part of the "whole" as it operates in economic and institutional settings that are common to Chile generally (see Jost, 1996 on the case study method). At the sector level, the survey reconstructs the chain of production and commercialization. At the enterprise level, the survey investigates the different types of flexibility, the profile of recent innovations carried out in the enterprise, the level of

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<sup>19</sup> For more details on some of these statistical sources, see annex 1.

<sup>20</sup> The agro-industrial sector would have been an interesting dynamic sector where Chile does have clear comparative advantages. For the results of some studies on the agro-industrial sector and other dynamic resource-based sectors, see chapter 4.

vertical integration, the forward/backward linkages and the consequences of these strategies for workers' employment quality.

In sum, the research methods used for the field research were mainly qualitative in nature and included factory visits, semi-structured interviews with managers, workers and key informants. This procedure appeared to be the most adequate, given the limited size of the enterprise samples and the differences in data availability among the visited enterprises. Statistical data, on the other hand, have been drawn from national representative sources, using special tabulations in order to characterize the sectors in which field research has been carried out. This permits to situate the evidence from the field research within the larger context of the statistical realities of the sector and the economy as a whole.

## **1.5. Structure and main results of the study**

This section gives a brief overview of the chapters of this study.

Chapter 2. presents the conceptual framework. It gives some indications of the importance of different types of regulation and discusses different approaches to the relationship between the state and social actors in the perspective of social and economic development. Building on the rich literature on this issue, it identifies the link between the power relationships of different groups in society and the business - labour relations within enterprises as an issue that deserves further research. For the empirical analysis of the sectoral case studies, it is argued that the concepts "innovation" and "flexibility" are too broad to be used without further elaboration. Different types of innovation and flexibility can have very different consequences, both for economic development and for workers' employment quality. The chapter gives an overview over the debates on innovation and flexibility and proposes a typology of different types of innovation and flexibility. With regards to employment quality, it argues that it is not sufficient to consider merely incomes for analysis. Other dimensions, such as social security coverage, access to professional training and job security are crucial because they have a direct impact on the workers' security and on their future perspectives.

Chapter 3. summarizes the most relevant features of recent socio-economic and political development in Chile. The two most remarkable characteristics of the group configuration in the Chilean policy-making progress are the increased presence of technocrats in top government posts and the shift in the balance of power between business and labour in favour of business. The economic model of trade openness and favourable conditions for private enterprises was successful between 1984 and 1998. Two important challenges however remain: "growth with equity", that is, a fair distribution of the fruits of economic growth and improved income distribution, and "the second export wave", that is, the diversification of exports away from natural resources with relatively little value added.

Chapter 4. analyzes innovation and flexibility strategies in Chile, as well as employment quality, without however going into the details of the sectoral case studies. On the whole, enterprises in most sectors of the Chilean economy have successfully faced the challenges of intense competition by applying both innovation and flexibility strategies. The impact of these strategies on employment quality is mixed. While real wages have increased, there

has been no diminution in the use of non-standard employment relationships such as temporary workers or contract labour. These workers suffer worse employment quality than their colleagues in standard salaried employment, especially with regards to job security, social security coverage, access to professional training and trade union membership.

Chapters 5. and 6. contain the sectoral case studies with information gathered via enterprise visits and interviews with key informants in the Chilean textile and garment industry as well as in the metalworking industry. There are considerable differences between both sectors. While in the textile and garment industry, cost reduction strategies with meagre productivity results are dominant, the metalworking sector has innovated strongly and was able to obtain positive productivity results. However, both sectors are characterized by the use of flexibility strategies that put more emphasis on the commercial and managerial aspects of flexibility than on the genuinely productive sphere. While these strategies allow enterprises to adapt to short-term fluctuations, they can become obstacles for the medium- and long-term productive development and have a negative impact on workers' employment quality. The enterprise-level research moreover shows that the imbalance of the power relationship between business and labour is reflected in the work organization practices and labour relations within enterprises. The predominant pattern is a unilateral control of management over the enterprise with little participation by trade unions or individual workers. Production workers are rarely involved in programming tasks, maintaining a rigid division of labour between them and the managerial and professional staff.

Chapter 7. characterizes the institutional framework in which Chilean enterprises are operating, focusing on those institutions that have a direct impact on enterprises' innovation and flexibility strategies: labour legislation and industrial relations, the professional training system, and the innovation system. The demand-driven training and innovation systems have been relatively successful in correcting shortcomings and in increasing their coverage, although much remains to be done. By contrast, the reform of the labour legislation that presently favours business rather than labour interests has been stopped several times for a lack of consensus between the government and the right-wing opposition. While business and the opposition take the low incidence of industrial conflict as illustration of an adequate working of labour market institutions, trade unions and the government see it as a consequence of the unfavourable position of labour that discourages any effective trade union action in collective bargaining processes.

Finally, chapter 8. summarizes the main results of the study and identifies the imbalance in Chilean business - labour relations as a crucial challenge for future development strategy. This challenge has to be addressed both by the state which has to provide a "level playing field", and by the social actors themselves.

## 2. Conceptual framework

*What is a good job? Surely a really good job would be one that's interesting, that allows you to learn, that gives you control over your work pace. A job that makes you want to come to work in the morning. Since the dawn of industrialization, at least, most jobs, even the ones considered good, have not fit that description. So we've settled for the other components of a good job: good pay, good benefits, good vacations, reasonable hours, and a work pace that doesn't wear you out by the end of the day, or before you're old enough to retire. A safe job, one that doesn't make you sick.*

Jane Slaughter: Should we all Compete against each other?, in: Labor Notes, May 1993, p.7-10 (p.8)

This chapter presents the conceptual framework for the analysis of the Chilean case. As the introduction to this study implies, the requirements for the conceptual framework are twofold. First, it has to discuss both how globalization creates challenges for countries and enterprises, and the way in which institutions and social actors matter in relation to these challenges (2.1.). Second, it has to provide the tools for analyzing enterprise strategies and employment quality with an aim to informing empirical research methodology (2.2.).

### 2.1. Globalization, institutions and social actors

#### 2.1.1. Increased competition and globalization

This section argues that there has been a tendency towards increasing globalization over the last decades. This has intensified competition world-wide and thus brought about new challenges for enterprises on the one hand, and institutions and social actors on the other. To support this argument, it is necessary to consider both objective data relating to increased economic globalization (2.1.1.1.), as well as more "subjective" data related to information flows and changing perceptions and ideologies (2.1.1.2.).

##### 2.1.1.1. Objective globalization: a definition and some data

Globalization is a complex and multidimensional phenomenon; it is possible to distinguish between a variety of different forms of globalization - economic, social or cultural, for example. Within these multiple categories, that of, economic globalization can be defined as the increasing interrelationship of national economies, as reflected essentially in the rapid increase of international trade, the intensification of direct investment flows between countries and the increased international character of technological change, mainly through the acquisition of

capital goods incorporating new technologies and the dissemination of new technologies by multinational enterprises (ILO Task Force, 1999). The combined effect of the liberalization of capital markets and the progress in communications technology adds yet another dimension, namely the globalization of financial markets.

There has been some debate over whether the process of globalization is really as significant and unique as the public debate around the issue would suggest:

- First, in the context of the current contemporary debate, it is often forgotten that the *dependencia* theory analyzed already in the 1960s and 1970s the socio-economic development of developing countries – and especially of Latin America – in terms of the interrelationship between national economies (Cardoso/Faletto, 1979). Moreover, the comparison between contemporary trade flows and historical data leads to the conclusion that the trade/GDP ratio had already experienced periods of rapid growth during the 19<sup>th</sup> and early 20<sup>th</sup> centuries. A similar trend can be discerned between 1950 and the early 1970s. Rather than globalization being a unique process, it is argued that we are observing long periods of increasing and diminishing trade openness. Some authors even believe that globalization is little more than a myth (Bairoch, 1996). Although this historical perspective is enlightening, the data presented below suggest that it would be an exaggeration to claim that today's economy is no more globalized than it was earlier in the century.
- Second, even conceding that the interrelationship between national economies has increased compared to previous periods, not all authors agree with the concept of "globalization". Hirst and Thompson (1996), for instance, argue that we should speak of an "inter-national" rather than a "globalized" economy. However, this is largely an issue of different definitions. Rather than using a process-type definition of globalization, Hirst and Thompson define an ideal type of a globalized economy where distinct national economies would be subsumed and rearticulated into the global system by international processes and transactions. According to these authors, processes that are determined at the level of national economies still dominate and international phenomena are outcomes that emerge from the distinct and differential performance of national economies. However, within the context of the argument being developed in the present study – i.e. that globalization has led to increased competition between enterprises - the more restricted definition of globalization cited above is sufficient.
- Finally, from an empirical point of view, Krugman and several other economists have argued that the extent of globalization and its potential negative effects (for example on wage and employment levels for unskilled workers in developed countries) have been exaggerated, given that even in open economies, international trade still represents a rather tiny fraction of economic activity (Krugman, 1994; Lee, 1996: 530). In his well-known article "Competitiveness: a dangerous obsession", Krugman (1994: 34) argues that "the world is not as interdependent as you might think". For example, US exports represent only 10 per cent of the value-added of the economy – this means that the United States is "still almost 90 per cent an economy that produces goods and services for its own use" (Krugman, 1994: 34). It is true that the United States is a large economy with a relatively low export/GDP ratio. However, most European economies

export more than one fifth of their GDP, and for Chile, this share was more than one fourth in 1998 (see chapter 3.). Moreover, as will be argued below (2.1.1.2.), the impact of globalization is more important than actual trade flows would suggest.

Although international economic interdependencies are not new phenomena, available data confirm the increase of globalization during recent years:

- World trade is growing rapidly, at a faster path than world-wide output. The increase in trade flows can be illustrated by looking at the trends in the share of exports of goods and services in GDP. As table 2.1. shows, for most countries for which long-term data are available, the share of exports in GDP is higher now than ever before in history. Today, world exports account for nearly one fourth of world GDP, that is to say, five percentage points more than in the mid 1980s. The recent rise in the exports/GDP ratio has been much stronger in low- and middle-income countries than in high-income countries (ILO Task Force, 1999).
- Data on foreign direct investment (FDI) flows world-wide show a considerable increase during the last 15 years.<sup>21</sup> While the share of gross FDI flows in total GDP was below 1.5 per cent up to 1986, it fluctuates around 2 per cent during the 1990s. The data, however, also reveal considerable fluctuations rather than an uninterrupted increase (ILO Task Force, 1999). Net foreign direct investment to developing countries increased from US\$ 6.0 billion in 1980 to US\$ 90.7 billion in 1996 (Knight, 1998).
- Short-term capital flows have increased even more dramatically, particularly to the "emerging market economies" (Knight, 1998). These short-term flows show important year-by-year fluctuations and are generally more volatile than FDI flows. This volatility can create an unstable economic environment that is detrimental to economic growth. The importance that short-term financial transactions have acquired in the international economy is illustrated by the fact that their volume is much higher than the volume of the exchange of goods and services. The world-wide daily turnover in foreign exchange markets in 1998 was at least 78 times the daily volume of exports of goods and services, up from 56 times in 1989 (ILO Task Force, 1999).
- Globally integrated production systems have emerged. These systems have caused a rapid expansion of international intra-firm trade in intermediate products, as well as an increase in the number of international mechanisms related to subcontracting, licensing, franchising and technology exchange (Freeman/Soete, 1997: 345).
- These tendencies have been facilitated by the breakdown of trade barriers. Many countries have opened up their economies to international trade, and numerous international trade agreements (NAFTA, EU etc.) have facilitated the creation of larger markets than those which used to exist. Economic liberalization has been reinforced by the sharp decline in transportation and communication costs (van Bergeijk/Mensink, 1997).

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<sup>21</sup> FDI is defined as "an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor of parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor". (UNCTAD, 1998: 350)

**Table 2.1. Merchandise exports as share of GDP**

(exports and GDP (PPP) at constant prices, in %)

	1820	1870	1913	1929	1950	1973	1992	1996 <sup>1</sup>
France	1.3	4.9	8.2	8.6	7.7	15.4	22.9	26.0
Germany	n.a.	9.5	15.6	12.8	6.2	23.8	32.6	n.a.
Netherlands	n.a.	17.5	17.8	17.2	12.5	41.7	55.3	60.4
United Kingdom	3.1	12.0	17.7	13.3	11.4	14.0	21.4	25.4
Total Western Europe <sup>2</sup>	n.a.	10.0	16.3	13.3	9.4	20.9	29.7	34.6
Spain	1.1	3.8	8.1	5.0	1.6	5.0	13.4	20.3
USSR/Russia	n.a.	n.a.	2.9	1.6	1.3	3.8	5.1	n.a.
Australia	n.a.	7.4	12.8	11.2	9.1	11.2	16.9	18.1
Canada	n.a.	12.0	12.2	15.8	13.0	19.9	27.2	37.2
United States	2.0	2.5	3.7	3.6	3.0	5.0	8.2	10.0
Argentina	n.a.	9.4	6.8	6.1	2.4	2.1	4.3	6.8
Brazil	n.a.	11.8	9.5	7.1	4.0	2.6	4.7	4.9
Mexico	n.a.	3.7	10.8	14.8	3.5	2.2	6.4	9.0
Total Latin America <sup>3</sup>	n.a.	9.0	9.5	9.7	6.2	4.6	6.2	8.1
China	n.a.	0.7	1.4	1.7	1.9	1.1	2.3	2.4
India	n.a.	2.5	4.7	3.7	2.6	2.0	1.7	2.2
Indonesia	n.a.	0.9	2.2	3.6	3.3	5.0	7.4	7.1
Japan	n.a.	0.2	2.4	3.5	2.3	7.9	12.4	13.2
Korea	0.0	0.0	1.0	4.5	1.0	8.2	17.8	23.8
Taiwan	-	-	2.5	5.2	2.5	10.2	34.4	n.a.
Thailand	n.a.	2.1	6.7	6.6	7.0	4.5	11.4	12.5
Total Asia <sup>4</sup>	n.a.	1.3	2.6	2.8	2.3	4.4	7.2	7.4
World	1.0	5.0	8.7	9.0	7.0	11.2	13.5	16.0

Sources: ILO Task Force (1999) based on Maddison (1995) and data from the World Bank (1998): World Development Indicators.

Notes:

<sup>1</sup> Data for the Netherlands, Australia, Brazil, China, Indonesia, Total Western Europe, Total Latin America, Total Asia and World refer to 1995 instead of 1996.

<sup>2</sup> Total Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and the United Kingdom. 1995 data for total Western Europe does not include Germany.

<sup>3</sup> Total Latin America includes Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela.

<sup>4</sup> Total Asia includes Bangladesh, Myanmar, China, India, Indonesia, Japan, Pakistan, Philippines, South Korea, Taiwan and Thailand. 1995 data for total Asia does not include Taiwan and Myanmar.

Data from 1820 to 1992 come from Maddison (1995). They are calculated as the ratio of exports in US\$ and GDP at PPP in 1990 constant prices.

Data for 1996 are ILO Task Force estimates based on World Bank (1998) data. The series was obtained after adjustment for consistency with the Maddison series.

These developments have created a new context for workers and enterprises in which the dominant impression is that all countries will be affected in one way or another by globalization. Although free-trade rhetoric is often stronger than actual commitment to free trade, few countries would seriously consider a return to



protectionist policies today. After the disappearance of most socialist countries, there are no relevant economic actors playing by completely different rules any more. But more than this, as will be argued in the next subsection, the true impact of globalization on enterprises' competition may be more important than trade flows suggest.

#### **2.1.1.2. Virtual globalization? Information flows, attitudes and ideologies**

The degree of actual globalization in terms of trade and foreign direct investment flows is enhanced by short-term investment and information flows. These latter dimensions often concern processes which could be labelled "virtual globalization"; in many ways, much of the international speculative capital flows bear more resemblance to an international electronic casino than processes in the real economy. But despite being "virtual", these global flows nonetheless have a strong feedback in the real world - such as an increase in the intensity of competition - that will briefly be addressed in this subsection.

Beyond the actual increase in trade flows, the enormous reduction in the prices of transportation (shipping or air) and communication (telephone, satellite and internet) (see van Bergeijk/Mensink, 1997: 162) makes it easier for enterprises to obtain information on international prices and to benefit from existing differentials between domestic and international prices. Even though a product may not actually be imported, the knowledge of international prices and the *possibility* of importation (due to low trade barriers and available information) enables the client to ask national providers for similar price levels and thus has a considerable impact on price negotiations between producers and clients. The same is true for provider-buyer relations along the chains of production and commercialization. In this sense, Pohlmann (1996) has argued that in several branches of the German metalworking industry, despite declared internationalization and a significant increase in the participation of foreign inputs during the last years, the large majority (about 80 per cent) of providers are still national:

But the central effect of a stronger internationally oriented buying policy is not to as yet to be found in an actual world-wide sourcing, but rather in the drilling in [*Einschleifen*] of a specific market perception in negotiation processes with providers. The importance of internationally attainable price levels can now legitimately be claimed in negotiations so that a strong pressure for internationalization develops from the provider side. In this way, clients try to benefit from the transaction securities and the lower transaction costs of buying domestically and at the same time obtain the competitive prices of an international competition. (Pohlmann, 1996: 49)

In this as in many other examples, national providers will have to adapt in order to come at least close to internationally competitive prices. It follows that in several important regards, the increased availability of world-wide communication and transport at lower prices and the consequent possibility for trade may be as important as increased trade flows themselves. Moreover, electronic information technology facilitates the integration of geographically dispersed operations in multinational enterprises or strategic alliances between enterprises (Kobrin, 1997: 153).

Another dimension contributing to the perception of enhanced competition is the rapid pace of transactions. A ton of copper can be traded lots of times without ever

changing physical location (Menzel, 1998: 61). Relative prices for commodities can change in a few hours due to electronically managed market places, with important consequences for all enterprises producing them. Instruments that were originally designed to diminish the risk of price fluctuations for productive enterprises have ended up increasing the volatility of international commodity prices (Menzel, 1998).

Finally, even though some aspects of the globalization discourse are exaggerated and could be dismissed as purely ideological, the discourse takes the form of a self-fulfilling prophecy that has real consequences. The increased competitive challenges for enterprises are the result of real threats in the marketplace and to changed perceptions arising from the omnipresent discourse of globalization and globally available information.

### **2.1.2. The challenges for institutions**

It sometimes appears as if national institutions are powerless in the context of globalization, and the power of the nation-state diminished by the borderless power of international markets and multinational enterprises. However, in reality national institutions may have become more, rather than less, important under the impact of globalization:

The nation-state, as mediating structure, makes the strategic difference between winning and losing in a highly volatile international economy. It is thus a fallacy to reduce state intervention to Keynesian fine-tuning. Modern government has to provide all the basic ingredients for competitiveness. At the top of the list are education, health, job training, research and development policies, infrastructure support, competition policy and so on, hardly a minor role for government [...]. (Boyer/Drache, 1996: 4)

The dilemma of the nation state under conditions of increased globalization seems to be that while the requirements for the state in terms of policies and institutions remain or even grow, the resources with which the state can finance these activities are threatened by the very process of globalization. In effect, multinational enterprises can decide to locate in countries with advantageous tax conditions and, perhaps more importantly, they can shift profits to those locations where taxes are comparably low (transfer pricing). Both factors can contribute to an erosion of the tax base (Held et al., 1999: 276; ILO Task Force, 1999).

Given the challenges for institutions, the question is not *whether regulations are necessary or not*, but rather *what kinds of regulations are most appropriate* to meet the challenges and how an adequate funding can be ensured. In the following subsections, different types of institutional regulations are discussed first generally (2.1.2.1.), and then more specifically in relation to the areas of labour institutions (2.1.2.2.) and innovations and training (2.1.2.3.).

### 2.1.2.1. Markets, institutions and power

A whole range of institutions<sup>22</sup>, including the organization and structure of markets and the economic and institutional context in which enterprises function, have an impact on enterprises' flexibility and innovation strategies, as well as the outcomes for employment quality.

In order to better understand this basic premise, it is perhaps useful to conceptualize production in terms of a "regime". Soskice (1999) defines a "production regime" in the following manner:

By a production regime is meant the organization of production through markets and market-related institutions. It analyzes the ways in which the microagents of capitalist systems - companies, customers, employees, owners of capital - organize and structure their interrelationships, within a framework of incentives and constraints or "rules of the game" within which the microagents are embedded. These framework incentives and constraints are sometimes summarized as the "institutional framework" of the production side of the economy. The most important of the institutions contributing to the institutional framework are the financial system, the industrial relations system, the education and training system, and the intercompany system (the latter governing relations between companies - competition policy, technology transfer, standard setting, and so on). (Soskice, 1999: 101-102)

Although there is a propensity for many advocates of the "free market" to portray it as more or less institution-less, it has long been recognized that market transactions do not take place in a social vacuum and that they are shaped by institutions and power relations. Streeck (1992: VIII), for instance, considers that "social institutions [are] inherently present and preceding economic action". Thus, because no economic exchange is institution-free, it follows that one should compare alternative institutional arrangements, rather than outcomes under particular institutional conditions with a theoretical cost-free equilibrium (Rodgers, 1994: 5). Instead of simply opposing "regulation" and "deregulation", it is much more appropriate and useful for policy analysis to speak about *different forms of regulation* (Standing, 1999):

- **Statutory regulation.** – This refers to "rules, procedures and institutions established by laws or decrees designed to set parameters of acceptable behaviour" (Standing, 1999: 40). In discussions about "deregulation", it often appears as if statutory regulation is the only possible form of regulation. Statutory regulation has advantages as well as disadvantages. Among its advantages is that it is potentially transparent, predictable and equitable. Statutory regulation can provide monitoring mechanisms to correct market failures and to encourage longer-term dynamic efficiency instead of short-term profit maximization. But statutory regulation also has its disadvantages. As no law can cover every contingency, there is a tendency towards rigidity and complexity; some people may feel insecure in understanding and using such a complex legal framework, resulting in the loss of transparency; and finally, the need to operate the system contributes to the growth of the government and legal bureaucracies that have to be financed from taxes which may in turn have negative consequences on economic activity (Standing, 1999: 40-42).

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<sup>22</sup> The term "institution" is used here in a broad sense which includes both (i) rules, norms and constraints governing behaviour and (ii) organizations (see Rodgers, 1994).

- **Market regulation.** – This term refers to regulation through market forces (Standing, 1999: 42). What has often been labelled as "deregulation" is in fact the replacement of statutory regulation (see above) or voice regulation (see below) by market regulation. There are several advantages to market regulation: it encourages and rewards risk-taking, it is generally less costly to administrate than statutory regulation and is likely to lower transaction costs of most economic activities. The disadvantages of market regulation are that it encourages a short-term perspective rather than longer-term considerations, it allows decision-makers to disregard externalities (such as unemployment or environmental damage) and it tends to be inegalitarian.
- **Voice regulation.** – Deriving from Hirschman's (1970) concept of "voice", this form of regulation occurs through bargaining mechanisms between representatives of potentially conflicting interests (Standing, 1999: 42-44). If managed properly, voice regulation can avoid most of the pitfalls of both statutory regulation (excessive rigidity and high administration costs) and market regulation. There are three important conditions for successful voice regulation: (i) accurate and relevant information has to be shared between the bargaining partners in order to avoid co-ordination failures; (ii) the bargaining partners must believe that they will have to deal with each other again and again in order to avoid opportunistic short-term behaviour; (iii) bargaining mechanisms have to be inclusive not just of the strong but also of those at the margins to avoid that agreements be made at the expense of those who are excluded.

These different forms of regulation are not mutually exclusive, of course. Rather, they are interdependent and a working market regulation as well as a working voice regulation generally depend on an adequate enabling statutory regulation. For example, although market regulation relies mainly on the spontaneous forces of the market, property laws, commercial laws and competition laws are essential for the market to work smoothly. And although voice regulation relies on the free bargaining of social actors, the level, the scope and the actors of these negotiations are generally defined by the labour legislation.

Despite the co-existence and interdependence of these different forms of regulation, there exist significant differences between countries and historical periods with regards to the relative importance of each of these forms. While during the period following World War II up until the 1970s most Western European nations were characterized by a preeminence of statutory and voice regulations, there has been a shift toward greater emphasis on market regulation more recently. This is reflected in the widespread policy-related discussions about "eurosclerosis" (excessively tight regulations seen as impeding economic growth and employment creation) considered to be characteristic of Western Europe and the rewards of "deregulation" (the idea being that doing away with these regulations would contribute to solving the problem). Security for workers, for example, which was once seen as one of the goals of development in industrialized countries, is now increasingly regarded as a cost.

A similar debate is taking place in many developing countries, especially in middle-income countries: Chile is an interesting example of the latter because it experienced the shift towards a greater reliance in market regulation much earlier than most other middle-income countries where similar shifts have occurred. This study will deal with these general changes in Chile's institutional framework, but a narrower focus

will be on selected institutions that have a very direct impact on enterprise strategies: the industrial relations system (2.1.2.2.) and the institutions and policies in the fields of professional training and innovations (2.1.2.3.).

### **2.1.2.2. Institutions in the labour market**

By their very nature, labour market institutions involve all three forms of regulation mentioned above. The statutory regulation (labour legislation) sets the conditions for the working of market regulation and voice regulation in the labour market. Standing (1999: 40) characterizes as "pro-individualistic" those laws that favour market mechanisms, and as "pro-collective" those that favour collective bargaining mechanisms. But beyond setting the enabling and restricting conditions for market and voice regulation, statutory regulations in the labour market also set standards on their own. For example, in many countries minimum wages or maximum working hours are set by law, allowing individual or collective bargaining to lead to agreements on more favourable, but not more unfavourable, conditions for workers.

The framework presented up to this point allows an understanding of the apparent paradox that a shift towards more pro-individualistic forms of regulations and a bigger reliance on market regulation, as opposed to statutory or voice regulation, does not represent a simple "hands-off" approach by the state. In many cases (Chile is a good example, see chapters 3. and 7.), repressive regulations (restricting the freedom of trade unions to organize) co-exist with a partial dismantling of protective and promotional regulations.

Admittedly, statutory regulations may in some cases end up damaging workers' interests rather than furthering them, either because legal norms are generally evaded and workers are pushed into semi-legal or illegal employment relationships, or because enterprises are reluctant to hire workers due to the costs of these regulations. Nevertheless, such a judgement has to be carried out on the basis of specific empirical evidence, and cannot be derived from a general "once-and-for-all" ideological argument in favour of a general "deregulation" everywhere. Such a general argument is based on a questionable parallel between the labour market and other markets without taking into account the fundamental differences between, say, the market of apples on the one hand, and the labour market on the other.<sup>23</sup> In fact, there can be no doubt that statutory regulations *do* have an important role to play in the labour market:

- The first task for statutory regulation is to protect persons, enterprises and sectors that suffer a negative impact from strategies of flexibilization. A very important point in this regard is the enforcement of rules designed to protect workers. The

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<sup>23</sup> Many studies have established why (fortunately) the labour market will never operate exactly like markets of goods, and that consequently a simple "deregulation" is no favourable solution to its possible dysfunctions. First, the labour market is a social institution in which the concept of fairness plays a very important role, thus limiting the downward mobility of wages (Solow, 1990). Second, in certain situations the unemployed would not find employment even at zero wages; in this case lower wages will not significantly lower unemployment rates (Akerlof, 1984: 101-122).

failure to enforce these rules generates perverse incentives for those who respect the norms but have to compete with others who do not respect them.

- Second, labour legislation has the difficult task of providing a minimum degree of protection for workers in non-standard forms of employment. For example, the legislation may authorize the employment of temporary workers via fixed-term contracts, but at the same time set certain rules to ensure that this type of contracts is not used in an abusive manner (making sure, for example, that a fixed-term contract is changed into an indefinite one after a certain maximum duration).

Voice regulation in the form of collective bargaining also has an important role in protecting workers interests. A system of collective interest representation facilitates the creation of some type of representation for groups of workers not covered by traditional trade unions (possibly territorially or sector-based inter-enterprise unions), for example. The system of labour relations can also influence the degree of cooperation between workers and management with regards to innovations and the mutual commitment of firm and workers. Another important form of voice regulation are the works councils at the enterprise level which exist in most Western European countries. These councils enjoy extensive information and consultation rights, and in some cases codetermination rights (Rogers/Streeck, 1994). Voice regulation has a strong link with statutory regulation to the extent that the presence of trade unions can contribute to effective compliance with legal standards. While individual workers may often not be aware of their rights, or afraid of employers' sanctions against those who insist too much on their rights, a trade union can convey questions and complaints at lower risk. In the absence of trade union representation, it is useful to have some other mechanisms to give workers access to information on legal norms and to facilitate their contact with labour inspection in case of need.

Market regulation works even in those cases where strong statutory and voice regulations exist. For example, some workers, such as professionals and managers, have a sufficiently strong market position to negotiate the most favourable wages and benefits individually. Moreover, collective bargaining often sets minimum wages and benefits, and the market position of successful enterprises permits them to give additional incentives.

In sum, the challenge for labour market institutions is to protect workers, while also giving enterprises sufficient flexibility to adapt to market fluctuations. Ideally, they should generate incentives for strategies of innovative flexibility (based on skills and technological upgrading) rather than responsive flexibility. But other institutions, in particular those dealing with professional training and innovations, are also crucial in this regard. These will be dealt with in the next subsection.

### **2.1.2.3. Policies and institutions for innovations and training**

Innovations at enterprise level depend crucially on a wide range of institutional factors which have been conceptualized as "national innovation systems" (Nelson/Rosenberg, 1993). Due to the "embeddedness" of innovations in national conditions, national institutions have become more rather than less important in the face of globalization:

Competitive advantage is created and sustained through a highly localized process. Differences in national economic structures, values, cultures, institutions, and histories contribute profoundly to competitive success. The role of the home nation seems to be as strong as or stronger than ever. While globalization of competition might appear to make the nation less important, instead it seems to make it more so. With fewer impediments to trade to shelter uncompetitive domestic firms and industries, the home nation takes on growing significance because it is the source of the skills and technology that underpin competitive advantage. (Porter, 1990: 19)

On the basis of this premise, this study will focus specifically on (i) the system of training and retraining; and (ii) on the policies of productive development aiming at providing incentives to enterprises or groups of enterprises to engage in Research and Development (R&D) and to carry out innovations.

Individual enterprises in a given industry are competitors and potential allies at the same time. Indeed, joint efforts may allow access to collective goods which are out of reach for individual enterprises. The availability of a highly qualified workforce in certain professions, for example, in the long run will be beneficial to all enterprises in that industry. However, investment in skill is not easy to justify for individual profit-maximizing firms. First, training costs and training returns are extremely difficult to calculate, especially when it comes to the kind of broad and flexible skills that are vital for innovative flexibility. Second, there is a strong incentive for firms to employ persons who have already received their skills elsewhere, without participating themselves in training efforts. For these reasons, in the absence of obligations or strong incentives for training, all firms may end up with less skills than they need (Streeck, 1992).

In this regard, Streeck considers a number of factors that can enable an industry to position itself in demanding high value-added sectors but that would not have been introduced voluntarily by enterprises (co-determination, high wage levels, etc.). The conclusion is that culturally or legally compulsory arrangements are essential to avoid defection of individual enterprises and that "institutional rigidities" have a key role in forcing, inducing, and enabling a country to embark on more demanding high value-added strategies (1992: 31). While constraints appear to be negative for individual enterprises in the short run, the long-term outcome can be positive for all enterprises. To express this apparently paradoxical outcome, Streeck (1997) proposed the concept of "beneficial constraints". This may include for example compulsory arrangements that block "easier ways" of response to competition, incentives to share information between enterprises (Doner et al., 1995), as well as institutions that facilitate the access to knowledge, technology and capital for subcontracting enterprises.<sup>24</sup>

In sum, institutional regulations that impose constraints on enterprise decisions are not only necessary to protect workers, but can also help to foster economic development in a medium- and long-term perspective via increased training and innovation efforts.

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<sup>24</sup> Subcontracting is an arrangement under which an individual, workshop or enterprise (the subcontractor) carries out part of the productive process or a service upon the specifications given by another enterprise (the contracting enterprise). In some cases, the contracting enterprise provides equipment and know-how to the subcontractor.

### 2.1.3. The state and social actors

The previous sections highlighted the importance of institutions for economic and social development. However, institutions do not exist independently from the power relations within the state and between the state and the different social actors in society. The fact that certain forms of regulation may be the "best" for a particular country at some stage in its development does not explain the fact of its introduction: "A functional analysis of something cannot, in and of itself, be construed as an answer to the question why this something is 'there'" (Ullmann-Margalit, 1978: 280). In this sense, the analysis of the institutional framework has to include an analysis of the relationship between the state and social actors.

While there are many different theoretical approaches to the analysis of the state and social actors, we will focus here on three approaches which link these political factors on the one hand, to socio-economic development, on the other (2.1.3.1.). Based on the contributions of these approaches, the concept of strategic groups will then be presented as an analytical tool for the analysis of the relationship between different groups and the state (2.1.3.2.).

#### 2.1.3.1. State autonomy, embeddedness and social dialogue

One powerful approach to the relationship between state and society sees the **insulated state**, isolated from the disturbing influences of social actors, as the best solution for socio-economic development. The idea is that the state designs and implements institutional reform with the help of a key group of professionals. The isolation from outside forces helps to prevent special interest groups from pushing through their demands against the interests of the larger community. It also protects against the temptation of giving in to particularistic interests via corruption.

For example, in the case of the spectacular economic growth record of the Newly Industrialized Countries (NICs) of East Asia and South-East Asia, the "comparatively high degree of policymaking insulation from political pressures" (Bowie/Unger, 1997: 183; also see World Bank, 1993: 167-181) is often mentioned as one important factor behind the successful outward-oriented development strategies in these countries. More generally, Haggard and Webb (1994: 13) summarize the result of a series of country studies on the political dimensions of economic reform stating:

In every successful reform effort, politicians delegated decisionmaking authority to units within the government that were insulated from routine bureaucratic processes, from legislative and interest group pressures, and even from executive pressures.<sup>25</sup>

However, insulation did not occur in all Asian NICs in the same manner. For example, in some countries, particularly those under authoritarian government, the government sector as a whole was insulated from external pressures, while in others

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<sup>25</sup> A similar approach can be found in Migdal's (1988) work on "Strong Societies and Weak States". As one of the conditions for creating strong states, the author mentions "the existence of a social grouping with people sufficiently independent of existing bases of social control and skillful enough to execute the grand designs of state leaders" (Migdal, 1988: 274).



the insulation was limited to key technocratic institutions within the public sector (for example, the National Bank and the Bureau of the Budget in Thailand).

On the whole, the insulation approach is useful as a first step in the analysis of developmental states. It must however be completed with an analysis of the means that the state uses to ensure insulation (in many cases, coercion is the main resource, and the insulation approach is always at risk of justifying repressive practices from authoritarian governments). The structure of the state itself also matters: the autonomy of state institutions does not contribute to development if the institutions themselves are ineffective.<sup>26</sup> Moreover, even an efficient insulated state needs first-hand information on economic processes if it is to effectively guide socio-economic development in the long run. This raises the question about the relationship between the state and other social actors.

Instead of focusing exclusively on the degree of insulation of the state from society, several recent studies have therefore emphasized the importance of constructive government - business relations for successful economic development (Evans, 1995; Schneider/Maxfield, 1997). Despite this different emphasis, most researchers do not see this approach as contradictory to the "insulated state" approach.

The key concept of this second approach is the "**embedded autonomy**" of the state: bureaucrats are able to design policies and implement them autonomously, yet they have close ties to business in order to make sure that they perceive relevant information from the business sector (Evans, 1995). Neither embeddedness nor autonomy alone is effective. It is the combination that accelerates development:

The autonomy argument stresses the value of government agencies and personnel being independent of private interests and pressures and free to conceive and implement strategies that embody some more general collective interest. The embedded argument is that government agencies cannot effectively involve themselves in economic matters without obtaining detailed information from non-governmental actors and generating trust and understanding between themselves and those actors. Those objectives require that government agencies be embedded in dense institutional and social networks of interaction with nongovernmental actors. (Moore, 1998: 428)

As such, however, the concept of "embedded autonomy" is not the answer but the starting point for an analysis of why certain states are successful and others less. Indeed, it does not answer the question of "how much" autonomy and embeddedness is necessary for efficient governance, nor what the preconditions for organizing government-business relations in a fruitful manner might be (Moore, 1998: 429). For such insights, it is necessary to turn to empirical studies which have been carried out in a number of developing countries. These have demonstrated the usefulness of the concept of embedded autonomy in order to show how and under what conditions governments can establish fruitful relationships with business associations without falling victim to rentist pressures. One useful mechanism, for example, are joint business-government councils, which unlike lobbying activities by individual entrepreneurs, where groups seek secret advantage over one another, establish transparent channels of exchange between both sides (see the country studies in Maxfield/Schneider [eds.], 1997 and World Bank, 1993: 181-187).

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<sup>26</sup> A recent cross-country study by Evans and Rauch (1999) finds that "Weberian" state structures (defined by meritocratic entry into civil service and reasonable career development, including wages and benefits that are comparable to those in the private sector) make a positive contribution to economic growth.

One crucial ingredient for a successful strategy of embedded autonomy is the existence of a "Weberian" government bureaucracy. Where the state administration is characterized by clientelism and corruption, it is highly unlikely that relationships with business will bring developmental benefits. The "embedded autonomy" approach also emphasizes the importance of strong collective business actors (such as business associations) for a fruitful relationship.

On the whole, the "embedded autonomy" approach is a useful tool for analyzing the structure of the government sector and of organized business as well as the relationship between both sides. It neglects however the relationship between labour and government or between labour and business as a contributing factor to social and economic development.

The positive contribution of all social actors, neglected in the two approaches to the relationship between state and society presented so far, is highlighted in the **social dialogue** approach. According to this approach, strong institutions of collective bargaining and consultation at the national level are crucial and contribute to national social cohesion (ILO, 1997a). These institutions, unlike the government-business councils mentioned in the last subsection, do not only involve government and business representatives, but also labour representatives.

Despite the widespread tendency towards the decentralization of collective bargaining, such high-level institutions are still used in many countries, especially in Europe, where they provide "macroeconomic stability and consensus on a social agenda" (Ozaki [ed.], 1999: 76; ILO, 1997a). For these social dialogue institutions to work efficiently, it is necessary to have strong and relatively equal partners, including trade unions and employers organizations that are able to control their respective rank and file (Auer, 2000: 54).

At the theoretical level, the potential benefits of social dialogue institutions can be captured with the help of the concept of "voice regulation" presented above. Unfortunately, systematic empirical research on the positive social and economic outcomes of national-level bargaining institutions has been relatively scarce. There are however some studies that convincingly demonstrate the developmental contribution of strong social dialogue institutions at the national level:

- Auer's (2000) study of four European countries that are characterized by comparatively low or declining unemployment rates (Austria, Denmark, Ireland and the Netherlands) shows that this labour-market success was largely achieved through strong social dialogue institutions at the national level where wage moderation and other concessions have been obtained for workers in exchange for certain social guarantees toward fostering job creation.
- Hayter's (1999) analysis of the role of social dialogue institutions in Asian countries affected by the recent financial crisis in that region concludes that South Korea, where strong inclusive institutions of tripartite social dialogue are common, was able to address its structural problems rapidly and carry out necessary reforms. Thailand, where social dialogue institutions are sensibly less inclusive and less representative, took longer to set in motion necessary reforms. In Indonesia, where social dialogue institutions were either non-existent or inefficient when the crisis began, social unrest made attempts for reform and economic recovery much more difficult than in the other two countries. On the basis of these cases it can therefore be said that strong social dialogue institutions

at the national level proved to be a valuable asset in addressing the challenges arising from the Asian crisis.

In sum, the "social dialogue" approach introduces an aspect into the debate that has been neglected by the previously presented approaches. It shows that in many cases, the existence of strong institutions of social dialogue and the inclusion of labour representatives can contribute to development.

The presentation of the three different approaches to the relationship between state and society and its impact on socio-economic development has highlighted different aspects that appear to be contradictory at first sight, and it might appear inconceivable that an "insulated" state engages in meaningful social dialogue with strong representative organizations of business and labour. However, what the "embedded autonomy" approach suggests for the relationship between state and business, that is, the simultaneity of state autonomy and social dialogue with other groups, could be broadened to include labour as well. The analytical question for policy research would then not be "state autonomy or social dialogue?", but rather, how much of each in which policy areas.

For example, social actors could agree in national-level negotiations on a strategy of trade liberalization and a parallel strategy to support economic restructuring and protect workers who may lose their job as a consequence of trade liberalization. On the other hand, the pace of the reduction of import tariffs for specific products could remain a domain of government technocrats in order to avoid the disruptive impact of sectoral lobbying activities. Or, to mention another example, government bureaucrats may retain the decision on the overall state budget so as to maintain fiscal balances, but within this spending frame, social dialogue may contribute to set certain social priorities.

In sum, there does not seem to exist a simple prescription with regards to the degree of state autonomy and social dialogue. Rather, the question seems to be how these elements can be combined around different policy issues so as to attain the goals of economic efficiency, social equity and democratic legitimacy. Moreover, the combination of state autonomy and social dialogue cannot be freely chosen by policy makers – rather, it is itself the outcome of the strength of social actors and their relationship. The next subsection will present a conceptual tool for the analysis of the strength of social actors and the relationship between them.

### **2.1.3.2. A tool for analysis: the concept of strategic groups**

The different theoretical approaches to the relationship between the state and society and its impact on socio-economic development adopt different perspectives regarding the requirements for developmental policy-making and implementation. They provide paths for the exploration of the relationship between the state and social actors. They do not however replace the analysis itself, which has to assess the structure and strength of the state as well as the relations between social actors.

One framework through which to carry out such an analysis is the concept of "strategic groups". Strategic groups are defined as groups of persons that compete for

material and immaterial resources in a society; they follow a long-term "program" to improve their access to these resources (Evers, 1973; Evers/Schiel, 1988).<sup>27</sup> Importantly, and going beyond concepts such as the interest group approach (Ehrmann [ed.], 1967), the emergence and strategies of strategic groups are analyzed in the context of the shifting social structure and data on the number of persons in certain social categories.<sup>28</sup> In terms of research methods, the concept of strategic groups implies the use of statistical data on the resources available to certain groups and institutions, the social composition of society over time, as well as the composition of state institutions (such as the cabinet and the parliament) by profession.

While the concept focused originally on dominant groups in a society, the approach has subsequently broadened to include ascendant counter-strategic groups (Schiel, 1992; Berner, 1995) or groups "capable of conflict" (*konfliktfähige Gruppen*) (Schubert/Tetzlaff/Vennewald [eds.], 1994).

In such a configuration of interdependent strategic groups, "power" is not a substance that a group can "possess", but a result of asymmetrical dependencies between all these groups. The possibility for one particular group to push through its demands does not only depend on its material and political resources (such as money, number of members, internal unity, liberty for political action) but also on the shifting power balances between all the groups in a configuration (Reinecke, 1993a; Reinecke, 1993b).

The analysis of the configuration of strategic groups adds a historical perspective, including the shifting power relations between groups and the emergence of new groups. In this way, it sheds light on the social conditions for state autonomy, constructive state-business relations and social dialogue. This can be illustrated through the example of South Korea, where the state had to increase its links with the business sector when the strategic group of private entrepreneurs grew stronger and the sophistication of the economic system increased. Later, the democratization of the country created the social conditions for an effective social dialogue at the national level. Although this study concentrates on the Chilean case, the comparison of the configuration of strategic groups across countries permits the drawing of conclusions with regards to the political and economic development perspectives of different societies.<sup>29</sup>

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<sup>27</sup> For the discussion and the criticism surrounding the concept of strategic groups, see Schubert/Tetzlaff/Vennewald [eds.] (1994) and Reinecke (1993a: 15-35).

<sup>28</sup> While this is one of the strengths of the concept, it is at the same time one of its problematic aspects. While it seems to be clear that the concept of strategic groups is situated somewhere between the mere observation of empirical groups on the one hand and the underlying class structure on the other, it is not quite clear where exactly between these poles the concept is situated and how empirical data and underlying class analysis are related to each other. This criticism notwithstanding, the concept has proven to be a useful heuristic tool for the analysis of social processes.

<sup>29</sup> For example, the country studies in Schubert/Tetzlaff/Vennewald [eds.] (1994) relate the configuration of strategic groups to processes of political democratization. Berner and Korff (1991) compared Thailand and the Philippines to demonstrate that one group's monopoly on strategic resources may cause a long-term blockage of development (Philippines), whereas competition and mutual control of several groups fosters social and economic development instead (Thailand).

In sum, the concept of strategic groups is an appropriate tool that permits to analyze the social conditions for state autonomy, constructive government-business relations and social dialogue at national level.

#### **2.1.4. Summary**

This section emphasized the importance of institutions and regulation for competitiveness and socio-economic development under conditions of increasing globalization. The institutional framework also has a crucial impact on enterprise strategies and on employment quality. Rather than just opposing "regulation" and "deregulation" or "state" and "market", it is helpful to describe different forms of regulation (statutory regulation, market regulation and voice regulation). But the institutions and regulations are not *deus ex machina* social forms; they are the result of the characteristics of the state and its capacity to design and implement policies, as well as its relationship with other social forces within society.

This study analyzes the Chilean case in order to identify success factors and stumbling blocks at different levels. At the national level, the configuration of strategic groups is analyzed and linked to the development strategies put in place by different governments in Chile (chapter 3.). At the institutional level, selected institutions and the process of institutional reform will be analyzed in chapter 7. However, none of the approaches presented so far allow a detailed analysis of enterprise strategies. The next section (2.2.) presents the conceptual tools for the analysis of enterprise strategies and their impact on employment quality in the overview chapter 4. and the sectoral case studies in chapters 5. and 6.

## **2.2. Concepts for the study of enterprise strategies and employment quality**

### **2.2.1. Innovation strategies**

Although globalization can present itself to enterprises as an inevitable constraint, enterprises also have opportunities for actively shaping global strategies and benefiting from opportunities arising from globalization. The business literature reflects these strategic options in titles such as "the borderless enterprise", "global marketing" and so on. Globalization is thus not just something that "happens" to enterprises. At the enterprise level, globalization strategies in order to reap the maximum benefits from international exchange and to limit potential costs can take the following forms (e.g. Laigle, 1998):

- Searching and exploring new international markets for the sale of products. Sourcing inputs from international providers ("global sourcing"), taking into account the levels and fluctuations of production capacities, exchange rates and customs barriers.

- Organizing the production process on a world-wide basis, establishing "an international division of work aiming as much as possible at locating heavily value-added production in countries with highly-skilled workers having a certain mastery of new technologies; and on the other hand intensive work operations in countries with low labour costs generally using standard technology" (Laigle, 1998: 20).
- Attracting foreign capital to finance new investments. Shareholding investments in foreign firms' capital and investing abroad to access raw materials, lower factor prices or new markets.
- Exchanging know-how and technology via licenses and strategic alliances.

The fact that enterprises are facing increased competition forces them to adapt in order to life up to the new challenges. Innovation is one powerful answer to the increased competition enterprises are exposed to. As firms have to compete with a larger number of international rivals, they are often compelled to upgrade their products and processes (Archibugi/Michie, 1997: 124). In order to do so, enterprises can use their resources and skills in a variety of different combinations, giving greater or lesser weight to short-term or long-term considerations, forming alliances of various kinds, licensing innovations made elsewhere or developing a variety of new products and processes on their own (Freeman/Soete, 1997: 266).

In this study, innovation is defined as all improvements in the technological base or in the organization of the enterprise. This *broad definition* includes learning processes with technologies developed elsewhere as well as local adaptations and major innovations in the sense of new products and original technologies (see Lall, 1990: 19; Nelson/Rosenberg, 1993: 4). Such a broad concept is "not necessarily tied to leadership in a technology but rather to effective competitive performance in a dynamic context" (Nelson, 1993: 506); it permits to capture innovation processes in developing countries' enterprises most of which do not involve first-time development of products and processes.

Reviewing the different positions with regards to the state-of-the-art in products and technology, as well as in relation to competitors, Freeman and Soete (1997) distinguish the following types of innovative strategies:

- An offensive innovation strategy "is one designed to achieve technical and market leadership by being ahead of competitors in the introduction of new products" (Freeman/Soete, 1997: 268). This strategy implies a high degree of Research and Development activities as well as the willingness and ability to take risks. This applies only to a relatively small minority of enterprises even in industrialized countries.
- However, a defensive innovative strategy does not mean that Research and Development is absent: "The defensive innovators do not wish to be the first in the world, but neither do they wish to be left behind by the tide of technical change" (Freeman/Soete, 1997: 273). Sometimes, a defensive strategy may be as research-intensive as an offensive one - the difference is rather one involving the nature and the timing of innovations. Often, defensive innovators go beyond copying and incorporate minor technical advances in their versions of products developed by offensive innovators, trying to differentiate the product while also offering it at a lower cost.

- Not all enterprises are willing and able to follow offensive innovators at a short distance as defensive innovators do. Imitative innovators content themselves with following some way behind the leaders in established technologies. Although imitative innovators do not carry out research on new products, they still have to innovate in order to make their production processes efficient. Unless they can rely on significant market protection, they have to achieve lower unit costs of production (compared to the market leaders) if they want to remain competitive. It is also important for these enterprises to have good information strategies for the selection of products to imitate and enterprises from which to acquire know-how.
- A dependent strategy involves a subordinate role in relation to other stronger forms. A dependent firm reacts to specific demands by its customers rather than initiating technical changes on its own. This is often the case of subcontractors (Freeman/Soete, 1997: 280).

Innovation is a *relative concept* that focuses on change. However, in order to assess innovations, it is also necessary to consider levels of technology and organization. For example, an enterprise can be very innovative, but starting from a low technological and organizational level, while another one may be less innovative, but starting from a higher level.

There has been some debate on the impact of technological change and innovations on workers. While authors such as Braverman (1974) have claimed that innovations in capitalist societies will inevitably lead to a deskilling of workers and a deterioration of their employment quality, Womack, Jones and Ross (1990) have on the contrary predicted that new technologies and organization methods will lead to both increased economic efficiency and improved employment quality. However, most careful empirical research suggests that neither a generalized pessimism nor a generalized optimism is justified. Rather, specific empirical research on enterprise strategies and innovation patterns is necessary (see, for example, McLoughlin/Clark, 1988).

In order to carry out such empirical research, different types of innovation can be distinguished. They form the framework for the analysis of innovation strategies in chapters 4., 5. and 6.:

- **Product innovation;**
- **Innovation in technology and productive processes;**
- **Innovation in the organization of production** (control of stocks; quality control; systems of subcontracting, buying and selling);
- **Innovation in work organization** (task organization; intensity and rhythm of work; hierarchy and internal structure of the enterprise);
- **Innovation in human resource management** (payment and incentive systems; work hours and shifts; professional training).

Table 2.2. summarizes the analytical framework for the analysis of innovation strategies, presenting examples of the different types of innovation, their link to the institutional framework and their potential impact on employment quality.

**Table 2.2. Innovation strategies, institutional factors and consequences for employment quality**

Type of innovation	Areas of strategies at enterprise level	Institutional factors		Potential impact on employment quality
		Specific	General	
Product innovation	<ul style="list-style-type: none"> <li>Enterprise research and development (including reverse engineering and market research)</li> <li>Licensing agreements</li> </ul>	<ul style="list-style-type: none"> <li>Competition laws</li> <li>Patent and intellectual property laws</li> <li>Brand mark legislation</li> <li>Market structure</li> </ul>	<ul style="list-style-type: none"> <li>Educational system</li> <li>Research system</li> <li>Exchange of information between enterprises</li> <li>Exchange of information between institutions and enterprises</li> <li>Policies dealing with potential social consequences of innovations</li> </ul>	<ul style="list-style-type: none"> <li>Indirect impact depending on character of new or improved products (required production methods, fluctuations of markets)</li> </ul>
Innovation in the technology and in the productive processes	<ul style="list-style-type: none"> <li>New machinery and equipment</li> <li>New layout of productive plants</li> <li>Enterprise R &amp; D</li> </ul>	<ul style="list-style-type: none"> <li>Access to new technologies</li> <li>Access to information about new technologies from outside the country</li> <li>Tariff rates on capital goods</li> </ul>	<ul style="list-style-type: none"> <li>Statutory regulation concerning the introduction of new technologies the system of training and retraining</li> <li>National or sectoral agreements on technology</li> <li>Mechanisms of consultation between workers and management at enterprise level</li> <li>Access to information from other countries</li> </ul>	<ul style="list-style-type: none"> <li>Positive or negative through changes in skill requirements: deskilling or skill upgrading</li> </ul>
Innovation in the organization of production	<ul style="list-style-type: none"> <li>Control of stocks</li> <li>Quality control</li> <li>Systems of subcontracting, buying and selling</li> </ul>	<ul style="list-style-type: none"> <li>Legal restrictions on subcontracting</li> <li>Tax legislation (VAT vs. turnover tax)</li> </ul>	<ul style="list-style-type: none"> <li>National or sectoral agreements on technology</li> <li>Mechanisms of consultation between workers and management at enterprise level</li> <li>Access to information from other countries</li> </ul>	<ul style="list-style-type: none"> <li>Subcontracting (flexibility)</li> <li>Changes in work organization may follow modifications of quality control</li> </ul>
Innovation in work organization	<ul style="list-style-type: none"> <li>Task organization</li> <li>Intensity and rhythm of work</li> <li>Hierarchy and internal structure of the enterprise</li> </ul>	<ul style="list-style-type: none"> <li>Legislation on collective bargaining</li> <li>Regulation of job assignments</li> <li>Social values with regards to hierarchy and motivations</li> </ul>	<ul style="list-style-type: none"> <li>Product market structure</li> <li>Labour market; absolute and relative labour cost</li> <li>Trade policy (protectionism)</li> <li>Innovative behaviour of other enterprises in the same sector or in other sectors with strong linkages</li> </ul>	<p>Complex array of changes according to type of changes:</p> <ul style="list-style-type: none"> <li>Stress</li> <li>Interest of the work</li> <li>Autonomy</li> </ul>
Innovation in human resource management	<ul style="list-style-type: none"> <li>Payment and incentive systems</li> <li>Work hours and shifts</li> <li>Professional training</li> </ul>	<ul style="list-style-type: none"> <li>Legislation on wage-setting mechanisms</li> <li>Legislation on working hours</li> <li>Training system, subsidies and tax incentives</li> </ul>	<ul style="list-style-type: none"> <li>Product market structure</li> <li>Labour market; absolute and relative labour cost</li> <li>Trade policy (protectionism)</li> <li>Innovative behaviour of other enterprises in the same sector or in other sectors with strong linkages</li> </ul>	<ul style="list-style-type: none"> <li>Income security</li> <li>Working hours</li> <li>Personal and career development</li> </ul>

Source: Elaboration based on literature cited in the text.



These types of innovation differ one from another in that some involve more "hard technology", in the form of machines and equipment, while others involve more "soft technology", such as organizational methods and know-how. In any case, all technological change, even the installation of an imported set of machinery developed and produced elsewhere, involves human learning if the potential of the new equipment is to be benefited from entirely. The equipment has to be matched by the skills of the labour force.<sup>30</sup> As Archibugi and Michie (1995: 2) put it:

Since technological change is rooted in human learning, it involves a variety of aspects which are difficult to quantify and even to conceptualise [...]. The very nature of technology necessarily affects the studies devoted to its understanding: a large part of the literature is descriptive and much has been learned from case studies. Other studies have provided empirical evidence and new data sources. However, we are still far from a clearly defined economic theory of technological change.

Innovations are rooted in skills, capabilities and knowledge and thus not easily transferable across countries: "Nations differ not only in the quantity of innovations introduced, but also in the methods by which these innovations are adopted and in their sectoral composition" (Archibugi/Michie, 1995: 3).

In sum, enterprises' innovation strategies are crucial for meeting the challenges of increased competition. Even though most enterprises in developing countries are not among the offensive innovators which struggle for world-wide technical leadership, they nonetheless need to innovate in order to remain competitive. The analysis has to take different innovation strategies into account, given that the institutional requirements and the impact on employment quality differ according to the chosen strategies.

## **2.2.2. Flexibility strategies**

### **2.2.2.1. Flexibility: a controversial concept**

One of the terms most often mentioned in discussions related to how to compete under conditions of global and volatile markets is "flexibility". Indeed, flexibility is one of the key concepts in understanding enterprises' response to competitiveness challenges.

However, the very success of this concept has contributed to its undifferentiated and inflationary use. While policy makers and employers use the term "flexibility" to get rid of "labour market rigidities", some academics criticize the "flexibility fetish" (Curry, 1993) and emphasize the highly ideological character of the term (Pollert, 1991). While some see exclusively positive outcomes to flexibility, including enhanced competitiveness, higher productivity, more employment, increased employee skills and more interesting work, others stress negative outcomes such as the deterioration of wages, working conditions, employment security and social

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<sup>30</sup> This does not exclude that in some cases the introduction of new technologies involves a deskilling of some groups of workers (formerly qualified jobs are simplified by the use of new technology); even in those cases, however, qualified personnel is necessary for the setup and for the control of the new equipment.

protection. For the former, flexibilization is a general policy recommendation, while the latter see it as a new device for the "flexploitation" (Bourdieu, 1998: 99) of workers.

In order to inject a certain level of order and intellectual rigor into the debate, it is thus necessary to insist on definitions and their implications for empirical research. On this basis, flexibility can then be linked in a meaningful manner to changes in employment quality.

Flexibility in a broad sense can be defined as the capacity to adapt to changing conditions. Paradoxically, despite its central position in public discussion and enterprise strategies, the concept of flexibility is, in a strict sense, void of content. It emphasizes the capacity for change, but says nothing about the characteristics and contents of the processes concerned.

The discourse against all rigidities tends to make believe that under any circumstances, the more flexible an economy, a labour market or a specific enterprise is, the better it will fare in competing in domestic and international markets. Indeed, when opposing the terms "flexibility" and "rigidity", there seems to be no doubt whatsoever on the positive meaning of the former and the negative meaning of the latter.

Such a use of the flexibility concept is however highly ideological. First, it occults the fact that flexibility is not a goal in itself. Rather, it involves changes in some areas in order to maintain other parameters stable or within certain limits. For example, an enterprise faced with falling market prices might try to cut costs in order to prevent the profit margin from falling below acceptable limits.<sup>31</sup> Second, it is sometimes forgotten that "rigidity" can also mean "stability" and "security", while "flexibility" can mean "insecurity" or "vulnerability". Flexibility in itself is neither necessarily positive nor negative and has to be assessed in the context of specific actors, goals and interests. Third, the term "flexibility" includes a lot of different mechanisms for adapting to change that have to be distinguished in order to use the concept in a meaningful way. The following types of flexibility will be distinguished in this study (see Lagos, 1994; Coriat, 1988):

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<sup>31</sup> As Dore (1996: 8-9) argues, British and American shareholders force managers to keep profits as high as they can in a recession and it is precisely because they face the inflexible demands of shareholders in financial markets that British or American firms need flexibility in labour markets. In contrast to this, Japanese shareholders have been flexibly accommodating to changing circumstances and have thus permitted more rigid constraints on managers' ability to hire and fire. Although currently under attack, the "job for life" system of major Japanese corporations has survived at least into the first half of the 1990s.

- **Numerical flexibility** (variation in the number and composition of workers). Numerical flexibility can be attained through the hiring and dismissal of workers or through the use of workers in non-standard employment relationships, such as temporary workers. The existence of a workforce that will only be paid when there is actually work to be done reduces the fixed costs of the firm. In this context, the strength of worker organizations is a limiting factor for flexibility because trade unions often try to limit the use of numerical flexibility strategies. Conversely, numerical flexibilization seems to be inevitably correlated with the weakening of trade unions. Numerical flexibility almost inevitably implies negative consequences for employment security and frequently a loss of social benefits.
- **Wage flexibility** (variation in the level of wages, based on firm, group and/or individual worker's performance). Enterprises use wage flexibility for two main reasons. First, various types of incentive systems aim at improving the workers' performance as higher productivity will bring them higher wages. Second, wage flexibility is used as a strategy to face conjunctural fluctuations. When the enterprise's production and sales decline, the wage sum declines, too.
- **Internal flexibility in the amount of labour used** (overtime and flexible timetables). Instead of hiring and firing workers in order to adapt to changing levels of production, the enterprise can also vary the work time of the available workers. The advantage for the enterprise is that this avoids the loss of internal knowledge each time a worker is dismissed. The consequences for workers depend on the rules on work time variation and their implementation. While an innovative approach can well satisfy both the enterprise's and the workers' preferences, the risk is that the workers are subject to arbitrary variations in their worktime.
- **Functional flexibility** (one person can work in different tasks). Functional flexibility can have positive consequences for workers, such as enhanced levels of skill and less tedious work. However, this improvement of working conditions as a consequence of innovations in the sense of functional flexibility is not automatic (see, for example, Nielsen 1996: 24). Rather, it depends on the degree to which functional flexibility is attained via skill upgrading and task enrichment, rather than the simple management power to move workers between different low-skill work posts. Moreover, in developing countries, many enterprises try to combine the benefits of functional flexibility with numerical flexibility (Doner et al., 1995), a strategy that is likely to reduce to benefits from functional flexibility.
- **Flexibility in the amount, type and quality of output.** This type of flexibility is important as a reaction to market fluctuations. However, innovative enterprises can anticipate market changes by diversifying their production in order to cover various markets. To the extent that the enterprise uses flexible programmable equipment, changes in the type and quality of output do not require new equipment, but rather a re-programming of the existing machines.
- **Flexibility as the capacity to develop and adopt new products and processes.** This type of flexibility depends to a large extent on the firm's capacity to benefit from internal knowledge. This means that ideas for improvement can come from everyone, including consumers, workers, suppliers, staff, and managers (Best, 1990). This can also imply an upgrading of workers skill and have a positive impact on employment quality.

**Table 2.3. Flexibility strategies, institutional factors and consequences for employment quality**

Type of flexibility	Strategy at enterprise level	Institutional factors	Potential impact on employment quality
Numerical flexibility (variation in the number and composition of workers)	<ul style="list-style-type: none"> <li>• Fixed-term contracts and contracts for specific projects</li> <li>• "Hire and fire"</li> <li>• Replacing labour contracts by commercial contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation: regulations of work contract, dismissals and severance pay, fixed-term contracts and subcontracting</li> <li>• Bargaining mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of job security</li> <li>• Loss of legally established benefits</li> <li>• Weakening of workers' bargaining position</li> </ul>
Wage flexibility	<ul style="list-style-type: none"> <li>• Lowering wages when enterprise is confronted with economic difficulties</li> <li>• Wage incentives linked to performance and/or productivity</li> <li>• Decentralizing wage-setting mechanisms</li> <li>• Removing automatic indexation to cost of living</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation: wage-setting mechanisms (decentralization to the enterprise level)</li> <li>• Minimum wage agreements</li> <li>• Bargaining mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of income security</li> <li>• Higher income disparities within the enterprise (losers and winners)</li> <li>• Possible higher job security (at the cost of lower wages in times of economic downturn)</li> <li>• Possible higher pay as compensation for more intense work</li> </ul>
Internal flexibility in the amount of labour used	<ul style="list-style-type: none"> <li>• Overtime work</li> <li>• Flexible working time systems (individual work schedules)</li> <li>• Part-time work</li> <li>• Variations in shift systems</li> <li>• Less working hours or suspension of contract when enterprise faces economic problems</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation: regulation of working hours, restrictions on night work, compulsory rest periods</li> <li>• Labour administration: authorizations for special working hour systems</li> <li>• Bargaining mechanisms: Workers' resistance to flexible working hours and work on weekend or during the night</li> </ul>	<ul style="list-style-type: none"> <li>• Higher likelihood of work at inconvenient times, with negative consequences for health and family life</li> <li>• Possibility of combining paid work with other activities (domestic work or other) in the case of voluntary part-time work and certain forms of flexible work schedules</li> </ul>
Functional flexibility	<ul style="list-style-type: none"> <li>• Training in order to form "multi-skilled workers"</li> <li>• More general job assignments, lower number of job categories</li> <li>• Implementing mobility across tasks</li> <li>• Introducing work teams with semi-autonomous monitoring of performance and quality</li> <li>• Abolishing piece-rate wages to avoid disincentives resulting from post changes</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation: requirements for job descriptions in work contracts</li> <li>• Bargaining mechanisms: workers' resistance to multiple job assignments</li> </ul>	<ul style="list-style-type: none"> <li>• More stress due to higher degrees of responsibility and diminution of dead times</li> <li>• Potentially more interesting and rewarding work</li> <li>• Uneven changes in individual bargaining positions as some workers become easier to replace while others maintain or acquire key responsibilities</li> </ul>

(table 2.3. continued)

<p>Flexibility in the amount, type and quality of output</p>	<ul style="list-style-type: none"> <li>• Subcontracting (outsourcing) of parts of the production process and services; home work; teleworking</li> </ul>	<ul style="list-style-type: none"> <li>• Replace turnover tax by VAT (making subcontracting more attractive)</li> <li>• Removing restrictions on subcontracting</li> </ul>	<p>For workers in core enterprise:</p> <ul style="list-style-type: none"> <li>• Potential for increased job security (as fluctuations are primarily managed through changing volumes of subcontracted work)</li> <li>• Risk of weakened bargaining position in the face of the threat of further externalization</li> </ul> <p>For workers in subcontracted enterprises:</p> <ul style="list-style-type: none"> <li>• Different outcomes according to type of subcontracted enterprise (see section #.#.)</li> <li>• Generally tendency towards lower wages and social benefits</li> </ul>
<p>Flexibility as the capacity to develop and adopt new products and processes</p>	<ul style="list-style-type: none"> <li>• Upgrading research and engineering capacities</li> </ul>	<ul style="list-style-type: none"> <li>• Training system, subsidies and tax incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Potential positive consequences as enterprise manages to compete through coverage of niche markets and type of products rather than through cost and price structure only</li> </ul>

Source: Elaboration based on literature cited in the text and Leiva (1998).

Table 2.3. presents a list of indicators of the different types of flexibility, their links to institutional factors and their potential impact on employment quality.

Depending on the existence of different types of flexibility, different profiles of flexibility can be distinguished. It is important to note that total flexibility cannot be conceived of as the "sum" of these different types of flexibility: one type may even exclude another. For example, emphasis on numerical flexibility may cause difficulties for the introduction of functional flexibility (as high turnover rates have a negative impact on the training and motivation of the work force), which in turn may limit the capacity to develop and adopt new products and processes.

Given that flexibility implies changing some variables within specified limits, it is thus neither a possible nor a desirable strategy to flexibilize everything everywhere. Flexibilization is always a selective operation. If flexibility is to be a positive factor in global and national economies, "it must be enmeshed within relatively stable social institutions that bind production and innovation together, giving rise to *structured flexibility*. Without such a structure, flexibility can be economically disruptive, a sign of weakness as well as strength" (Kenney/Florida, 1988: 122 as cited in Curry, 1993: 106). In a similar argument, Boyer (1986: 263) points out that the adoption of the "easiest forms of flexibility" can have a regressive impact on a country's position in the international division of labour.

If flexibility is to make a positive contribution to development, it should be by proactive initiatives and maintaining certain social and economic priorities, rather than just running behind market imperatives. Killick distinguishes between *responsive flexibility* and *innovative flexibility*: "Responsive flexibility refers to the reaction of economic actors to altered relative prices or other stimuli [...] By contrast, innovative flexibility refers to changes initiated by the exercise of entrepreneurship" (1995: 723). For example, cost reduction measures in the face of the arrival of cheaper imported goods which compete with national production are examples of responsive flexibility. While most of the types of flexibility mentioned above can serve both responsive and innovative purposes, some types (e.g., numerical flexibility) are more important in strategies of responsive flexibility, while others (e.g., functional flexibility) have more affinities with innovative flexibility. Responsive flexibility is usually associated with shorter periods of adjustment, variations of the amount of inputs and cost-oriented strategies, while innovative flexibility tends to be associated with longer adjustment periods, productivity gains and strategies oriented also towards the quality and variety of products.

#### **2.2.2.2. Flexibility, post-fordism and production networks**

In order to link the debate on flexibility to a broader context of economic models and work organization, it is useful to present briefly the "flexible specialization" paradigm and the research and debate that have been triggered by it. Drawing their empirical evidence from the study of industrial districts in some Northern Italian regions, where networks of small industrial enterprises have successfully developed the production of small series of highly specialized manufacturing goods, Piore and Sabel (1984) present a detailed account of how the standardized mass production that was typical of fordism has begun to be replaced by more flexible production patterns. Flexible specialization is defined as "the production of specialized products with

general resources (broadly skilled labor and universal, typically programmable machines)" (Sabel, 1986: 40).

Following the optimistic interpretations of the flexible specialization theorists, the new paradigm includes the potential for overcoming the strict division between intellectual and manual work and for upskilling production workers. Table 2.4. gives a schematic presentation of the flexible specialization paradigm as opposed to the traditional fordist production system.

**Table 2.4. Schematic opposition of "fordist" industrial production and flexible specialization**

	"Fordist" industrial production	Flexible specialization
Technology	Dedicated machines; Research and Development apart	Variable machines; possibility of permanent adaptation
Products	Limited choice of standardized products	Wide choice, production for niche markets (flexibility in the quantity and type of output)
Work process and skills	Fragmented and standardized tasks; Strict separation between intellectual and manual tasks; Low qualified workers	Semi-autonomous groups and decentralized responsibility; More integration of intellectual and manual work; Core of universally skilled workers (functional flexibility) in combination with subcontractors and less qualified workers
Remuneration	Wage for post; formalized bargaining	Wage for person; more informal bargaining
Dominant enterprise size	Large enterprises	Networks of small and medium-sized enterprises

Source: Adapted from Institute of Development Studies (1987: 139).

Following the success of Piore and Sabel's (1984) work on flexible specialization, an ever-growing body of literature on flexible forms of work organization and production has developed.

This literature has received several important criticisms. First, some critics have associated the "flexible specialization" paradigm with an uncritical neoliberal "flexibility cult". The simple dichotomy of fordist mass production and post-fordist flexible specialization has been criticized as being "profoundly romantic" (Fine, 1998: 73). Second, critics have also cast doubts on the empirical base for the flexible specialization model. In their view, the selective description of isolated regionally limited cases does not permit the extrapolation of a generalized tendency. At least in part, however, this seems to be due more to a problem of careless interpretation rather than the concept itself. Piore and Sabel themselves did *not* claim that flexible specialization was a generalized phenomenon: "To see how flexibility - until now confined to a relatively small segment within the mass-production system - could be extended throughout the economy is thus an exercise in imagination" (Piore/Sabel, 1984: 258). It remains nevertheless true that the theoretical approach lacks clear criteria for its confirmation or rejection in empirical research. More than 15 years

after the first publication of the flexible specialization concept, there is a rich literature on the issue, but still no consensus on the extent of the phenomenon.

Despite these problems, the flexible specialization approach provides valuable orientation for case studies on the national-, enterprise and sector-level:<sup>32</sup>

- Its emphasis is on organizational issues more than on simple "deregulation" of labour markets. In fact, the introduction of a neo-liberal set of institutions does not facilitate a "flexible specialization" pattern:

While flexible specialization strategies may be pursued within a plurality of productive and institutional forms, the range of variation is neither infinite nor arbitrary. Thus, for example, the regulatory requirements of flexible specialization are incompatible with a neo-liberal regime of unregulated markets and cut-throat competition. In each of its institutional forms, flexible specialization depends for its long-term success on an irreducible minimum of trust and co-operation among economic actors, both between managers and workers within the firm and between firms and their external subcontractors. [...] such co-operation depends in turn on the establishment of rules limiting certain forms of competition such as sweated wages and conditions, as well as on collective institutions for the supply of non-market inputs such as technological information or trained labour. (Hirst/Zeitlin, 1991: 7)

- It has given rise to a number of studies which analyzed the mechanisms for different types of flexibility within the enterprises. The flexible specialization literature has strengthened research on the links between the organization of work and production in enterprises on the one hand and economic performance on the other.
- By analyzing networks of small enterprises and the complex relationship with providers, Piore and Sabel draw attention to the importance of inter-enterprise relationships, an aspect that had often been neglected by previous research.

In many cases indeed, the mechanisms for achieving flexibility are not restricted to the enterprise but involve its links to the outside world via the management of subcontracting mechanisms, the relationship with providers or the cooperation with other enterprises. An important aspect of flexibilization strategies consists in the creation of enterprise networks. These networks combine some of the advantages of big enterprises (access to capital and technology, and economies of scale) with those of smaller enterprises (operational flexibility).

Two dimensions of the relations between enterprises in networks can be distinguished: The *vertical dimension* refers to links between enterprises along the production chain. The enterprises contributing to the production and commercialization of a single good are often very different in size, as is the case of relations between formal enterprises and small external workshops or homeworkers.

The vertical links along chains of production are of crucial importance to discussions on productive restructuring, especially in Latin America. While during phases of import substitution, big enterprises tended to produce the maximum share of inputs themselves (vertical integration), the current tendency is towards the focus on core

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<sup>32</sup> For example see Fields (1998) on Taiwan, Murray (1993) on Honduras and Jamaica and van Dijk (1994) on Indonesia and Burkina Faso.



competencies, while non-core productive activities and services are subcontracted (outsourcing).<sup>33</sup>

Another aspect of enterprise networks is the *horizontal dimension*, which refers to relations between enterprises in order to access collective goods and to defend common interests, thus essentially based on the common interests of network partners. The paradigm for the study of this type of network is the *industrial district* (Pyke/Becattini/Sengenberger [eds.], 1990; Silva, 1993).<sup>34</sup>

The interpretations of client-provider relations in terms of objective market prices as well as optimistic network theories emphasizing cooperation tend to neglect the power-related aspects of cooperation. Interests of participants in the networks may contradict each other in part; power relations between enterprises are thus an important part of their relation.<sup>35</sup>

In many cases, provider-client relations do not consist in markets with objective price signals, but rather in negotiated perceptions of the market. Prices along the chains, far from being determined by supposedly neutral market signals, are strongly influenced by power relations along the chain. The main resource in these negotiations tends to be information. Insofar as providers do not carry out independent market research, but rather rely on information provided by their clients, there is an inherent asymmetry of information in favour of clients (Pohlmann, 1996). However, information is not the only resource. The power relations between a subcontractor and the contracting enterprise depend, among other things, on (i) the degree of specialization and the technological level of the subcontracted tasks and (ii) the access to capital and technology the subcontractor enjoys independently of the contracting enterprise.

These factors have a strong influence on the distribution of value added and profit margins along the production chain. This is not only relevant for the economic development perspectives of the enterprise, but also for the issue of social development because dominated enterprises tend to transmit their risks and uncertainties to their workers. There is thus a certain parallel between the state of the enterprise and workers' employment quality.

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<sup>33</sup> Subcontracting and "outsourcing" are very fashionable concepts, but the practice is not new. In fact, even the presence of contract enterprises in charge of certain parts of the production process within the premises of the manufacturing enterprise (often seen as the most modern form of productive organization) is by no means a new practice. It has been documented in turn of the century United States (Buttrick, 1952), although its use tended to diminish later. Although historical research is not the main objective of this study, the historical perspective is useful here in two regards. First, against a sometimes exaggerated "fashion" of subcontracting as a completely new and extremely modern way of work organization, historical consideration allows to replace these practices in their context. Second, the historical perspective is useful in order to remember the limitations of these subcontracting strategies. The superiority of subcontracting over the production of the same good or service within the enterprise is not an ahistorical constant, but rather depends on the economic and institutional context in which it takes place.

<sup>34</sup> Harrison (1994) argues that the districts to be found in some Italian regions in fact depend on horizontal (subcontracting) relations with enterprises generally outside the district's spatial area to carry out labour-intensive production.

<sup>35</sup> Power is defined here as the result of mutual asymmetrical dependencies. Power is not conceived of as a substance that one actor can "possess" but rather as a property of the relation between two or more actors (Elias, 1981). See also Yoguel/Kantis (1990: 4).

Power relations along production chains may permit one actor to transfer the risks of changing market conditions to weaker segments of the chain and thus behave in a comparatively "rigid" way while obliging other actors to "flexibilize" themselves. Innovative flexibility in one enterprise may lead to responsive flexibility in other enterprises of the same chain. Along a production chain, the different types of flexibility may be unevenly distributed. Thus, some actors may have a high capacity to introduce and adapt new products and processes while maintaining a relatively stable labour force (the "head" of a production chain), while subordinated segments may have to emphasize numerical flexibility in order to follow the orders (executing subcontractors).<sup>36</sup>

In sum, while flexibility strategies can be seen as a response to increasingly volatile and competitive markets, flexibility is not an end in itself. It is a strategy to attain certain goals in the face of market fluctuations, and there may exist a trade-off between the short-term and long-term goals of enterprise development. It is important to distinguish between different forms of flexibility strategies as their impact on long-term development and on employment quality varies considerably. Flexibility strategies often go beyond the borders of individual enterprises and involve the creation of enterprise networks. These have to be considered in empirical research.

### **2.2.3. The concept of employment quality**

#### **2.2.3.1. Introduction**

We have thus far presented the conceptual framework that has been developed in order to characterize the patterns of enterprise innovation and flexibility strategies. The debate on the outcomes of such patterns is often flawed by the lack of a comprehensive analytical and methodological framework to describe them. Although the capacity of employment creation of the economy is a key issue in the analysis of labour market performance, there is growing awareness that the quality of the jobs created also merits a closer analysis. Beyond anecdotal evidence on "good" vs. "bad" jobs, this issue requires a more systematic approach.

One obvious indicator is the level of earnings, which is extremely important and cannot be neglected. This holds generally, but even more so in developing countries, where a substantial part of the occupied population works in employment situations that do not guarantee sufficient income for the worker and the household he or she lives in to stay or move above the poverty line.

The most common measure of employment quality in economics is indeed the wage level and much of the debate on "employment quality" or "job quality" has focused on economic variables that are comparatively easy to measure and straightforward in

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<sup>36</sup> The different roles in a production chain can be characterized as "core activities" and "periphery activities". In this formulation, core activities are those in which the principal surplus is realized; peripheral activities are externalized through subcontracting (Appelbaum/Gereffi, 1994: 43, 45).

their interpretation.<sup>37</sup> But it is obvious that there are many other relevant dimensions that are neither identical to employment volumes nor to the amount of earnings (although indirectly related to them), such as for example employment stability, social protection, indicators of occupational health, access to training opportunities and more subjective dimensions like the content and interest of work.

These dimensions have to be taken into consideration to evaluate if a job is "good" or "bad" or if its characteristic is precisely the combination of positive indicators in some dimensions, and negative ones in others. More importantly, individuals definitely carry out some evaluation - albeit often in an intuitive manner - when they make decisions on whether to accept, refuse or change employment.

The concept of employment quality (Rodgers, 1997; Rodgers/Reinecke, 1998; Infante [ed.], 1999) has been coined to take into account dimensions other than the level of income more systematically and to acknowledge the importance of those other dimensions for the well-being of workers and for a better understanding of the labour market. While the concept of employment quality is not new, most studies on this issue were carried out during the 1970s in industrialized countries. The interest in employment quality was then part of a movement aiming at establishing adequate indicators for the measurement of the quality of life and effected through specialized national surveys in the United States in 1969/70, 1972/73 and 1977 (Quinn/Staines, 1979) as well as in the Netherlands in 1977 (Zanders/van Büchem/van Berkel, 1977). These studies covered subjective appreciations of job satisfaction as well as objective indicators on issues such as earnings and fringe benefits, working hours, health and safety, job security and mobility, transportation to and from work, discrimination and job content.

During the 1980s, the concept of employment quality as such seemed to disappear – this is at least the impression one gets from searching by the keywords "employment quality" and "job quality" in the catalogue of the central ILO library. However, research on issues such as job satisfaction, occupational health and safety and other dimensions included in the earlier employment quality literature continued.

The renewed interest in employment quality has been triggered to a large extent by the debate on the so-called non-standard forms of employment. The finding of Belous' (1989) study of several important industrialized countries that the "contingent workforce" (temporary, part-time and subcontracted workers) has been growing very obviously made it an important question to know if and how far the growth of these non-standard forms of employment implies a decline in employment quality.

In the context of developing countries, the analysis of employment quality is especially interesting with regards to the Chilean case, where the economic restructuring of the last decades has caused an accelerated process of change in employment composition by economic sectors, employment categories, and

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<sup>37</sup> For example, the debate on job quality in the United States during the 1980s focused entirely on the relative growth of high-wage and low-wage employment in the economy (Champlin, 1995: 830; Costrell, 1990). In their study of the Brazilian case, Barros and Mendonça (1995; 1999) use the concepts of quality of employment and quality of working post to analyze income differences by economic sectors for male workers with comparable formal education and age.

contractual status. These rapid changes are widely perceived to have led to an increase in non-standard forms of employment and can be expected to be reflected in changes of employment quality.

In order to present the concept of employment quality and to develop some ideas for operationalization and measurement, the remainder of this section will first outline the importance of the issue of employment quality (2.2.3.2.). Subsection 2.2.3.3.. then discusses the distinction between objective and subjective dimensions of employment quality. In view of empirical research, a list of dimensions of employment quality will be presented (2.2.3.4.).

### **2.2.3.2. The importance of the issue of employment quality**

Although employment quality is more difficult to conceptualize and measure than earnings and employment levels, it is an important issue because it has a strong impact on the workers' well-being, which makes it an issue in its own right. Indeed, for most occupied persons, work occupies the major part of available time. Improving employment quality therefore contributes directly to welfare, although this may be in ways which are difficult or impossible to measure in monetary terms.

The crucial importance of employment quality for social welfare has recently been recognized by the ILO which put the concept of "Decent Work" at the centre of its strategies to combat poverty and contribute to socio-economic development. The Decent Work paradigm explicitly states that the "goal is not just the creation of jobs, but the creation of jobs of acceptable quality" (ILO, 1999d: 4). This includes the respect for core labour standards and some protection against vulnerability and contingency.

One reason why the issue of employment quality has not always been given much importance is that it is often thought that employment quality will improve automatically as productivity increases. However, although the creation of productive employment is definitely an important element of any strategy to improve employment quality, the supposed link between productivity and employment quality is not automatic and may conceal important facts. For example, while productivity and employment quality may often improve simultaneously in periods of economic expansion, the issue is much more complicated in times of recession and adjustment. If workers have to bear most adjustment costs, their employment will suffer from declining job and income security, while enterprises can maintain their productivity levels on the back of workers.

The theory of compensation, summarized by Rosen (1986), considers that bad employment quality in some dimensions has to be compensated with higher income. Rosen views a labour market transaction as "a tied sale in which the worker simultaneously sells (rents) the services of his labor and buys the attributes of his job" (1986: 642). In this type of model, the actual wage is the sum of two conceptually distinct transactions, one for labour services and worker characteristics, and another one for job attributes.

The typical example is the mining sector, where the risks of accidents or occupational illnesses and difficult living and working conditions are compensated

by substantially higher incomes than is the case in other economic sectors where workers require similar qualifications. In other cases, too, low employment stability and social benefits are to some extent compensated by higher wages, as seems to be the case of contract workers in the Malaysian construction, plantations and the wood industry (Lee/Sivananthiran, 1996), or casual and part-time workers in New Zealand (Anderson/Brosnan/Walsh, 1994: 499).

This theory of compensation, however, does not work in all cases. Often, at a given level of qualification, some jobs may be both better paid and better in terms of other dimensions of employment quality (see, for example, Clark, 1996: 205).

In principle, such a labour market pattern would indicate that it is segmented, although there may also be unobserved differences in qualification (beyond educational title and years of school) that determine the access to the best jobs at a given level of formal education. The fact that "good" jobs in terms of non-monetary dimensions of employment quality are often well paid, too, points towards an interesting issue of social stratification related to employment quality. But beyond the issue of social stratification that may represent a structural feature which displays relatively little change over time, it is often perceived (though less often measured) that employment quality has been deteriorating as an outcome of economic adjustment processes such as those many Latin American countries have experienced over the last decades. For example, Altimir states in an overview article that

there are increasing grounds for suspecting that the new modality under which the economies are functioning and the new rules of public policy involve greater income inequalities and more precarious employment situations than in the past [...]. (Altimir, 1994: 8)

There is some evidence that in many cases, adjustment of the labour market will take place not only through changes in the volume of total employment but also through changes in employment quality. The tendencies towards "informalization" or "precarization" observed in many countries are a typical example. An analysis exclusively in terms of the quantity of employment would thus give a very incomplete picture. In addition to this, the effects of labour market regulations and other institutional interventions in the labour market may be much stronger on employment quality than on the quantity of employment.<sup>38</sup>

In order to gain a fuller understanding of the mechanisms operating in the labour market, even in economic terms, it is necessary to consider some proxy of employment quality, although the development of a consensual methodology is likely to be difficult. At a more disaggregated level, a notion of employment quality is also important in the debates of changing "employment models" or systems of work organization. Concepts such as flexible specialization (see section 2.2.2. above) potentially involve changes in the stability of employment, in the definition of tasks, in work intensity, in the level of responsibilities for the workers and in pay systems.

Having now demonstrated the importance of the issue, the following subsection deals with the objective and subjective components of employment quality.

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<sup>38</sup> In fact, the volume of employment is generally found to be strongly associated with economic growth rather than with labour market regulations (ILO, 1996a).

### 2.2.3.3. Dimensions and measurement of employment quality

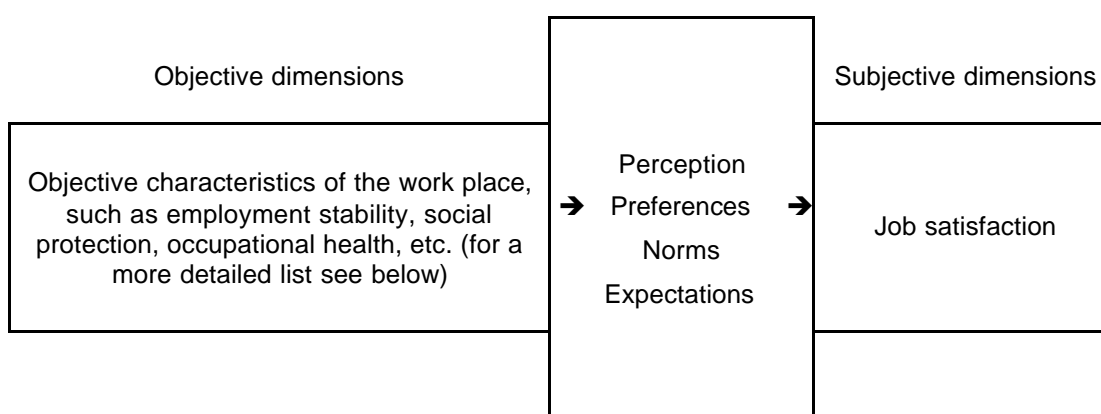
How can good and bad jobs be defined and distinguished? Clearly, the concept of employment quality involves both objective and subjective elements.

The measurement of objective dimensions of employment quality comes up against several important obstacles:

- First, data on many dimensions of employment quality are very difficult to gather in a satisfactory way. Even improved labour or household surveys can gather only subjective perceptions of objective facts when it comes to more complex characteristics of the workplace. Direct surveys at workplaces, on the other hand, can avoid this problem but are very costly to carry out for a big sample.
- Second, many characteristics of employment quality may be measured, but it is still difficult to establish a one-dimensional scale ranging from the "best" to the "worst" jobs. For example, it is impossible to decide if a well-paid job which involves working hours at night is better or worse than another, lower-paid job with similar characteristics but normal day-time working hours. In fact, the assessment of these two jobs will inevitably depend on the situation and the preferences of the worker – while a young single man may prefer the former, a married woman with children may prefer the latter.

The subjective job satisfaction can be defined as the perception of a certain number of objective features of employment quality, weighted by the preferences, norms and expectations of the worker (Locke, 1983; Clark, 1996). The relationship between objective and subjective dimensions of employment quality is summarized in the following figure 2.1.

**Figure 2.1. Objective and subjective dimensions of employment quality**



Source: Elaboration based on Locke (1983) and Clark (1996).

The worker's subjective perception of the objective characteristics of his employment relationship is not just a minor detail. Only some degree of satisfaction at work and the perception of an intrinsic value of the activity will provide the degree of motivation at work that is required in most work places today. A situation where salaried work is exclusively executed to obtain a salary is generally perceived as

abnormal. The objective employment relationship which can be analyzed in terms of productivity (or, in Marxian thinking, in terms of surplus-value and exploitation) would in fact in most cases simply be unsustainable without the subjective side of satisfaction at work, dignity and motivation (see Bourdieu, 1997a).

For workers, the concepts of "fairness" and "justice" and the demand to be "fairly treated" are extremely important and do not only point towards wages, although wage rates and employment are profoundly entwined with social status and self-esteem. In this sense, attempts to improve the working of the labour market by making it more competitive may actually deteriorate subjective employment quality for workers "who might be willing to pay a price to avoid having their livelihoods governed by atomistic competition" (Solow, 1990: 79).

Despite the importance of these subjective dimensions, there are several arguments that make the analysis of objective dimensions of employment quality, difficult as it may be, extremely important. The fact that expectations seem to adapt to realistic perspectives in the labour market (Tolbert/Moen, 1998: 174) makes the instruments of job satisfaction analysis somewhat insensitive to improvements or deterioration of objective employment quality. Most working persons seem to have internalized the objective constraints they face in accessing a job of good quality (for instance, a low level of education) and they may have high levels of job satisfaction when they access a job which is slightly superior to their expectations. Improvements in job satisfaction then do not necessarily require improvements in objective dimensions of employment quality:

Higher job satisfaction may then come about from improvements in the objective aspects of the job, from reduced expectations or desires regarding the job or equally from a realignment of values so that dissatisfying aspects of the job are downplayed, while those that please are given greater weight. (Clark, 1996: 191)

The fact that several studies measure higher degrees of job satisfaction for women than for men (Clark, 1996: 196-197) then does not mean that women's employment quality is objectively better than men's, but rather that men and women have different expectations and value work for different reasons. For the same reasons, job satisfaction is not directly comparable between countries. A higher average indicator of job satisfaction in one country does not mean that employment quality there is actually better than in another country with lower average indicators. The difference may simply reflect cultural characteristics in the attitude towards work. In sum, the measurement of differences over time and between categories of workers is better done with the help of objective rather than subjective indicators.

Specific empirical research on the issue of employment quality in Latin America has begun only very recently (Rodgers/Reinecke, 1998; Infante [ed.], 1999; Valenzuela/Reinecke [eds.], forthcoming). As a first step for operationalization, it is necessary to define the dimensions of employment quality. The following list can be a useful heuristic tool for the systematization of the analysis of employment quality, although it is certainly not exhaustive and moreover, the conceptual cuts between some of the dimensions are somewhat arbitrary given that they are strongly related to each other:

- **Earnings** - Monthly and hourly incomes.
- **Non-wage benefits** - These may be granted voluntarily by the employer or they may be established by law.
- **Regularity and reliability of work and income** - There are several intermediate cases between the reliable, stable job on the one hand and a completely temporary one on the other. For example, a temporary assignment may be extended without a change in the employee's status. Also, performance-related incentives involve a fluctuation in monthly incomes even though the job may be stable in nature.
- **Contractual status** – For salaried workers, this dimension refers to the type of contract: Is it a fixed-term contract, a contract for a specific task, or a permanent position? Is there any written work contract? It is obvious that different forms of contract involve differences in the legal and social protection of the worker. Self-employed workers have a different status altogether, but even they experience differences according to the degree of formalization of their business and their actual degree of independence. (Some self-employed workers depend on only one "client-employer" to the extent that their situation has been described as "disguised salaried employment".)
- **Social protection** – This includes pension fund and health insurance, unemployment insurance, maternity benefits etc..
- **Participation and representation in the determination of working conditions** – This refers to the unionization rate and trade union rights as well as other mechanisms of representation such as enterprise committees and work councils.
- **Hours of work** – Duration and distribution of working hours.
- **Intensity of work** – The intensity of work depends on the work organization. Requirements can be made by the enterprise, but in many cases performance-related payment systems give incentives for the worker to enhance the intensity of work.
- **Risks of accidents and occupational health hazards** – Although in many countries "traditional" risks due to hard manual work or direct contact with dangerous chemicals tend to diminish, there are other, "new" risks. These can be caused by repetitive movements in computer work places or stress at work. Many "new" occupational illnesses are not recognized as such so that social protection mechanisms do not always work properly.
- **Physical working conditions** – In addition to the conditions that can affect the worker's health – (temperature, light etc.): space, sanitary installation, eating facilities, possibility for social interaction, leisure facilities etc.
- **Interest and content of work** – This dimension refers to the worker's appreciation regarding the "interest" or "monotony" of work.
- **Opportunities for personal and professional development** – Opportunities given by the pattern of work organization and access to training opportunities within and outside the enterprise. The issue is also related to factors such as the segmentation of the labour market, the social structure of the enterprise, as well as access to training and credit (in the case of self-employed workers).
- **Ethical and moral context and social status provided by the employment** – This is related to the values which the worker and the society attach to different occupations, economic sectors and workplaces.



Several of these dimensions can hardly be measured without taking subjective dimensions into account. Although based on objective differences between jobs, their measurement involves subjective perceptions. Moreover, not all of these dimensions can be easily apprehended statistically. Some would need specialized qualitative studies. The sources that may help in characterizing employment quality range from official registers and household surveys to more specific sources, such as specialized representative surveys or more qualitative ad-hoc studies at enterprise level.

Latin American household surveys gather data on some dimensions of employment quality, but in many cases they have done so only since recently.<sup>39</sup> It has to be pointed out that many data have to be interpreted with caution and in the context of each country's economic and social situation. The coverage of different data sources (especially in the case of official registers) has to be taken into account and concepts have to be adapted to national realities.<sup>40</sup>

In most cases, the most interesting data in terms of analysis and policy relevance is not an aggregate national figure or average. It is more interesting to obtain data for specific groups of workers. For example, young workers or women may be particularly affected by specific deficiencies in employment quality. Improving a dimension of employment quality may require completely different policy tools for a group of workers in the formal sector with full coverage of labour inspection and official registrations than for workers in the so-called informal sector.

In order to capture differences in employment quality between workers in different employment categories, it is useful to consider the employment status (e.g. permanent wage workers, temporary wage workers with written work contract, wage workers without written contract, self-employed workers, employers) as an "independent variable". Available indicators of employment quality (as "dependent variables") can then be compared across categories (see Harriss/Kannan/Rodgers, 1990). Such an approach permits to analyze the impact of non-standard forms of employment on various dimensions of employment quality. Depending on the more specific research questions, these data can be disaggregated by years of education, sex or economic sectors. This approach has been applied to the Chilean case in this study for those dimensions of employment quality for which quantitative data are available in the CASEN survey (see chapter 4.).

In sum, the concept of employment quality is crucial in characterizing workers' welfare. It goes beyond the level of income and incorporates dimensions such as job security, social security coverage and access to professional training.

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<sup>39</sup> In Chile, most data on employment quality have been obtained from special tabulations of data from the National Socio-economic Household Survey (CASEN) (see annex 1). This survey was first carried out in 1985, but questions on employment quality have only been added progressively to the questionnaire since 1990.

<sup>40</sup> For example, the existence or absence of a written work contract may have very different implications from country to country. In some countries, even big formal enterprises rarely have written work contracts, while in others, they are widespread even in small and comparatively "informal" enterprises. And while most countries' labour legislation recognizes the existence of an employment relationship even though a written work contract may not exist, the degree to which salaried workers without written contract obtain the same rights in practice depends very much on how the legal system is conceived. The coverage of social protection or a pension scheme can be measured in similar ways in different countries, but the specific systems imply different types and amounts of benefits according to the country.

#### **2.2.4. Summary**

In this section, strategies of innovation (2.2.1.) and flexibility (2.2.2.) have been identified as answer to the challenges of globalization. However, the debate on both innovation and flexibility is often value-laden and does not take into account that both innovation and flexibility can come in very different forms, causing different outcomes for the economy and society in general, and for the quality of employment in particular. In order to analyze the quality of employment beyond the amount of incomes, it is necessary to reflect other dimensions of employment quality within the possibilities and limitations of measurement techniques (2.2.3.).

The following elements of the conceptual framework presented in the previous sections are particularly important in view of the empirical application in the following sections:

- Different types of innovation and flexibility have to be distinguished in order to carry out a meaningful analysis of strategies. Different types of flexibility do not simply "add up" to total flexibility, and some of them may even be contradictory. The impact on employment quality also varies according to the type of flexibility considered.
- Some forms of flexibility involve the growth of so-called non-standard forms of employment that have to be incorporated into the analysis.
- Flexibility strategies are not restricted to the internal organization of the enterprise. Often, they involve changes in the relationship with providers and subcontractors. It is thus important to analyze the consequences of such strategies throughout the production chain and not just in big "formal" enterprises.
- The quality of employment goes beyond the level of earnings and includes various other dimensions such as job security, social security coverage and access to professional training, which also have a direct impact on workers' welfare. Although the measurement of employment quality is often difficult, several dimensions can be satisfactorily analyzed with the help of statistical data.

### **3. An overview of political, social and economic development in Chile**

*Du gouvernement Frei à la première période du gouvernement Allende, la différence est grande; elle n'est pas totale. C'est l'État qui dirige, qui déborde les anciennes forces de domination économique ou politique, qui élargit le contrôle de la nation sur ses ressources et sur son organisation. Les grands partis politiques ou l'organisation syndicale sont très largement des intermédiaires entre le pouvoir et les masses populaires encore assez hétéronomes. Retour au réalisme après tant d'années (depuis 1891) de dépendance acceptée ou de crises, mais sans intervention directe de la lutte des classes.*

Alain Touraine: Vie et Mort du Chili Populaire, Paris, 1973, p. 16

In order to understand Chilean enterprises' strategies and their economic and social impact, it is necessary to take the changes in the Chilean society and economy since the period of import substitution into consideration. This chapter describes the main political (3.1.), economic (3.2.) and social (3.3.) developments.

#### **3.1. Political development and the configuration of strategic groups**

This section characterizes political developments and development strategies in Chile by analyzing the decline and rise of strategic groups as well as their shifting coalitions over time. Applying the conceptual framework developed in chapter 2., it also considers the degree of state autonomy, the relations between government and business as well as the importance of mechanisms of social dialogue.

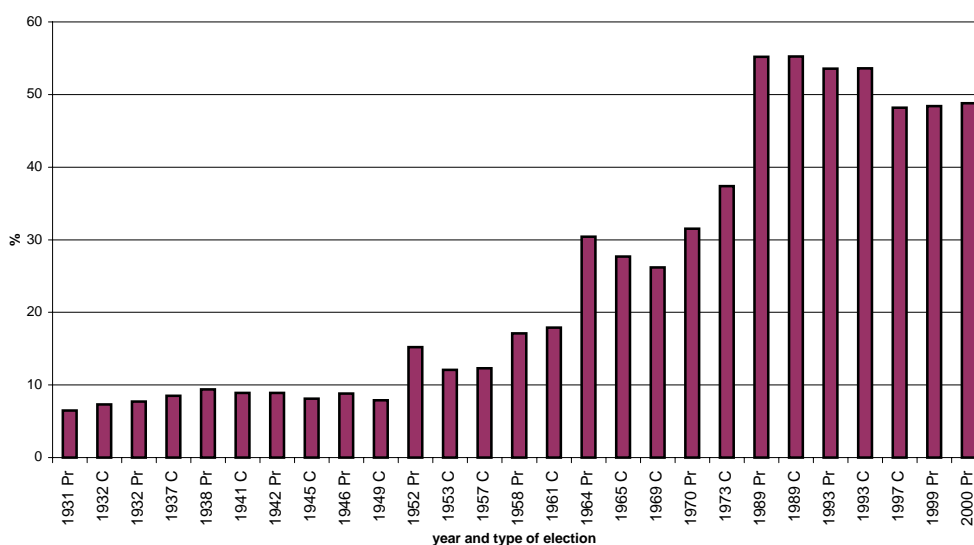
##### **3.1.1. The import-substitution coalition and its fall (1930s-1973)**

The early 1930s in Chile mark the beginning of a strategy of import-substituting industrialization (ISI). This development strategy was backed by a coalition of urban strategic and counter-strategic groups that lasted until 1970, albeit with growing tensions already during the 1960s. The ISI coalition consisted of entrepreneurs (mainly manufacturing enterprises producing for the domestic market), professionals and organized (urban) workers (Silva, E., 1996).

This implicit settlement between groups in the ISI coalition, often referred to as *estado de compromiso*<sup>1</sup>, facilitated the development of the democratic political system which became gradually more inclusive. During the 1930s and 1940s, less than ten per cent of the population participated in parliamentary and presidential elections. After the 1949 election, women obtained the right to vote and from the 1950s to 1973, the share of voters in the population rose continuously (figure 3.1).<sup>2</sup>

**Figure 3.1. Participation rates in parliamentary and presidential elections, 1931-2000**

(Share of voters in total population, %)



Sources: Nohlen (1993); Ministerio del Interior (2000); INE (various years): Compendio Estadístico; own calculations.

Notes: Pr= presidential elections; C= Parliamentary elections (*Congreso*). The last presidential election took place in two rounds: December 1999 and January 2000.

The private business sector had a somewhat ambiguous view of the state's intervention into the economy: While it was eager to diminish state intervention in the fields of income redistribution and labour relations, it backed up the protectionist strategy and the state's industrial policy measures (Moulián/Vergara, 1980: 77). The president of the main business association *Confederación de la Producción y del*

<sup>1</sup> See Huneus (1981: 41-46) for a synthesis of the concept and the criticism around it. The *estado de compromiso* paradigm emphasizes the mechanisms by which the emerging "middle classes" were integrated into the system without endangering the domination by the elite groups. The paradigm has been criticized for over-emphasizing the stability of the political system, while the elements of dynamic changes and crisis are neglected.

<sup>2</sup> The inscription in the electors' lists, a precondition for voting, was made compulsory in 1962, although it took several years to complete the inscription process, especially among the lower classes. In 1970, analphabets obtained the right to vote and the minimum age for voting was lowered from 21 to 18 years (Nohlen, 1993: 181, 184; Koch, 1998: 19).

*Comercio* (CPC)<sup>3</sup>, Jorge Alessandri, criticized in a 1955 speech some aspects of state regulation, but still agreed with a far-reaching role for the state even in the coordination of economic activities:

[...] we are not against state intervention, when it is situated within the role that nobody could deny the state in these matters and in which its action is not only beneficial, but necessary, such as orienting, stimulating and coordinating the general economy of the country. (Alessandri, 1955: 18)

The ISI strategy and its requirements for monitoring and stimulating the economy justified a steady increase of employment in the public administration and in state enterprises. Given the comparatively weak dynamism in the development of private sector enterprises, the public sector provided most opportunities for social upward mobility, either through education or friendships and acquaintances.<sup>4</sup> The rising "middle class" thus supported - and depended on - the growth of state intervention and redistribution (Velasco, 1994: 385).

During the last decades of the ISI era, university education grew at a rapid pace<sup>5</sup> and the number of highly qualified professionals in the public service increased strongly. Their role was crucial in catering for the technical aspects of the reform programs of that time, such as the agrarian reform. However, in the mid-1960s, technocrats were still subordinate to chief administrators who were more politically oriented and had no technical backgrounds (Petras, 1969; Silva, P., 1996). The public sector was thus relatively large and staffed with competent professionals, but state agencies were subject to increasing social and political pressures that prevented them from acting in a coherent manner (Martínez/Díaz, 1996: 66). As a result, the autonomy of the Chilean state remained limited.

The analysis of the professional background of the persons in the top economic policy-making positions between 1958 and 1973 shows a relatively high share of economists (43,6 per cent), but engineers (24.1 per cent) and lawyers (17.4 per cent) also had a strong weight (table 3.1.). In the overall cabinet composition, lawyers were still dominant (more than 50 per cent during the Alessandri and Frei administrations, around 35 per cent during the Allende administration) and most ministers had had their previous work experience in the public sector. This contrasts with the Pinochet period, when military officers and economists were the dominating professions in the

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<sup>3</sup> The CPC, founded in 1935, is the main business association representing large- and medium-scale enterprises. It groups together the different sectoral business associations: the *Sociedad de Fomento Fabril* (SFF) for industry, the *Sociedad Nacional de Agricultura* (SNA) for agriculture, the *Sociedad Nacional de Minería* (SONAMI) for mining, the *Camara Nacional de Comercio* (CNC) (formerly *Camara Central de Comercio*) for commerce and the *Camara Chilena de Construcción* (CCC) for the building industry. The financial sector association *Asociación de Bancos e Instituciones Financieras* (ABIF), founded in 1943, joined the CPC in 1979. For more details on the history and organization of Chilean business associations, see Montt (1977) and Imbusch (1995).

<sup>4</sup> Between 1964 and 1973, the employment in the civilian state administration (without state enterprises) increased by 7 per cent per year on average (Echeverría, R., 1985: 46). See Petras (1969: 288-337) for details on the educational background and internal structure of the Chilean bureaucracy in the 1960s.

<sup>5</sup> The number of university students increased almost threefold in less than one decade, from 24,703 in 1960 to 70,588 in 1969 (ODEPLAN, 1971b: table 240).

cabinet and the share of ministers with previous public-sector work experience declined (Rehren, 1998).

**Table 3.1. Top economic policy-making authorities by professions, 1958-2000**

(average shares in five key positions, %)

	ISI (Alessandri, Frei, Allende), 1958- September 1973	Gradualism (Pinochet I), September 1973 - April 1975	Radical neoliberalism (Pinochet II), April 1975 - March 1983	Pragmatic neoliberalism (Pinochet III), March 1983 - March 1990	Continuity and change after democratization (Aylwin, Frei, Lagos), March 1990-2000
Military Officers	3.6	50.0	15.0	26.1	0.0
Lawyers	17.4	0.0	0.0	12.9	5.0
Economists	43.6	30.0	76.7	47.4	85.0
Social Scientists	0.0	0.0	0.0	0.0	5.0
Engineers	24.1	0.0	2.5	5.7	5.0
Businessmen	1.3	20.0	5.8	2.9	0.0
Politician	5.0	0.0	0.0	0.0	0.0
Others	5.0	0.0	0.0	5.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0

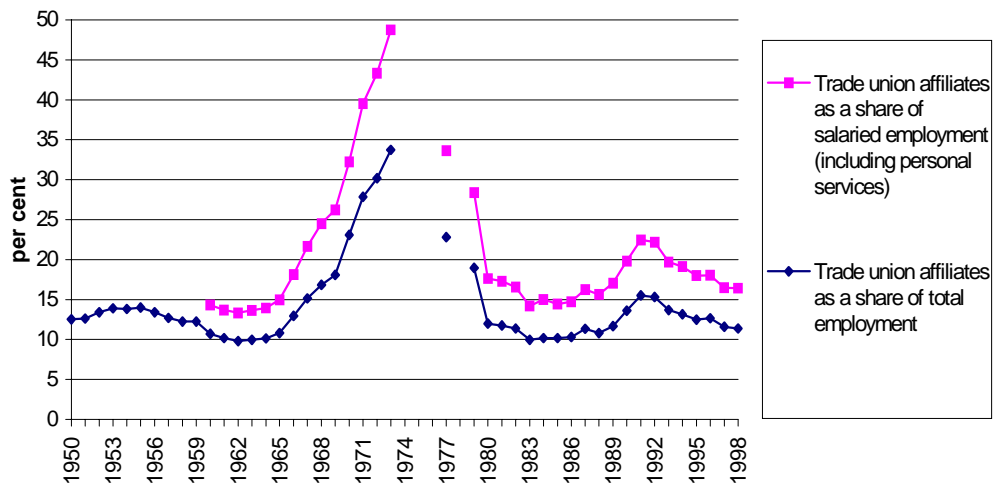
Source: Elaboration based on data in Montecinos (1998: 137-143) (for 1958 to 1994), own analysis of press reports and data kindly provided by Miguel Cáceres (for 1994 to 2000).

Note: Data consider the professional background of the Finance Minister, the Minister of the Economy, the Director of the planning agency ODEPLAN (later Minister of MIDEPLAN), the Budget Director and the President of the Central Bank. (The deputy Director of ODEPLAN included in Montecino's data has been omitted.) For each of the five positions, the distribution of professions among all the persons who were in charge of it during the given period has been calculated. Then, the average per cent share of the five positions has been calculated. By giving an average of the five posts rather than the simple composition of all the persons in all five posts taken together, the distorting effect of the differences in turnover in the position has been avoided. However, the different tenure of the different persons within one position has not been taken into account.

The Chilean military had a strong constitutional tradition that increased the stability of the political system. However, the share of military expenses in the state budget declined strongly during several decades after 1945, leading to rising civil-military tensions.<sup>6</sup> Although some of the political aspirations of the military were institutionalized in 1960 with the creation of the *Consejo Superior de Seguridad Nacional*, a perception of relative decline compared to emerging civilian groups persisted. It led to several gestures of insubordination, including the 1969 self-quartering (*auto-acuartelamiento*) of the Tacna regiment (Varas, 1987: 19, 22).

<sup>6</sup> According to Ramírez, the share of the military expenditures in the state budget decreased from more than 20 per cent on average during the 1940s to less than 10 per cent in the second half of the 1960s (Ramírez, 1984: 9 as cited in Varas, 1987: table 1.1). According to other sources, the decline was somewhat less dramatic, but the tendency of decreasing resources for the military can be observed in all of them (Varas, 1987).

**Figure 3.2. Trade unionization rates, 1950-1998**



Sources: For trade union data: Nolte (1986); Frías (1993); data provided by the Dirección del Trabajo. For employment data: consolidated employment series, see Annex 1. Own calculations.

Notes: Data for trade union affiliation for years prior to 1956 include employer unions and are therefore not completely consistent with data for later years. For 1977, the figure given by Frías excluding inactive trade unions has been used because available official data for that period are highly misleading. For a discussion of inconsistencies in historical trade union affiliation data, see Nolte (1986: 588).

But the increasing tensions of the 1960s were also due to several other reasons. The weight of organized labour strengthened as trade unionization rates increased (figure 3.2.). At the same time, a growing share of organized labour was willing to go beyond reforms within the ISI framework and take a more confrontational stance against entrepreneurs. Moreover, the 1960s saw the rise of agricultural workers' trade unions and organizations of urban slum dwellers, two groups that had hitherto been excluded from channels influencing economic and social policies and whose demands were difficult to accommodate for the state apparatus (Velasco, 1994: 381). Within the framework of the ISI coalition, their interests did not coincide with the interests of formal sector urban workers because the ISI strategy involved a transfer of resources from commodity exporting sectors, principally agriculture and mining, towards manufacturing and urban workers (Mamalakis, 1984; Velasco, 1994: 384). Moreover, the state's social policy tended to exclude casual and self-employed workers from its benefits. Only a move away from the ISI coalition towards a strategy of class conflict could unite the urban and the rural labour movements in a common confrontation with entrepreneurs and landowners.

The victory of the socialist Salvador Allende in the 1970 presidential elections and the following *Unidad Popular* (UP) government heightened these tensions between labour and business and effectively ended the coalition around the compromises of the ISI strategy. The decisive element in the UP policy that went against the fundamental interests of the private business sector was the intention to establish a dominant state sector in the Chilean economy. UP planned to nationalize large mining enterprises (most of which were in foreign ownership), the financial system,

foreign commerce, wholesale distribution, strategic industrial enterprises and sectors (such as the metallurgical, heavy chemical, pulpwood and paper industries) and some infrastructure sectors such as communications, transportation and energy production. The UP also wanted to install collective farms after breaking up large private estates (Unidad Popular, 1969).

The parties that formed the UP government saw themselves very much as representatives of the working class, although the relationship between the trade union movement and the government was not free of tensions. While individual trade unions continued to struggle for higher wages, the national trade union confederation *Central Única de Trabajadores* (CUT) sometimes tried to moderate wage demands in order to help the government contain the rising inflation rates (Nolte, 1986: 368-371).<sup>7</sup>

The UP policy excluded business interests (as well as landowners) from the policy-making process. During the first part of the UP government, these groups voiced their opposition against these policies largely within the framework of the democratic political system through the device of the centrist (Christian Democrat Party) and the right-wing (National Party) parties in the parliament. However, when "capitalists and landowners became convinced they could not defend their fundamental interests within the political institutions of Chilean democracy, they turned against democracy itself" (Silva, E., 1996: 56).

In sum, the period of the import substitution strategy in Chile was characterized by a coalition between entrepreneurs, professionals and urban workers. During most of the period, however, the coalition took the form of implicit compromise and informal contacts rather than rules-based institutions of social dialogue. The government bureaucracy strengthened its technical capacities with the incorporation of an increasing number of university-trained professionals, but the autonomy of the state was limited by the subordination of the professionals to politicians. Starting during the second half of the 1960s, the ISI coalition was eroded by increasingly antagonistic positions between the groups. This turned into open conflict under the government of the *Unidad Popular* between 1970 and 1973.

### **3.1.2. Political repression and economic gradualism (1973-1975)<sup>8</sup>**

On 11 September 1973, the military staged a coup against the democratically elected President Salvador Allende. Business groups had played an important role in persuading the military to stage the coup. Following the coup, political opponents were brutally persecuted, the parliament was dissolved and the activities of political parties were banned.

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<sup>7</sup> Especially the best-organized workers, for example in the state-owned mining sector, staged several strikes that had a strong economic and political impact on the UP government (Nolte, 1986: 382-386; Bitar/Pizarro, 1986).

<sup>8</sup> The division of the period of military dictatorship into three subperiods - gradualism, radical neoliberalism and pragmatic neoliberalism - follows Silva, E. (1996).



The prevailing economic strategy between September 1973 and April 1975 was one of restoration of private ownership of nationalized enterprises and gradual economic stabilization and opening. According to these gradualist plans, average import tariff rates were to decrease from 94 per cent to 60 per cent over three years (Silva, E., 1996: 66). Although business did not play an important role in policy formulation during this period - their main issue was the restoration of private property -, the encompassing business organization CPC backed the gradualist plan.

Highly qualified economists had prepared an economic strategy for Chile in cooperation with business sectors before the fall of the Allende government<sup>9</sup>, and many of them had a chance after the coup to participate in the implementation of the plan. During the first years of the military government, there was a certain pluralism in the views of the professionals in the most important policy-making positions. Radical neoliberals who preferred a shock therapy and a rapid implementation co-existed with economists who were members of the Christian Democrat Party and who preferred a much more gradual strategy. Military officers occupied 50 per cent of the top economic policy-making positions, while economists accounted for 30 per cent - less than during the ISI period (table 3.1.). This shows that during the first period of the military dictatorship, the technocratic element was still relatively weak.

The military did not have a clear vision for the Chilean society beyond a commitment to national security and anti-communism. Large fractions within the military preferred a gradual economic strategy. Soon, however, the influence of the military as a social basis of the new government lost relative importance and Pinochet as the leader of the military *junta* established a more and more personalist form of dictatorship. Even the three other *junta* members had little more than a role of formal approval for Pinochet's decisions.

Political repression against the trade union movement blocked the possibility for labour representatives to have a stronger say on the new strategy. Although many trade unions continued to exist, union elections, collective bargaining and strikes were prohibited during several years, trade unions leaders were victims of persecution and the national trade union confederation CUT was dissolved. Somewhat paradoxically however, the government maintained links with non-marxist trade union sectors which were granted representation in the tripartite commissions (*comisiones tripartitas consultativas*) set up from October 1974 onwards. There were several projects to establish new forms of workers' participation in the administration of their enterprises. The most concrete of these projects was the *Estatuto social de la empresa*. However, this framework for workers' participation was only promulgated in May 1975 after having been considerably diluted in its contents, and at a time when the development strategy had already started its shift towards radical neoliberalism. In fact, it has never been applied in practice (Nolte, 1986: 398-399; Moulián/Vergara, 1980: 86).

In sum, during the first period after the military coup, the government had virtually unlimited power. However, the brutality of the political persecution contrasted with the relatively hesitating and gradualist economic policies.

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<sup>9</sup> The document for a new economic strategy called "The Brick" (*El Ladrillo*) was distributed among policy-makers immediately after the coup. The Centro de Estudios Públicos (1992) re-edited the document as a book to make it available to the general public.

### 3.1.3. Radical neoliberalism (1975-1983)

In 1975, a major shift occurred in the government's economic policies from a gradualist strategy to a radical neoliberal strategy consisting of an abrupt opening up to foreign trade, fighting inflation via a contractive "shock therapy" and implementing a private enterprise-based development strategy. This shift can be explained by internal shifts within the professionals group close to the regime, and by a shift within the business group. In short, the coalition behind radical neoliberalism consisted of parts of the military, the most powerful internationalist business conglomerates and a group of technocrats.

A handful of those economists who preferred a fast and far-reaching implementation of economic reforms without much consideration for the temporary negative outcomes that were inevitably linked to such a "shock therapy" were the intellectual designers of the radical strategy. Many of these neoliberal intellectuals had received their academic training at the Department of Economics of the University of Chicago (thus the term "Chicago boys"), a stronghold of neoliberal economic thinking (Valdés, 1995).<sup>10</sup> As table 3.1. shows, during the period of radical neoliberalism, economists moved into the positions of top economic-policy makers, diminishing the presence of military officers. Some of the more gradually oriented economists had lost importance, especially those close to the Christian Democrat party who in Pinochet's view were too close to the previous political system.

While domestically oriented enterprises in internationally non-competitive sectors continued to favour a gradual strategy, enterprises in internationally competitive sectors and with international orientation saw advantages in a faster opening up of the Chilean economy. The most eager defenders of a more radical strategy, however, were internationally oriented enterprises in the financial and service sectors ("liquid assets"). For them, the access to international markets would provide new business opportunities, while they had no reason to fear negative effects from import competition. The drastic stabilization program was bound to trigger a severe recession that would allow the relatively capital-rich conglomerates (*grupos económicos*) to purchase key industries from the government and from bankrupt private owners at bargain prices (Silva, E., 1996: 102). In this process, a few big enterprise conglomerates acquired enormous economic power. By the end of 1978, the three conglomerates that formed the core policy coalition behind the radical strategy - BHC (Vial), Cruzat-Larraín and Edwards - controlled 40 per cent of the assets of Chile's 250 largest companies and 48 per cent of private sector banking assets (Silva, E., 1996: 113; Dahse, 1979: tables 59, 63). Despite claims to the contrary, the new economic policies were thus not "neutral", but reflected the close

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<sup>10</sup> The original contribution of neo-liberalism is based on the rent-seeking analysis of public sector involvement in the economy. According to neo-liberalism, imperfect markets are better than imperfect states in settling matters of resource allocation. Moreover, neo-liberalism integrates the venerable canons of economic liberalism such as the superiority of competition over monopoly, of market-determined over administered prices, of choice and freedom over regulation, and of integration into markets over autarky (Colclough, 1991: 7; Moore, 1991: 279).

interaction between the government's key technocrats and the directors of a few economic conglomerates with privileged access to policy makers.

During the period of radical neoliberalism, the military government introduced three of its major reforms that continue to shape the Chilean society today: the reform of the labour legislation (1979), the pension reform (1981) and the health insurance reform (1981). In all three cases, the new systems were in line with neoliberal thinking on adequate economic and social institutions. The labour legislation emphasizes individual bargaining between employer and worker, and restricts the level of collective bargaining to individual enterprises rather than economic sectors (see chapter 7.). The pension system is a compulsory individual savings scheme managed by private pension funds. The health insurance is based on the individual choice between the public system and one of several private health insurance companies. All three systems represent a major shift from statutory and voice regulation towards market regulation.

The state bureaucracy had a somewhat ambiguous role in the process of radical transformation. While on the one hand, the very strategy of the neoliberal project was to place private enterprise at the centre of the development strategy and to reduce the state's intervention into the economy, on the other hand the ambitious project needed a strong state for its implementation. A strong state was also felt through the political repression of potential enemies of the military dictatorship and the political and economic changes. In any case, it is true that the number of civil servants declined strongly during radical neoliberalism (table 3.2.). Also, the wages in the public sector fell by more than 7 per cent relative to overall wages during 1975 to 1983.<sup>11</sup> Categories of public sector employees that were not crucial to the immediate short-term objectives of radical transformation, such as teachers, suffered a sharp decline in employment stability and working conditions (Lomnitz/Melnick, 1998).

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<sup>11</sup> Calculations based on wage data given by Jadresic (1990: table 2). The interpretation of relative wage data may however not be as straight-forward as it appears at first sight. For example, the same source indicates that public sector workers had already suffered relative wage losses during the 1960s, when the role of the public sector in the economy was considered crucial.

**Table 3.2. Public sector employment, 1974-1998**

year	Central government employment		Total public sector employment	
	thousands of persons	share in total employment, in %	thousands of persons	share in total employment, in %
1970	n.a.	n.a.	813.4	29.9
1971	n.a.	n.a.	893.0	31.8
1972	n.a.	n.a.	923.7	32.6
1973	n.a.	n.a.	922.6	33.1
1974	269.3	9.7	585.5	21.1
1975	243.4	9.3	632.2	24.1
1976	239.4	8.8	640.0	23.4
1977	199.7	6.9	651.0	22.5
1978	199.7	6.6	n.a.	n.a.
1979	181.1	5.9	n.a.	n.a.
1980	162.0	5.0	n.a.	n.a.
1981	145.4	4.3	n.a.	n.a.
1982	132.1	4.3	n.a.	n.a.
1983	127.8	4.0	n.a.	n.a.
1984	n.a.	n.a.	n.a.	n.a.
1985	n.a.	n.a.	n.a.	n.a.
1986	n.a.	n.a.	528.5	14.1
1987	125.4	3.2	453.7	11.6
1988	126.2	3.1	410.9	10.0
1989	123.2	2.8	400.0	9.2
1990	114.0	2.6	394.7	8.9
1991	120.1	2.7	409.5	9.1
1992	123.0	2.6	420.6	8.9
1993	125.3	2.5	451.3	9.0
1994	128.0	2.5	442.7	8.8
1995	130.6	2.6	435.8	8.6
1996	131.5	2.5	459.3	8.9
1997	132.5	2.5	428.9	8.1
1998	134.8	2.5	n.a.	n.a.

Sources: INE (various years): Encuesta Nacional del Empleo, October-December of each year; Echeverría, R. (1985: table 13); Larraín (1991: 99); Ministerio de Hacienda (various years): Dotación Efectiva de Personal Civil del Gobierno Central; consolidated employment series (see annex 1); own calculations.

Notes: While "central government employment" considers only those persons who depend directly on state authorities and figure in the state budget (excluding the military, municipal government and state enterprises), "total public sector employment" is a broader concept that includes employment in semi-autonomous public agencies and enterprises in public ownership as measured in the national labour force survey. The INE and the Larraín data for public sector employment have been harmonized with the consolidated employment series.

To summarize, the government had pushed through a decisive change in the country's development strategy against the immediate interests of an important part of the business community. This capacity to neutralize not only labour representatives but also important capitalist fractions distinguished the Chilean military dictatorship from other dictatorial governments in the region, for example in Brazil (Vergara, 1983: 67). Moreover, the main engineers of radical neoliberalism were highly

qualified technocrats with a strong ideological background. However, it would be wrong to conclude that the state had been "insulated" from group interests during this period.<sup>12</sup> Rather, the coincidence between the ideologically powerful thinking of the "Chicago boys" with the economic interests of a small group of internationally oriented economic conglomerates was at the origin of the shift towards radical neoliberalism. The lack of communication with the larger business community was one of the reasons for the political rigidity of this configuration and contributed to the 1982 recession.

### **3.1.4. Pragmatic neoliberalism (1983-1990)**

The big economic crisis of 1981/1982 (see 3.2.1.) triggered a shift towards a more pragmatic neoliberal policy during the last years of the military dictatorship from 1983 to 1990. In terms of strategic group configuration, pragmatic neoliberalism was backed up by a broad spectrum of private business (rather than just the most internationalized conglomerates), the military and a slightly recomposed group of technocrats. The most radical "Chicago Boys" were removed from their posts and replaced by more pragmatic professionals. Moreover, non-economists (mainly military officers and lawyers) obtained again a stronger representation in economic decision making positions during this period (table 3.1.).

The business association CPC played an important role in the shift away from the rigid radical strategy. In 1983 it released a formal document with policy proposals to overcome the economic crisis. Organized business was one of the driving forces behind the design of a more pragmatic economic strategy. The proposals for a more pragmatic strategy stayed within the neoliberal framework. Like the radical neoliberal strategy, they favoured a key role for private enterprise and for open and free markets, rejected differentiated import tariffs and advocated protection only against unfair competition. But it was pragmatic "because it advocated greater flexibility in the management of economic problems than the Chicago boys' orthodoxy allowed" (Silva, E., 1996: 156). This included high real exchange rates, low interest rates, an expansionary monetary policy, public works projects, internal debt relief and lower wages.<sup>13</sup>

The shift towards a more pragmatic policy was backed up by a broader coalition than the economically powerful but narrowly based business fractions behind the radical strategy:

Internationalist economic interests both among and within the peak associations clearly dominated the pragmatic neoliberal coalition. They were not radical neoliberal interests because they had a heavier concentration in fixed assets (extractive industries in logging, fishing, and mining) rather than liquid assets. The coalition also included in a subordinate

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<sup>12</sup> For such a statement, see for example Velasco (1994: 401) who refers to the whole period of military government: "[...] the regime seems to have been 'relatively autonomous' from group interests, and from the interest of business in particular".

<sup>13</sup> Although the trade unions' position in collective bargaining was very weak, a legally binding system of indexation (according to past inflation) had hitherto protected the wage levels in real terms.

position landowners and industrialists who produced for domestic markets. (Silva, E., 1996: 177)

The main policy-maker behind the most successful years of pragmatic neoliberalism was Hernán Büchi, Finance Minister from February 1985 to April 1989. His structural adjustment plan was supported by the IMF and the World Bank (Montecinos, 1998: 101) and brought Chile back on a path of economic growth. Although the main neoliberal reforms had already been made during the radical phase, pragmatic neoliberalism was crucial for the survival of the neoliberal project well into present-day Chile.

During the period of pragmatic neoliberalism, organized business participated actively in the policy-making process, while the government's technocrats maintained the overall coordination.<sup>14</sup> In the analysis of Eduardo Silva (1996, 1997), the period would appear close to "embedded autonomy" where the government was free to decide on the design and implementation of economic policies, but would take the opinions and technical inputs of business associations into account.<sup>15</sup> However, it has to be borne in mind that despite the broadening of the dominant coalition, state autonomy was still limited by the strong ideological and personal links between the government and economic conglomerates.

As a consequence of the crisis, the state had to intervene in order to rescue bankrupt enterprises and to avoid a complete economic collapse of the country. Paradoxically, the outcome of the most radical period of neoliberalism was a temporary increase of the state's role in the economy. Around 1985, the Chilean state had a participation in the country's economy that is comparable only to the period of the *Unidad Popular* between 1970 and 1973 (Larroulet, 1994). During the late 1980s, the Chilean state privatized a large number of enterprises. This privatization process lacked transparency and implied again a subsidy to large conglomerates because most enterprises were sold below their real value (Marcel, 1989).

During the last years of dictatorship, opposition economists started to make plans for the economic strategy after re-democratization. Private research centres, often funded with foreign funds, played an important role: "The think tanks advanced beyond academic activities into strategic politics and provided a framework for dialogue and cooperation among various opposition groups" (Montecinos, 1998: 105). Although the strategies developed by these economists were critical of the military government's economic policies, they did not advocate a return to the previous ISI strategy. Rather, they favoured a continuation of the outward-oriented development strategy with a stronger social emphasis. This element of continuity was crucial for the "pacted" democratic transition of the late 1980s and early 1990s.

In sum, the period of pragmatic neoliberalism was less shaped by the influence of a small group of internationally oriented business conglomerates than the previous period. However, the government maintained its close ideological and personal links with them. Beyond the main conglomerates, the government-business relationship

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<sup>14</sup> The labour movement remained excluded from the policy-making process but had a major role in the struggle for democracy.

<sup>15</sup> During this period, the main business associations professionalized themselves and established technical and/or research departments which were able to interact with government technocrats in a technical manner (Silva, E., 1996: 205).

was organized on a broader basis through joint committees, which permitted a better flow of information than during radical neoliberalism. The labour movement continued to be excluded from the policy-making process and remained in a subordinated position relative to the business sector.

### **3.1.5. Continuity and change since the return to democracy (1990-1999)**

#### **3.1.1.1. Political developments**

After 17 years of military dictatorship, Chile returned to democratic rule in March 1990 when the democratically elected President Patricio Aylwin, a Christian Democrat backed by a centre-left coalition named *Concertación*, took up office. The presidential election had been preceded by a plebiscite held in 1988 in which a majority of 56.0 per cent voted in favour of holding elections instead of prolonging Pinochet's rule until 1996.

After new presidential elections in December 1993, in 1994 Eduardo Frei (also a Christian Democrat) became Chile's second democratically elected President after the Pinochet regime (Nolte, 1994). The *Concertación* centre-left coalition remained in place, although it suffered more strain during Frei's presidency than under Aylwin. Parliamentary elections in 1997 basically confirmed the respective weight of the opposition and the government coalition in Parliament; some minor shifts took place within each of the blocks (tables 3.3. and 3.4.). Finally, in January 2000, the socialist Ricardo Lagos was elected President when he obtained a majority of 51.3 to 48.7 per cent against Joaquín Lavín from the right-wing *Unión Demócrata Independiente* (UDI).<sup>16</sup> Unlike Aylwin and Frei, Lagos will probably be able to count on a majority for the government coalition in the Upper House, increasing the margin of manoeuvre.<sup>17</sup>

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<sup>16</sup> None of the candidates had obtained an absolute majority during the first round of the elections in December 1999. Joaquín Lavín presented himself as a modern, non-ideological candidate during the electoral campaign. He avoided to situate himself in the tradition of the former dictator Pinochet, of whom he was a close collaborator during the 1980s.

<sup>17</sup> Although Pinochet is back in Chile after his forced stay in London, it is unlikely that he will take his senate seat. Francisco Errázuriz, a right-wing populist, faces legal charges and has lost his parliamentary immunity. On the coalition side, Eduardo Frei will move into the senate as *senador vitalicio*. Despite the importance of a majority in the Upper House, it has to be borne in mind that negotiations with the opposition will still be necessary for fundamental changes as modifications of the constitution require a qualified majority.

**Table 3.3. Results of parliamentary elections, 1989-1997**

	1989		1993		1997	
	% votes	seats	% votes	seats	% votes	seats
<b>Coalition for Democracy (Concertación) (government-coalition)</b>	<b>51.5<sup>2</sup></b>	<b>69</b>	<b>55.4</b>	<b>69</b>	<b>50.6</b>	<b>70</b>
Christian Democratic Party (PDC)	26.0	38	27.1	37	23.0	39
Party for Democracy (social-democrats) (PPD)	11.5	16	11.8	15	12.6	16
Socialist Party (PS)			11.9	15	11.1	11
Radical Party (PR)	3.9	5	3.0	2	3.1	4
Other parties and independents <sup>1</sup>	9.3	9	1.5	0	0.8	0
<b>Right-wing opposition</b>	<b>35.7</b>	<b>48</b>	<b>36.7</b>	<b>51</b>	<b>38.4</b>	<b>48</b>
National Renovation Party (RN)	18.3	29	16.3	29	16.8	23
Independent Democratic Union (UDI)	9.8	11	12.1	15	14.4	17
Progressive Centre Union (UCCP)			3.2	1	1.2	1
Other parties and independents	7.6	8	5.1	6	6.0	7
<b>Left-wing opposition</b>	<b>5.3</b>	<b>2</b>	<b>6.4</b>	<b>0</b>	<b>7.5</b>	<b>0</b>
Communist Party			5.0	0	6.9	0
Other parties and Independents	5.3	2	1.4	0	0.6	0
<b>Humanist Party<sup>2</sup></b>	<b>0.8</b>	<b>1</b>	<b>1.4</b>	<b>0</b>	<b>2.9</b>	<b>0</b>
<b>Other parties and independents</b>	<b>7.5</b>	<b>1</b>			<b>0.7</b>	<b>2</b>
<b>Total</b>	<b>100.0</b>	<b>120</b>	<b>100.0</b>	<b>120</b>	<b>100.0</b>	<b>120</b>

Sources: Inter-Parliamentary Union (1999): Parline Database; *La Época* (13 December 1997): Especial Elecciones Parlamentarias '97; Nohlen (1993).

Notes:

Figures may not add up because of rounding.

<sup>1</sup> For 1989 including the candidates for the socialist party which was not formally registered in 1989.

<sup>2</sup> The Humanist Party was part of the government coalition in 1989 (therefore included in the total for the Concertación in that year), and part of the opposition in 1993 and 1997 elections.



**Table 3.4. Distribution of seats in the Upper House (*Senado*), 1989-1997**

	1989	1993	1997
<b>Coalition for Democracy (<i>Concertación</i>) (government coalition)</b>	<b>22</b>	<b>21</b>	<b>20</b>
Christian Democratic Party (PDC)	13	13	14
Party for Democracy (social-democrats) (PPD)	4	2	2
Socialist Party (PS)		5	4
Radical Party (PR)	2	1	0
Independents <sup>2</sup>	3	0	0
<b>Right-wing opposition</b>	<b>16</b>	<b>17</b>	<b>18</b>
National Renovation Party (RN)	5	11	7
Independent Democratic Union (UDI)	2	3	5
Progressive Centre Union (UCCP)	0	1	1
Independents	9	2	5
<b>Left-wing opposition</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total elected</b>	<b>38</b>	<b>38</b>	<b>38</b>
<b>Appointed senators<sup>3</sup></b>	<b>9</b>	<b>8</b>	<b>10</b>
of which pro-government	0	0	3
of which pro-opposition	9	8	7
<b>Total<sup>4</sup></b>	<b>47</b>	<b>46</b>	<b>48</b>
<b>of which pro-government</b>	<b>22</b>	<b>21</b>	<b>23</b>
<b>of which pro-opposition</b>	<b>25</b>	<b>25</b>	<b>25</b>

Sources: Inter-Parliamentary Union (1999): Parline Database; *La Época* (13 December 1997): Especial Elecciones Parlamentarias '97; Nohlen (1993); own elaboration.

Notes:

<sup>1</sup> Humanist Party in 1989 elections part of government coalition.

<sup>2</sup> Includes socialist party in 1989.

<sup>3</sup> Includes life-long senator Pinochet (as former President).

<sup>4</sup> As explained in the text, the new Lagos government will probably have a *de facto* 24 to 23 majority.

While a detailed analysis of the Chilean transition is not necessary here<sup>18</sup>, the following points can be made to summarize the impact of the mode of transition on Chile's political system and society:

- After the confrontation of Chile's opposition forces with the military regime and strong mobilizations during the mid-1980s, the opposition finally accepted to negotiate with the regime and to participate in the 1988 referendum. The opposition's reluctant acceptance of the conditions conceded by the authoritarian 1980 constitution permitted a peaceful transition to democracy.

<sup>18</sup> For a more detailed analysis of the Chilean transition process, see Arriagada/Graham (1994); Drake/Jaksic [eds.] (1995); Cavarozzi (1992); Lauga (1996).

- While the transition strategy of the democratic opposition to the military dictatorship has probably been most adequate in order to avoid bloodshed and instability, it also implicated a series of inconveniences. Although the 1980 constitution was slightly modified in 1989 upon agreement between the military government and the then opposition, several non-democratic elements still have considerable influence on political life in Chile. Among these are the appointed senators in the Upper House of parliament and the imperfect subordination of the military under civil authorities. These "authoritarian enclaves" constitute an effective limitation to the government's power and give the Chilean political system a structurally conservative character (Ensalaco, 1994; Lauga, 1996). The governing coalition is forced to negotiate continuously with the opposition in order to push through laws, despite having an absolute majority of votes.
- One of the problematic aspects of the Chilean transition became very evident when Pinochet ended his term as Commander-in-Chief to become life-time senator: the former dictator, who dissolved the parliament after the military coup and who had never won a free election, could enter the senate for the rest of his life, while elected ex-President Aylwin cannot.<sup>19</sup> The entry of Pinochet into the senate was accompanied by demonstrations and politically motivated violence (*La Época Internet*, 12 January 1998; *El Mercurio Internet*, 13 January 1998).<sup>20</sup>
- Economic policy after the return to democracy has been characterized by relative continuity, although important efforts aimed at compensating the social cost accumulated during the dictatorship. Several factors contributed to this relative continuity. First, most government economists were convinced that a return to an ISI pattern was neither feasible nor desirable. Second, the agreements between the outgoing regime and the then opposition during the transition phase contributed to the relative continuity of economic policies after the return to democracy (Arriagada/Graham, 1994: 243). Third, the "authoritarian enclaves" limited the government's capacity to design and implement policies without compromises with the right-wing opposition.

### 3.1.1.2. State autonomy and group configuration

Chile's return to democracy has not caused a departure from a technocratic style of policy design and implementation. Strong technical skills have been a crucial criteria for the choice of both Aylwin's and Frei's closest advisers (Silva, P., 1996: 54). As

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<sup>19</sup> Under the 1980 constitution, former Presidents who have been at least 6 years in office can enter the senate as life-term senator (*senador vitalicio*). Due to a transitional clause in the constitution, Aylwin served a shorter 4-year-term.

<sup>20</sup> Pinochet's arrest in London in September 1998 brought several issues related to the dictatorial period and the violation of human rights back to the front stage of Chilean politics. While the Chilean business community did not favour economic sanctions as these would run against its own interests, several business representatives strongly defended Pinochet and asked the government to consider tougher diplomatic measures against Great Britain and Spain. (See for example the declaration by Felipe Lamarca, president of the industrial business association *Sociedad de Fomento Fabril* in March 1999 (*Sociedad de Fomento Fabril*, 1999).)

can be seen from table 3.1., the share of trained economists in the top economic policy-making positions from 1990 to 2000 has been even higher than under military government, indicating a strengthening of technocratic rule. Considering the whole cabinet, eight out of 21 ministers (38.1 per cent) during the Aylwin administration were economists. The share of economists in the Frei and Lagos cabinets was slightly lower, but still close to one third (table 3.5.).<sup>21</sup>

**Table 3.5. Ministers by professions, 1990-2000**

(per cent shares in different governments)

	President Patricio Aylwin (1990)	President Eduardo Frei (1999)	President Ricardo Lagos (2000)
Lawyers	n.a.	26.3	43.8
Economists	38.1	31.6	31.3
Engineers	n.a.	26.3	6.3
Medical doctors	n.a.	10.5	6.3
Others	n.a.	5.3	12.5
TOTAL	100.0	100.0	100.0

Source: Elaboration based on data in Montecinos (1998: 119); *La Tercera en Internet*, 29 January 2000, 3 February 2000; *Estrategia Internet*, 31 January 2000; direct communications from various ministries and data kindly provided by Miguel Cáceres.

The technocratic approach of the Aylwin and Frei governments resulted in a strong emphasis on a careful macro-economic and fiscal management. On the positive side, this approach created the macro-economic stability that permitted high economic growth rates during 1990-1998. It also resulted in a positive fiscal balance where the state avoided spending more than it earned in revenues. On the negative side, there was a certain loss of political and social sensitivity among government authorities. For example, when the government had to cut the budget of the running fiscal year in 1998 due to the impact of the Asian crisis, it did not set any social priorities and the health and education budgets were cut in the same proportion as any other part of the state budget (*CHIP News*, 14 July 1998).

In a way, the weight of technocrat rule after 1990 is part of the peculiar transition process in Chile. As the government is constantly forced to compromise with the right-wing opposition, a technical, seemingly non-ideological language is used:

The depoliticization of Chile sustains the illusion that the country is governed with an almost scientific objectivity - an illusion propped up by the technocratization of political discourse. But interests lurk in every point of view, in every "solution", and behind every official sociologist who criticizes those bent on demonstrating that the present order, in which the word "modern" has supplanted the word "capitalist", is anything but natural and immutable. (Moulián, 1998: 22)

<sup>21</sup> One interesting shift that can be observed between the Frei and the Lagos cabinets is that under Lagos, lawyers become the most important groups with 43.8 per cent of all ministers, while the share of engineers declined from 26.3 per cent under Frei to only 6.3 per cent. The likely explanation is that Frei is himself an engineer, while Lagos is a lawyer with post-graduate studies in economics.

Beyond the objective constraints for the introduction of different policies, the post-transition political discourse emphasizes "realism" and "pragmatism" and thus causes the spectrum of political and economic views to shrink (Petras/Leiva, 1994: 83). This realism includes a far-reaching reliance in market regulation and distrust against voice regulation and "the state". According to this perception, the function of the market is not limited to the allocation of resources in the economy; market solutions are deemed superior to political solutions even in the field of social problems (e.g. poverty, youth unemployment, environment) or cultural issues (Messner/Scholz, 1996: 129). Hence, changes in statutory regulations are mostly conceived in order to improve the working of markets, rather than to promote a distinct political or social logic vis-à-vis the requirements of "the market".

Civil servants have regained some advantages, without however attaining the social position and prestige they had under the ISI strategy. Regular civil servants are protected against dismissal - paradoxically, this was not a decision of the democratic government, but by the outgoing Pinochet government which wanted to avoid that staff loyal to the military government be ousted after the return to democracy. However, given that the number of regular civil servants is fixed by law and is difficult to change in the short run, an increasing number of public service workers work under different employment arrangements and do not benefit from the same degree of job security.

Contrarily to during the period of military rule, public sector employment since 1990 has displayed a slight increase in absolute terms, and its share of total employment has remained more or less stable (table 3.2).<sup>22</sup> In salary terms, the post-dictatorship government made an effort to reverse some of the relative public sector wage losses of the previous periods, with the notable effect that between 1990 and 1997 government sector wages increased by 15 per cent relative to total wages in Chile.<sup>23</sup> However, public sector wages remain nevertheless considerably lower than private sector wages for comparable positions. The salaries of top-level public sector managers are often increased by compensations for sitting on executive boards of state enterprises, but this practice does not contribute to transparency and accountability (Marcel, 1999; Ministerio Secretaría General de la Presidencia, 1998). On the whole, the Chilean bureaucracy does not resemble the Weberian ideal type, although it still compares favourably with many other developing countries' bureaucracies.<sup>24</sup>

Despite the technocratic approach of the democratic governments, the autonomy of the state has been institutionally limited. Under the democratic system, unlike the military dictatorship, other institutions - notably the Parliament - constitute a counterweight to government technocrats. While it is true that even Members of Parliament

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<sup>22</sup> This stabilization took however place at a low level. The share of public sector employment in total employment in Chile is lower than in almost all other Latin American countries and in the newly industrialized countries of Asia (see ILO, 1999b; Schiavo-Campo/de Tommaso/Mukherjee, 1997).

<sup>23</sup> Calculations based on Instituto Libertad y Desarrollo (1997c) for government sector wages and INE data shown in figure 3.6. for total wages.

<sup>24</sup> This assessment is confirmed by the cross-country data in Evans and Rauch (1999), where Chile occupies an intermediate position in terms of "Weberian bureaucracy".

and senators in Chile often use a technical rather than political language, the composition of the two chambers of parliament in term of professional background is much more pluralistic than the cabinet's composition. Lawyers are the most important profession both in the Lower House (30 per cent) and the Upper House (42 per cent). Economists are only a small group (10 per cent in the Lower House, 6 per cent in the upper House) among others, such as social scientists, engineers, agrarian engineers, teachers and persons who completed only secondary education. In the Upper House, military officers are strongly represented (12.5 per cent), mainly due to the presence of the institutional senators (table 3.6.).

**Table 3.6. Members of Parliament and senators by professions, 1999**

(per cent shares)

	Lower House ( <i>Camara de Diputados</i> )			Upper House ( <i>Senado</i> )			
	Government coalition	Opposition	ALL	Government coalition (elected)	Opposition (elected)	Institutional	ALL
Military Officers	0.0	2.2	0.8	0.0	5.6	50.0	12.5
Lawyers	31.9	26.7	30.3	30.0	55.6	40.0	41.7
Economists	10.1	11.1	10.1	5.0	5.6	10.0	6.3
Social Scientists	10.1	13.3	10.9	25.0	0.0	0.0	10.4
Medical doctors	11.6	6.7	9.2	5.0	0.0	0.0	2.1
Teachers	8.7	8.9	8.4	5.0	0.0	0.0	2.1
Agrarian engineers and technicians	5.8	6.7	5.9	10.0	5.6	0.0	6.3
Engineers	1.4	11.1	5.9	10.0	11.1	0.0	8.3
Only secondary education	7.2	8.9	7.6	5.0	11.1	0.0	6.3
Others	4.3	2.2	3.3	0.0	5.6	0.0	2.1
No data	8.7	2.2	7.6	5.0	0.0	0.0	2.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Elaboration based on individual biographies from the Senado (1999) and Camara de Diputados (1999).

Notes: The last elections and appointments date from December 1997. "Only secondary education" includes incomplete higher education.

Despite the end of the military government, the military has retained a major role in Chilean politics. The Constitution explicitly assigns the role of "guaranteeing the constitutional order" to the military. The military also has several channels through which it participates in political decisions, such as the institutional senators and the National Security Council (*Consejo Nacional de Seguridad*). The National Security Council has the right to make its views known to the President, the Congress and the Constitutional Tribunal regarding any perceived threat of the bases of the

institutional order or national security (Godoy, 1996; Ensalaco, 1994). Moreover, up to 1998, Pinochet was still the Commander-in-Chief of the Armed Forces, and even after his departure, the military continues to act relatively independently from civilian authorities. According to Moulián (1998: 17),

The military was able to retain this influence because the political climate at the outset of the transition simply did not allow for challenges to its power. This has permitted the military to act like a political party, participating actively in politics in order to protect and preserve the legitimacy of its masterpiece - the "Chilean miracle" - and ensure the "virtuous memory" of its 17-year effort to restore stability.

Two laws inherited from the military regime restrict the government's freedom of decision with regards to the military's budget. First, the *Ley Orgánica Constitucional de las Fuerzas Armadas* stipulates that the military budget cannot be lower in real terms than the military budget of the year 1989. Second, in addition to the defence expenditures in the regular state budget, the military receives ten per cent of all sales of the state-owned copper company CODELCO. This direct revenue is not subject to civilian control (Rojas, 1994). Available data for 1990 to 1995 indicate that the military's share in central government expenditure or GNP has not suffered any decline during this period (World Bank, 1999).

There was some concern in Chile that the business sector might engage in activities that could destabilize the political system after redemocratization. Indeed, the main business associations have not hidden their loyalty to the previous political system, to Pinochet and to the political Right in general. For example, a visit to London in order to commemorate the 11 September, 26 years after the military coup, included a business delegation with the highest representative of Chilean business, Walter Riesco, president of the *Confederación de la Producción y del Comercio* (CPC), and presidents and vice-presidents of several of the sector associations affiliated to the CPC (*La Tercera en Internet*, 12 September 1999). There has been some public disagreement between the *Concertación* government and business representatives on social and economic policies, especially since the outbreak of the recent economic crisis. Some issues have caused rather intense conflict, as was the case with the labour reform projects submitted by the government (see chapter 7.).

On the whole, however, the business sector has not been a destabilizing factor for the political system. The fact that the main features of the economic system inherited from the military dictatorship remained untouched, and the existence of communication channels for business to voice its positions, made such action unnecessary. There has been a very close technical co-operation between government and business. For example, in 1999, seven technical commissions between business representatives and the Ministry of Finance were established to tackle specific problems that had been perceived to constitute obstacles on the path to economic recovery. Due to various factors (among them the pre-electoral climate of the second half of 1999 and the conflict around the labour law reform), several of them interrupted their work without having reached concrete agreements, but others obtained concrete results for example in the simplification of tax and customs procedures (*La Tercera en Internet*, 24 August 1999, 15 December 1999). The business associations of the different economic sectors remain fairly united and

continue to defend similar policy positions rather than to quarrel among themselves to defend specific sectoral interests.<sup>25</sup>

Trade union density increased during the transition years and at the start of the democratic government (figure 3.2.). Some of the trade union rights lost during the military dictatorship were re-established, although the labour code remained much closer to the neoliberal "*Plan Laboral*" than to the labour legislation of the 1960s and early 1970s (see chapter 7.). The national confederation CUT was legalized and it entered into negotiation with business representatives. Two national documents of agreement were signed in 1990. These documents recognized the major role of private enterprises and the market in economic development while also stating the need for equity in work relations (Epstein, 1993). The wording of the documents was relatively vague, and their importance was more in creating a peaceful political climate than in establishing enforceable solutions.

The recovery of the labour movement was of short duration. From 1992 onwards, the trade union density started to fall again and in 1998 it was not higher than during the second half of the 1980s. Only 16.3 per cent of all salaried workers were affiliated to a trade union in 1998 (figure 3.2.).<sup>26</sup> The CUT, which had reached some stability during the first years of democracy, experienced a period of strong internal conflicts.

There are several reasons for the weakness of the trade union movement even under democracy. The CUT in 1996 represented only some 55 per cent of all workers affiliated to trade unions or public sector workers associations.<sup>27</sup> It strongly depends on political parties, and trade union elections are very much organized along party lines. Although the national trade union leaders pay lip service to union autonomy from political parties and the government, each labour leader is elected as part of a list sponsored by a political party (Epstein, 1993). Up to 1996, the CUT was under Christian Democrat and Socialist leadership. Although such an arrangement could provide the trade union movement with much-needed resources coming from these parties, the CUT was often perceived as too close to government interests (given that

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<sup>25</sup> There is some conflict between the president of the industrial business association SFF and the overarching business organization CPC (*La Tercera en Internet*, 30 August 1999). This conflict became evident again after the election of Ricardo Lagos as President in January 2000. The SFF did not send any representative to the first meeting of the business sector with the newly elected President but rather chose to have a separate meeting with him (*La Tercera en Internet*, 26 January 2000, 29 January 2000). For the time being, this conflict is rather based on differences in personalities, styles and tactics than on fundamental conflicts of interests and strategies. It is however not impossible that sectoral business associations may start to defend more particularistic interests than has been the case during the last ten years.

<sup>26</sup> This share increases to some 20 per cent if public sector workers' associations are taken into account (calculations based on data provided by the *Dirección del Trabajo* and data presented in figure 3.2.). These associations do not have the legal right to organize strikes, but in practice they act very much like trade unions, including "work stoppages" (*paros*) as a means to exercise pressure.

<sup>27</sup> Calculations based on data from Arrieta (1997) and data presented in figure 3.2.

the CUT leadership was backed up by parties that form the government coalition).<sup>28</sup> In 1996, a realignment led to a leadership backed up by the Socialist and Communist parties, thus effectively making the CUT more independent from government interests.<sup>29</sup> However, internal struggle has since then marked the CUT and weakened its capacity of action. Moreover, the Chilean trade union movement is extremely fragmented, both as a consequence of the labour legislation and of internal disunity. The average size of trade unions has declined from 68.5 members in 1990 to 42.8 members in 1998.<sup>30</sup>

In sum, the following characteristics of the Chilean transition process and the present configuration of strategic groups are especially relevant to the institutional context and enterprise strategies that will be analyzed in this study:

- Compared with the ISI period, the Chilean state has become "smaller" (in terms of the share of public sector employment in total employment) but "stronger" (in terms of its technical capacities of macro-economic management and policy implementation). Even though after the return to democracy the government is subject to various control mechanisms (authoritarian enclaves, parliament, business pressures), the Chilean state is relatively insulated from social pressures. This autonomy is obtained through highly qualified technocrats in key decision-making and implementation posts; it is facilitated by the relatively high acceptance which the technocratic discourse enjoys among other social groups and actors in Chile.
- It has to be pointed out, however, that the bureaucracy is relatively more insulated from labour and NGO pressures than from business and the military. Moreover, the Chilean state does not follow the Weberian model with a distinctive identity and a coherent career development within the public sector. Rather, the high-level positions in the Chilean bureaucracy are often filled through transfer between the private and the public sector, and efforts are made to introduce economic incentive mechanisms from the private sector into the state bureaucracy in order to increase its efficiency.
- The relations between business and labour are still heavily biased in favour of business. The labour movement has not been able to transform itself into a major coherent actor, partly due the legal framework, which is still unfavourable to them, and partly because of internal conflicts within the labour movement.

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<sup>28</sup> Not all authors have seen the closeness of the trade union leadership to the government parties as a deficiency. Weyland (1997) rather sees a positive impact on the policies aiming at "growth with equity". In his view, the presence of "encompassing" social organizations (CUT on the trade union side, CPC on the employers' side) has facilitated the implementation of equitable social policies and avoided populist policies in favour of particular interests during the Aylwin administration.

<sup>29</sup> The fact that the socialist trade union list reached an agreement with the communist list caused a major crisis between the Socialist and Christian Democrat parties in the government coalition (see *La Época*, 3 May 1996). This shows that the parties clearly did not perceive the trade unions as "autonomous". Currently, the President of the CUT is Eitel Moraga, a communist trade unionist from the mining sector.

<sup>30</sup> Calculations based on data from the Dirección del Trabajo.

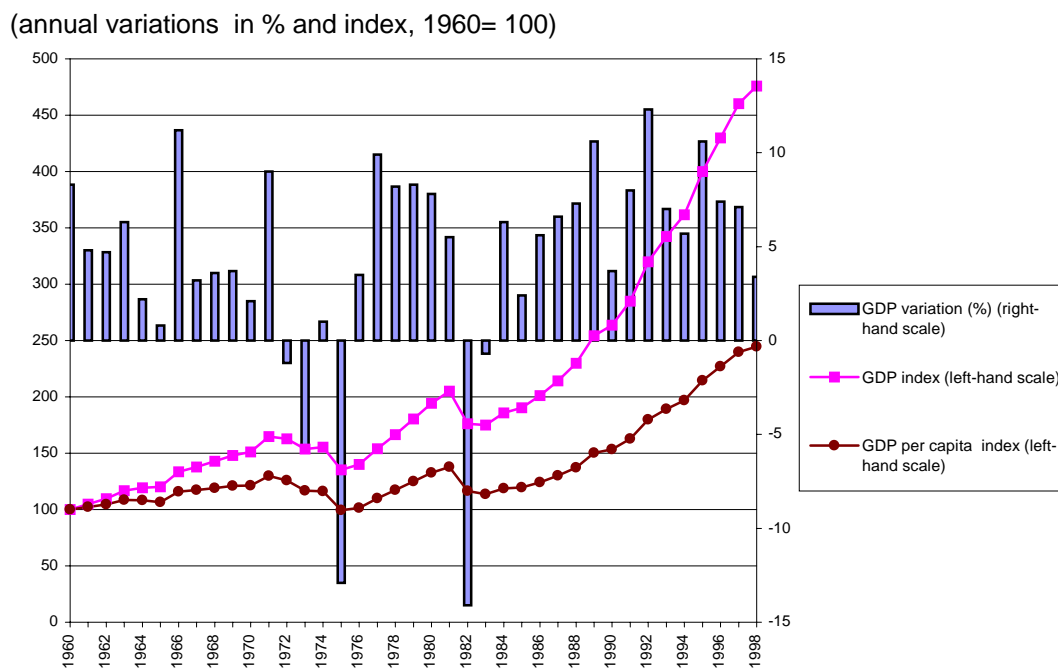


## 3.2. Economic development, globalization and the "Chilean Model"

### 3.2.1. Overview of Chilean economic development

Under the strategy of import-substituting industrialization in Chile, economic policies were based on an interventionist approach of the state. This state intervention included a strong regulatory framework as well as the state's participation in the productive process via state enterprises. As shown in the previous section 3.1., the government that came into office after the military coup radically changed this orientation. It abandoned the import substitution strategy, opened up the country to foreign trade and placed private enterprise at the centre of the development strategy. The state retired from some functions, while strengthening others (Martínez/Díaz, 1996: 68).

**Figure 3.3. Gross Domestic Product, 1960-1998**



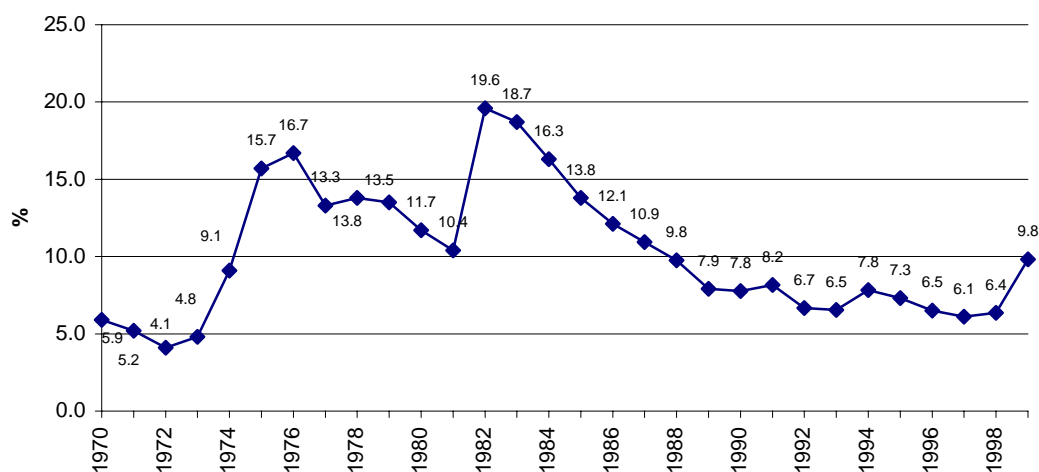
Sources: Banco Central (1989); Banco Central (1998): Anuario de Cuentas Nacionales 1997; Banco Central (1999); INE (1999): Compendio Estadístico.

During the period of economic restructuring under the military government, the country suffered two strong recessions. The first recession in 1975 was caused by the anti-inflationary policy, implying a significant reduction in aggregate demand due to restrictive fiscal and monetary policies. The GDP fell by some 13 per cent in 1975 (figure 3.3.), and open unemployment tripled from 4.8 per cent in 1973 to 15.7 per cent in 1975 (figure 3.4.). After satisfactory growth rates between 1976 and 1981, an even stronger recession occurred in 1982, causing the GDP to fall by 14 per cent and the unemployment rate jumping up to 19.6 per cent. This second crisis was due to strong economic macroeconomic imbalances combined with an unfavourable external environment. Economic policies of the 1975-1982 period concentrated on

reducing inflation while neglecting external balances. This is especially true for the policies from 1979 to 1982, when a fixed exchange rate between the Chilean Peso and the US\$ was introduced and maintained even when the first signs of crisis became apparent. According to one well-known neo-classical economist, with the fixed exchange rate and backward wage indexation "liberalization in Chile was perverted by increasing price distortions after June 1979" (Balassa, 1983: 31).

**Figure 3.4. Unemployment rate, 1970-1999**

(yearly average, share of active population, in %)



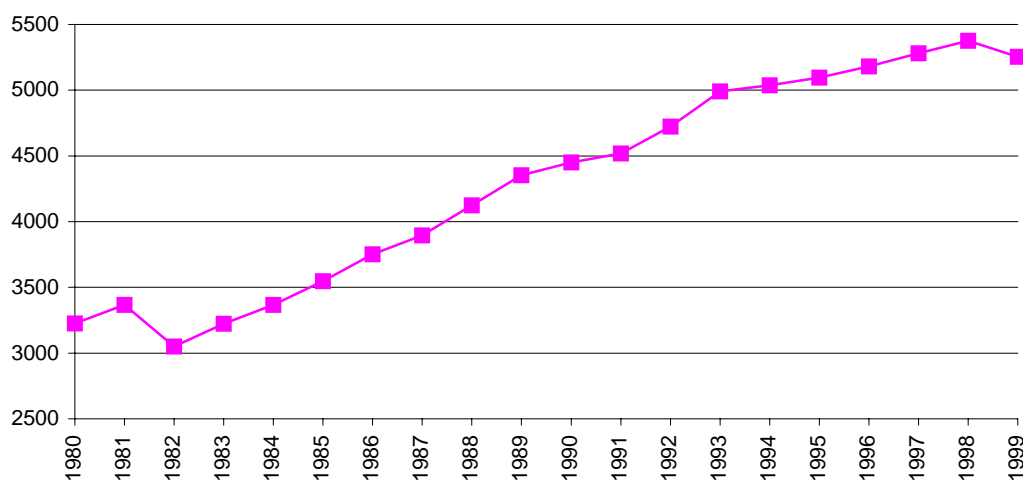
Sources: Jadresic (1986); INE (various years): Encuesta Nacional del Empleo.

Note: Due to changes in sample and methodology, data from 1986 onwards are not strictly comparable to previous years.

The period from 1984 to 1998 was extraordinarily successful in macro-economic terms. GDP growth averaged 6.9 per cent, the inflation rate decreased, employment and real wages recovered. However, the first years of recovery have to be seen in the context of the preceding recessions. In 1985, GDP per capita was still below its 1970 level. Real wages remained below their 1970 level until 1991, employment had decreased by more than 300,000 during the 1982 recession and unemployment rates reached figures close to the level of the early 1970s only in the 1990s (figures 3.4., 3.5. and 3.6.).

**Figure 3.5. Employment, 1980-1999**

(yearly average, in thousands)

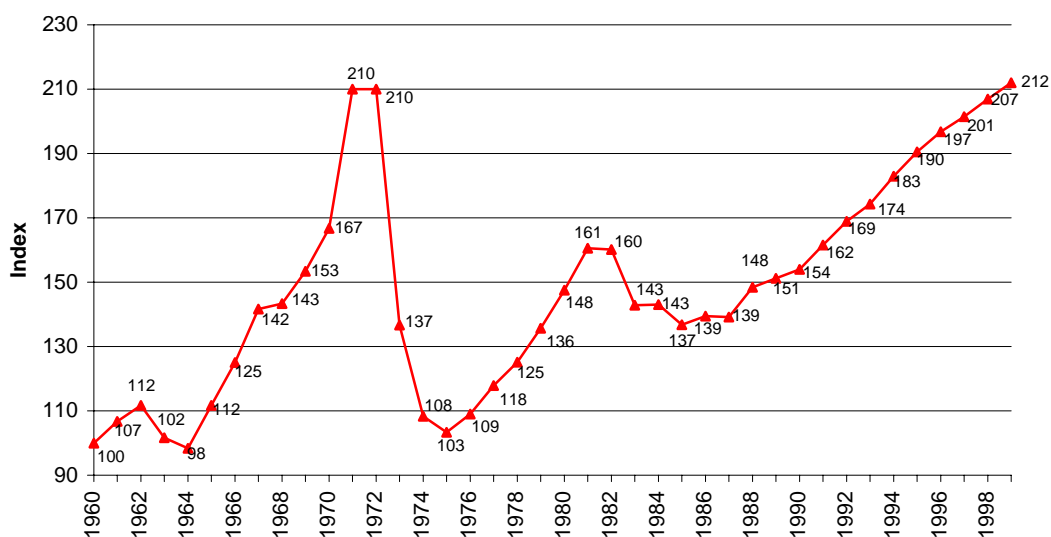


Source: Consolidated employment series (see annex 1).

Note: Due to changes in sample and methodology, data from 1986 onwards are not strictly comparable to previous years.

**Figure 3.6. Average real wages, 1960-1999**

(Index, 1960=100)



Sources: Jadresic (1990); Programa de Economía del Trabajo (1998); own calculations based on data from the INE.

**Table 3.7. Long-term trends in GDP growth in Chile, Latin America and the World, 1940-1998**

(average annual growth in %)

Development strategy in Chile	Period <sup>1</sup>	Average growth rates			Difference in average growth rates	
		Chile	Latin America	World	Chile - Latin America	Chile - World
Import substitution phase 1	1941-1959	3.4	n.a.	n.a.	n.a.	n.a.
Import substitution phase 2	1960-1973	3.8	6.1	5.0	-2.3	-1.2
Export-oriented restructuring under military dictatorship	1974-1990	3.5	3.2	3.3	0.3	0.2
First economic liberalization and crisis	1974-1983	1.7	3.7	2.9	-2.0	-1.2
Second economic liberalization	1984-1990	6.1	2.5	3.8	3.6	2.3
Export-oriented model after redemocratization	1991-1998	7.7	3.4	3.3	4.3	4.4

Source: Own calculations based on data from the Banco Central (1989); Banco Central (1998): Anuario de Cuentas Nacionales 1997; Banco Central (1999); INE (1997): Compendio Estadístico; IMF (various issues): International Financial Statistics; IMF (1999).

Note:

<sup>1</sup> The indicated years correspond to the GDP variations that have been taken into account for a given period. For example, the period 1991-1998 starts with the variation between 1990 and 1991 and ends with the variation between 1997 and 1998.

Table 3.7. shows the long-term tendencies in Chilean economic growth compared to the Latin American and World averages. The growth performance during the military dictatorship (3.5 per cent of yearly average growth) was very similar to the performance under the previous import substitution regime (1941-1959: 3.4 per cent; 1960-1973: 3.8 per cent). It was also very close to the Latin American and World averages during the same period. When the period is divided into two sub-periods, it turns out that between 1974 and 1983 average economic growth amounted to only 1.7 per cent, considerably below previous periods in Chile and also the Latin American (3.7 per cent) and World (2.9 per cent) averages during this sub-period. From 1984 to 1990, by contrast, economic growth averaged 6.1 per cent, a high figure by both Chilean and international standards. Finally, economic growth after the transition to democracy 1991-1998 was even higher (7.7 per cent on average), compared to the Latin American average of 3.4 per cent.

### 3.2.2. Trade liberalization, globalization and the Chilean economy<sup>31</sup>

The integration of Chile into the international economy has become a crucial ingredient of the Chilean development strategy. This outward-oriented approach has been maintained with the return to democracy in 1990. Chile is a member of WTO and participates in regional trading areas such as the *Mercado Común de Sur* (MERCOSUR)<sup>32</sup> and the Asia-Pacific Economic Co-operation (APEC) forum. Moreover, bilateral trade agreements exist with Bolivia, Canada, Colombia, Ecuador, Mexico, Peru and Venezuela. Accession to the North American Free-Trade Agreement (NAFTA) has been under discussion since 1994 but negotiations are stagnating due to internal political conflicts in the USA.

During the ISI period, the Chilean trade policy was highly protectionist, with a high degree of dispersion across different products. Even compared to other developing countries using an ISI approach, Chile was among the most protectionist ones (Jeanneret, 1972). In 1973, the import tariff rate was as high as 105 per cent on average and reached 750 per cent for certain products. There were also numerous additional non-tariff restrictions to imports, including non-remunerated deposit requirements for the import of a large number of products and multiple exchange rates. The strongest protection affected those products that were also produced by domestic enterprises. Thus, imports were mainly complementary to, rather than competing with, domestic products (Lanzarotti, forthcoming) and the Chilean manufacturing sector was effectively isolated from international competition.

After the military coup, Chile experienced a rapid dismantling of trade barriers. The average tariff rate reached 33 per cent in mid-1976; by mid-1979, a flat 10 per cent rate had been introduced for virtually all products (Edwards/Lederman, 1998: table 3). Non-tariff barriers were fully suppressed. In the early 1980s, tariff rates were temporarily increased, owing to the collapse of copper prices, the foreign-debt crisis and the associated worsening of the balance of payments. The average import tariff rate was increased to 20 per cent in 1983 and 35 per cent in 1984, though with little variation across products. During the second half of the 1980s, however, these measures were gradually suppressed, initiating a second phase of trade liberalization. A uniform import tariff, of 11 per cent, was again introduced in 1991 (Edwards/Lederman, 1998). A gradual further diminution in import tariff rates (to 10 per cent in 1999 and 9 per cent in 2000) has been voted in 1998. Due to the free-trade agreements in which Chile is involved, the effective average import tariff is even lower – 7.8 per cent as of September 1999 (Cámara de Comercio de Santiago, 1999).

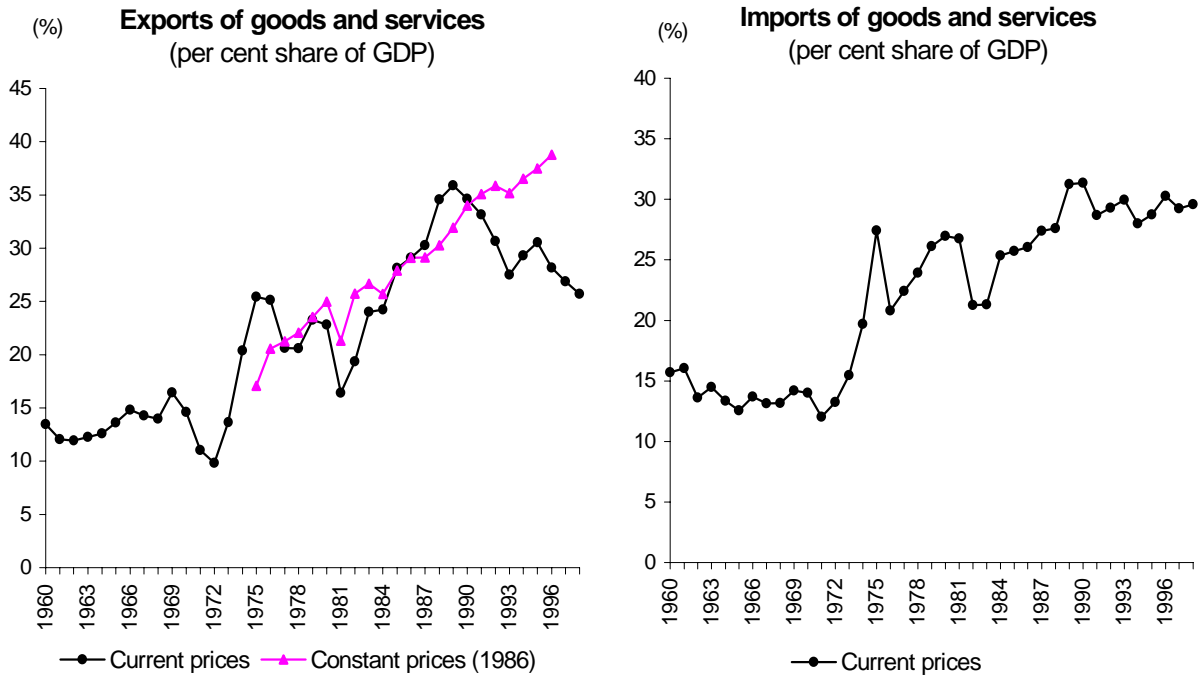
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<sup>31</sup> This subsection is partly based on ILO Task Force (1998).

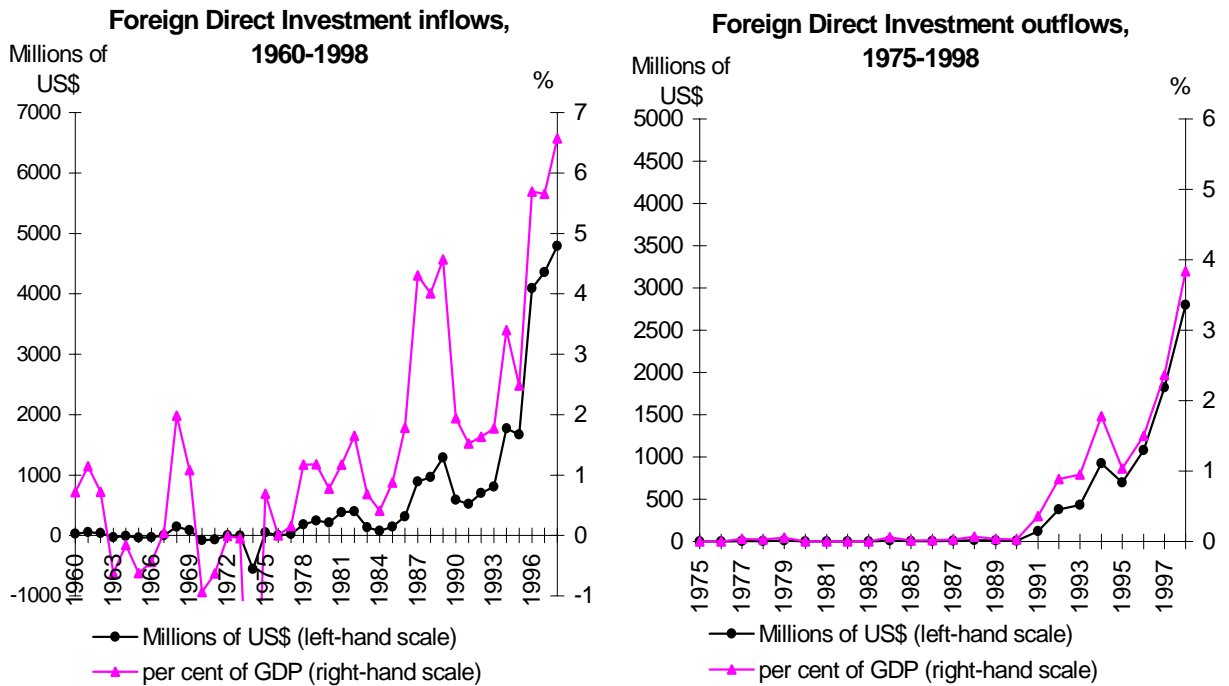
<sup>32</sup> The full members of Mercosur are Argentina, Brazil, Paraguay and Uruguay. Chile has associated itself to the Mercosur, without however becoming a full member. This means that both import duties and export tariffs and subsidies will be eliminated, but Chile will maintain separate tariffs against third countries.

**Figure 3.7. Trade and investment flows**

**A. Trade flows, 1960-1998**



**B. Foreign Direct Investment flows**



Sources: ILO Task Force (1998); IMF (various issues): International Financial Statistics; World Bank (1999): World Development Indicators; Banco Central de Chile.

Substantial liberalization of capital flows has also occurred, though less comprehensively than in the case of trade flows. While foreign direct investment inflows have been liberalized comprehensively from 1974 onwards, significant restrictions persisted until recently regarding portfolio investment inflows. In particular, a non-remunerated 30 per cent reserve requirement existed on one-year foreign loans, deposits by non-residents and other financial investments (IMF, 1998). This reserve requirement has been reduced to 10 per cent in June 1998 and then eliminated completely in September 1998. The intention was to facilitate the financing of the current account deficit, which had increased mainly as a result of the Asian crisis.

Somewhat paradoxically, the reserve requirements were eliminated by the Central Bank of Chile precisely in a period when public discussion increasingly focused on the advantage of some restriction on short-term capital flows in order to avoid an excessive volatility. In this discussion, the Chilean regulations appeared to be one possible model of transparent and well-administered control.<sup>33</sup>

As a response to the liberalization process, trade flows have risen, both in dollar terms and as a share of GDP (figure 3.7.). In inflation-adjusted terms, the share of trade in GDP has increased even faster, suggesting that trade prices have grown less than domestic prices. Trade openness, defined as the ratio of exports plus imports to GDP, is relatively high by Latin American standards but below most East Asian countries.<sup>34</sup>

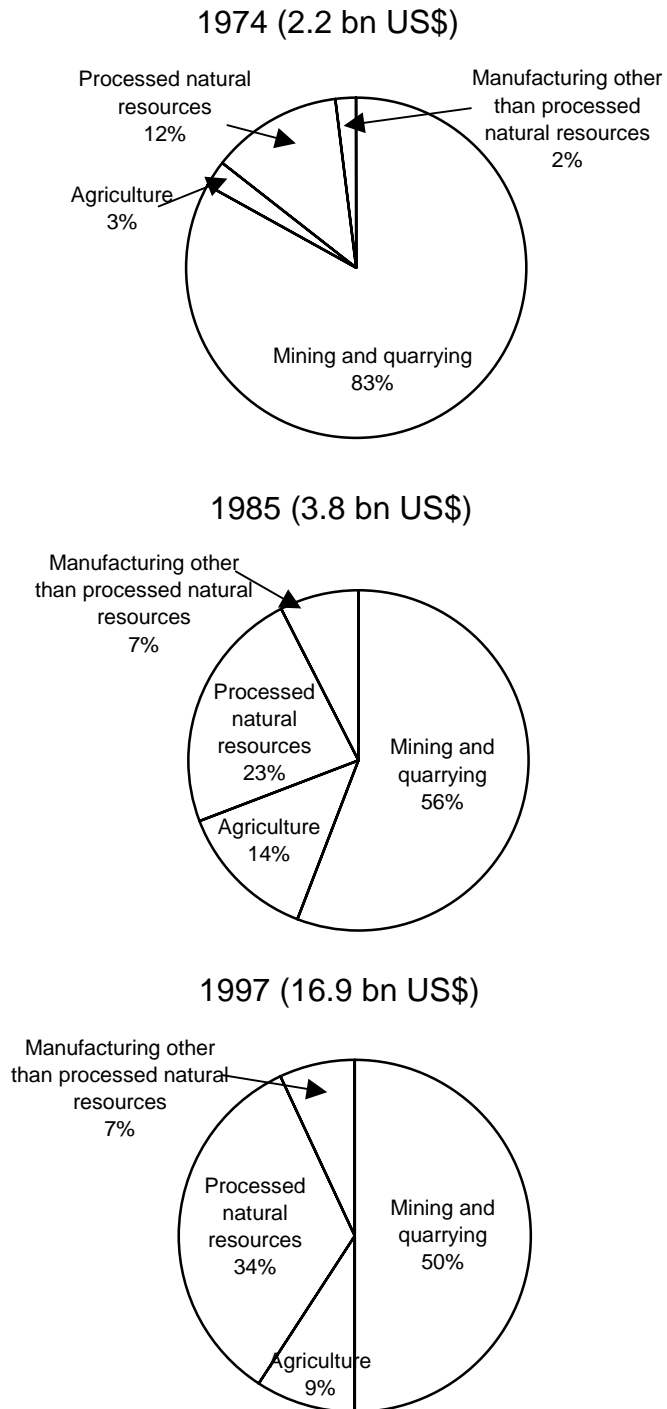
Table 3.8. shows indicators of the export diversification of the Chilean economy. While copper accounted for more than 75 per cent of total exports in 1970, its share declined to 36.7 per cent in 1998. The numbers of export products, exporting enterprises and export markets have also increased considerably. Within Chile's exports, manufacturing exports have gained weight over the last decades – their share in total exports was 41 per cent in 1997, compared with 30 per cent in 1985 and 14 per cent in 1974 (figure 3.8.).

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<sup>33</sup> See as one example among many others the article entitled "Capital curbs now seen in more favourable light" in the *Financial Times*, 15 September 1998. This article explicitly mentions the Chilean mechanism of reserve requirements as a positive experience to be learned from in other countries.

<sup>34</sup> Clearly, openness depends also on "exogenous" factors such as the size of the country, its population and its geographical location. After controlling for this, Chile is found to have higher degree of openness than these exogenous factors would predict (IMF, 1998).

**Figure 3.8. Export structure by main sectors, 1974, 1985 and 1997**  
 (percentage of total exports of goods)



Source: ILO Task Force (1998) based on data from the Banco Central.



**Table 3.8. Indicators of export diversification, 1970-1998**

	1970	1985	1990	1995	1998
Copper exports (% of total exports)	75.5	47.0	46.0	40.5	36.7
Number of export products	200	1437	2796	3647	3828
Number of exporting enterprises	150	2345	4125	5586	5847
Share of 10 major exporters (% of total exports)	90	71	68	60	35
Number of export markets (countries)	31	120	122	167	172

Sources: Programa de Innovación Tecnológica (1997: 54; 1999); Banco Central (1999): Informe Económico y Financiero al 31 de Julio; ProChile (1999a).

Despite these changes, however, the top ten export products made still up for 63.3 per cent of total exports (as compared to 70.6 per cent in 1980), and the dynamism of the international markets for these products during 1990-1996 was below the average, indicating that some of Chile's export markets might soon run into stagnation (table 3.9.). Most manufactured export products are natural resource-based and they embody a relatively minor component of industrial processing. The main manufacturing export products are processed natural resources such as pulp wood, wood chips, sawn wood, copper alloys, frozen fish and flower seeds.<sup>35</sup>

The principal exporting sectors of Chile have relatively weak linkages towards the rest of the productive system (Riffo/Silva, 1995). Within resource-based chains of production and commercialization, Chilean enterprises are specialized in the relatively low value-added stage of resource extraction and basic processing, while the segments of Research and Development as well as the secondary processing tend to be located outside Chile. For example, despite low prices and relatively good quality, most wood produced by the Chilean forestry sector is exported in the form of low-value added products such as wood chips or pulpwood, rather than more elaborate products such as furniture.

This raises some concern with regard to the economic and social sustainability of this pattern of specialization and makes Chile vulnerable to fluctuations in international markets. The Asian crisis is one recent example of such an international fluctuation and the Chilean economy has proved to be vulnerable on two accounts. First, among all Latin American countries, Chile is the one with the highest percentage share of exports directed to Asia; and second, the falling Asian demand cut the world price of copper from US\$ 1.19 in June 1997 to 75 cents in March 1998 (*Economist*, 7 March 1998). Given current output levels, each cent off the price for copper means US\$ 65 million less income for Chile. As a result, the Asian crisis is considered one main cause for the recession that Chile was suffering in 1999.

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<sup>35</sup> It is however true that exporting some of these products involves relatively sophisticated technologies (Diaz/Ramos, 1998; Pérez-Alemán, 2000: 45).

**Table 3.9. Main export products and dynamism of world markets, 1980-1996**

(share in value of total exports, %)

SITC code	Product	1980	1990	1996	Dynamism of world markets for Chile's top export products 1996 (average annual variation, 1990-1996)
6821	Copper and copper alloys, refined or not, unwrought	<b>42.5</b>	<b>40.9</b>	<b>27.8</b>	1.6
2871	Copper ores & concentrates; copper matte	<b>5.0</b>	<b>6.2</b>	<b>12.2</b>	7.2
2517	Chemical wood pulp, soda or sulphate	<b>4.4</b>	<b>3.2</b>	<b>5.0</b>	2.5
0814	Flours & meals, of meat/fish, unfit for human food	<b>4.6</b>	<b>4.4</b>	<b>4.0</b>	10.6
0575	Grapes, fresh or dried	1.0	<b>4.5</b>	<b>3.1</b>	2.8
9710	Gold, non-monetary	0.0	<b>2.7</b>	<b>2.8</b>	13.2
0579	Fruit, fresh or dried, n.e.s.	0.7	<b>2.1</b>	<b>2.3</b>	6.3
0342	Fish, frozen (excluding fillets)	0.4	<b>2.0</b>	<b>2.2</b>	4.9
2482	Wood of coniferous species, sawn, planed, tongued etc	<b>2.8</b>	<b>1.9</b>	<b>2.1</b>	6.6
1121	Wine of fresh grapes (including grape must)	0.5	0.6	<b>1.9</b>	6.1
9310	Special transactions & commod., not class. to kind	0.6	<b>1.3</b>	1.8	
6811	Silver, unwrought, unworked or semi-manufactured	<b>2.7</b>	1.1	1.0	
6822	Copper and copper alloys, worked	<b>1.6</b>	0.8	0.9	
2816	Iron ore agglomerates (sinters, pellets, briquettes)	<b>2.2</b>	1.1	0.7	
5225	Oth. inorg. bases & metallic oxid., hydroxid. & perox.	<b>1.7</b>	0.1	0.1	
6997	Articles of iron or steel, n.e.s.	<b>3.0</b>	0.0	0.0	
	Top 10 products (in bold)	70.6	69.3	63.3	4.5
	Total world exports				7.1

Source: ILO Task Force (1998) based on data from Statistics Canada (1998): World Trade database.

Note: The top ten export products for each year are in bold. The dynamism of the world markets for Chile's top export products has been calculated as the average annual changes of the world markets for Chile's ten main export products weighted by their share in Chile's top ten exports in 1996.

This situation has triggered a debate on whether Chile should move to a pattern of trade specialization less dependent on natural resources and, if so, how the "upgrading" process can be achieved. At the end of the 1980s, several studies advocated strategies for a "second export wave" aiming at diversifying export products and markets as well as "upgrading" production, i.e. increasing the share of higher value-added products in total exports. Rather than simply exploit its comparative advantage in natural resource-intensive products, the Chilean economy should move ahead towards a more technology- and knowledge-based pattern of growth (Ominami/Madrid, 1989; Messner/Scholz, 1996). Although, since then, considerable progress has been made in terms of export diversification, the share of higher value-added products in total exports is still low. The claim made by some authors (Díaz, 1995) that Chile has already entered the second phase of export-led growth may therefore be too optimistic.

The structure of Chilean exports shows significant variations by region of destination. While manufacturing exports (excluding processed natural resources) make up for a small fraction of total exports to Asia, the European Union and NAFTA countries, they represent more than one fourth of exports to Mercosur partners and almost 40 per cent of exports to the countries of the Andean Community (Rosales, 1998: table 3). Given the relatively high technological content of Chile's exports to Latin American countries, regional trade agreements such as Mercosur might speed up the advent of the "second export wave".<sup>36</sup> An improved access of Chilean goods to Latin American markets is an important part of a strategy oriented towards diversifying exports and increasing the share of manufacturing products. This is especially important in the case of exports of processed goods that generally face substantial trade restrictions, compared to the export of natural resource-based commodities (Agosin/French-Davis, 1998).<sup>37</sup>

In contrast to exports, imports are significantly more diversified. A wide variety of consumer and capital goods as well as some key raw materials such as oil and gas are imported. Among the fastest growing imports are cars, civil engineering products and data processing machines.

Foreign direct investment is by no means new to the Chilean economy. Traditionally, the main stronghold of foreign-owned enterprises had been the exploitation of natural resources, especially nitrate and later copper. But foreign presence was also strong in several manufacturing sectors, especially those with high technological requirements. In 1969, 61 out of the 100 main manufacturing enterprises in Chile had some foreign participation, and 16 of them were owned to three quarters or more by foreigners (Pacheco, 1972: table 4). The political and economic situation in Chile and the nationalization of the main copper enterprises during the UP government resulted in important outflows of foreign capital. During the first years after the military take-over, inflows were relatively low. Due to the decreasing profitability of formerly import-protected sectors, many foreign-owned firms abandoned their local production activities and turned to the domestic sale of imported goods from their headquarters or other affiliates within their international network (Bielschowsky/Stumpo, 1995: 155). The economic recovery under a pragmatic neoliberal policy from 1985 onwards and the last few years under democratic government were periods of peaks of FDI inflows (figure 3.7.). During 1999, both

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<sup>36</sup> Exports to Latin America accounted for more than one fifth of total exports in 1999, with Mercosur countries alone making for roughly half of this (Banco Central, 2000: Informe Económico y Financiero al 15 de Enero).

<sup>37</sup> Others see Chile's future in service rather than manufacturing activities. Given the relative macroeconomic stability, consolidated financial institutions and experience of Chilean enterprises in international markets, Chile could become the "gateway to Latin America" in much the same way as Singapore and Hongkong have developed as gateways to Asia, specializing in financial services and international commerce more than in manufacturing activities. However, it is doubtful whether such expectations are realistic for Chile. Until now, many multinational enterprises have preferred to set up their Latin American headquarters in Argentina or Brazil, despite the higher degree of macro-economic instability.

inflows of FDI to Chile and Chilean FDI outflows have continued with high dynamism despite the current economic crisis.<sup>38</sup>

There are other dimensions of economic globalization such as the process of outsourcing, technological change and the adoption of new methods of management. Available evidence suggests that the incidence of globalization according to those dimensions is also on the rise.<sup>39</sup> In sum, the Chilean economy has opened up to international trade and investment flows. As a consequence, competitive challenges for Chilean enterprises have increased, be it in export markets or in domestic markets competing with imports.

### **3.2.3. The big transformation: restructuring of the Chilean economy**

The far-reaching changes that occurred in Chile during the last three decades constitute a genuine "capitalist revolution" (Martínez/Díaz, 1996) in which the role of private enterprise changed radically. While during the ISI period, private entrepreneurs were often seen as rent-seekers who lacked the entrepreneurial dynamism to make any important contribution to economic development, they are now at the centre of Chile's development strategy.

Economic restructuring has favoured the emergence of a new group of entrepreneurs. Montero (1997) speaks of an "entrepreneurial revolution". The number of enterprises has increased considerably, while the average size of enterprises has diminished. In 1970, the employment survey registered 54.9 salaried workers for each employer; this number decreased to 19.8 in 1986 and 21.3 in 1998 (table 3.10.).

The trade opening also caused a sectoral restructuring of economic activity. Estimations by Valdés (1992; see figure 3.9.) permit to quantify the restructuring by comparing actual production with potential production without trade reform. As could have been expected, those sectors with less protection prior to the Chilean trade opening expanded, while production of the more protected sectors decreased. Thus, the production in tradable sectors based on natural resources and non tradables expanded, while the import substituting manufacturing sectors shrank. Agriculture is an exception to this rule and its production decreased, but this sector should be subdivided in order to distinguish between the shrinking traditional agriculture and dynamic export-oriented sub-sectors. Although the effect of restructuring on manufacturing was largely negative, there are important differences between manufacturing sub-sectors. The metalworking industry and the textile and garment industry are the main losers, while metallurgical, chemical and paper industries show modest increases (Valdés, 1992).

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<sup>38</sup> Banco Central (2000): Informe Económico y Financiero al 15 de Enero; *La Tercera en Internet*, 13 August 1999, 24 August 1999.

<sup>39</sup> As mentioned in chapter 2., globalization has also political, social and cultural dimensions. One example for the direct impact of globalization on Chilean politics was the publication of an extremely critical book on the Chilean justice during the military government, censored in Chile, through a US-based internet website (Nolte, 1999: 5).

**Table 3.10. Indicators for the structural change of the Chilean economy, 1970, 1986 and 1998**

	Import substitution 1970	Restructuring under military dictatorship 1986	Return to democracy 1998
Manufacturing value added (% of GDP)	24.7	17.9	19.9 <sup>1</sup>
Manufacturing employment (% of total employment)	18.0	13.5	15.7
Financial services employment (% of total employment)	1.8	4.0	7.5
Professional and technical workers (% of total employment)	5.3	7.9	10.2
Salaried workers per employer	54.9	19.8	21.3

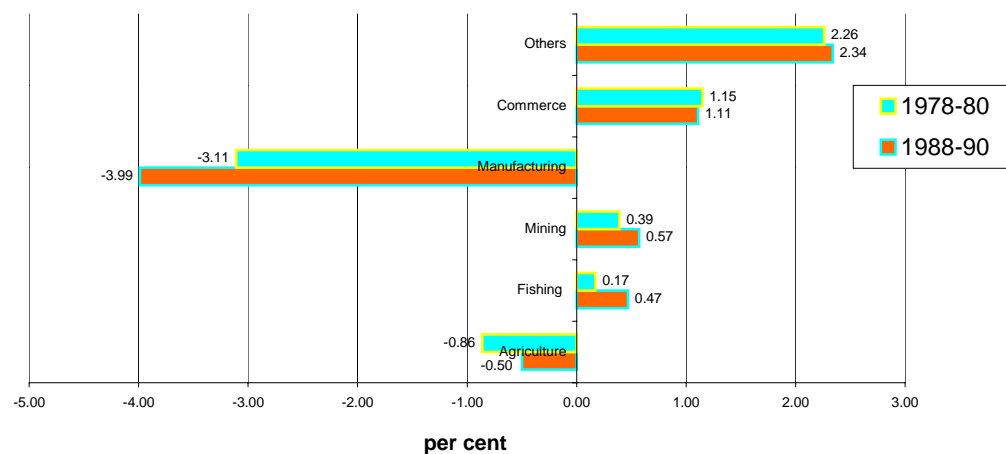
Sources: Meller (1984: table 1); Banco Central (various years): Anuario de Cuentas Nacionales; Consolidated employment series (see annex 1); INE (1971); INE (various years): Encuesta Nacional del Empleo, October-December of each year; ILO (various years): Laborstat Database.

Note:

<sup>1</sup> 1997.

**Figure 3.9. Intersectoral restructuring after trade liberalization, 1978-80 and 1988-90**

(variation compared to potential production, % of GDP)



Source: Valdés (1992: 74).

Note: Potential production was estimated, extrapolating previous development, as the production that would have been achieved absence of changes in import tariff rates. The difference between these potential production figures and actual production was then attributed to the impact of trade liberalization.

The severe crisis of manufacturing industries under the combined impact of the general economic contraction during the 1975 and 1982 recessions and the inter-sectoral restructuring process due to trade liberalization led some authors to claim a general "deindustrialization" process in Chile (Gatica, 1989). Indeed, the share of manufacturing in GDP declined from more than 24.7 per cent in 1970 to 17.9 per cent in 1986 (table 3.10.). The number of bankruptcies of manufacturing enterprises during 1974-1982 was more than four times higher than during 1965-1973 (Gatica, 1989: 45). The share of manufacturing employment in total employment decreased from 18.0 per cent in 1970 to 13.5 per cent in 1986, and has only partly recovered since then (15.7 per cent in 1998) (table 3.10.). Many products, some of which of considerable technological complexity, ceased to be produced in Chile.

However, from 1984 onwards the economic growth process witnessed the emergence of new dynamic manufacturing sectors, many of which are based on natural resources. Rather than a genuine process of deindustrialization, what has taken place between the 1970s and the 1990s is a complex economic restructuring which included important changes in the role and structure of manufacturing under the impact of trade liberalization. The main characteristics of this restructuring process are:

- The diminution of vertical integration. The trade liberalization permitted the importation, at lower prices, of intermediate products that had previously been produced domestically. Many intermediate products thus ceased to be produced in Chile. With regards to the intermediate products that are still produced domestically, a strong increase of subcontracting and a consequent fragmentation of productive processes can be observed (Agacino/de Laire/Echeverría, 1993).
- The rise of productive chains based on natural resources. Manufacturing sectors directly related to the processing of natural resources experienced a rapid expansion oriented towards the emerging export markets. Most of these natural resources come from and are at least partly processed outside the Santiago Metropolitan Region, thus implying an effect of territorial decentralization. However, this does not mean that administrative control over productive activities or R&D are decentralized, because many extractive or productive facilities in the provinces actually belong to a Santiago-based enterprise or conglomerate.<sup>40</sup>
- The growing role of conglomerates. These enterprise conglomerates (*grupos económicos*) grew at a spectacular pace after the military coup. In a first phase, their growth was mainly based on financial activities, but in a second phase that started after the 1982 crisis, a diversification into industrial activities has been observed. The main emphasis lies on industrial commodities, such as pulpwood, but recently some emerging conglomerates have invested heavily in other manufacturing sectors, such as metalworking, textiles and glass (Rozas/Marín, 1989; Sánchez/Paredes, 1994; Fuentes, 1997).

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<sup>40</sup> For example, at the end of the 1980s, more than 25 per cent of all manufacturing enterprises with at least 50 persons and more than 50 per cent of those with at least 20 employed persons in the Southern 8<sup>th</sup> Region had their administrative headquarters in Santiago (Boisier/Silva, 1990: 422, 436). Only one out of 47 economic conglomerates had its headquarters outside Santiago in 1997 (Ercilla, 24 March 1997: 33).

- The increase of service activities and enterprises' commercial expertise. The areas that have modernized most rapidly are those related to international trade (imports and exports), purchasing and marketing as well as financial services. The corresponding departments within enterprises have been strengthened, but, above all, specialized enterprises offering their services in the market have emerged. Subcontracted services include commercial and financial services, but also data processing, enterprise restaurants, gardening and cleaning. One quantitative indicator is the share of financial service employment in total employment, which increased from 2.6 per cent in 1975 to 4.0 per cent in 1986 and 7.5 per cent in 1998 (table 3.10.).

In sum, the economic restructuring has not only favoured the exploitation of natural resources in Chile, it has also caused important changes within the manufacturing sector.<sup>41</sup> The next subsection deals with the social dimensions of the Chilean experience.

### **3.3. Social development, poverty and income distribution**

As has been mentioned in section 3.2.1., the economic crisis of the early 1980s caused a marked worsening of labour market conditions. Open unemployment reached 19.6 per cent in 1982, which, given that unemployment benefits were practically non-existent, plunged many families into a very difficult situation. Moreover, this figure underestimates the real degree of labour market slack: 12 per cent of the labour force participated in the so-called extensive employment programmes, such as the *Programa de Empleo Mínimo* (PEM) and the *Programa Ocupacional para Jefes de Hogar* (POJH) (ILO, 1998a).

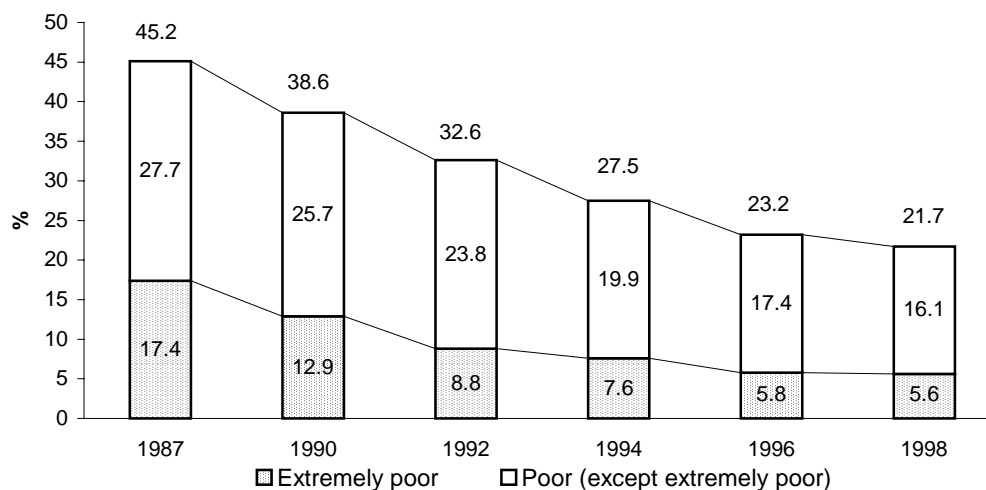
The first few years following the 1982 recession saw a substantial increase in employment. During the second phase of trade liberalization from 1985 onwards, unemployment continued to drop, largely reflecting the creation of a large number of jobs (more than 1.6 million during 1986-1998). Moreover, the labour force participation rate increased rapidly, mainly due to the rapid incorporation of women into the labour force. Real wages decreased in the early 1980s as a consequence of the crisis and then stabilized in the first years of the recovery phase. From 1987 onwards, real wages have grown continuously (figure 3.6.).

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<sup>41</sup> A more detailed analysis of enterprise strategies in the manufacturing sector can be found in chapters 4., 5. and 6.

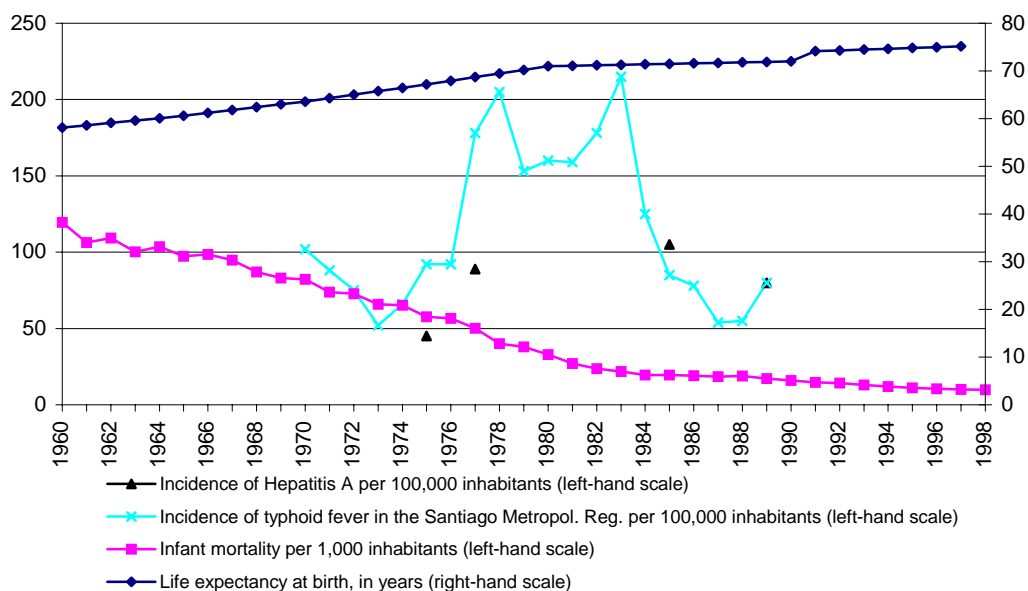
**Figure 3.10. Poverty rates, 1987-1998**

(share of total population, in %)



Source: MIDEPLAN (1997; 1999a) based on data from the CASEN survey.

**Figure 3.11. Indicators of public health, 1960-1998**



Sources: Banco Central (1989); Banco Central de Chile (1997): Boletín Mensual, December 1997; Collins/Lear (1995: 120-121); INE (1999): Enfoques estadísticos demografía, Nr.1, Santiago, p.2; *La Tercera en Internet*, 4 May 1999.

Data on poverty rates before 1987 are controversial. The military government presented data from a "map of extreme poverty" based on a methodology of basic needs and possession of consumer goods, suggesting that the percentage of the population living in extreme poverty diminished from 21.0 per cent in 1970 to 15.3



per cent in 1982 (Vicuña/García, 1986). However, when published, these data were strongly criticized on the ground that more than 80 per cent of the alleged poverty reduction was based on one single factor, the possession of consumer goods, while the rest was accounted for by improvements in housing situation and infrastructure (Raczynski, 1986).<sup>42</sup> Indeed, the estimation of poverty levels by means of an income-based approach leads to quite different results. According to this alternative methodology, ECLAC estimates that the share of the poor in total population went up from 20 per cent in 1970 to 44.4 per cent in 1987 (ECLAC, 1991).

While the statistics on poverty in Chile in a long-term perspective are far from satisfactory, the diminution of poverty since 1987 is less controversial, as more reliable data are available. According to the Socio-economic Household Survey (CASEN), the percentage of population living in poverty went down from 45.1 per cent in 1987 to 21.7 per cent in 1998. The level of extreme poverty diminished from 17.4 per cent to 5.6 per cent during the same period (figure 3.10.).

Basic health indicators such as infant mortality (from 82.2 per 100 in 1970 to 33.0 in 1980, 16.0 in 1990 and 9.8 in 1998) and life expectancy at birth (from 63.6 years in 1970 to 71.0 in 1980, 72.0 in 1990 and 75.2 in 1997) have shown a very positive development throughout the last decades, despite the recessions of 1975 and 1982/1983. However, other indicators such as the incidence of typhoid fever and hepatitis have been more sensitive to social conditions and the shrinking role of the state in controlling violations of public health regulations, especially irrigation of vegetables with untreated water. The incidence of typhoid fever per 100,000 persons increased from 52 in 1973 more than 150 during the years 1977 to 1983, and it went down to its 1973 level only in 1987. Hepatitis incidence went up from 45 in 1975 to 105 in 1985 (figure 3.11.).

Finally, the most recent edition of the Human Development Index, a combination of indicators on life expectancy, educational attainment and per capita income, puts Chile in a good 34th position overall, and in the first position among all Latin American countries (UNDP, 1999).

As to the perception of the incidence poverty by the population, there is a somewhat contradictory tendency. According to a national survey carried out in 1996, 42.3 per cent of the surveyed persons thought that the incidence of poverty was unchanged between 1991 and 1996. The number of those who thought that poverty had diminished is hardly bigger than the one of those who thought that poverty had increased. On the other hand, the individual perception of the own situation is more positive. 39.2 per cent stated that they had been poor before (either in their childhood or some years ago) but that they are not poor any more. By contrast, only a very slim minority (5.0 per cent) stated that they had not been poor before but are poor now (Centro de Estudios Públicos, 1996).

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<sup>42</sup> An indicator for the ideologized character of the Map of extreme poverty is the publication in the pro-military government newspaper *El Mercurio* (10 October 1974: 21-36), which titled a special report on this research "Radiography of a terrible inheritance of the *Unidad Popular*" (*Radiografía de una herencia terrible de la Unidad Popular*), although research is based exclusively on data of the 1970 Census, carried out before the government of the *Unidad Popular* was in power!

Although the Chilean record of poverty diminution during the 1987-1998 period is without a doubt impressive, there is evidence that some of those who escaped poverty lack the structural conditions to maintain themselves above the poverty line in case of an economic downturn. The latest CASEN survey in 1998 registered a slowdown in the rate of poverty diminution, and the unemployment rate increased much more during the first half of 1999, making at least a temporary increase in poverty rates very likely.

A panel survey carried out in Greater Santiago among Chilean households who were poor in 1990 showed that only 24.6 per cent of them were still poor in 1993. This means that the number of those who remained poor during this period is far smaller than the total number of poor (Castro, 1994). However, this also means that the number of persons affected by poverty at any moment during the period 1990-1993 is far bigger than that. Unfortunately, there is no study on the number of households affected by poverty at some moment during a given period.<sup>43</sup>

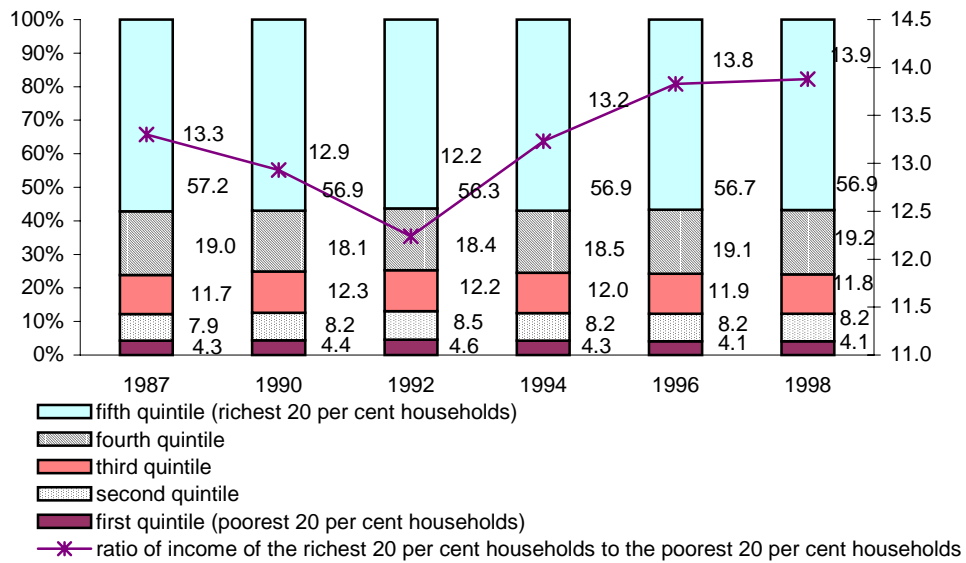
The failure of Chileans to perceive the full extent of poverty diminution may be due to the high degree of income inequality in Chile. According to the CASEN survey, in 1998 the richest 20 per cent households received 13.9 times more (56.9 per cent of all household incomes) than the poorest 20 per cent (4.1 per cent). Despite the government's strategy of "growth with equity", income distribution has not improved. Minor improvements had taken place between 1987 and 1992, probably due to an improved labour market situation and to fiscal reforms carried out in the first years of the democratic government, but after 1992 income distribution has again started to deteriorate (figure 3.12.).

As has already been mentioned in the introduction, there is a controversy in Chile on whether an unequal income distribution is a relevant problem at all and what could be done about it. Several authors have claimed that income distribution in Chile has traditionally been unequal and that "[...] in a long-term perspective, changes in income distribution have not been substantial" (Cowan / de Gregorio, 1996: 32). In this view, the current economic and social model cannot be accused of being responsible for the current income inequality and the only solution is a medium- and long-term improvement in educational attainment of the poor.

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<sup>43</sup> It would be interesting to know if the "Chilean model", with a strong emphasis on economic growth rather than on social policy in its strategy for poverty eradication, leads to more mobility into and out of poverty than other models of socio-economic development.

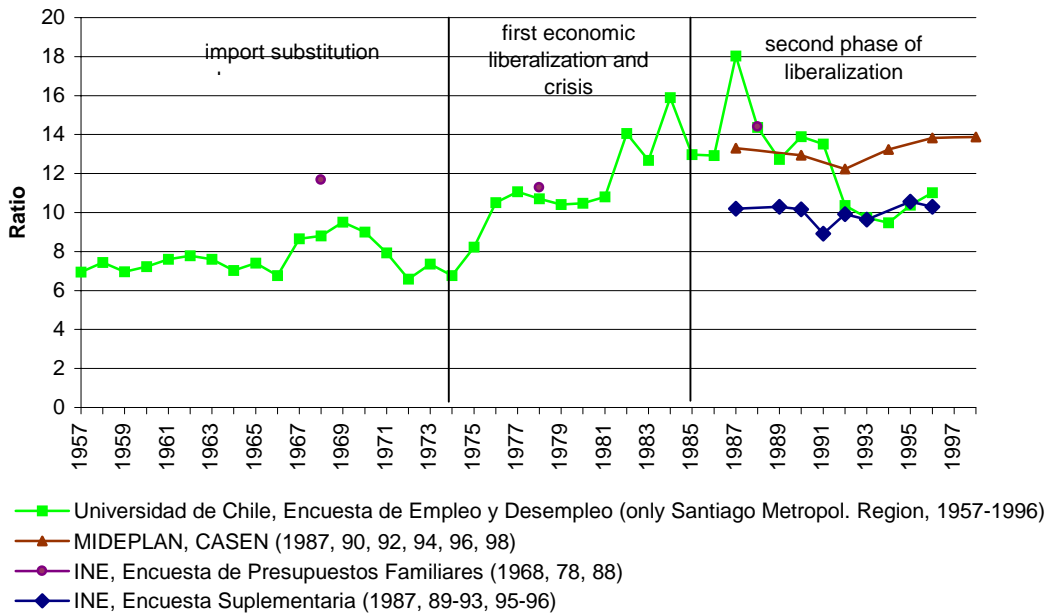
**Figure 3.12. Income distribution by quintiles of households, 1987-1998**



Sources: MIDEPLAN (1997) and MIDEPLAN (1999a) based on data from the CASEN survey.

**Figure 3.13. Indicators of income distribution according to different sources, 1957-1998**

(Ratio of income of the richest 20 per cent households to the poorest 20 per cent households)



Source: Data from the different household surveys (Universidad de Chile data kindly provided by the Centro de Estudios Públicos).

The availability of long-term data on income distribution in Chile is limited. The Survey on Employment and Unemployment carried out by the University of Chile offers the only consistent long-term series of income distribution data; it covers the Metropolitan Region of Santiago during the years 1957 to 1996.<sup>44</sup> These data show that income distribution *does* vary considerably over time (figure 3.13.). The improvement in income distribution during the socialist government of Salvador Allende would possibly have been unsustainable because of the growing fiscal deficit. However, the economic restructuring under the Pinochet government caused deterioration not only compared to the 1970-1973 period but also compared to previous periods. Income distribution worsened not only during the first sub-period (1974-1983) of the military government with its abrupt opening to foreign trade, two major recessions in 1975 and 1982/83 and extremely high unemployment rates, but also during the second sub-period (1984-1990) when the economy was recovering and unemployment decreasing. Under the presidency of Aylwin and Frei, data show an improvement in income distribution that is slightly more important and more stable than the one shown by the CASEN data for the whole country (table 3.11.).

As has been pointed out by Cowan and de Gregorio (1996), it is not only the distribution of income that matters, but also the distribution of opportunities. Indeed, at a given distribution of income, a society where the level of incomes of each person is to a large extent determined by the social group in which he or she was born can be considered less equitable than a society where a higher degree of social mobility exists. Although detailed longitudinal studies on this issue do not exist, data taken from the CASEN survey 1992 suggest that the educational attainment of a person depends strongly on the father's educational attainment. For example, while more than 90 per cent of those between 20 and 24 years whose father had completed 13 or more years of education successfully finished secondary education, this share decreases to 36.6 per cent for those with fathers who completed only 3 to 5 years, and to 24.5 per cent for those whose father completed no more than 2 years (table 3.12.). Table 3.13. presents a range of social indicators related to the distribution of opportunities by level of income. These indicators refer to child malnutrition, underweight of pregnant women, average years of schooling, the share of 14 to 17 year-old not attending school and the coverage of nursery schools. All these variables show a strong degree of inequality between poor and rich households.

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<sup>44</sup> The use of these data for the analysis of income distribution has been criticized because the survey is designed in the first place to gather information on employment and not on incomes. However, empirical studies carried out with these data have given very consistent results (Sanfuentes, 1989; ECLAC, 1987). While year-on-year changes in the income distribution are generally not statistically significant, the long-term tendencies are confirmed by careful checks of data quality and significance (Ruiz-Tagle, 1999). Moreover, the long-term tendency of deterioration in income distribution coincides with the results from the Household Expenditure Survey carried out by the INE in the Santiago Metropolitan Region in 1969, 1978 and 1988.

**Table 3.11. Household income distribution in the Santiago Metropolitan Region, 1957-1996**

(Yearly averages for selected periods, %)

Government	Years	Income shares by quintiles					Ratio of income of the richest 20 per cent households to the poorest 20 per cent	Gini coefficient
		1 (poorest 20 per cent of households)	2	3	4	5 (richest 20 per cent of households)		
Ibáñez/ Alessandri	1957-64	6.5	10.7	14.4	21.1	47.3	7.3	0.396
Frei (father)	1965-70	6.1	9.8	14.1	19.8	50.4	8.3	0.424
Allende	1971-73	6.1	10.8	14.9	23.6	44.6	7.3	0.381
Pinochet	1974-90	4.7	8.5	12.1	19.7	55.0	11.7	0.485
Pinochet 1	1974-83	5.1	9.0	12.8	20.3	52.8	10.3	0.461
Pinochet 2	1984-90	4.1	7.8	11.2	18.9	58.0	14.3	0.520
Aylwin / Frei	1991-96	5.0	8.9	12.8	19.7	53.6	10.7	0.470

Source: Universidad de Chile (various years): Encuesta de Empleo y Desempleo. Data kindly provided by the Centro de Estudios Públicos (CEP).

**Table 3.12. Educational attainment of the 20 to 24 year old, according to father's educational attainment, 1992**

Father's educational attainment (years of education)	Distribution	Shares completing levels of education		
		Complete primary education	Complete secondary education	Complete 15 or more years of education
0 to 2	12.3	61.8	24.5	1.1
3 to 5	20.9	75.7	36.6	1.5
6 to 9	32.6	90.6	58.1	4.5
10 to 12	24.1	97.7	78.5	13.7
13 to 15	4.3	99.6	90.4	16.0
16 or more	5.8	100.0	92.2	36.9
<b>Total</b>	100.0	86.5	57.7	8.2

Source: Consejo Nacional de la Superación de la Pobreza (1996) based on data from MIDEPLAN (CASEN 1992).

Note: These percentages are measured as the ratio of the number of individuals aged 20 to 24 having completed secondary or tertiary education to the total number of individuals within the same category of the father's educational attainment of the same age.

**Table 3.13. Socio-economic indicators by income quintile, 1998**

Quintiles	Child malnutrition (% of children below 6 years)	Pregnant women with underweight <sup>1</sup> (%)	Average years of schooling (15 year old and over)	Coverage of nursery schools (share of children between 3 and 5 years in %)	14 to 17 year old who do not attend school (share of age group in %)	Average monthly household income (Chilean pesos) <sup>1</sup>
1 (poorest 20 per cent households)	1.0	10.7	7.4	30.0	41.0	83 067
2	0.6	6.9	8.5	29.5	28.3	161 393
3	0.2	5.3	9.2	32.2	18.4	232 919
4	0.2	8.3	10.6	41.4	9.6	375 167
5 (richest 20 per cent households)	0.03	1.8	13.1	52.4	2.7	1 108 864

Sources: MIDEPLAN (1998; 1999c; 1999d) based on data from MIDEPLAN (CASEN, various years).

Note:

<sup>1</sup> 1996.

Cowan and de Gregorio argue that due to progress in educational coverage and social indicators, social mobility and equality of opportunities have improved. However, although Chile has made progress in recent years to improve the education in the public sector, the system maintains its main characteristics of separating access to education and health systems according to social group. Moreover, the educational attainment of the poorest households (first income quintile) increased by only 0.1 years (from 7.3 to 7.4) between 1990 and 1998, while the average attainment of the richest households (fifth income quintile) increased by 1.0 year (from 12.1 to 13.1) (MIDEPLAN, 1999d). Even compared to other Latin American countries, Chile presents a very high level of educational inequality (Beyer, 1999a: 23). Finally, the high degree of income inequality is accompanied by an extreme degree of spatial segregation. The camps and *poblaciones* that used to exist in some upper-class districts have been evicted during the 1970s and 1980s, increasing the association of a district of residence with the socio-economic situation. Given these factors, there is considerable doubt about whether social mobility in Chile has actually improved.

In sum, Chile has made important progresses in poverty reduction and social development since the return to democracy, but the main challenge of "growth with equity" remains. The skewed income distribution has not changed much and there is little sign for improvement in the near future. Moreover, while enterprise strategies have by and large been successful in addressing competitive challenges, workers still suffer job insecurity, long work hours and other deficiencies in employment quality. These issues will be dealt with in the following chapter.

## 4. Innovations, flexibility and employment quality in Chile

*Queda estrictamente prohibida la salida en horario de colación a la calle, el que no respete esta orden será sancionado por el Sr. Carlos Carcamo.*

*Atte. El Ingeniero de Obra*

Written instruction to workers at a construction site in Vitacura, Santiago, seen on 5 November 1996

After the general overview on the political, social and economic development in Chile, this chapter will deal with the specific evidence on enterprise strategies and their consequences for Chilean workers. Section 4.1. describes Chilean enterprises' innovation strategies and the available evidence on productivity indicators. Section 4.2. deals with flexibility strategies and patterns of work organization in Chilean enterprises. The configuration of subcontracting chains and the incidence of so-called non-standard forms of employment are analyzed in section 4.3.. Finally, section 4.4. characterizes the employment quality for Chilean workers.

### 4.1. Innovations and indicators of productivity

One of the expected outcomes of trade liberalization (which has been implemented in Chile from 1973 onwards) is that enterprises increase their productivity. While within a protectionist framework, even inefficient enterprises and industrial sectors can survive, in a context of stiff international competition, they will be forced to increase their efficiency or they will face bankruptcy.<sup>85</sup> However, this process, like all learning processes, is neither automatic nor instantaneous. It also depends on several other factors, such as relative prices, macroeconomic conditions, the institutional context and the general political situation. Moreover, enterprises can adopt different types of innovation, resulting in different patterns of technological development, work organization and employment quality.

This section presents the evidence on innovations and indicators of productivity in Chile. It starts with an overview of the development during the ISI period and under military dictatorship (4.1.1.). Subsection 4.1.2. gives a general vision of the development since the return to democracy. Subsection 4.1.3. presents the evidence on each of the different types of innovation defined in chapter 2. and subsection 4.1.4. gives a brief summary.

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<sup>85</sup> Edwards (1998), based on data for 93 countries and using different indicators of openness, finds that more open countries have experienced higher rates of total factor productivity growth. For a more sceptical view, see Rodríguez/Rodrik (1999).

#### 4.1.1. Innovations and productivity up to 1990

In order to understand the complex changes in Chilean enterprises after 1973, it is useful to characterize their typical structures during the last decade of import-substituting industrialization up to September 1973. Most manufacturing enterprises operated in highly protected and, given the population size of Chile, relatively small markets. Considering the type of (imported) machines, the scale of production was below optimal levels. Most enterprises produced a high number of different products (diversified product mix) and tended to produce the necessary intermediate products within the enterprise (high level of vertical integration). A huge variety of consumer goods was produced or assembled simultaneously in Chile. Due to the small batch size and technical as well as social problems (at some time, businessmen devoted a major attention to political factors and contacts, thus neglecting management and internal organization), taylorist production methods<sup>86</sup> could not be applied thoroughly (Díaz, 1994: 66; Mamalakis, 1976: 158; Davis, 1970).

After the military coup (see chapter 3.), enterprises faced completely different challenges. The abrupt trade liberalization made many product lines unprofitable and enterprises had to react in order to survive. In their reactions, most enterprises benefited from the new situation in terms of labour relations and the possibility to import intermediate goods (Díaz, 1994: 66):

- The internal work organization was rationalized, strengthening the use of taylorist methods. Trade unions were weakened or inactive due to the climate of political repression, enabling management to increase its control over the workforce.
- Many intermediate products were cheaper to import than to produce internally. Enterprises thus reduced their degree of vertical integration in favour of imported inputs and strengthened their capacity to organize international trade operations.
- These rationalization processes enabled enterprises to shed labour ("downsizing").

This "authoritarian rationalization" (Montero, 1989) took place roughly between 1973 (the beginning of military dictatorship) and 1983 (the end of the second recession and of radical neoliberalism). It permitted many enterprises to lower costs in order to survive. During this period, rationalization occurred without much investment in new machines and equipment.<sup>87</sup> Obviously, the rise in efficiency

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<sup>86</sup> Frederick Taylor (1856-1915) is the father of the so-called "scientific management". This management method is based on the strict separation of the conception and the execution of work as well as management time studies of each operation of manual workers. The workers have to carry out the operations exactly according to the management instructions. Taylorism is also often associated with the division of labour and the introduction of the conveyor belt. However, the division of labour had been introduced prior to Taylor, and the introduction of the conveyor belt is not the work of Frederick Taylor, but of Henry Ford (Pouget, 1998; Mikl-Horke, 1989: 31).

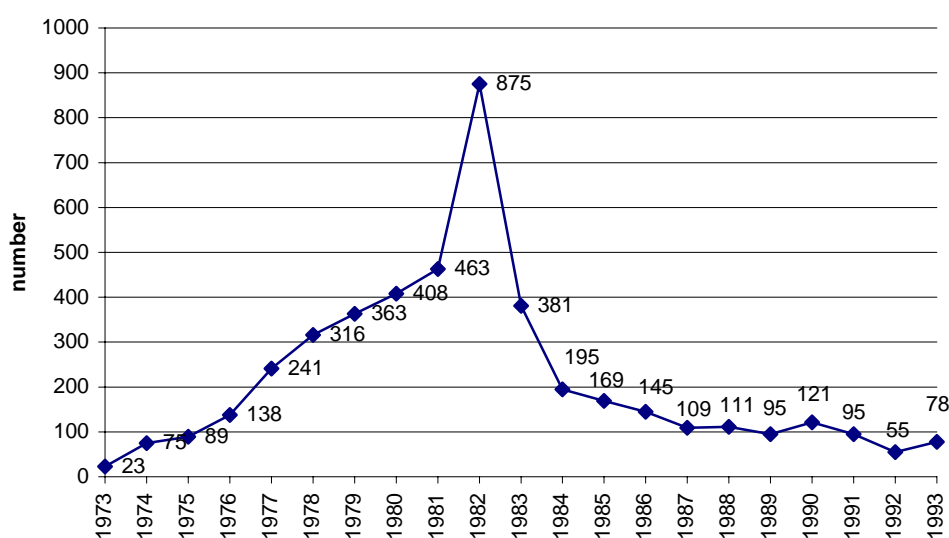
<sup>87</sup> This result is consistent with an increase in total factor productivity - a measure of productivity that considers both labour and capital inputs - during 1976 to 1981. Although increases in total factor productivity are generally interpreted as indicators of technological change, they can also reflect an increase in productive efficiency due to labour and capital shedding (e.g., the closure of inefficient production sites). This is precisely what seems to have occurred in Chile (Agacino/Rivas/Román, 1992: 26-27).



through the rationalization of production processes could not continue indefinitely in the absence of substantial new investments and greater efforts to incorporate technical changes (Pietrobelli, 1998: 58).

Not all enterprises survived. The number of enterprise bankruptcies increased dramatically from only 23 in 1973 to 875 in 1982 (figure 4.1.). Due to the abrupt and ideologically rigid implementation of the reforms, not only inefficient enterprises but also some efficient enterprises had to close down (Agosín/Ffrench-Davis, 1998: 111). Some of the most innovative enterprises went bankrupt because they had run into debts in foreign currency to finance new investments in machines and equipment. These debts became unsustainable with the depreciation of the Chilean Peso in 1982 (Mizala, 1992).

**Figure 4.1. Enterprise bankruptcies, 1973-1993**



Sources: Mizala (1992: table 2); Castillo/Maggi/Dini (1994: table 7).

While during the "boom period" from 1976 to 1981, labour productivity (defined as value added per worker) increased on average by 2.8 per cent per year (5.4 per cent in manufacturing), this positive result disappears when the two recessions in 1974/1975 and 1982/1983 are included. Indeed, labour productivity stagnated during the 1974-1983 period (it slightly declined at an annual average of -0.1 per cent), compared to average annual increases of 2.4 per cent during 1961 to 1970 (table 4.1.). In manufacturing, the average productivity increase over the whole period 1974 to 1983 was 2.9 per cent, only slightly higher than during 1961-1970 (2.4 per cent). Moreover, official manufacturing GDP data have been criticized for methodological shortcomings; when the corrected series calculated by Cortázar and Meller (1987) is considered, the labour productivity performance is even less spectacular (table 4.2.).

**Table 4.1. Labour productivity and investment, 1960-1998**

Development strategy	Period	Labour productivity (average annual variation in %)	Gross domestic fixed investment (average share in GDP, %)
Import substitution	1961-1973	1.8	17.3
Alessandri / Frei governments	1961-1970	2.4	17.6
Allende government	1971-1973	-0.1	16.0
Export-oriented restructuring under military dictatorship	1974-1990	0.5	17.9
First economic liberalization and crisis	1974-1983	-0.1	17.2
First recession	1974-1975	-3.2	21.1
"Boom years"	1976-1981	2.8	17.3
Second recession	1982-1983	-5.6	13.1
Second economic liberalization	1984-1990	1.3	19.0
Export-oriented model after redemocratization	1991-1998 <sup>1</sup>	5.2	23.7

Sources: For GDP data: Banco Central (1989); Banco Central (1998): Anuario de Cuentas Nacionales 1997; Banco Central (1999). For employment data: Consolidated employment series (see annex 1). For investment data: World Bank (1999): World Development Indicators; MIDEPLAN (1999e). Own calculations.

Notes: Labour productivity is defined as value added per employed person. Periods include the labour productivity variation between the year prior to the first year given and the first year given. For example, the period 1961-1973 starts with the variation between 1960 and 1961 and ends with the variation between 1972 and 1973.

<sup>1</sup> Gross domestic fixed investment data refer to 1991-1997 instead of 1991-1998.

From 1984 to 1990, Chilean enterprises were able to consolidate the changes of the previous period as they now operated in a much more stable macro-economic environment. The temporary increase in import tariffs and the depreciation of the Chilean Peso implemented by pragmatic neoliberals (section 3.1.4.) made Chilean enterprises relatively more competitive. Economic expansion was based on a cheap and abundant labour force. Due to the strong increase in employment levels, the increase in labour productivity remained very modest, at only 1.3 per cent per year on average (table 4.1.). In manufacturing, labour productivity even declined at an average of -3.4 per cent per year (table 4.2.).<sup>88</sup>

<sup>88</sup> The incorporation of productive factors - mainly labour - at low cost led to a decrease in total factor productivity during 1984-1988, precisely the opposite of what happened during 1976 to 1981 (Agacino/Rivas/Román, 1992: 26-27). Other studies on technical efficiency in manufacturing (Marshall, 1992; Alvarez/Fuentes, n.d.) found similar results: significant increases in technical efficiency during 1974 to 1979, but stagnation and even decline during 1979 to 1986.

**Table 4.2. Labour productivity in manufacturing, 1960-1998**

Development strategy	Period	Manufacturing labour productivity (average annual variation in %)	
		based on official production data	based on corrected production data
Import substitution	1961-1973	1.5	1.5
Alessandri/Frei governments	1961-1970	2.4	2.4
Allende government	1971-1973	-1.4	-1.4
Export-oriented restructuring under military dictatorship	1974-1990	0.3	-0.3
First economic liberalization and crisis	1974-1983	2.9	1.9
First recession	1974-1975	-9.1	-9.6
"Boom years"	1976-1981	7.0	5.6
Second recession	1982-1983	2.3	2.3
Second economic liberalization	1984-1990	-3.4	-3.4
Export-oriented model after redemocratization	1991-1998	3.0	3.0

Sources: For manufacturing GDP data: Banco Central (1989); Banco Central (1998); Anuario de Cuentas Nacionales 1997; Banco Central (1999). For corrected manufacturing data: Cortázar/Meller (1987). For employment data: Consolidated employment series (see annex 1). Own calculations.

Notes: Labour productivity is defined as value added per employed person. Periods include the labour productivity variation between the year prior to the first year given and the first year given. For example, the period 1961-1973 starts with the variation between 1960 and 1961 and ends with the variation between 1972 and 1973. The corrected manufacturing series by Cortázar and Meller (1987) has been obtained based on a critical analysis of the official data.

The tayloristic work organization methods that had been introduced between 1973 and 1983 were by and large maintained. The subcontracting of parts of the productive process or services became more common (see section 4.2.2. for more details).

An ILO questionnaire survey of 301 manufacturing enterprises in Santiago, carried out in 1990, permits the characterization of innovation strategies during the last years of the military dictatorship (1988-1990) (Geller, 1994). Contrary to studies on previous phases of the military government, the study finds a predominance of technical changes while organizational innovations were relatively less frequent. The polarization between bigger and smaller enterprises was pronounced: While 84.4 per cent of the enterprises with 200 workers or more had carried out technical innovations, the share was only 45.3 per cent in those with 10 to 49 workers. In a similar way, innovations in the productive organization or work organization had taken place in 53.1 per cent of the large and 35.8 per cent of the small enterprises. 29.2 per cent of all enterprises - 9.4 per cent among the large enterprises and 36.8 per cent among the small enterprises - declared not having carried out any innovations (Geller, 1994: tables 3, 5, 9). There was a tendency towards increasing the number of tasks for each worker, especially among those enterprises that carried out other organizational innovations. Innovations were in most enterprises accompanied by an increase of the technical skills at the workplace and a greater autonomy and responsibility of the workers for the tasks they were carrying out. However, in a

minority of cases, the opposite tendency (task simplification) could be observed (Geller, 1994: 14-15).

The technological level of the Chilean economy was also influenced by the restructuring between and within economic sectors (see section 3.2.). Many enterprises in relatively "high-tech" sectors disappeared and the production of many products of considerable technological complexity was discontinued in Chile. At the same time, natural resource-intensive sectors using relatively simple technologies emerged. The diversification of exports - from copper towards copper plus other natural resource-based products - was part of a process of "regressive transformation" (Ominami, 1988) with a diminution of the technological complexity of the industrial sector. The most dynamic export products between 1970 and 1987 have been the most natural resource-intensive ones and those employing the simplest technologies (Pietrobelli, 1998: 63).

Exporters of natural resource-intensive products based their strategy to penetrate international markets mainly on static advantages such as the abundance of natural resources at low prices. However, the presence in international markets did have an impact on the technology used by those enterprises. In a survey carried out in 1988/1989 among a sample of successful exporters, 14 out of 16 enterprises in natural resource-intensive sectors declared that their - albeit modest - recent technological changes had been a consequence of their export activity (Pietrobelli, 1998: table 6.6). This suggests that even in natural resource-intensive sectors, resource endowments *per se* are not enough to generate competitive advantage: "a base of technological skills, combined with some technological effort mainly related to design and product engineering, is necessary to become internationally competitive also in simple manufactures" (Pietrobelli, 1998: 183).<sup>89</sup>

During the period of military dictatorship as a whole, labour productivity increased at a lower rate than during 1961 to 1973. Manufacturing labour productivity was practically stagnant (0.3 per cent per year according to official figures, -0.3 per cent according to corrected figures), a worse performance than during the period of import substitution (tables 4.1. and 4.2.). As has been analyzed over the last pages, important changes have certainly occurred in the Chilean economy in general and in manufacturing in particular between 1973 and 1990. But while some enterprises and sectors may have developed dynamically due to their innovative behaviour, most rather reacted to increased international competition by increasing their control over the workforce - the repression of the labour movement gave management a free hand - and by lowering real wages.

Despite the successful development of manufacturing from 1984 onwards, it would thus be premature to talk about a far-reaching modernization of Chilean enterprises during the second half of the 1980s. While Díaz (1990a; 1994: 66-67) concludes that enterprises started partial modernizations in their equipment, products and production

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<sup>89</sup> It has to be pointed out that not all natural resource-intensive products use simple technologies. Especially when export enterprises attempt to move into the most demanding market segments in more advanced stages of development, they often use relatively sophisticated technologies (see for example Pérez-Alemán, 2000 for examples from the agroindustrial sector).

processes during that period, Agacino and Rivas (1993) simply speak of a "myth of modernization".<sup>90</sup>

The growth of manufacturing production reflected a successful short- and medium-term strategy of benefiting from the set of incentives given by the macro-economic conditions and the shift in relative prices (principally through the depreciation of the Chilean Peso and depressed wages) without an important need for innovation. In a way, the exchange rate and the low wages compensated the opening up of the economy to international competition (Díaz, 1990b: 399). However, many of the factors that favoured the manufacturing sector's success during the second half of the 1980s were spurious, rather than structural, in nature. It was predictable that tighter labour market conditions (lower open unemployment) and the change in the political climate (more freedom for trade unions) would sooner or later lead to rising real wages. In the same way, an appreciation of the Chilean Peso against the US\$ was also predictable. These "easy factors" of competitiveness would thus sooner or later end up in exhaustion.

To sum up, the competitive gains during the military dictatorship were not based on a genuine modernization of enterprises, but rather on factors that either

- were "once-and-for-all gains" that could not continue indefinitely using the same strategy (rationalization); or
- were unsustainable in the long term because they were based on conjunctural rather than structural situations (exchange rate and depressed wages); or
- had direct negative consequences on the workers' welfare (low wages, repression of trade unions and authoritarian management styles).

#### **4.1.2. Innovation and productivity from 1990 onwards**

It follows from the above analysis that Chilean enterprises adapted to the competitive challenges under the military government, but this adaptation did not constitute a socially and economically sustainable strategy for the longer term. Thus, the innovative behaviour of Chilean enterprises in the 1990s was decisive for the sustainability of a modernization path of the Chilean economy. Unlike during the 1976-1981 period, which had seen reasonable productivity increases, the simple authoritarian restructuring was not an available option for the 1990s. Enterprises had to adjust to social pressures that had been repressed for more than one and a half decades and that were now allowed to find an expression, even though within a framework that still gave employers a high degree of control over their enterprises and workforce.

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<sup>90</sup> To some extent, the nuance lies in different concepts of "modernization". While for Agacino and Rivas, "modernization" is an unambiguously positive term, Díaz explicitly states that modernization may be efficient from the point of view of the individual enterprise, but inefficient from the macroeconomic and social points of view (Díaz, 1990a: 58). In this view, modernization does thus not necessarily involve productivity increases.

Data on labour productivity for the 1991-1998 period suggest that overall, enterprises have been able to cope with the challenge: the average yearly productivity increase was 5.2 per cent for the whole economy and 3.0 per cent in manufacturing (tables 4.1. and 4.2.). The same positive picture emerges from analyses of the technical efficiency of production during the early 1990s (Alvarez/Fuentes, n.d.).

However, available comparative data for the years 1994-1996 also suggest that Chilean labour productivity in manufacturing is still far from satisfactory. The value added per worker is only 20 per cent the level in the United States, placing Chile behind several other Latin American countries, such as Argentina, Brazil, Columbia, Mexico and Uruguay. Lower levels of manufacturing productivity than in Chile have been found in Costa Rica, Jamaica and Peru (Katz, 1998: table 3a). Over the period 1970 to 1995, Chilean manufacturing has not been able to narrow the productivity gap relative to the United States: value added per worker fell from 25 per cent of the US level in 1970 to 20 per cent in 1995. The productivity gap relative to the United States increased in 14 manufacturing sectors, while it narrowed in only 12 sectors (Katz, 1998: table 6).<sup>91</sup>

Generally, enterprises appear to be efficient in their management style and administration of acquisitions, sales and international trade. The quality of Chilean enterprise management is thus considered a competitive advantage, at least compared to other Latin American countries (*Gestión*, April 1995: 38-40). The challenges for Chilean manufacturing lie in the technical aspects of the production<sup>92</sup> and the social relations within the enterprise.

There are relatively few studies that permit a detailed characterization of the innovation strategies of Chilean enterprises from 1991 onwards. At the end of 1995, the National Statistical Institute (*Instituto Nacional de Estadísticas*, INE) and the Programme for Technological Innovation (*Programa de Innovación Tecnológica*, PIT) in the Chilean Ministry of Economy carried out a survey on technological innovation in manufacturing. The sample consisted of 541 establishments<sup>93</sup> and was drawn from the larger sample of the yearly establishment survey *Encuesta Nacional Anual Industrial*. The results have been presented and analyzed in several publications, notably INE (1996), Herrera (1997) and Martínez (1997).

The principal advantage of this survey lies in the fact that it is fairly representative of Chilean enterprises with ten workers or more in different manufacturing sectors. Moreover, the rate of return of the questionnaire was extremely high (99.1 per cent), avoiding possible selection biases. The survey contains detailed information on innovation strategies, main obstacles to innovation as well as enterprise spending on Research and Development and innovation. The disadvantage of the applied

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<sup>91</sup> These data consider manufacturing sectors at the 3-digit-level (28 sectors) of the International Standard Industrial Classification (ISIC). The remaining two sectors experienced no significant changes in relative labour productivity.

<sup>92</sup> "The strength of the Chilean export drive has lain in its commercial dynamism. However, market strategies have not been related adequately to manufacturing strategies. [...] Success in manufacturing requires that market strategy and manufacturing strategy be inter-related. This is the challenge facing Chilean industry." (Humphrey, 1993: 2)

<sup>93</sup> The term "establishment" (unit of production) used by the INE is slightly different from the term "enterprise" (unit of ownership), as one enterprise can have several establishments.

methodology is that the results may be biased by the perception of the managers who answered the survey. Answers could not be checked against empirical observations within the enterprises; a high - declared - degree of innovation may thus reflect either the actual changes in the enterprise or an overly optimistic interpretation of the responding manager.

**Table 4.3. Intensity of innovations by type in Chilean manufacturing establishments, 1993-1995**

	No innovation (% of total)	Some innovation (% of total)	Intensity of innovations (average on a scale from 0 to 4)
Product innovation	35.0	65.0	1.7
Process innovation	19.9	80.1	2.2
Substantial improvement in packaging	42.2	57.8	1.4
Innovation in administration and organization	17.1	82.9	2.3
Innovation in product design	41.8	58.2	1.3

Source: INE (1996: 18) based on data from the Encuesta de Innovación Tecnológica en la Industria Manufacturera 1995.

The survey distinguishes different types of innovation (table 4.3.):

- According to managers' responses, enterprises had been most active during 1993 to 1995 in innovations of administration and organization. 82.9 per cent had some innovation in this area, and the average intensity was 2.3 on a scale from 0 to 4.
- In second and third place came process innovations (80.1 per cent, 2.2) and product innovations (65.0 per cent, 1.7).<sup>94</sup>
- Finally, innovations in product design and substantive improvements in packaging had been carried out by less than 60 per cent of establishments.

63.5 per cent of the establishments acquired new machinery and equipment during 1993 to 1995. Most of this was bought new, although some enterprises also bought second-hand equipment (Herrera, 1997: 44). The intensity of enterprise R&D activities (as measured by R&D investment as a share of value added) was 0.48 per cent on average and varied considerably across sectors (table 4.4.).

29 per cent of the establishments had introduced no or only limited changes (innovations of maximum intensity 1 on the scale from 0 to 4), but this share increases to 38 per cent among the small enterprises with 10 to 49 workers (Herrera, 1997: table 5). Despite the obvious link between establishment size and intensity of innovations, one of the results of the survey is that innovations are not limited to big enterprises; many medium and small enterprises had also been quite active in this regard.

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<sup>94</sup> This would suggest a fundamental change compared to the predominance of technical innovations in the 1988-1990 period studied by Geller (1994). However, due to differences in the sample and in the questionnaire, such conclusions are extremely difficult to draw.

**Table 4.4. Enterprise R&D in manufacturing, by sector, 1995**

ISIC	Sector	Value added (in millions of Chilean Pesos)	R&D spending (in millions of Chilean Pesos)	R&D spending / value added ratio (in per cent)
31	Food, beverages and tobacco	2026332	6118	0.30
32	Textile, wearing apparel and leather	509555	4850	0.95
33	Wood and wood products	311452	1853	0.59
34	Paper and paper products, printing and publishing	903489	4629	0.51
35	Chemicals and chemical, petroleum, coal, rubber and plastic products	1428169	6338	0.44
36	Non-metallic mineral products	323820	4576	1.41
37	Basic metal industries	941371	2168	0.23
38	Fabricated metal products, machinery and equipment	628803	3593	0.57
39	Other manufacturing	19942	35	0.17
3	Total manufacturing	7092934	34159	0.48

Sources: INE (1996: 53) for R&D spending; INE (1997): Encuesta Nacional Industrial Anual 1995, table 14 for value added; own calculations.

Innovation patterns varied across sectors. For example, the metalworking sector had a strong intensity in process innovations, but a relatively low intensity in product innovations and organizational innovations. In the textile and garment sector, on the contrary, organizational and product innovations were stronger than process innovations (Herrera, 1997: 23). These differences could be explained by the different technological and market characteristics of the sectors: the textile and garment sector, with relatively more traditional technologies, innovates rather by changing its productive organization and products, while the metalworking sector with more modern sets of technologies changes its production processes.

Another interesting result of the survey is that, together with the high cost of innovation, the lack of qualified labour was one of the main obstacles for innovation. This obstacle was perceived to be important almost regardless of the establishment size and the intensity of innovations (Herrera, 1997: tables 13, 14). This points towards the close link between innovations and human resource management (and, more generally, the education and training system).

In sum, Chilean enterprises have considerably increased their productivity level during the 1990s. Unlike the 1976-1981 period that was also characterized by a good productivity performance, the 1990s have been much more characterized by genuine innovations than by simple rationalization measures. The issue of human resource management and development, neglected during previous periods, has acquired more importance for Chilean enterprises during the 1990s. However, there are still several deficiencies in innovation strategies, some of which are linked to the broader political and institutional context (see chapter 7.):

- Although open conflict in labour relations is relatively rare (the incidence of strikes is low), there is still a culture of distrust between workers and



management in most enterprises. This is caused to a large extent by previous experiences under military dictatorship.

- Although small and medium enterprises have become more innovative during the 1990s, they are still much less so than larger enterprises.

### **4.1.3. Types of innovation**

The last subsection summarized the general tendencies of innovations and productivity since the return to democracy. This subsection presents the evidence for the different types of innovation which have been presented in the conceptual framework (section 2.2.).<sup>95</sup>

#### **4.1.3.1. Product innovation**

In Chile, very few enterprises use offensive strategies of product innovation. Rather than aiming for technical and market leadership, Chilean enterprises try to narrow the gap between their own products and the leading products in the world.

The relative importance of different types of innovation varies according to the sector. Within manufacturing, sectors with a high incidence of product innovations relative to other sectors in the INE/PIT survey were the textile and garment industry as well as the processing of non-metallic minerals (Herrera, 1997: 23).

#### **4.1.3.2. Innovation in technology and productive processes**

According to the INE/PIT survey, 63.5 per cent of the manufacturing establishments had bought new machinery during the 1993-1995 period. By size, the share ranged from 53.9 per cent among the establishments with 10 to 49 workers to 95.7 per cent for establishments with 1000 and more workers. In most cases, enterprises bought machines with electronic (rather than mechanical or manual) control devices. Almost 90 per cent of those enterprises which bought new machinery experienced productivity increases as a result (Herrera, 1997: 46, 48).

Chilean enterprises have heavily invested in Information Technologies (IT). IT investment in a sample of predominantly big enterprises was 1.2 per cent of total sales in 1995 (Ferrer, 1997: table 6.6.). The average number of Personal Computers (PC) in the sample enterprises was 9 times higher in 1995 than in 1989. The total

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<sup>95</sup> The different studies on technical change and innovations in Chile have been carried out using different theoretical approaches and different methodologies. It is thus not always possible to interpret them along the lines of the conceptual framework. It also has to be pointed out that it is methodologically extremely difficult to assess which types of innovation have been adopted with more or less intensity, given the deficiencies of measurement and the interrelations that often exist between different types of innovation.

number of computer workplaces, including terminals, PCs and Workstations, almost doubled during the same period (Ferrer, 1997: 112-116). Obviously, IT also has a high incidence in innovations in production processes, productive organization and work organization as well as in various dimensions of flexibility. According to the enterprises' own perception, however, the possibilities of IT are not yet fully exploited in Chilean enterprises.<sup>96</sup>

By international comparison, the level of installed hardware and software per capita in 1995 was still relatively low. With US\$ 31.6 of installed hardware per capita, Chile was very far from countries like Taiwan (US\$ 305.6) or Spain (US\$ 102.9), albeit in front of countries like Mexico (US\$ 21.6) or Argentina (US\$ 12.8). With regards to software, the situation was even worse, placing Chile (US\$ 4.5) behind Argentina (US\$ 5.5). Among the 15 sample countries, only Mexico (US\$ 1.8) was behind Chile (Ferrer, 1997: 177-185 based on data from the U.S. Department of Commerce).

Enterprises that have carried out product innovations almost always carry out process innovations, too. Economic sectors with a high incidence of process innovations relative to other types of innovation were the metalworking industry, the paper industry and the wood industry (Herrera, 1997: 16, 23).

#### **4.1.3.3. Innovation in the organization of production**

Chilean enterprises have made considerable efforts of innovation in the organization of production during the 1990s. The issue of **quality control** is directly relevant to the competitiveness of Chilean enterprises in open markets. A 1995 study on modern methods of quality control and productive organization in 96 enterprises (Universidad Católica, 1995) shows that innovative methods of quality control have been introduced in a majority of the sample enterprises and that this has typically started to occur in the early 1990s. The most frequently used innovative method was "continuous improvement" (85.4 per cent of sample enterprises) (table 4.5).<sup>97</sup> Visible results had already been obtained in 55 per cent of those enterprises that had introduced continuous improvement. Among the main obstacles for innovations in quality control were other priorities in the enterprise, a lack of management leadership, requirements of cost reduction and resistance to change by management staff or workers.

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<sup>96</sup> While more than 82 per cent of the managers surveyed in Ferrer's (1997) study answered that IT worked "well" or "very well" in their enterprise, more than 55 per cent declared that the potential of IT was not yet sufficiently exploited (Ferrer, 1997: 128).

<sup>97</sup> The relatively high share of enterprises using ISO 9000, an international procedure that standardizes quality issues, has to be taken with caution. According to data on the number of companies with certified ISO 9000 quality systems in Latin America, only 15 companies in Chile had completed the certification process in 1995 (22 in 1996) (Schuurman, 1998). The survey data in the table probably include enterprises which were in the process of adopting ISO 9000 or which simply took ISO 9000 as an orientation for their own quality procedures.

**Table 4.5. Modern methods of quality control and organization in Chilean enterprises, 1995**

	Enterprises that apply method (share of enterprises in %)	Most frequent start of programme (year, modal value)
Continuous improvement	85.4	1992
Application of ISO 9000	38.5	1993
Process reengineering	54.2	1993
Benchmarking	52.1	1986 <sup>1</sup>
Activity Based Costing (ABC)	46.9	1993
Restructuring	74.0	1991

Source: Universidad Católica (1995) based on a survey of 96 enterprises of different sectors and sizes, with an over-representation of big enterprises.

Note:

<sup>1</sup> Some enterprises are likely to have considered benchmarking as a synonym of acquiring knowledge on markets and competitors. As such, this is a relatively old practice.

In some cases, innovations in quality control appear to be limited to discourse without much impact on the production process in practice. Private training providers often organize events to set up "quality circles" or other innovative methods of quality control in Chilean enterprises (Tapia, 1995: 30). It thus depends on the enterprise's internal capacity for follow-up whether any changes in daily practice occur or not. Escobar and López (1996: 165) also report that intents to introduce quality circles in the wood industry failed due to the authoritarian management style and a lack of trust between workers and management.

Another important issue in the organization of the production is the **control of stocks** of inputs, intermediate goods and final products. Modern concepts for the control of stocks aim at ensuring the availability of all inputs when they are needed for production (and of finished products when they are asked for by clients), while at the same time limiting the volume of stocks that take space and working capital.

The best-known method of modern control of stocks is "Just-in-Time" (JIT).<sup>98</sup> By the early 1990s, some large firms had implemented JIT in a comprehensive manner, but these were rather the exception than the rule. Many enterprises only adopted certain isolated techniques taken from such modern management methods because a more comprehensive approach would have involved heavy investment and human resources that were still relatively scarce in Chile (Humphrey, 1993: 2-3; Echeverría/Herrera, 1995: 10).

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<sup>98</sup> JIT is a comprehensive method aiming at reducing stocks of inputs, intermediate products and final products at all levels. It consists of making each part or input available precisely when it is really needed, and not with a long-term anticipation. A comprehensive implementation of JIT is possible only in coordination with provider and client enterprises. The potential benefits of JIT are not only the savings working capital and space, but also that bottlenecks and inefficiencies in the enterprise that used to be "hidden" by intermediate stocks are discovered more easily so that measures can be taken to correct them.

The introduction of JIT will benefit from the gradual introduction of new IT technologies such as Electronic Data Interchange (EDI) which facilitate the rapid communication of stock and production data between enterprises. In Chile, EDI is still in its early phase, although it seems to be gaining importance rapidly. In 1995, 31 per cent of the enterprises in Ferrer's (1997) sample were already using EDI (1997: table 6.15.).

The **systems of subcontracting, buying and selling** have been among the earliest innovations after the start of the trade liberalization process. Most big and medium enterprises have already modernized their systems of buying and selling. Depending on changes in relative prices, inputs can be either purchased from domestic subcontractors or from abroad (see 4.2.2.). On the sales side, enterprises have strengthened their marketing capacities. Spending in publicity in Chile has increased from US\$ 270 million in 1991 to around US\$ 765 million in 1997 (*El Mercurio*, 14 December 1997: B 4-5).

#### **4.1.3.4. Innovation in work organization**

The issue of work organization is very difficult to study in detail, given that even the enterprise level may be too aggregate to gather changes of work organization which often occur at the workplace level.

A qualitative study on enterprises from the food and the metalworking industries (Echeverría/Herrera, 1995) showed that most enterprises had experienced innovations in the organization of tasks. According to the study by Escobar and López (1996) on the wood industry, the content and the intensity of tasks increased in most of the sample enterprises (1996: 156-163).

These innovations in work organization aimed at reducing the "dead times" for workers in their workplaces. Together with other changes (related to the increased control of management over the workforce), they have resulted in a higher intensity and rhythm of work.

#### **4.1.3.5. Innovation in human resource management**

Although many Chilean enterprises still have a fairly unprofessional system of human resource management, the issue has acquired more importance during the 1990s. In a study based on 1994 case studies, Montero (1996) found an increasing, albeit still insufficient, emphasis on human resource management, and several enterprises had recently upgraded their personal or human resource division.

The **payment systems and incentive schemes** have experienced innovations in many enterprises, such as the introduction of productivity-related pay systems. Of course, these pay systems as such are not new. Piece rates have traditionally been used in several manufacturing sectors, especially in the textile and garment industries. In the forestry sector, piece rates are the most common system of payment for contract workers (Johansson, 1994). However, the tendency has been to introduce

more sophisticated productivity-related pay systems, where more complex indicators are used to calculate variable wages and incentives (Vergara del Río, 1998: 28; Zúñiga et al., 1997).<sup>99</sup> These systems need not be directly related to the individual worker's performance, they can also be based on the performance of a group of workers, a division, or the whole enterprise.

As of 1997, 25 per cent of the collective agreements between employers and trade unions registered with the *Dirección del Trabajo* provided for a productivity-related wage or incentive scheme (Vergara del Río, 1998: 4). However, not all productivity-related payment systems are regulated by collective agreements. In a 1996 survey carried out for the *Dirección del Trabajo* among 300 enterprises in Santiago with active trade unions, 57.5 per cent used productivity-related incentive schemes. Systems based on individual productivity were the most common, followed by group-based schemes and those related to the overall productivity performance of the enterprise. In many cases, two or all three of these systems were used simultaneously within the same enterprise (Espinosa, 1997: tables 71, 72).

Productivity-related payment systems can, if they are well designed, enhance the productivity and improve the motivation and performance of workers. There are however several obstacles. Often, workers do not perceive the payment schemes as clear and fair (Zúñiga et al., 1997: 38) so that their impact maybe mixed. The design of these payment systems in Chile is generally carried out by the management with little participation of trade unions, both because enterprises consider it unnecessary or inappropriate to involve trade unions in this field and because many trade unions lack the required technical skills (Zúñiga et al., 1997: 52-53).

According to official statistics, the number of workers who participated in **professional training** increased from 200,000 in 1990 (4.6 per cent of total employment) to more than 500,000 (9.6 per cent) in 1998.<sup>100</sup> Available studies also indicate that since the early 1990s, increasing emphasis has been put on professional training activities (Montero, 1996). However, a proper human resource development strategy was hampered by a lack of information within the human resource division about the skills, previous experience and socio-economic background of the workers, with the possible exception of high-ranking management and professional staff. Another obstacle was the risk that trained workers would leave the enterprise in search of better pay and working conditions ("free-rider problem"). This and other institutional issues related to professional training will be dealt with in chapter 7. of this study.

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<sup>99</sup> Some of these schemes incorporate elements other than productivity, such as the rate of work accidents (Vergara del Río, 1998: 6).

<sup>100</sup> These data refer to training benefiting from the subsidies available from SENCE and thus underestimate the volume of training. According to data from the CASEN 1998, almost one fifth of all employed persons participated in some kind of professional training during the 12 months prior to the survey (see chapter 7. for more detailed information).

#### **4.1.4. Summary**

While the Chilean economy experienced a far-reaching restructuring during the period of military government, these changes did not imply important productivity increases. Since the return to democracy, Chilean enterprises have been more successful in increasing their productivity and have intensified their innovation strategies in a number of areas.

Chilean enterprises generally do not behave as offensive innovators. They do not aim at international leadership, but rather at closing the gap between the most advanced enterprises and themselves. This is particularly evident in the area of product innovations. Innovations in technologies, processes and productive organization have all been quite intensive and have contributed to the positive productivity performance of Chilean enterprises during the 1990s.

Innovations have generally not been accompanied by increased worker participation within the enterprise, neither individually nor collectively through trade unions. This lack of participation has been a major bottleneck for some types of innovation (e.g. quality circles) which would have required an active involvement of all the concerned actors in order to be successful.

## **4.2. Flexibility**

Together with innovation strategies, flexibility strategies have been identified as a major response to competitive challenges for Chilean enterprises. This section analyzes first the role of flexibility in the Chilean economy (4.2.1.). Second, the evidence on the different types of flexibility defined in the conceptual framework is presented (4.2.2.). Finally, subsection 4.2.3. gives a short summary.

### **4.2.1. The role of flexibility in the Chilean economy**

Flexibility is without a doubt of crucial importance for the Chilean economy. Defenders and critics of the "Chilean model" alike see "flexibility" as one of its key ingredients. On the one hand, the need for flexibility is frequently stated in Chilean newspapers and business periodicals. On the other hand, according to critical studies of the Chilean model, the fundamental contradiction between capital and labour is intensified under an export-oriented model of accumulation, because international competitiveness requires a greater control of capital over labour. Labour flexibility (through the use of different forms of flexible work, like temporary employment, homework and contract labour) is precisely the device by which this control is achieved, at the price of a deteriorated welfare and increased job insecurity for Chilean workers (Leiva, 1998; Leiva/Agacino, 1994).

Changes in Chilean labour legislation (see chapter 7.) contributed to give management more scope for a flexible enterprise administration as a number of legal restrictions protecting workers rights were abolished or softened. This is the case for

example of the norms on hiring and dismissals and on working hours. Moreover, the legislation explicitly excludes from collective bargaining issues that could affect the employer's unilateral control over the enterprise. These legal modifications have played a central role in the Chilean concept of flexibility:

The flexibilization of labour relations was perceived as a basic condition to make the adjustment measures more effective, to cope with international competition and to adapt labour relations to the new management and organization technologies. (Echeverría/Uribe, 1998: 1)

In a way, the high degree of flexibility in the use of the labour force and the setting up of multiple subcontracting chains compensate the technical rigidity of production in what Díaz (1990a: 63) described as a "neotayloristic" pattern of work organization, characterized by the absence of workers participation and an excessive fragmentation of tasks.

As has been mentioned in section 2.3.1., a distinction can be made between responsive flexibility strategies (which often involve a precarization of employment and a transfer of risks towards the weaker units of the productive chain) and innovative flexibility strategies, more virtuous and aiming at the quality and variety of products. By and large, the abrupt opening of the Chilean economy has led to responsive flexibility rather than innovative flexibility, which would have needed more time to bear fruits. Moreover, the institutional framework also favours responsive strategies oriented at reducing costs more than innovative strategies. Labour legislation facilitates the externalization of costs and strategies of numerical flexibility. In contrast, there are few instruments of industrial policy designed to enhance innovative flexibility. Public institutions fail to give sufficient incentives for enhancing productivity, because they permit enterprises to "choose the easier way", that is to adapt employment and salary levels in order to meet changing conditions (see chapter 7. for more details).

However, there are several economic sectors in Chile for which it is difficult to distinguish between responsive and innovative flexibility. For example, some highly offensive and innovative enterprises (which, by their action, are able to anticipate business opportunities rather than just reacting to competitive pressures) use flexibility strategies that include an extreme precarization of labour and the emergence of highly inequitable subcontracting chains (for example, in the forestry sector and agro-industry). Leiva (1998: 386) doubts that a clear demarcation between "passive" and "pro-active" forms of labour flexibility does exist at all in Chile.

## **4.2.2. Types of flexibility**

### **4.2.2.1. Numerical flexibility**

In Chilean enterprises' strategies of flexibility, numerical flexibility has played a central role. The changes in labour legislation during the military government have facilitated dismissals, and a higher rate of "hiring and firing" has become common. Moreover, enterprises have increased their use of contract labour (see section 4.3.1.),

temporary workers (4.3.2.) and unprotected labour (4.3.3.). The use of these types of non-standard employment further strengthens numerical flexibility.

Montero (1996) found high rates of external labour turnover, and some of the enterprises in that study's sample explicitly aimed at maintaining a low average tenure of their workers in order to reduce the severance pay liabilities in case of dismissals<sup>101</sup> and to avoid the creation of a powerful trade union.

#### **4.2.2.2. Wage flexibility**

Wage flexibility implies that wages can vary according to the productivity and performance of the enterprise, a department or group within the enterprise, or the individual worker. One of the most important devices of wage flexibility are incentive-based payment systems where the level of wages varies according to physical production (piece-rate system), quantity of delivered services or sales (commission system).

It has been found that during recent years the share of the variable element in total wages has increased (Vergara del Río, 1998: 27). This can be explained precisely by an increased use of productivity-related pay systems (see section 4.1.3.5.). Generally, vigorous competition between enterprises and labour relations based on individual rather than collective agreements have been accompanied by work organization practices oriented towards the stimulation of individual worker's performance.

In her 1994 case studies survey, Montero (1996: 163) found that 16 out of 21 sample enterprises had some system of productivity-related pay that applied to roughly three quarters of the blue-collar workers and a somewhat lower share of white-collar workers and professionals. Generally, between 10 and 40 per cent of the blue-collar workers' salary was accounted for by variable components. In several cases, a high degree of wage flexibility based on individual incentive schemes such as piece-rate wages involved some negative aspects such as low interest of workers for the quality of the product and excessive rates of external turnover.

#### **4.2.2.3. Internal flexibility in the amount of labour used**

Compared to other countries, part-time work is not very frequent in Chile (see section 4.3.). Chilean enterprises often use other arrangements to increase the internal flexibility in the amount of labour. Among these are overtime work and special systems of working weeks.

Chilean legislation permits a variety of special working day systems prior simple administrative authorization, with relatively few limitations. For example, in mining activities, especially in isolated mountain areas, there are systems with up to 22 consecutive 10.5-hour days and 8 days of free time. Many of these arrangements violate the spirit of the labour legislation (Agacino/González/Rojas, 1998). Only

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<sup>101</sup> The severance pay according to Chilean labour legislation is one month of salary per year of tenure, with a maximum of 11 years.



recently, the *Dirección del Trabajo* has begun to take a stronger position in regulating and inspecting special working hour arrangements.<sup>102</sup> In sectors like commerce, until the 1970s, legal regulations and trade union conquests limited work after normal working hours as well as during weekends and on holidays. By contrast, nowadays very few such limitations persist and many workers in the commerce sector have only four free days per month (Ruíz-Tagle/Aguilar/Frías, 1998).

#### **4.2.2.4. Functional flexibility**

Up to 1973, the labour legislation and the strong power of trade unions within the enterprises limited management's capacity to redeploy workers to other parts of the enterprise according to its needs. These obstacles to functional flexibility were removed during the authoritarian rationalization of the first phase of the military regime (Díaz, 1990b: 61).

However functional flexibility does not only depend on the degree of control management exercises over the workforce. The more complex the production processes and the higher the quality requirements, the more important two other factors become for functional flexibility:

- The quality of the human resources and the level of workers' skills (how fast can workers learn to work in a new work post).
- The motivation of the workers and their good will to contribute to the success of the enterprise.

Obviously, these two factors are not necessarily given under an authoritarian management style and thus functional flexibility still seems to be relatively scarce in Chilean enterprises. The emphasis on external flexibility produced delays in the development of those factors that benefit the functional flexibility of the work force (Montero, 1996: 148). Sometimes, productivity-related payment systems can also become an obstacle to functional flexibility. This is especially the case of simple piece-rate schemes where workers are often reluctant to move to a different post because their lower production during the learning period will be directly reflected in a lower salary.

#### **4.2.2.5. Flexibility in the amount, type and quality of output**

The well-developed capacities of most Chilean enterprises in sourcing, manufacturing and international trade permit them to react rapidly to shifts in relative prices. They can thus decide to import a product they used to produce themselves if importing it becomes more profitable. In fact, many manufacturing enterprises are

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<sup>102</sup> See Dirección del Trabajo (1997): Orden de Servicio Nr.6, 25 April. Among other regulations, the document stipulates that the *average* number of normal working hours cannot be higher than 48 per week, although the *distribution* under the special system may differ from the normal working week stipulated by the labour legislation and include weeks with more than 48 working hours.

also importing final products, in product lines similar to their own production, in order to maintain a complete offer under their own trademark when they decide to suspend or stop definitely the production of some articles.

Such a strategy, however, is not without costs, especially when the flexibility in the productive sphere of the enterprise does not match its commercial flexibility. Little information is available on the way these decisions are implemented within the productive sphere of the enterprise. No specific data have been gathered on this issue in the main studies on innovations and flexibility in Chile.

#### **4.2.2.6. Flexibility as the capacity to develop and adopt new products and processes**

It is very difficult to gather direct evidence on this type of flexibility. Increased competitive pressures and the continuous contact many enterprises have with foreign enterprises are factors that may increase the capacity of rapid product and process development. The increasing availability of information technologies in Chilean enterprises is also believed to speed up the development of new products and services (Ferrer, 1997: 158).

The main factors that probably limit this capacity in Chile are deficiencies in human resources, tense labour relations and the relatively low level of cooperation between enterprises.

#### **4.2.3. Summary**

Chilean enterprises' flexibility strategies are characterized by a strong incidence of numerical flexibility, internal flexibility in the amount of labour, and wage flexibility. The evidence on the other types of flexibility is less abundant, but sheds light on serious limitations for these strategies. Flexibility strategies in Chile are biased towards those forms that can be unilaterally implemented by the employer, while those forms which would require an active involvement of the workers are more scarce. This is directly linked to Chile's political history. Indeed, the restrictions to flexibility through trade union strength and statutory regulations until 1973 were violently removed under military dictatorship with the help of a repressive state. After 1973, enterprises thus used their newly acquired unilateral management control to implement their flexibility strategies. More recently, under democratic government, enterprises have taken a stronger interest in workers' skills and motivation, the necessary conditions to adopt more innovative flexibility strategies, with a stronger emphasis on functional flexibility and the capacity to develop new products and processes. However, many enterprises are not ready to abandon their strategies of numerical flexibility even though they may become an obstacle to innovative flexibility strategies, nor do most of them accept to abandon unilateral management control in favour of more participatory structures. Many enterprises are thus likely to continue exploiting the "easy sources" of flexibility.

### **4.3. Non-standard employment and subcontracting chains**

The pattern of flexibility strategies analyzed above results in complex subcontracting relationships and the spread of non-standard forms of employment. Up to the 1970s, most discussions on salaried employment were either implicitly or explicitly based on the model of a "standard" employment relationship with the following characteristics: only one employer and workplace; an indefinite work contract; full-time work; and some degree of social and legal protection (Rodgers, 1989; Guerra, 1994). Although even prior to the 1970s this standard employment relationship was far from universal in Chile, there is evidence that non-standard or atypical forms of employment have been on the rise. These non-standard forms of employment, defined by the departure from one or more of the principles of standard employment<sup>103</sup>, have become an integral part of Chilean enterprises' flexibility strategies.

The following types of non-standard employment can be distinguished for the purposes of this study:

- Contract labour and workers employed by temporary employment agencies (numerical flexibility).
- Temporary workers (numerical flexibility).
- Unprotected salaried workers (numerical flexibility, wage flexibility).
- Home workers (numerical flexibility).
- Part-time workers (internal flexibility in the amount of labour used).

#### **4.3.1. Subcontracting chains and contract labour**

##### **4.3.1.1. Forms of subcontracting and contract labour**

The flexibility issue goes beyond the borders of the individual enterprise. In Chile, subcontracting relationships by which an individual, workshop or enterprise carries out part of the productive process or a service upon the specifications given by another enterprise, play an increasing role in structuring vertical links across the chains of production and commercialization.

Two main types of subcontracting can be distinguished, the subcontracting of the production of goods or services, and the subcontracting of labour (contract labour) (ILO, 1995).<sup>104</sup> In the first case, the subcontracted enterprise carries out a determined task using its own human, material and financial resources. There is no change in the

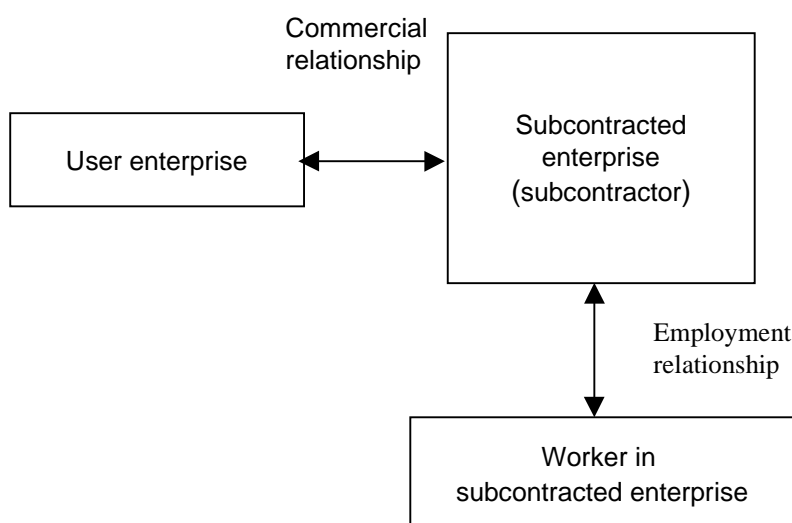
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<sup>103</sup> It is obvious that this definition of non-standard employment as "what it is not" (rather than "what it is") is not very satisfactory. However, more positive definitions are currently not available.

<sup>104</sup> Another distinction is the one between internal subcontracting and external subcontracting, according to whether work is carried out within the premises of the subcontracting enterprise or outside.

legal situation of the employment relationship: the worker is employed by the subcontracted enterprise and legally, the relationship between employer and worker is exactly the same as between the client enterprise and its workers (figure 4.2.). According to a 1996 survey carried out in Santiago for the *Dirección del Trabajo* among 300 enterprises with active trade unions, 40.7 per cent of the enterprises subcontracted either some services or parts of the productive process, or both (Espinosa, 1997: table 12).

**Figure 4.2. Subcontracting of products or services**



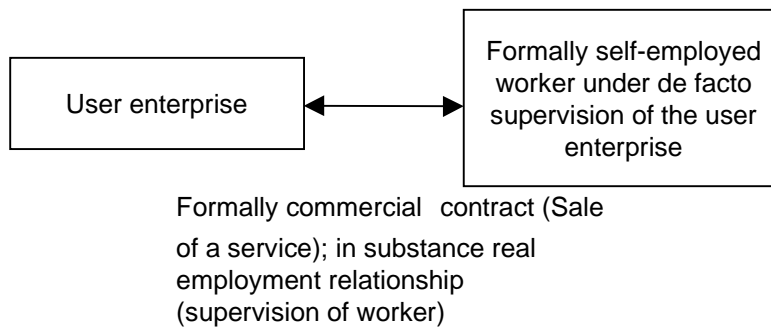
Source: Own elaboration.

In case of the subcontracting of labour, by contrast, the only or the main objective of the contractual relationship is the supply of labour (rather than goods or services). Here, the employment relationship is either transformed into a commercial relationship (figure 4.3.A.), or the employer is conceptually split into two persons, one who effectively surveys the work and another one who is in charge of the formal aspects of the employment relationship and pays the wages (figure 4.3.B.).<sup>105</sup>

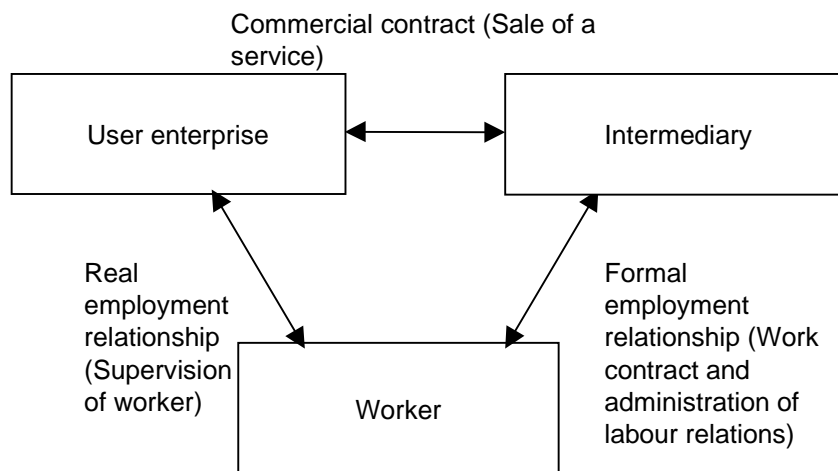
<sup>105</sup> There is still no international agreement on a precise definition of contract labour. According to a recent proposal by the ILO for the International Labour Conference, "the term 'contract labour' means work performed for a natural or legal person (referred to as the 'user enterprise') by a person (referred to as a 'contract worker') where the work is performed by the contract worker personally under actual conditions of dependency on or subordination to the user enterprise and these conditions are similar to those that characterize an employment relationship under national law and practice and where either: (i) the work is performed pursuant to a direct contractual arrangement other than a contract of employment between the contract worker and the user enterprise; or (ii) the contract worker is provided for the user enterprise by a subcontractor or an intermediary [...]." (ILO, 1998b: 3) - The difficulty of defining contract labour in legal terms was one of the reasons for which the International Labour Conference 1998 did not approve the draft ILO convention. For analytical purposes, however, the term is sufficiently precise.

**Figure 4.3. Subcontracting of labour (contract labour)**

**A. Disguised salaried employment**



**B. Triangular relationship (with intermediary)**



Source: Adapted and extended from Echeverría/Solís/Uribe (1998).

A specific form of contract labour is the employment via temporary employment agencies. Unlike other countries, where these agencies are recognized by law and their activity is restricted to temporary assignments, the Chilean law does not explicitly recognize temporary employment agencies. In practice, many of the employment relationships managed by these agencies are not temporary in character. The agency acts as an intermediary, administering the formal side of the employment relationship (payment of wages and social security contributions) while the user enterprise actually supervises the worker (figure 4.3.B.). This often leads to insecurity regarding the status of workers with respect to the agency that hired them and the enterprise where they actually work, and to confusion as to the responsibility for the worker's well-being, especially in the case of work accidents. It is estimated that in Chile some 35,000 workers are employed through these agencies (Dirección del Trabajo, 1999b: 13).

#### 4.3.1.2. Evidence on subcontracting and contract labour in different economic sectors

Although measuring subcontracting is generally difficult, available data for several economic sectors confirm the generally perceived increase in subcontracting arrangements.

**Table 4.6. Indicators for the increase of subcontracting in manufacturing, 1970-1996**

ISIC	Sector	Subcontracted production				Producing as subcontractor				Subcontracted services
		Cost of tasks carried out by contract (as share of value added in %)				Tasks carried out on account and with materials of third (as share of value added in %)				Cost of security, eating facilities and cleaning (as share of value added in %)
		1970	1980	1985	1996	1970	1980	1985	1996	1996
3	Total manufacturing	0.8	1.1	1.7	3.3	0.8	1.0	1.2	2.0	1.2
321	Textile industry	1.9	2.6	2.5	5.4	1.4	0.8	1.6	2.9	1.7
322	Garment industry	0.1	1.9	2.5	7.8	0.2	1.8	1.6	4.0	0.9
38	Metalworking industry	0.9	1.0	0.7	5.0	3.3	4.1	7.9	4.2	1.6

Source: Calculations based on data from the INE (various years): Encuesta Nacional Industrial Anual.

Note: Data include enterprises with 10 or more occupied persons, except for 1970 where it is for 50 or more. Data for the cost of security, eating facilities and cleaning are not available for years prior to 1996.

For the **manufacturing industry**, one possible source for the measurement of subcontracting is the *Encuesta Nacional Industrial Anual* that contains data on the cost of work carried out externally by contract ("*costo de trabajos efectuados por contrato*"), i.e. subcontracted tasks, and on the volume of work carried out for the account and with materials of a third ("*trabajos efectuados por cuenta y con materiales de terceros*"), i.e. tasks carried out as a subcontractor. These data, covering enterprises of at least 10 occupied persons, confirm the strong increase in subcontracting. For the manufacturing industry as a whole, the cost of work carried out externally by contract increased from 1.1 per cent of the value added in 1980 to 2.9 per cent in 1995; work as a subcontractor increased from 1.0 per cent of value added in 1980 to 1.8 per cent in 1995.<sup>106</sup> In some manufacturing subsectors, the tendency to externalize tasks is much stronger (table 4.6.). Especially labour-intensive sectors, such as the garment and the shoe industry, experienced a "fragmentation" of their productive activities (Agacino/de Laire/Echeverría, 1993).

<sup>106</sup> Data for work carried out as subcontractor are probably under-estimated, due to the fact that enterprises from 10 to 49 occupied persons are under-represented in the sample and enterprises below 10 persons are excluded by definition.

The strong incidence of subcontracting in manufacturing activities is confirmed by data from the salary survey carried out by the *Sociedad de Fomento Fabril* among predominantly large enterprises. According to these data, 26.9 per cent of the workers in the sample enterprises in 1999 belonged to subcontractor enterprises (internal subcontracting of services or production), while another 5.9 per cent were contract workers provided by intermediaries (*suministro*).<sup>107</sup>

In the **mining sector**, the share of subcontracted labour in total employment has increased from 4.7 per cent in 1985 to 40.4 per cent in 1996 (Echeverría/Uribe, 1998: 24). Moreover, in absolute terms, employment in user enterprises has decreased while subcontracted employment increased. It can thus be argued that, at least to some extent, a substitution between direct and subcontracted employment has occurred. The incidence of subcontracting is higher in the major private mining enterprises than in the state-owned copper company CODELCO.

The expansion of the **forestry sector**<sup>108</sup> has been accompanied by a strong increase in subcontracted activities. Although subcontracting did exist in the Chilean forestry sector before, it was largely restricted tasks such as the construction of access roads and the transport of material and products (Escobar/López 1996: 113). Nowadays, by contrast, virtually all productive tasks are subject to subcontracting, giving rise in some cases to "virtual enterprises", where only the extreme ends of the chain of production and commercialization – property of the forestry plantations and commercialization of the final product - are in the hands of the main enterprise, while everything else is carried out by contract enterprises.<sup>109</sup> Subcontracted tasks include not only annex services and wood extraction, but also the operating of processing plants. In terms of industrial organization, property of plantations and commercialization are very concentrated, while the core of productive activities are carried out by a multitude of medium and small enterprises. With regards to contract labour, Escobar and López (1996: 169-173) report that it is very common in the forestry sector (ISIC 12) where it has increased during recent years. However, a diminution has been registered recently in some subsectors of the wood industry (ISIC 33 and 341) where contract labour has been replaced with standard salaried employment or tasks have been subcontracted to formally established service enterprises, thus shifting from subcontracting of labour to subcontracting of services.

In the **fruit production**, intermediaries appeared in the early 1980s, when the available labour force in some fruit-producing regions become insufficient to cover the needs during the peak periods. Echenique (1993: 12) estimates that depending on the region, the share of contract labour in the total temporary employment in fruit

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<sup>107</sup> Sociedad de Fomento Fabril, direct communication based on data from the *Encuesta de Remuneraciones*, August 1999.

<sup>108</sup> The forestry sector includes activities of resource plantation and extraction (ISIC 121 and 122) as well as different stages of wood processing: production of wood and wood products (331), production of wooden furniture (332) and production of paper and paper products (341). In 1996, the forestry sector (including annex services) employed 98,000 persons (INFOR, 1997).

<sup>109</sup> Escobar and López (1996: 114) describe the case of one forestry enterprise that employed as many as 2,400 workers in 1977. In 1980, this number had been reduced to 695 and by the end of 1983, almost all tasks of resource extraction were subcontracted. Only a handful of workers remained in the enterprise for supervisory tasks.

production ranges from zero per cent in the Southern 7<sup>th</sup> Region to 50 per cent in the Northern 3<sup>rd</sup> Region. Most intermediaries confine themselves to recruit temporary workers in other regions and make them available to user enterprises in the fruit producing zones. Only in some cases the intermediaries provide a complete service, including the supervision of the labour force. In many cases (68 per cent in Echenique's sample), contract workers in this sector do not have written work contracts (Echenique, 1993).

In the **financial services sector**, a number of tasks are usually subcontracted. This concerns not only data entry services, but also secretarial tasks, administration, maintenance of automatic teller machines etc. (Díaz, E., 1994: 18). In other sectors, such as **construction** (Cassasus Montero, 1989) there is also evidence for an increase in subcontracting.

#### **4.3.1.3. Consequences of subcontracting and contract labour**

The nature of the relations between subcontractor and contracting enterprise and the impact of these links on the workers' employment quality depend very much on the capacities of the subcontractor which impacts in its bargaining power. Díaz (1995) proposes a useful typology of subcontractors:

- **Subcontractors of primary capacity** are own-account workers or small enterprises which carry out labour-intensive activities of assembly or simple production processes. The technology is simple, and the labour force is characterized by low levels of qualification, although some type of specialization is usually required.
- **Dependent specialized subcontractors** are different from the previous type in that the level of technology is higher. The level of qualification of the labour force is higher, although the main characteristic is still specialization rather than a high skill level as such. Often they depend technologically on the contracting enterprise that provides them with know-how, precise product specifications and working capital.
- **Specialized autonomous subcontractors** are characterized by an independent mastery of the technologies involved in the productive processes. This almost automatically involves an autonomous innovative capacity that enables them to develop solutions on the basis of relatively broad specifications provided by the contracting enterprise.



**Table 4.7. Summary of the type of subcontracting links by economic sector**

Sector	Predominant type of subcontracting links	Predominant type of subcontractors	Consequences for employment quality in subcontractor enterprise
Agro-exports	Subcontracting of goods and services throughout the production chain; subcontracting of labour in the case of intermediaries ( <i>enganchadores</i> )	Subcontractors of primary capacity and dependent specialized subcontractors	Precarious employment in terms of employment stability, social protection and health hazards
Forestry and wood industry	Subcontracting of goods and services throughout the production chain (except in the phases of continuous process and in highly vertically integrated furniture enterprises); subcontracting of labour in the case of intermediaries ( <i>enganchadores</i> )	Subcontractors of primary capacity and dependent specialized subcontractors	Precarious employment in terms of employment stability, social protection and health hazards
Mining	Subcontracting of services	Dependent specialized subcontractors and specialized autonomous subcontractors (e.g. engineering services)	In contractor enterprises with high technological level good salaries and relatively high <i>de facto</i> job security despite temporary work contracts per work site. In enterprises with lower technological level precarious employment with important health hazard
Shoe industry	Subcontracting of services and external subcontracting	Subcontractors of primary capacity	Precarious employment in terms of job security and social protection, though not always with low salaries
Textile and garment industry	Subcontracting of services and external subcontracting	Subcontractors of primary capacity	Precarious employment in terms of job security and social protection, although not always with low salaries
Metalworking industry	Subcontracting of services and external subcontracting of product parts	Specialized dependent subcontractors; some specialized autonomous subcontractors (e.g. for the mining industry)	Few references; salaries and benefits probably inferior to client enterprise
Services and commerce	Frequent internal subcontracting of labour; external subcontracting and subcontracting of services also common	Subcontractors of primary capacity and dependent specialized subcontractors; some specialized autonomous subcontractors	Precarious employment in terms of job security and social protection; high but extremely unstable incomes in the case of some sales persons

Source: Adapted from Abramo/Montero/Reinecke (1997: table 3).

The predominant type of subcontracting varies across economic sectors (table 4.7.). There are only few examples of specialized autonomous subcontractors. The subcontractors of primary capacity and the dependent specialized subcontractors are predominant. Therefore the increases of competitiveness via subcontracting are

obtained more through precarization of labour and optimization of input quantities than through technological or process innovations in the subcontractor enterprises. In such a configuration, the asymmetrical relationships along production chains permit larger enterprises to pass on the risks related to domestic and global economic fluctuations to smaller enterprises, which in turn pass their risks on to their workers. Moreover, smaller enterprises, on average, offer lower wages and benefits as well as inferior working conditions than is the case in bigger firms. They also have weaker or non-existing trade unions, thus making it more difficult for workers to defend their interests.

Subcontracting also affects employment stability when the subcontractor is not sufficiently independent from the user enterprise to switch to other clients in case its services are no longer needed. This is very often the case, except for autonomous specialized subcontractors. Finally, subcontracting tends to increase wage inequality. Within big enterprises, the presence of trade unions, collective bargaining and informal social norms tend to limit the gap between higher- and lower-paid workers. When activities are externalized to smaller enterprises, the wage structure of those enterprises does not need to refer to wages within the user enterprises, permitting lower wages than would have been the case without subcontracting.

The vertical relations between enterprises in Chile also have a gender dimension. In those activities that are carried out by subcontractors of primary capacity, there is a high share of women in the work force. Generally, the highest concentration of women can be found in the weakest parts of the chain: small workshops and home work.

In sum, although subcontracting can be considered in many cases as an efficient and legitimate management practice, it often has a negative impact on the quality of employment. The available evidence suggests that such a negative impact exists in most subcontracting relationships in Chile.

#### **4.3.2. Temporary employment**

Temporary employment has increased in the European Union and in several other countries since the mid 1980s (ILO Task Force, 1999). It is also common in Chile and its incidence has increased not only during the military government, but also during the 1990s (ILO, 1999c: table 12.A.).<sup>110</sup>

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<sup>110</sup> This does not mean that temporary employment did not exist during the ISI period. Casual workers were however perceived as part of a "marginal population" (Pinto, 1964: 24) rather than as a key ingredient of the development strategy.

In 1996, 11.4 per cent of the salaried persons worked with temporary contracts (fixed term or for a specified task).<sup>111</sup> Temporary contracts were more common in medium-size enterprises with 10 to 199 workers (13.1 per cent) and large enterprises with 200 and more workers (12.2 per cent) than in the smallest ones with 1 to 9 workers (8.3 per cent). In small enterprises, the illegal form of working without written contract may to some extent substitute for fixed-term contracts in medium-size and large enterprises. Temporary contracts were more common among men (12.2 per cent) than women (9.8 per cent).<sup>112</sup>

According to a 1996 survey among 300 enterprises in Santiago with active trade unions, 46.7 per cent of all enterprises used temporary workers.<sup>113</sup> This practice was especially common in large enterprises. In most of these enterprises, temporary workers accounted for 20 or less per cent of total employment, but in almost 14 per cent of those enterprises which used temporary workers, they accounted for more than 40 per cent of total employment (Espinosa, 1997: tables 9, 10).

The expiration of fixed-term contracts or contracts for specific tasks was the most frequent motive for the end of employment relationships in Chile. According to 1997 statistics from the *Dirección del Trabajo*, this was the cause in 48 per cent of the analyzed cases, 13 per cent corresponded to dismissals due to necessities of the enterprise, 9 per cent to reasons imputable to the worker, 29 per cent to voluntary retirements or common agreements and the remaining 1 per cent to other motives (*El Mercurio*, 15 March 1998).

While Chile's salaried agricultural employment in 1964/1965, consisted 59 per cent permanent workers and 41 per cent seasonal workers, by 1992, only 20 per cent worked in permanent employment while 80 per cent worked as seasonal or temporary workers. This shift towards temporary employment is closely related to the rise of export-oriented production. ILO estimates confirm that salaried employment in export-oriented activities is to more than 90 per cent temporary, while import-competing agricultural activities have only 55 per cent temporary workers (table 4.8.).

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<sup>111</sup> This share increases to 13.2 per cent if those who do not know if their contract is permanent are included. These shares refer to all salaried workers, including those without written work contract (see section 4.3.3.). When only workers who have a written contract are taken as a reference, the share of temporary contracts is 16.8 per cent. Calculated according to a similar method, temporary employment in 1996 was more common in Peru (55.3 per cent) and in Colombia (18.0 per cent) than in Chile, but less common in Argentina (10.2 per cent) (ILO Task Force, 1999: table 6; Martínez/Tokman, 1999).

<sup>112</sup> Tabulations based on data from MIDEPLAN (CASEN 1996).

<sup>113</sup> There are no strictly comparable previous data. The ILO survey among 301 manufacturing establishments covering the 1988-1990 period gives a slightly lower share (44.9 per cent) than the one found by the *Dirección del Trabajo* survey for manufacturing enterprises (47.0 per cent), despite the longer reference period in the ILO survey. However, the sample design in the *Dirección del Trabajo* survey only includes enterprises with active trade unions (Lagos, 1995: table 14; Espinosa, 1997: table 11).

**Table 4.8. Permanent and temporary salaried agricultural employment, 1964-1992**

	Number of workers			Composition of employment (per cent shares)		
	Permanent workers	Temporary workers	Total	Permanent workers	Temporary workers	Total
1964/1965	208000	147000	355000	58.6	41.4	100.0
1975/1976	161000	198000	359000	44.8	55.2	100.0
1992/1993	133300	518500	651800	20.5	79.5	100.0
<i>of which:</i>						
Import-competing activities	106500	130000	236500	45.0	55.0	100.0
Export-oriented activities	26800	388500	415300	6.5	93.5	100.0

Sources: Echenique (1993: table 2); ILO (1995c).

Employment in the **forestry sector** is also characterized by difficult living conditions and a high share of temporary contracts, especially in the phases of plantation and wood extraction (Johansson, 1994). According to the socio-economic survey CASEN for 1996, among all salaried, only 43.9 per cent in the sector forestry sector (ISIC 121) and 49.4 per cent in the logging sector (ISIC 122) had permanent work contracts (the national average for all economic sectors was 62.8 per cent). The rest was accounted for by workers without written contract, with temporary contracts or without knowledge on their contractual status.<sup>114</sup> Within specific regional contexts or specific tasks, the share of workers without written contract or with temporary contracts is much higher. For example, according to a survey among a sample of 91 plantation workers in the Southern 9<sup>th</sup> region, only 4 per cent had permanent contracts, 7 per cent were working without contract and 88 per cent worked with contracts until the completion of work at the current site or fixed-term contracts (Unda/Stuardo, 1996: 52).

### 4.3.3. Unprotected salaried employment

Another form of non-standard employment is "unprotected" salaried employment without a written work contract or without the legally established social security coverage. Although in most countries' labour legislation, workers without written labour contracts are entitled to the same benefits as those with contract, in many cases they do not receive the benefits they are legally entitled to. In this regard, the failure of establishing a written work contract can be considered as a device to evade the law and to increase flexibility. This form of non-standard employment is fairly common in many developing countries, and available data for eight Latin American

<sup>114</sup> Tabulations based on data from MIDEPLAN (CASEN 1996).

countries indicate that it has increased since the early 1990s in all of them except Colombia (table 4.9).

**Table 4.9. Indicators for "unprotected" salaried employment in Chile and other Latin American countries**

(share in %)

	Early 1990s	1997 or latest year available
Chile	17.0 (1990)	23.4 (1998)
Argentina	21.7 (1990)	34.0 (1996)
Bolivia	28.0 (1991)	34.8 (1997)
Brazil	31.8 (1992)	32.6 (1997)
Colombia	37.5 (1989)	31.0 (1996)
El Salvador	59.1 (1994)	61.3 (1997)
Mexico	43.4 (1990)	49.6 (1997)
Peru	25.5 (1990)	34.1 (1996)

Sources: For Chile: Tabulations based on data from MIDEPLAN (CASEN 1998). For Argentina and Peru: ILO (1997b). For Brazil: IBGE (various years): Pesquisa Nacional por Amostra de Domicílios. For Bolivia, El Salvador and Mexico: Weller (1998). For Colombia: Martínez/Tokman (1999).

Notes:

Chile: Employees without written work contract as a share of total salaried employment, national.

Argentina: Private sector employees without written work contract as a share of total private employment, Gran Buenos Aires.

Bolivia: Employees not covered by labour and social legislation as a share of total salaried employment, six Metropolitan Areas.

Brazil: Private sector employees *sem carteira* as a share of salaried employment, national.

Colombia: Private sector employees without written work contract as a share of total private salaried employment, ten Metropolitan areas, manufacturing, construction and services.

El Salvador: Employed persons not covered by the *Instituto Salvadoreño del Seguro Social* as a share of total employment, all urban areas.

Mexico: Employed persons without social benefits as a share of total employment, urban areas.

Peru: Private sector employees without written work contract as a share of total private salaried employment.

Although, due to differences in coverage and definition, data are difficult to compare across countries, it appears that Chile has the lowest share of unprotected salaried

employment among these countries (23.4 per cent in 1998).<sup>115</sup> It is however worrying that this share has increased in recent years (from 17 per cent in 1990). During 1990-1996, a period with favourable labour market conditions, the total salaried employment increased by 25.6 per cent according to the CASEN, but this increase was 64.7 per cent (345,000 posts) for employment without written contract and only 16.5 per cent (425,000 posts) for employment with written contract. The fact that even during a period of relatively low unemployment and in the context of a highly flexible labour legislation so much employment without contract was created, is a very problematic aspect in the evolution of employment quality in Chile. During 1996 - 1998, when the unemployment rate started to increase, salaried employment with written contract even declined, while salaried employment without written contract continued to increase.<sup>116</sup>

The share of workers without written contract varies according to factors such as income quintile and sex of the worker or enterprise size. Among the 20 per cent poorest households, the share of salaried workers without written contract in 1996 was 38.1 per cent, while among the richest 20 per cent of households, it was only 12.1 per cent. Working without written contract was most common in the smallest enterprises up to 9 persons (37.0 per cent); for medium-size enterprises of 10 to 199 persons this share was 14.5 per cent, and in the larger enterprises it was 7.3 per cent. As to the differences by sex, the share of salaried workers without written contract was larger among women (24.7 per cent) than men (20.9 per cent).<sup>117</sup>

The incidence also varies according to the economic sector and the region. For example, in the fruit production of some regions, working without written contract accounts for a much higher share than the national average (Donoso/Hawes/Fuentes, 1996).

#### **4.3.4. Home work**

It is not easy to find an unambiguous definition of home work, given that in the absence of direct supervision of the employer at the place of work, home work may easily be confused with home-based small or micro enterprises. According to the ILO definition,

Home work is normally understood as the production of goods or the provision of services for an employer or contractor under an arrangement whereby the work is carried out at a place of the worker's own choosing, often the worker's own home. It is normally carried out without direct supervision by the employer or contractor. This definition of home work does not include the production of goods only for personal or family consumption, nor does it

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<sup>115</sup> If the absence of a written work contract is combined with other indicators of unprotected employment, the incidence rises. In a study on precarious employment that defines "precarious" as salaried employment without contract, without contributions to a pension fund, without health insurance coverage or with a salary below the legal minimum wage, 33.5 per cent of the salaried in 1994 are found to be in precarious employment (Parada/Ramírez/Zúñiga, 1996).

<sup>116</sup> Tabulations based on data from MIDEPLAN (CASEN 1990, 1996 and 1998).

<sup>117</sup> Tabulations based on data from MIDEPLAN (CASEN 1996).

cover home-based work involving a direct transaction between the producer and the final consumer. (ILO, 1994: 5)<sup>118</sup>

In Chile, the existence of home work has been documented from the second half of the 19<sup>th</sup> century up to the present (box 4.1.). In order to estimate the number of homeworkers in Chile, the INE and the *Dirección del Trabajo* carried out a survey in 1997. According to this survey, a total of 56,847 persons worked as homeworkers during the reference week. This is about 1.1 per cent of total employment. Home work was found not only in the traditional sectors (garment, textile and shoe industries), but also in services (Henríquez et al., 1999).

#### **Box 4.1. Home work in Chile's history**

Given its origin in small-scale handicraft production, homework has often been considered as a traditional mode of production that would tend to disappear as industrialization forges ahead. This assessment was based on the fact that in industrialized countries, the share of homeworkers in total employment decreased strongly as a consequence of the progress of industrialization. For example, in Switzerland, home work accounted for 20.3 per cent of total employment in 1888, 8.6 per cent in 1910 and 3.0 per cent in 1930. In 1960, the share was a mere 0.6 per cent (Tanner, 1992: table 1). In France, home work accounted for 35.9 per cent of female employment in 1906 (Perrot, 1997: 539) and diminished in the later stages of industrialization.

In Chile, starting from the 1860s or 1870s, the development of manufacturing industries - and especially of the textile and garment industries - provided possibilities of salaried employment for women. Very often, the work was done at the worker's home (Salazar, 1992). Many of the new garment enterprises that were set up at the end of the 19<sup>th</sup> century employed seamstresses both within their premises and at the workers' homes (Godoy, 1995: 97).

An early reference to home work can be found in an official letter dated May 1907. The document mentions the situation of home workers, most of them female workers in the textile and garment industry: long working hours, low salaries and deficient hygienic conditions. It also proposes a census to gather more detailed information on the number of home workers in Chile, their salaries and working hours (Ministerio de Industria i Obras Públicas, 1907: 39-41). Apparently, such a census has never been carried out.

However, there are various studies on the social background, family situation and working conditions of these home workers, but they do not include estimates on their number (Caffarena, 1924; Urzúa, 1934; Rivera, 1956). One 1947 study estimates the number of homeworkers at 8,824, of which 6,812 were registered with the Labour Directorate (*Dirección del Trabajo*) (Valenzuela, 1947: 19).

During the 1960s, 1970s and 1980s, the issue had apparently disappeared from the agenda as there were no specialized studies on home work during this period. This appears to be due to the fact that home work was believed to be unimportant and that it would disappear as a consequence of industrial modernization. This does not mean, however, that home work had actually disappeared. In fact there are scattered references that confirm the existence of home work during that period (CADE, 1967; Montecinos, 1981: 34).

Given the history of home work in Chile, its description as a "new system of production" (Ibáñez/Winn, 1989: 17) is incorrect. It seems however that the number of homeworkers has increased recently as a consequence of the cost-reducing subcontracting strategies adopted by enterprises and workshops (Díaz/Medel/Schlaen 1996; Díaz/Yáñez 1998; Selamé/Henríquez 1995).

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<sup>118</sup> This definition is broader than the one that has been adopted in the ILO Convention on home work (Convention Nr.177, 1996). In the Convention, home work which has been defined by national legislation as self-employment does not fall within the scope of the definition, even when all other criteria are fulfilled. For analytical purposes, the definition quoted above is therefore more useful.

Although home work is in many cases a voluntary choice for women who want to combine domestic tasks with remunerated employment, available studies show that employment quality for home workers is generally very poor. According to the current labour legislation, home workers are generally not entitled to a work contract with their employer. Agreements on quantity of pieces, delays of production and remuneration per piece are almost always oral, with the consequent risk of non-compliance and abuses.

#### **4.3.5. Part-time work**

Part-time employment is not very common in Chile. In 1998, only 8.2 per cent of all employed persons worked normally less than 35 hours per week, not more than during the late 1960s. Of these, less than 40 per cent worked voluntarily part-time, while the rest would have preferred to work more hours. Like in other countries, part-time employment in Chile is much more common among women (15.9 per cent of female employment) than among men (4.4 per cent of male employment).<sup>119</sup>

In most other countries for which data are available, the share of part-time workers in total employment is higher than in Chile. In many industrialized countries, part-time employment accounts for more than 15 per cent of total employment, and the same occurs in Argentina and Mexico. The main groups of countries with similarly low shares of part-time employment are several of the Central and Eastern European transition countries as well as some East Asian countries such as South Korea and Singapore (ILO, 1999a: 129-144; ILO Task Force, 1999: table 5).

#### **4.3.6. An overview of non-standard employment**

Subcontracting arrangements and non-standard forms of employment are an integral part of the flexibility strategies in many Chilean enterprises. To some degree, enterprises have increased subcontracting in response to globalization. Indeed, in the face of an uncertain economic environment, firms try to decrease the share of fixed costs in total costs. While activities carried out within an enterprise have to be borne out even when production falls, subcontracted activities are paid for only when they are needed. Such practices tend to generalize to sectors not directly exposed to international competition.

Unfortunately, statistical data are not available for all forms of non-standard employment so that it is difficult to draw a general picture. Moreover, given that some forms of non-standard employment are overlapping (a contract worker is likely to be at the same time a temporary worker), they cannot simply be added up to obtain a total number for non-standard employment as opposed to "standard" employment in Chile.

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<sup>119</sup> INE (1998): Encuesta Nacional del Empleo, October-December; ILO (1973, V: A32).



**Table 4.10. Estimates of different forms of non-standard employment**

	Number (thousands)	Share in per cent		Source / year
		in total employment	in salaried employment	
Total employment	5333.1	100.0		CASEN 1998
Part-time workers	<i>444.9</i>	8.3		ENE 1998
Salaried employment	3924.4	73.6	100.0	CASEN 1998
Salaried workers without written work contract	918.8	17.2	23.4	CASEN 1998
Salaried workers with temporary work contract	431.9	8.1	11.0	CASEN 1998
Homeworkers	<i>56.8</i>	<i>1.1</i>	<i>1.4</i>	INE Special survey 1997
Subcontracted workers in manufacturing enterprises	<i>175.0</i>	<i>3.3</i>	<i>4.5</i>	Estimate based on Sociedad de Fomento Fabril: Encuesta de Remuneraciones <sup>1</sup>
Workers employed through temporary employment agencies	<i>35.0</i>	<i>0.7</i>	<i>0.9</i>	Dirección del Trabajo (1999b: 13)
Contract workers in fruit production	<i>40.0</i>	<i>0.8</i>	<i>1.0</i>	Estimate based on Echenique (1993) <sup>2</sup>
Public sector workers <i>a</i> <i>honorarios</i>	<i>10.0</i>	<i>0.2</i>	<i>0.3</i>	La Tercera en Internet, 5 January 2000

Sources: Calculations based on data from MIDEPLAN (CASEN 1998); INE (1998): Encuesta Nacional del Empleo, October-December; Henríquez et al. (1999); Dirección del Trabajo (1999b: 13); Echenique (1993).

Notes: Figures in italics correspond to estimates from sources other than the CASEN 1998.

<sup>1</sup> The estimate was obtained by applying the percentage shares in the *Sociedad de Fomento Fabril* survey (as reported in Dirección del Trabajo, 1999b: 13) to the employment data given in the INE Encuesta Nacional Industrial Anual (1996) for enterprises of different size classes. Given that the size classes do not exactly coincide and that the Sociedad de Fomento Fabril sample may in some regards not be entirely representative for Chilean manufacturing enterprises, the figure is a very rough estimate. The category *trabajadores suministrados* has not been included to avoid a double count with regards to the figure on temporary employment agencies.

<sup>2</sup> The estimate is based on data on regional salaried employment in fruit production in Henríquez/Román/Selamé (1994: table 2) and Echenique's (1993: 12) estimates of the share of contract workers by region.

Table 4.10. summarizes the data on non-standard employment, including estimates of contract labour (in manufacturing and in fruit production) and workers who are employed through temporary employment agencies. Despite the data limitations, the table gives an idea of the pervasiveness of non-standard employment in Chile.

When compared to standard employment, non-standard employment generally

implies a lower level of legal protection and a lower coverage of historical trade union conquests that have mostly been the result of bargaining for standard employment situations. According to the multitude of empirical situations (by country, economic sector, worker's skill, sex and race) and the observer's valuation of different dimensions of employment quality, non-standard employment can mean precarization (quite often it does), a new form of salaried work under different but not worse conditions, or even a new form of entrepreneurship.<sup>120</sup> The next section presents some indicators of employment quality for workers in different forms of employment.

#### **4.4. Employment quality**

As discussed in the last section, Chile has experienced a strong increase in non-standard forms of employment as part of its enterprises' innovation and flexibility strategies. However, not all forms of non-standard employment necessarily imply deficiencies in employment quality. Part-time and temporary employment, for instance, may be freely chosen by certain individuals. This section aims at describing employment quality and at identifying differences in this regard between different types of employment.

Real wages and incomes in Chile have recovered since the second half of the 1980s after prior decreases, but other dimensions of employment quality have developed in a less favourable way. Long working hours, the spread of non-standard employment with fixed-term contracts and multiple subcontracting arrangements, and less protecting characteristics of labour contracts are factors that contribute to the perception of deficient employment quality.

These problems have raised some concern in Chile. The Chilean Ministry of Labour has explicitly put this issue on its agenda and improving employment quality is one of the five major objectives of Chilean labour policy within the overall strategy of "economic growth with social equity" (Ministerio del Trabajo y Previsión Social, 1999). Improving employment quality is thus not seen merely as an automatic outcome of productivity increases.<sup>121</sup>

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<sup>120</sup> For example, Carnoy, Castells and Benner (1997) argue in their study on flexible labour in the Silicon Valley that "some non-standard contracts, along with increased risk simultaneously provide new opportunities and improved working conditions, especially for people with the right skills and employment networks. In Silicon Valley a significant (though still small) minority of people thrive under such non-traditional labour contracts; indeed, they may even insist on them because of the flexibility they promise. For this minority, flexibility represents a new form of entrepreneurship in which the individual worker markets his or her human capital portfolio among various 'buyers'." (1997: 29)

<sup>121</sup> Obviously, increasing productivity is one key factor behind improvements in employment quality. However, there are issues that are not directly linked to productivity, such as how to share the risks between employer and workers in case of an economic downturn and the trade-off between the immediate benefits of higher take-home pay and the longer-term considerations of social protection.

**Table 4.11. Sources on different dimensions of employment quality in Chile**

Dimension	Information source
Earnings and non-wage benefits	<ul style="list-style-type: none"> <li>• ENE (National Employment Survey, INE)</li> <li>• CASEN (National Socio-economic Survey, MIDEPLAN)</li> <li>• Wage survey (INE)</li> <li>• National Annual Industrial Survey (INE)</li> <li>• Industrial Survey (Sociedad de Fomento Fabril)</li> </ul>
Regularity and reliability of work and income	<ul style="list-style-type: none"> <li>• CASEN (employment stability)</li> </ul>
Contractual status	<ul style="list-style-type: none"> <li>• CASEN</li> </ul>
Social protection in case of illness, dismissal or retirement	<ul style="list-style-type: none"> <li>• CASEN</li> <li>• Superintendencia de Seguridad Social</li> <li>• Superintendencia de AFP</li> <li>• Superintendencia de ISAPRE</li> </ul>
Participation and representation in the determination of working conditions	<ul style="list-style-type: none"> <li>• CASEN (trade unionization)</li> <li>• Dirección del Trabajo</li> </ul>
Working hours, their organization, and work intensity	<ul style="list-style-type: none"> <li>• ENE</li> <li>• CASEN</li> <li>• Dirección del Trabajo (special working hour systems)</li> </ul>
Intensity of work	<ul style="list-style-type: none"> <li>• Requires specialized studies</li> </ul>
Risks of accidents, occupational health hazards	<ul style="list-style-type: none"> <li>• Superintendencia de Seguridad Social</li> <li>• Mutuales</li> </ul>
Physical working conditions in terms of noise, space, possibility for social interaction, etc.	<ul style="list-style-type: none"> <li>• Requires specialized studies</li> <li>• Dirección del Trabajo (result of workplace inspections)</li> <li>• CASEN provides some data (enterprise size and type of physical establishment)</li> </ul>
Interest and content of work, opportunities for personal and professional development	<ul style="list-style-type: none"> <li>• Requires specialized studies</li> <li>• Some data from CASEN and SENCE (access to professional training)</li> </ul>
Ethical and moral context and social status provided by the employment	<ul style="list-style-type: none"> <li>• Requires specialized studies</li> </ul>

Source: Own elaboration.

This section gives an overview of employment quality in Chile, using both statistical data from representative household surveys and more qualitative sectoral evidence. Table 4.11. indicates the possible sources on different dimensions of employment quality in the case of Chile.

For several reasons, the CASEN survey is the most adequate source to obtain a statistical overview of employment quality in Chile. First, it covers a number of dimensions of employment quality. Second, the survey data also include information on the type of employment, the economic sector, the sex and the level of education, permitting to cross-tabulate this information with indicators on employment quality. Finally, the survey is representative for the whole country and the sample size permits cross-tabulation without too many problems for the reliability of the results.

#### **4.4.1. A statistical overview of employment quality based on data from the CASEN survey**

This subsection gives some quantitative indicators of employment quality. A typology of employment situations based on data from the Socio-Economic Surveys CASEN 1994 and 1996 permits to quantify some aspects of employment quality. The occupied population has been divided into the following categories:

1. Salaried workers in permanent employment with written work contract;
2. Salaried workers in temporary employment with written work contract (fixed-term or by task) or in domestic service<sup>122</sup>;
3. Salaried workers without written work contract;
4. Self-employed workers (including unpaid family workers);
5. Employers.

47.5 per cent of the employed (63.6 per cent of the salaried) in 1996 were salaried workers in permanent employment with written work contract; 17.5 per cent were salaried without written work contract, and 9.6 per cent were salaried workers in temporary employment. Roughly a quarter were self-employed workers and employers (figure 4.4.). Compared to men, women had a lower share of salaried workers in permanent employment with written work contract (45.0 per cent against 48.7 per cent), self-employed workers (19.1 per cent against 23.0 per cent) and employers (2.7 per cent against 4.2 per cent), while the share of salaried workers in temporary employment with written work contract (12.7 per cent against 8.0 per cent) and salaried employment without written contract (20.6 per cent against 16.1 per cent) was higher for women.

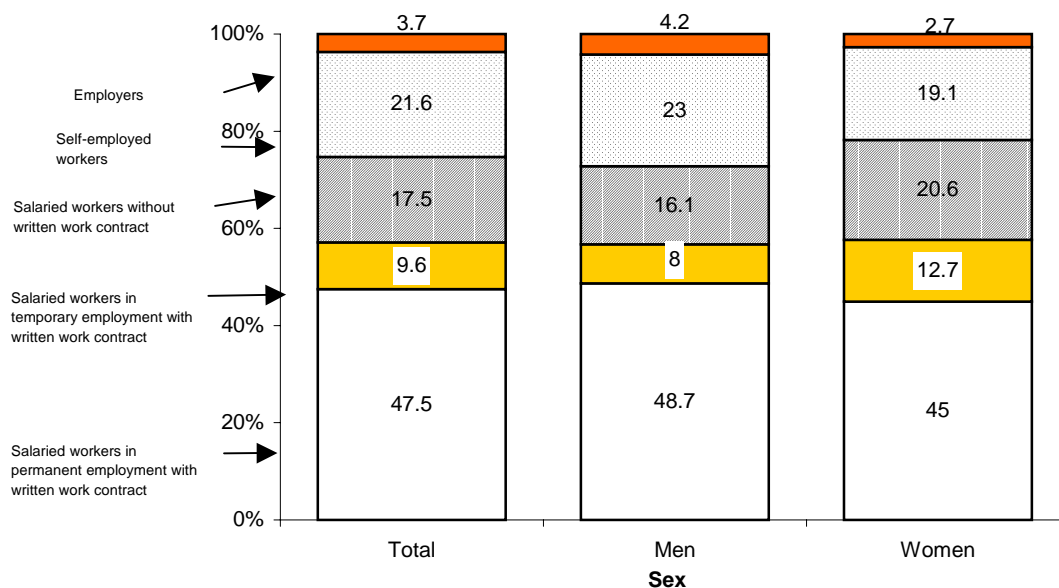
The composition by employment categories also varied according to the level of formal education. For the occupied with eight years or less of education (complete primary education or less), salaried permanent employment with written work contract was less common than temporary employment or employment without a written contract. The higher the level of education, the higher the share of employers and permanent salaried employment with written contract and the lower the share of the other employment categories, including self employed workers (figure 4.5.).

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<sup>122</sup> The distinction between "permanent" and "temporary" is based on the question about the permanence of the employment relationship in the survey questionnaire of the CASEN 1994 and 1996. The direct question on the permanence of the work contract (some data have been presented above) has only been added to the questionnaire in 1996 so that the use of this question for a consistent series over time is not possible. Domestic service employment has been included under temporary employment because in Chile, it falls under a special legislation that is less protective than is the case for other employment relationships.

**Figure 4.4. Composition of employment by category and sex, 1996**

(share of total employment of each sex, in per cent)

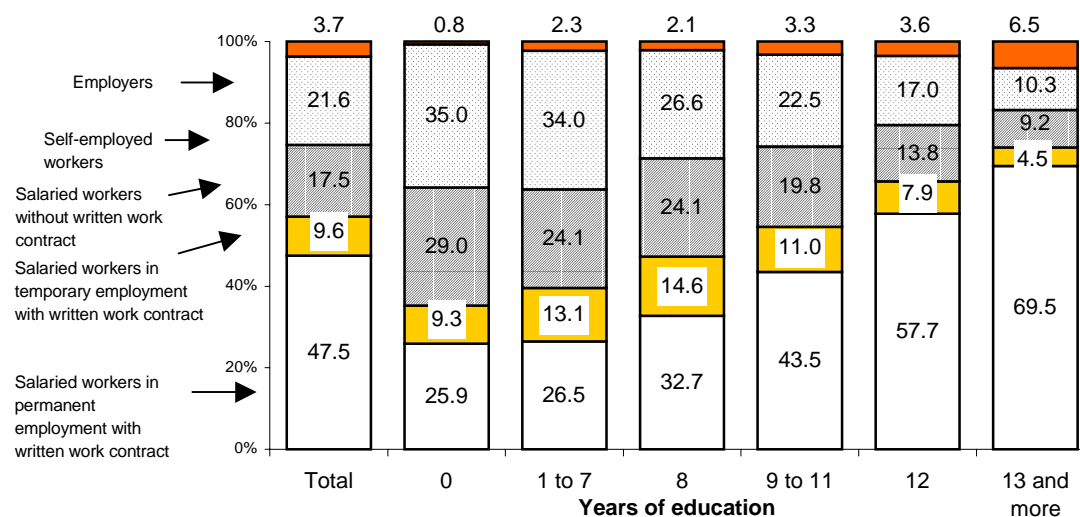


Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

Note: Figures do not always add up to 100 due to rounding.

**Figure 4.5. Composition of employment by category and level of education, 1996**

(share of total employment of the relevant level of education, in per cent)



Source: ILO Task Force (1998) based on data from MIDEPLAN (CASEN 1996).

Note: Figures do not always add up to 100 due to rounding.

Differences in employment quality between workers in permanent salaried employment with written work contract and those salaried in temporary employment

or without written contract are first of all given by the **status** of employment itself. The lack of a written working contract, for example, implies a lack of legal protection and generally, working without legally established benefits. Temporary employment, although not necessarily perceived as a problem by all workers in this situation, is likely to be negative at least for those who would prefer permanent employment.

Differences also exist in terms of **earnings**. On average, the temporary salaried with written work contract earned only 50.9 per cent of the earnings of the permanent salaried workers, and those without written contract earned even less (47.1 per cent) (table 4.12.). However, these huge differences are in part the result of educational differences that determine the access to jobs of different quality. As can be seen from the data presented above, on average, the permanent salaried workers with written contract have benefited from higher levels of formal education than the two other categories of salaried workers.

**Table 4.12. Index of average earnings by employment category and education, 1996**

(Average of the salaried workers in permanent employment with written work contract in each range of education=100)

	Years of education						Total
	0	1 to 7	8	9 to 11	12	13 and more	
Salaried workers in permanent employment with written work contract	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Salaried workers in temporary employment with written work contract	71.9	77.4	76.7	69.9	68.0	60.6	50.9
Salaried workers without written work contract	67.7	60.5	60.4	60.6	69.0	64.1	47.1
Self-employed workers	117.7	135.5	159.5	160.6	187.3	177.8	118.7
Employers	337.1	466.0	433.6	779.2	589.9	471.9	553.7
Total	96.1	108.1	109.5	124.8	125.5	127.3	106.8

Source: ILO Task Force (1998) based on data from MIDEPLAN (CASEN 1996).

Thus, the difference between the salaried workers in permanent employment with written contract and the two other categories of salaried workers narrows down when workers with different levels of education are analyzed separately. However, an analysis within six ranges of years of formal education shows that the income gap is not entirely explained by differences in schooling (table 4.12.). Within the different ranges of education, the salaried workers in temporary employment earned between 60.6 per cent and 71.9 per cent of those in permanent employment; for the salaried workers without written contract, average incomes varied between 60.4 per cent and

69.0 per cent of those in permanent employment with written contract.<sup>123</sup> Thus, it seems that labour market segmentation increases inequalities given by the unequal distribution of education.

Interestingly, the average earnings for self-employed workers were higher than the ones of the salaried workers in permanent employment (both on average and for any range of years of schooling), although the distribution within the former category was much more unequal, as witnessed by the relatively high share of very low and high incomes.<sup>124</sup> Among the salaried workers in permanent employment with written contract, 2.4 per cent earned no more than one minimum wage and 20.4 per cent earned more than five times the minimum wage, while among the self-employed workers, 16.3 per cent earned no more than one minimum wage and 28.3 per cent earned more than five times the minimum wage (table 4.13.).

The CASEN survey also provides data on other dimensions of employment quality (table 4.13.). The access to professional training varies very strongly according to the category of employment. While 23.4 per cent of the salaried workers in permanent employment participated in some professional training activity during the 12 months prior to the survey, this share was substantially lower for the temporary salaried with written contract (8.6 per cent) and the salaried workers without written contract (7.0 per cent). Self-employed workers also had a very limited access to professional training (6.5 per cent). These differences are important, especially in a medium- or long-term perspective, given that, even though the present employment situation may be satisfactory, the lack of training generally leads to an inferior career development throughout the working life.

With respect to trade union membership (data only available for 1994), the main difference existed between salaried workers in permanent employment (15.3 per cent) and the other categories (all between 0.7 and 3.8 per cent). Only the professionals among the salaried without written contract had a relatively high degree of union membership (9.0 per cent).<sup>125</sup> Thus, the salaried workers without written contract lack not only the legal protection provided by a work contract, they are also rarely affiliated to trade unions which could contribute to improve their situation.

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<sup>123</sup> As can be seen from table 4.13., these differences are not due to differences in the number of working hours. On the contrary, the permanent salaried workers with written contract work on average less hours than the other categories of salaried workers. The difference in hourly earnings would therefore be even bigger.

<sup>124</sup> The comparison between the earnings of salaried workers and those of self-employed workers and employers is possibly distorted by the adjustment for under-declarations of income that are carried out on the original survey data. In this data adjustment, incomes are corrected for under-declaration using National Account data as a reference. This involves assumptions on the degree of under-declaration of different employment and income categories. The estimated under-declaration is stronger for self-employed workers than for salaried workers (García-Huidobro, 1999: 62).

<sup>125</sup> Tabulations based on data from MIDEPLAN (CASEN 1996).

**Table 4.13. Indicators of employment quality by category of employment, 1996**

	Number of workers	Average earnings (1996 Chilean Pesos)	Workers who receive less than the minimum wage	Workers who receive more than 5 times the minimum wage (%)	Workers who received training the previous year (%)	Trade union or association membership (1994, %)	Workers who contribute to pension fund week (%)	Workers who work more than 48 hours a week (%)	Average working hours per week
Salaried workers in permanent employment with written work contract	2 508 493	215 619	2.4	20.4	23.4	15.3	96.3	31.0	48.7
Salaried workers in temporary employment with written work contract	507 472	108 321	13.1	4.5	8.6	3.8	84.8	38.5	52.5
Salaried workers without written work contract	925 927	99 583	28.5	5.3	7.0	2.0	25.6	33.1	50.5
Self-employed workers	1 145 171	253 515	16.3	28.3	6.5	3.2	20.7	45.5	53.0
Employers	192 298	1 165 451	0.9	82.6	16.6	2.4	52.1	53.2	56.3
<b>TOTAL</b>	<b>5 279 361</b>	<b>227 701</b>	<b>11.0</b>	<b>20.2</b>	<b>15.6</b>	<b>8.9</b>	<b>64.8</b>	<b>36.1</b>	<b>50.6</b>

Source: ILO Task Force (1998) based on data from MIDEPLAN (CASEN 1994 and 1996).

Differences between categories are also very important for the percentage paying contributions to a pension scheme. While only 3.7 per cent of the salaried workers in permanent employment did not pay contributions in 1996, this share was much higher for all other categories. A high percentage of non-contributors is not surprising for self-employed workers (79.3 per cent), for whom contribution is not obligatory, but the high percentage for the salaried workers in temporary employment (15.2 per cent), and above all the salaried workers without written contract (74.4 per cent) is remarkable.

Differences also existed with regards to working hours. While 31.0 per cent of the protected stable salaried worked more than 48 hours per week, this share increases to 38.5 per cent for the temporary salaried workers, 33.1 per cent for the salaried workers without written contract, 45.5 per cent for the self-employed workers and 53.2 per cent for the employers.



**Table 4.14. Indicators of employment quality by years of education and category of employment, 1996**

Years of education and category of employment	number of persons	Share (%)		Has participated in prof. training during last year (share in %)	Trade union or association membership (1994) (%)	Do not contribute to pension fund (share in %)	Share who receive		Share who work more than 48 hours per week (%)
		of Educational range	of category				up to 1 minimum wage	more than 5 minimum wages	
<b>0 years</b>									
Salaried workers in permanent employment with written work contract	28152	25.9	1.1	10.9	8.9	6.7	8.1	1.1	20.7
Salaried workers in temporary employment with written work contract	10091	9.3	2.0	0.0	4.5	19.4	19.8	0.0	46.4
Salaried workers without written work contract	31503	29.0	3.4	0.0	0.1	86.6	41.8	1.6	26.9
Self-employed workers	38041	35.0	3.3	2.1	0.9	89.2	31.3	6.8	35.8
Employers	821	0.8	0.4	0.0	0.0	81.1	0.8	42.8	65.7
<b>Total</b>	<b>108608</b>	<b>100.0</b>	<b>2.1</b>	<b>3.6</b>	<b>3.1</b>	<b>60.5</b>	<b>27.0</b>	<b>3.5</b>	<b>30.5</b>
<b>1 to 7 years</b>									
Salaried workers in permanent employment with written work contract	317317	26.5	12.6	7.5	11.7	6.5	5.6	3.2	28.2
Salaried workers in temporary employment with written work contract	156547	13.1	30.8	2.9	2.5	14.9	18.0	1.0	31.8
Salaried workers without written work contract	288497	24.1	31.2	1.7	1.3	78.8	40.9	1.1	27.7
Self-employed workers	406931	34.0	35.6	2.2	2.8	85.4	22.7	14.5	40.1
Employers	27265	2.3	14.0	2.7	2.8	69.3	3.5	56.1	57.7
<b>Total</b>	<b>1196557</b>	<b>100.0</b>	<b>22.7</b>	<b>3.6</b>	<b>4.8</b>	<b>53.3</b>	<b>21.5</b>	<b>7.5</b>	<b>33.3</b>
<b>8 years</b>									
Salaried workers in permanent employment with written work contract	165540	32.7	6.6	7.1	15.3	3.5	5.0	3.7	28.7
Salaried workers in temporary employment with written work contract	73783	14.6	14.5	4.4	2.4	13.8	15.5	0.5	32.2
Salaried workers without written work contract	121815	24.1	13.2	4.1	1.7	78.7	33.2	0.2	29.9
Self-employed workers	134459	26.6	11.8	4.9	3.3	84.9	17.7	22.5	37.6
Employers	10809	2.1	5.5	41.5	4.3	44.0	2.7	77.9	66.9
<b>Total</b>	<b>506406</b>	<b>100.0</b>	<b>9.6</b>	<b>6.1</b>	<b>6.7</b>	<b>45.6</b>	<b>16.6</b>	<b>9.0</b>	<b>32.7</b>
<b>9 to 11 years</b>									
Salaried workers in permanent employment with written work contract	390613	43.5	15.6	14.1	16.1	4.7	3.8	8.0	27.2
Salaried workers in temporary employment with written work contract	98735	11.0	19.5	6.5	4.0	12.9	13.4	2.5	28.0
Salaried workers without written work contract	177556	19.8	19.2	6.4	2.8	76.1	25.2	2.0	26.9
Self-employed workers	201929	22.5	17.7	5.8	4.1	80.8	14.6	28.8	41.7
Employers	29257	3.3	15.0	12.0	3.0	48.7	0.7	84.0	37.3
<b>Total</b>	<b>898090</b>	<b>100.0</b>	<b>17.0</b>	<b>9.8</b>	<b>9.0</b>	<b>38.3</b>	<b>11.4</b>	<b>13.4</b>	<b>30.8</b>
<b>12 years</b>									
Salaried workers in permanent employment with written work contract	756460	57.7	30.2	22.2	16.0	2.7	2.2	12.3	22.9
Salaried workers in temporary employment with written work contract	103806	7.9	20.5	11.1	5.4	16.9	8.3	4.6	32.5
Salaried workers without written work contract	180419	13.8	19.5	8.0	2.7	67.8	17.6	6.5	26.9
Self-employed workers	222758	17.0	19.5	9.1	3.8	71.7	9.4	40.0	44.9
Employers	46508	3.6	23.9	21.8	2.8	44.4	0.1	79.4	56.5
<b>Total</b>	<b>1309951</b>	<b>100.0</b>	<b>24.8</b>	<b>17.1</b>	<b>10.8</b>	<b>26.0</b>	<b>6.0</b>	<b>18.0</b>	<b>29.1</b>
<b>13 and more years</b>									
Salaried workers in permanent employment with written work contract	818900	69.5	32.6	37.0	15.5	2.9	0.7	42.4	15.6
Salaried workers in temporary employment with written work contract	53310	4.5	10.5	28.7	6.3	18.3	5.7	21.3	16.8
Salaried workers without written work contract	108438	9.2	11.7	20.6	1.8	67.2	9.7	24.5	19.5
Self-employed workers	120931	10.3	10.6	14.5	1.9	63.9	8.8	63.1	29.1
Employers	77181	6.5	39.6	13.6	1.2	42.7	0.1	94.7	37.0
<b>Total</b>	<b>1178760</b>	<b>100.0</b>	<b>22.3</b>	<b>31.3</b>	<b>11.5</b>	<b>18.4</b>	<b>2.5</b>	<b>45.3</b>	<b>18.8</b>

Source: Elaboration based on based on data from MIDEPLAN (CASEN 1994 and 1996).

As in the case of incomes, the differences between categories are maintained for these other indicators of employment quality even when comparisons are made within ranges of years of formal education. For example, among the employed persons with 12 years of formal education (complete secondary education), 22.2 per cent of the permanent salaried workers with written contract had participated in some

professional training activity, while this share was only 11.1 per cent for the temporary salaried with written contract and 8.0 per cent for those without written contract. Similar differences existed with regards to social security coverage and trade union membership (table 4.14.).

In sum, strong inequalities in employment quality between employment categories are not entirely accounted for by educational differences. Even at a given level of education, employment quality is on average substantially worse in non-standard forms of employment. This suggests that the functioning of the labour market contributes to inequality, and the creation of unprotected or unstable jobs is one important mechanism that creates and perpetuates inequality.

#### **4.4.2. Other indicators of employment quality**

In addition to the general overview based on the CASEN data, there are other sources for some dimensions of employment quality. This subsection presents the most important of these data.

##### **4.4.2.1. Regularity and reliability of work and income**

Legal modifications have made it easier for Chilean enterprises to dismiss workers and to use non-standard forms of employment. The high number of contracts for fixed-term periods or for specific tasks, as well as the high degree of freedom for employers to dismiss workers and the frequent adjustment of Chilean enterprises' production to changing levels of demand and relative prices have contributed to a high level of turnover.

A World Bank (1997) study obtains estimates on expected tenure on the current job by means of a labour flow model based on data from the University of Chile Employment survey for Santiago. According to these data, expected job tenure has fallen sharply from 82.8 months during the 1960s to 45.1 months between 1975 and 1982 and 44.8 months between 1985 and 1990. During the 1990s, the average expected tenure rose slightly to 56.7 months during 1991 to 1995, without however attaining the levels of the 1960s.<sup>126</sup> Accordingly, the number of in- and outflows into and out of occupation as a share of total employment increased substantially compared to the 1965-1969 period, even during the early 1990s, when the abrupt

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<sup>126</sup> Calculations based on data from the World Bank (1997). (Given that data are not available for all years, the average for the 1960s is based on data for 1962, 1965 and 1969; for 1975 to 1982 on data for 1975, 1980 and 1982; for 1985 to 1990 on data for 1985, 1987, 1988, 1989 and 1990; for 1991 to 1995 on data for all years of the period.) The authors of the World Bank report consider precariousness of earnings a more meaningful concept than precariousness of employment, arguing that although employment can be classified as "precarious", labour earnings may be quite stable (World Bank, 1997, II: 131). Due to the improved labour market situation, the expected length of unemployment in Santiago had been decreasing since its peak of 10.2 months in 1982 and was below three months during 1993 to 1995. However, the World Bank argument does not take into account the social cost of losing employment – feeling of instability, fear of not finding equivalent employment or not finding employment at all.

economic restructuring process of the 1970s and 1980s was over and unemployment had come back to relatively low levels (ILO Task Force, 1998).

However, these data do not distinguish between voluntary and involuntary exits from employment. During the 1990s (before the 1999 recession), the situation for many workers improved in this regard because of the favourable labour market performance with relatively low unemployment rates. Also, given the somewhat increased emphasis on human resource development in many enterprises, organizational changes have tended to increase job security for some categories of workers (e.g. in the wood industry, see Escobar/López 1996: 159).

**Table 4.15. Subjective job security by sex, household income and education, 1997**

Answer to the question "Thinking of your present employment, how confident are you that you will not lose it during the next 12 months?"

	Absolutely confident	Quite confident	Little confident	Not confident at all	No answer
TOTAL	22.7	36.3	27.8	10.5	2.7
<i>by sex:</i>					
Men	21.2	37.8	26.9	11.6	2.5
Women	25.6	33.8	29.7	8.2	2.7
<i>by household income (Chilean Pesos):</i>					
up to 120,000	17.6	30.5	34.4	14.1	3.5
120,000 to 600,000	24.6	38.1	26.2	10.4	0.7
601,000 and more	31.4	49.0	15.7	0.0	3.9
<i>by education (years of formal education):</i>					
0 to 8	19.1	32.2	33.6	12.4	2.7
9 to 12	22.2	36.9	26.3	12.5	2.2
13 and more	28.6	41.6	22.9	5.6	1.3

Source: Tabulations based on data from the Centro de Estudios Públicos and UNDP (1997): Tema Especial Seguridad Humana, June-July.

The reliability of employment can also be analyzed from the point of view of workers' subjective perceptions. According to data from a national survey carried out in 1997, 59.0 per cent of the surveyed occupied persons were "absolutely" or "quite" confident that they would not lose their current employment within the following twelve months. 39.3 per cent were "little" confident or "not confident at all" (Centro de Estudios Públicos, 1997). Special tabulations based on the micro-data from this survey permit to analyze subjective job security by sex, household income and education (table 4.15.). The results of these tabulations are as follows:

- Employed men and women had similar perceptions of their job security, with women being slightly more confident than men in not losing their job.
- The higher the household income, the more confident the employed were that they would not lose their job. More than 80 per cent of those in households with monthly incomes of more than Ch\$ 600,000 were confident about not losing their

jobs, while this share decreased to less than 50 per cent among employed from low-income households.

- In a similar way, subjective job security was related to education. About 70 per cent of those with 13 or more years of education were confident about not losing their jobs, while the share was only slightly more than 50 per cent for those with eight or less years of education.

**Table 4.16. Subjective evaluation of consequences of job loss by sex, household income and education, 1997**

Answer to the question "In case you would give up or loose your current employment, how difficult do you think it would be to find another acceptable employment?"

	Very difficult	Difficult	Easy	Very easy
TOTAL	2,0	28,0	45,5	24,5
<i>by sex:</i>				
Men	1,8	29,2	46,9	22,0
Women	2,4	25,5	42,8	29,3
<i>by household income (Chilean Pesos):</i>				
up to 120,000	0,8	22,3	50,0	27,0
120,000 to 600,000	1,8	29,6	43,6	25,0
601,000 and more	5,7	41,5	43,4	9,4
<i>by education (years of formal education):</i>				
0 to 8	0,7	27,1	44,7	27,5
9 to 12	3,4	21,6	49,8	25,1
13 and more	1,7	38,0	40,6	19,7

Source: Tabulations based on data from the Centro de Estudios Públicos and UNDP (1997): Tema Especial Seguridad Humana, June-July.

Notes: Data refer only to employed persons. Those without answer have been excluded. Rows do not always add up to 100 per cent due to rounding.

Another question in the same survey aimed at measuring subjective perceptions of the consequences of a possible loss of employment. While 30 per cent thought it would be "difficult" or "very difficult" to find another employment, 70 per cent thought it would be "easy" or "very easy". Again, special tabulations by sex, household income and education were calculated based on microdata from the survey (table 4.16.):

- Women perceived less difficulties in finding a new job than men.
- The higher the household income, the greater the perceived difficulty of finding a new acceptable job. Among those from the high-income households, around 53 per cent thought it would be easy to find a new job, while among those from low-income households, this share increases to 77 per cent.
- More educated workers perceived it as more difficult to find a new job, although this correlation is weaker than in the case of household incomes.

While the result that high-income and well-educated workers were more confident not to lose their jobs is in line with expectations, it is at first sight surprising that the low-income and less-educated workers think it to be easier to find a new acceptable job in case they would lose their present one. One explanation lies in the fact that well-educated workers have higher expectations with regards to their employment and well-paid, high quality jobs are scarcer than simple low-wage jobs. To some extent, this difference in perception may also explain why workers in unskilled and semi-skilled positions tend to have very high turnover rates in Chile, while higher-skilled workers tend to remain in their jobs for a longer time.

#### **4.4.2.2. Hours of work**

According to data from the INE Employment Survey, the average number of normal working hours did not change significantly between 1986 (46.4) and 1998 (46.6).<sup>127</sup> It has to be borne in mind that this average includes part-time workers, meaning that full-time workers have even longer working weeks. The standard working week according to Chilean labour legislation is 48 hours per week. By international standards, working hours in Chile are very long. Moreover, many Chileans have to work on weekends and at night (section 4.2.2.2.).

#### **4.4.2.3. Intensity of work**

In the wood industry, Escobar and López (1996: 159) found an increase in work intensity precisely in those enterprises that had used integrative innovation strategies. In this case, the higher work intensity was compensated by rising salaries and more autonomy at work.

Generally, it appears that there is a strong link between work intensity and productivity-related payment systems. While these systems have their merits in stimulating the workers' motivation and performance, there may exist negative consequences for employment quality, principally through work intensification beyond reasonable limits and overly long working hours. The latter problem occurs especially in enterprises where the labour legislation is not entirely enforced, for example in small workshops in the garment industry. According to studies carried out in several sectors (garment industry, fruit production, fishing industry, homeworkers), between 44 and 50 per cent of the female workers in these sectors declared to feel "always" or "frequently" excessively tired (Todaro/Mauro/Yáñez, 1997: 53).

Available evidence for the commerce sector (Ruíz-Tagle/Aguilar/Frías, 1998) and the garment industry (see chapter 5) suggests that working on the basis of sales commissions and piece-rate systems does not necessarily imply lower pay levels;

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<sup>127</sup> INE (various years): Encuesta Nacional del Empleo, October-December.

rather, there seems to be a trade-off between the reliability of incomes and social benefits on the one hand, and take-home income on the other.<sup>128</sup>

#### **4.4.2.4. Risks of accidents or occupational illness**

The workplace safety situation is characterized by a combination of "old" risks, many of which are decreasing (e.g. *neumoconiosis* in the mining and textile sectors), while "new" risks are emerging (e.g. *tendosinivitis* and stress-related illnesses). The overall rate of work accidents decreased strongly from 35.3 in 1969 to 12.7 in 1978. Since then, no further substantial reduction has occurred and the rate fluctuates between 9 and 12 per cent of the labour force.

Several of the most dynamic and export-oriented sectors of the Chilean economy present high rates of work-related accidents and illnesses. The mining sector is notorious for its high number of serious accidents, although some progress has been made between 1990 and 1996. The forestry activity continues to require a high degree of hard manual physical work. Inadequate equipment and handling, especially in the numerous small subcontracted enterprises, are the main causes for accidents. Work in the fishing sector is characterized by hard physical work, night-time work and long working hours, as well as a relatively high rate of accidents.

Other sectors, like fruit production for export, do not have high numbers of work accidents but are dangerous due to the use of herbicides and insecticides, some of which have been prohibited in industrialized countries. According to data from the Central Bank, the import of insecticides increased by 63 per cent between 1990 and 1995 while import of herbicides increased by 66 per cent during the same period (ILO, 1998a: 127-132).

#### **4.4.3. Summary and explanations: employment quality in the Chilean model**

This subsection summarizes the evidence on employment quality and explores some explanations for these findings. Available data suggest the following preliminary conclusions:

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<sup>128</sup> Evidence on the relation between pay systems and wage levels for a large statistically representative sample does not exist, given that the available household surveys do not contain sufficient detail on pay systems. According to the survey on the commerce sector (Ruíz-Tagle/Aguilar/Frías, 1998), based on a sample of 151 workers, average monthly incomes were Ch\$ 141,804 for those with a fixed salary, Ch\$ 209,358 for those with a mixed system of base salary and commissions, and Ch\$ 283,035 for those exclusively paid by commissions. In the textile and garment industry, more precise evidence is difficult to obtain because many small enterprises pay piece-rate based incentives informally without paying health insurance and pension scheme contributions on them. Observations based on 25 enterprise visits suggest that workers often obtain higher wages in a piece-rate system, although the cost in terms of work intensity and working hours is high (see chapter 5.).

- Workers in non-standard employment suffer important deficiencies in terms of employment quality. Salaried workers without written contracts or in temporary employment not only receive relatively low salaries and social benefits, but they also receive little professional training and there is very low trade union affiliation. This means that two important ways of improving their situation - by enhanced skills and by collective interest representation - are seriously hampered. Employment insecurity is likely to be one of the main factors behind the widespread feeling of insecurity that prevailed during the 1990s despite increasing real incomes and low unemployment (UNDP, 1998).
- Comparison with other Latin American countries, though suffering from problems of methodology and data availability, suggests that Chile is not the only country in the region to experience such deficiencies in employment quality. In several of those countries, employment quality may even be worse than in Chile. Despite these caveats, however, a critical monitoring of the Chilean situation is justified by its paradigmatic character as a "model" for other Latin American countries.

Low levels of education and cyclical fluctuations in the economy are often held responsible for deficient employment quality. However, although workers with a low educational level are most affected, the problem is not restricted to them. Nor can insecurity be explained by cyclical phenomena, given that salaried employment without written work contracts has expanded even during the 1990-1996 period when the economy was booming and unemployment was low.

It is sometimes argued that globalization causes employment instability. Indeed, globalization may have contributed to increase labour turnover, as firms have to cope with intensified competition and fluctuations in international demand and prices. Volatility in prices and demand therefore leads to employment fluctuations, especially when, as in the Chilean case, labour legislation is very flexible with regards to hiring and firing.

As regards the category of employment created in the different groups of sectors, no single pattern emerges (table 4.17.). In agriculture, self-employed workers represent almost one third of employment. Most of the salaried employment is temporary or without written contract; data presented in section 4.3. show that the share of temporary workers is higher in export-oriented sectors than in import-competing sectors. Mining creates mostly permanent salaried employment, although total employment in mining is relatively low. Within manufacturing, export-oriented sectors create more salaried employment whereas the import-competing activities create more self-employment. However, salaried employment tends to be less protected in the export-oriented manufacturing sectors, as can be seen from the high share of temporary employment and employment without written contract.

All the leading export sectors in Chile have important occupational hazards problems: fishing (accidents), forestry (accidents), agricultural exports (pesticides) and mining (accidents). A similar picture can be drawn for various other dimensions of employment quality, such as employment stability, duration and distribution of working hours, etc.

**Table 4.17. Employment by category and type of economic sector<sup>1</sup>**

(percentage of employment of each sector, 1996)

	Agri- culture	Mining	Export- oriented manu- facturing	Import- competing manu- facturing	Total manu- facturing	Rest of the economy	Total
Salaried workers in permanent employment with written work contract	26.2	75.6	62.0	62.4	62.2	48.2	47.4
Salaried workers in temporary employment with written work contract	12.1	8.9	7.2	3.8	5.3	10.1	9.6
Salaried workers without written work contract	26.7	6.7	16.1	11.9	13.7	16.6	17.6
Self-employed workers	31.8	7.2	10.1	18.5	14.8	21.3	21.7
Employers	3.3	1.6	4.6	3.5	4.0	3.8	3.7
<i>Memorandum item:</i> Total employment (number of persons)	811 705	100 319	341 356	438 241	779 597	3 557 490	5 249 111

Source: ILO Task Force (1998) based on data from MIDEPLAN (CASEN 1996).

Notes:

Persons for whom data are missing have been excluded.

<sup>1</sup> Agriculture and mining correspond respectively to the first and second group (code 1 and 2) of the International Standard Industrial Classification of all Economic Activities (ISIC - Rev. 2, 1968). Within manufacturing (ISIC code 3), export-oriented sectors are defined as the sectors for which the revealed comparative advantage indicator in 1994 was positive. They include ISIC codes 311, 312, 313, 33, 342 and 372. Manufacturing import-competing sectors, defined as the sectors for which the value of the revealed comparative advantage indicator is negative, correspond to the ISIC codes 314, 32, 341, 35, 36, 371, 38 and 39. The rest of the economy, largely non-tradables, includes ISIC codes 4, 5, 6, 7, 8 and 9.

The very nature of activities related to resource extraction tends to create specific types of employment outside the big urban centres. And although this employment creation in relatively isolated and formerly neglected areas is in itself very positive, working in these sites is often related to life in camps and requires special attention as to the living quality in these places.

Comparing employment in export-oriented sectors in Chile with similar sectors in other countries suggests that deficient employment quality is no fatality: better regulations, constructive social dialogue and collective bargaining, as well as enhanced employer's consciousness with regards to issues of employment quality can bring important improvements.

Although the Chilean model is known as an "export-oriented" model, the consequences of the model can be felt in import-competing as well as in export-oriented sectors. It can even be argued that the need to adopt strategies of innovation and flexibility in order to face international competition may during some periods be much stronger in import-competing than in export-oriented sectors. The reason for



this is that Chile's export-oriented sectors are mostly natural resource-intensive sectors that are often rentist in character. This means that increased competition in these sectors may reduce profit margins without necessarily endangering their rentability. In the import-competing sectors, on the contrary, an increase in international competition may rapidly bring enterprises to the break-even point or even cause losses, forcing enterprises to react. It is for this reason that the sectoral case studies in the next two chapters will deal with import-competing sectors.

Using the schematic typology presented in chapter 1. of this study, two types of strategies can be distinguished: The "low road" strategy that consists in searching competitiveness by means of low labour costs, and a "high road" strategy that relies on increased efficiency and innovations. Examples for both types of strategies can be found in the Chilean import-competing sectors. For example, the "productive fragmentation" in shoe production predominantly corresponds to a low road strategy, with precarious working conditions, long working hours and a high intensity of work that is remunerated on the base of piece-rate systems. The technology in these predominantly small enterprises remains fairly simple (Agacino/de Laire/Echeverría, 1993). However, there are other sectors in Chile where import-competing enterprises have upgraded their technologies, improved salaries and working conditions and obtained international competitiveness via these strategies.

In sum, low employment quality can be explained by several factors: the pattern of Chilean export specialization, the cost-reducing strategies in import-competing sectors as well as the labour legislation and more general weaknesses in the institutional framework (chapter 7.). The next chapters will analyze the innovation and flexibility strategies in two import-competing sectors, the textile and garment industry (chapter 5.) and the metalworking industry (chapter 6.).

## 5. Sectoral case study 1: innovations, flexibility and productive chains in the textile and garment industry<sup>129</sup>

*Desde luego, la condición de los obreros a domicilio es siempre más penosa que la condición de los obreros que trabajan en los talleres o establecimientos industriales. Nadie ignora que la duración del trabajo de las modistas, aparadoras, bordadoras, camiseras, costureras de ropa blanca, hilanderas, etc., etc., es tal que en muchas ocasiones se prolonga hasta media noche, a fin de reunir el salario mínimo necesario para la vida.*

Ministerio de Industria i Obras Públicas: La Oficina de Estadística del Trabajo, Santiago, 1907, p.40.

### 5.1. Introduction

The main activities of the textile industry (ISIC code 321) are the production of yarn from natural fibres (spinning) and the production of fabric from this yarn or synthetic fibres. The garment industry<sup>130</sup> (ISIC code 322) works on the design, preparation and production of garments made from fabric, yarn and other inputs (such as buttons, fasteners, etc.). Although the textile industry (ISIC 321) and the garment industry (ISIC 322) have quite different production processes and technologies, they have been taken together in this sectoral case study because they are placed on the same production and commercialization chains that go from the inputs to the sale of the final product (figure 5.1.).<sup>131</sup>

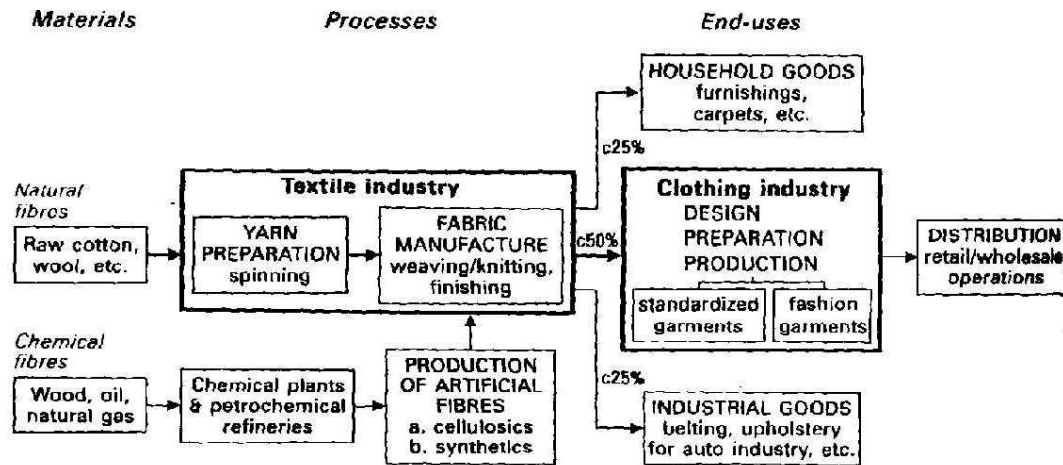
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<sup>129</sup> Parts of this chapter are based on Reinecke (1997).

<sup>130</sup> Other common names for the garment industry are apparel or clothing industry.

<sup>131</sup> According to the last available Chilean input-output matrix from the year 1986, 42 per cent of the intermediate sales of the textile industry go to the garment industry, 33 per cent go back to the textile industry and only the remaining 25 per cent are sold to other industries (Elter, 1996: 4).

**Figure 5.1. The textile and garment production chain**



Source: Dicken (1998: 284).

### 5.1.1. The situation and challenges of the Chilean textile and garment industry

The textile and garment industries in Chile were among the most severely hit by the economic crises of 1975 and 1982. Although they were able to recover satisfactorily after the 1982 recession, a new crisis started in 1991-1992, this time within a general economic context of high growth rates and macro-economic stability.

To a large extent, this last crisis is due to the continuing inflow of imports that are competing with domestic production. The challenge of the textile and garment industry is given, first, by the cost structure of a middle-income country, where labour cost is significantly higher than in many Asian developing countries, like China or India. Second, labour productivity is low compared to the industrialized countries, but also compared to other Latin American countries with similar labour costs, such as Mexico, Brazil, Colombia and Argentina. Third, the Chilean textile and garment industries are not protected by high import tariffs or other trade obstacles. Thus, large volumes of imports flow in freely from low-wage developing countries (lower market segments) as well as from industrialized countries (higher market segments).

Although the commercial policy could be modified in order to introduce specific protection measures against cheap imports, it does not appear realistic in the long run for Chilean enterprises to compete in the lower market segments with producer countries where wages are extremely low. On the other hand, countries with significantly higher labour costs than Chile export big quantities of textile and even garment products in the fashion and higher market segments. For example, the Italian garment industry has hourly labour costs of more than six times the Chilean level (see section 5.3.), and yet employs more than 400,000 persons and exports nearly 30 per cent of its total production (Belussi, 1997: 83). However, in order to compete in these market segments, Chilean enterprises have to upgrade their production and increase their productivity.

Although it is highly unlikely that employment will expand, enterprises do have possibilities to react to these challenges, increase exports and situate themselves in interesting niche markets. The future of the Chilean textile and garment industries clearly depends on dynamic competitive advantages, based on the skills of the labour force<sup>132</sup>, R&D activities, strategic alliances between enterprises and infrastructure.

### 5.1.2. International trends in the textile and garment industries

The world-wide textile production increased considerably over the last decades, and at the same time, the share of developing countries increased.<sup>133</sup> Part of the production in developing countries, however, originates from foreign direct investors or joint ventures from industrialized countries (ILO, 1991a). The garment industry is considered a traditional industry, but this does not mean that there are no dynamic elements in the international development of the garment industry. The value of international garment exports increased by 105 per cent between 1986 and 1992, making this industry more dynamic than the total manufacturing sector (ILO, 1994a, 1994b).

Moreover, globalization and new communication possibilities have permitted the emergence of international production networks, where each phase of the process of production and retailing can be relocated according to the comparative and competitive advantages of each country. In fact, among all industries, the garment industry is one of the most globalized ones (Bonacich et al., 1994; Dickerson, 1995; Dicken, 1998).<sup>134</sup>

#### 5.1.2.1. Technology

Although the **textile industry** is generally counted among the traditional industries, technological innovations over the last decades have transformed this formerly labour-intensive industry into a relatively capital-intensive one. Technological innovations make it more and more similar to a process industry where human labour is mostly in

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<sup>132</sup> In this regard, the high degree of alphabetization and the almost universal coverage of primary and secondary education put Chile in a relatively favourable situation compared to other Latin American countries.

<sup>133</sup> The textile production of all developing countries increased by an average 2.3 per cent between 1980 and 1989 and by 1.2 per cent between 1990 and 1993. For the industrialized countries, by contrast, the average growth rate was only 0.4 per cent between 1980 and 1989 and negative (-2.3 per cent) between 1990 and 1993. The share of developing countries in world-wide textile exports increased from 31 per cent in 1982 to 38 per cent in 1988. However, in 1995, Germany was still the most important exporter of textile products, and Italy ranked third after China (ILO, 1991a: 68, 72; Dicken, 1998: 287).

<sup>134</sup> In addition to the typical international subcontracting arrangements - for example, design in the United States and manufacturing in Hong Kong - there are various types of triangular arrangements. For example, the design can be made in the United States, sent to Hong Kong or another recently industrialized Asian country from where the production process is coordinated, and the manufacturing process finally takes place in low-wage countries such as India or China (Spinanger, 1992; Bonacich et al., 1994).

charge of programming and supervisory tasks.<sup>135</sup> In addition to the increasing speed of the looms, important developments have taken place with regards to the introduction of automatic systems for repairing the yarn in case of rupture and for the supply of inputs.

The **garment industry** is a traditional industry with significant limitations for its technological modernization as far as the manufacturing process is concerned. It is labour-intensive, and bound to remain labour-intensive for some time to come. Barriers to entry are low and new enterprises can easily access international markets even with relatively low levels of investment and technology. Automatization in the garment industry was and is limited by the characteristics of the fabric and the three-dimensionality of the product. The main technology for assembling garments has changed relatively little since 1879 when the sewing machine with oscillating shuttle was introduced.<sup>136</sup> Projects for the development of robots for the automatized production of garments have so far not had satisfactory results. Thus, despite the automatization of some phases of the production process and the increasing use of programmable sewing machines, the industry remains labour-intensive (Godley, 1996: 11-13; ILO, 1994b: 3-4). In the designing phase, the increasing use of Computer-Aided Design (CAD) has not only made the work of designers more productive, it has also facilitated the physical separation of design and manufacturing as such (Spinanger, 1992). These possibilities can be fully exploited with the new information technologies (such as Electronic Data Interchange, EDI) that give rise to fundamental modifications in the production of garments.

### 5.1.2.2. Productive organization

Even prior to the current globalization debate, the **garment industry** was characterized by strong fluctuations in demand and the corresponding flexibility requirements. A special ILO report on "Problems arising from fluctuations of employment in the clothing industry", published in 1964, states:

Fluctuations of production and employment are to some extent characteristic of all branches of economic activity, although their nature and extent differ from one branch to another. The clothing industry has certain basic features which accentuate these fluctuations. These features may briefly be stated as the periodic variations in demand for the products of the industry owing to seasonal and climatic changes and changes in fashion, the existence of a large number of small-scale producers who are not in a position to easily forecast demand, the relative ease with which firms can enter the industry, the practice of getting part of the work done outside the factories either by contractors or by home workers [...]. (ILO, 1964: 2)

Fluctuations are thus not new to the sector, but the current flexibility requirements in most subsectors are much higher nowadays than in the 1950s and 1960s. Traditionally,

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<sup>135</sup> Most of the knitwear production (ISIC 3213) has to be excluded from this statement. Although knitwear is classified as one subsector of the textile industry (ISIC 321), it is closer to the garment industry (ISIC 322) in terms of its technological characteristics and work organization.

<sup>136</sup> A 1971 enquiry in the United Kingdom concluded that 95 per cent of the machining function was still carried out by straightforward, single operator-controlled machines which were not particularly different from those of almost one century earlier (NEDO, 1971, as cited in Godley, 1996: 11). What did change over time, however, is the speed (stitches per minute) of the sewing machine.

the organization of the production in the sector was adapted to a slow rhythm of product innovations (Bailey, 1993: 35). Although a fashion sector existed, a high share of the products was maintained unchanged for a long time<sup>137</sup> or modified twice or at most four times per year (following the main seasons), thus permitting several months of anticipation. By contrast, nowadays the fashion sector is more and more important and in the more fashionable women's garment lines, six to eight seasons per year are common (Taplin, 1997: 44; Ody, 1999). Those enterprises that manage to situate themselves as pioneers of fashion, or close to it, can derive significant economic benefits.

Given the new flexibility requirements of the sector, the most important innovations are related to the organization of the production and to the relocation of different phases of the production process. EDI technologies permit to speed up the communication between clients, retail points and producers. With the help of a bar code technology, daily or weekly retail sales are transmitted to the manufacturing enterprise so that restocking can be organized. Thus, enterprises can react in a rapid and flexible manner to new orders, and geographical distance is not an obstacle anymore for a production with short delivery delays and highly individual orders. In the United States, the "Quick Response" strategy and electronic "Supply Chain Management" systems, based on EDI technologies, are amply discussed in specialized publications. In practice, Quick Response works via strategic alliances between enterprises situated at different points of the chain of production. These enterprises share information and organize jointly the production and commercialization (Bobbin, 1996; Taplin, 1997: 52; Hill, 1999).

But even where these advanced information technologies are not yet in use, competitive pressures in an increasingly globalized economy have caused a fragmentation of productive processes in the garment industry. This fragmentation can take place between various enterprises within the same country, or across frontiers between enterprises in different countries. Links between enterprises are frequently organized with the help of different subcontracting mechanisms. Generally, the design and the parts of the productive process with the highest technological requirements tend to remain in the biggest and most capital-intensive enterprises, while the garment assembly - highly resistant against automatization efforts and intensive in the use of labour - is externalized.

In the garment production, small enterprises, workshops and home work have all an important role to play (ILO, 1996a). Far from being isolated from large-scale industrial production, they occupy the lower levels of productive chains that can include the whole range of production sites - from the big multinational enterprise to home work. Within the global networks of garment production, extremely divergent levels of technology can coexist, from the most advanced technology to obsolete sewing machines used in low-wage countries.

These changes in the productive organization of the garment industry have repercussions on the situation in the **textile industry**, which has to provide the fabric for the rapidly changing garment production.

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<sup>137</sup> Bailey (1993: 35) cites the example of the blue jeans 501 by *Levi's* that suffered only minor modifications since its introduction in the early 1880s.

### 5.1.2.3. Work organization

With regards to work organization within the enterprise, technological changes in the **textile industry** generally reduce the role of qualified blue-collar workers in organizational issues, except in those cases where work groups or participatory programmes have been designed to compensate that tendency. The technical skills of qualified blue-collar workers tend to be incorporated into the new machinery. However, automatization increases the importance of other tasks outside the direct productive work, for example in product design, quality control, maintenance and programming (ILO, 1991b: 13). Therefore, the profile of the blue-collar worker changes, incorporating simultaneous upskilling and deskilling processes. While the importance of traditional technical skills diminishes, new requirements in terms of education (secondary education), training (specialization in machine maintenance and handling) and responsibility emerge.

In the **garment industry**, computer-controlled cutters permit the direct use of CAD-based digitized design patterns, diminishing skill requirements in the marking and cutting phases. In the process of garment assembly, several alternative systems of work organization exist:

- The traditional system of work organization is the **bundle system**. In this system, work is delivered to the work stations in bundles. Sewing machine operators untie the bundles and work through them. This system is often based on the decomposition of tasks into very short cycles. Each worker carries out one operation on each piece in a bundle of approximately 30 pieces. These bundles constitute an intermediate stock of work in progress that moves through the enterprise during a relatively long time. The disadvantages of this system are the long processing delays, the deficiencies with regards to quality control (a faulty piece can circulate for a long time before being detected) and the lack of flexibility in reacting to market changes (Bailey, 1993: 37; Taplin, 1997: 47).
- In order to avoid this kind of problems, many enterprises introduced the **modular system** of production. In modules, groups of workers work together to assemble an entire garment. After completing one task, the worker passes each piece or garment directly to the next operator. The main advantage is the reduction of the stock of work in progress. The system requires a higher degree of communication from managers to workers and between workers in order to coordinate the work rhythm, eliminate quality defects, etc.. The modular system has the potential to involve workers into the day-to-day decision-making at the workplace (Bailey, 1993: 41-42; Duncan, 1999).
- Another alternative system is the **Unit Production System** (UPS) which consists in an automatized assembly line where all necessary pieces for one garment hang on the same hanger. Every hanger passes at the necessary posts where the workers carry out the operations that are assigned to them, often without the need to take the pieces off the hanger. In comparison to the traditional bundle system, the advantage lies more in the shortening of the production time than in a reduction of direct labour costs. The system is most efficient for the production of standardized products in big quantities. The disadvantage lies in the difficulty to react in the case of unplanned events, such as workers working at lower speed, machine breakdowns, etc. (Bailey, 1993: 39-40).

### 5.1.3. Approach to the sectoral case study

This sectoral case study is based on enterprise visits and semi-structured interviews in 25 enterprises (8 from the textile industry, 17 from the garment industry) of varying sizes, as well as on interviews with key informants (trade unions leaders, entrepreneurs, civil servants and academics). The enterprise visits have been carried out mainly in 1996 (with some in late 1995 or early 1997); some enterprises have been visited several times in order to complete the information. Some updated information has been obtained via telephone interviews in October 1999.

In order to protect the anonymity of the involved enterprises, they are referred to by the codes T1 to T8 for the textile enterprises and G1 to G17 for the garment enterprises.<sup>138</sup> The main characteristics of the sample enterprises and the type of obtained information are presented in table 5.1.. Geographically, most enterprises are in the Santiago Metropolitan Region; several of them are in Patronato, an area in the Recoleta municipality which is characterized by its high concentration of textile and garment enterprises (T3, T7, G4, G5, G7, G8, G9, G10, G11, G12). Two enterprises are in the 8<sup>th</sup> region (Southern Chile) (T1, T2). Several of the enterprise owners are Chileans of Arab origin (G3, G5, G12) or recent immigrants from Korea (G7, G8, G9). For more details on the methodology, see annex 1.

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<sup>138</sup> One of the textile enterprises, T8, also has important activities in garment production.



**Table 5.1. The textile and garment sample enterprises: Basic characteristics and type of information obtained**

Nr.	Principal activity(ies)	Number of workers	Yearly approximate turnover (Ch\$ millions) <sup>1</sup>	Exports (share of total sales, in %)	Questionnaire	Enterprise visit	Interview with enterprise	Interview with workers / trade union
T1	Cotton fabric (denim etc.)	612	24 800	> 20	X	X	X	X
T2	Woollen fabric (and wool – synthetic mixes)	1 116	10 764	40-45	X	X	X	X
T3	Cotton and synthetic fabric	14	310	0		X	X	X
T4	Printing of fabric	92	1 700	0		X	X	X
T5	Fasteners, labels, embroidery	80	700	15	X	X	X	X
T6	Panties and socks	19	120	0	X	X	X	
T7	Knitwear and garments	18	70	0		X	X	
T8	Spinning, weaving, knitwear, garments	2 000	20 000	12-15	X	X	X	
G1	Garments (jeans etc.)	686	5 000	20-25		X	X	X
G2	Garments (shirts, dust coats, etc.)	25	n.a.	0	X	X	X	
G3	Garments (subcontractor)	12	30	0	X	X	X	
G4	Garments (subcontractor)	11	12 <sup>2</sup>	0		X	X	X
G5	Commercialization of garments	15	400	n.a.			X	
G6	Production and commercialization of maternity wear	10	n.a.	little			X	
G7	Garments and commercialization	12	n.a.	0		X	X	X
G8	Garments and commercialization	7	50	0		X	X	
G9	Garments and commercialization	38	100	0		X	X	X
G10	Garments (jeans)	35	300	30		X	X	X
G11	Garments	6	36	0		X	X	
G12	Garments	77	540	0		X	X	X
G13	Garments	210	2 900	45	X	X	X	
G14	Garments (predominantly subcontractor)	130	n.a.	0	X	X	X	X
G15	Garments	560	9 100	3	X	X	X	
G16	Garments (subcontractor)	30	75	0	X	X	X	
G17	Garments (subcontractor)	28	64	indirect exports	X	X	X	

Source: Own survey, 1995-1997.

Notes:

<sup>1</sup> Approximate exchange rate during the survey period: Ch \$ 415 = US\$ 1.

<sup>2</sup> Declared turnover. The effective turnover is higher.

## 5.2. The Chilean textile and garment industry: production, employment and international trade

### 5.2.1. Historical development: emergence of an import-substituting industry

The Chilean **textile industry** started to develop in the 19<sup>th</sup> century. After two isolated efforts to install industrial enterprises before 1850, the large-scale industrialization of textile production, which had previously been a handicraft activity, began from 1870 onwards (Wormald, 1985). At the start of the 20<sup>th</sup> century, the textile industry already produced a considerable variety of products, although several of the biggest enterprises emerged later.

During the era of ISI policies, the textile industry developed the features that are typical for this kind of incentive structure (see section 4.1.1.): a high degree of vertical integration, diversification of the production and technological heterogeneity.

Despite a relatively modern technology, the textile industry early faced a situation of crisis in the 1950s because it had come close to the limits of import substitution in the Chilean domestic market (ECLAC, 1962). The share of imports in the domestic consumption of textile, garment and shoe products had decreased from 55.7 per cent in 1917/1918 to 35.5 per cent in 1937/1938 and 6.1 per cent in 1952/1953 and then remained more or less constant (6.6 per cent in 1963/1964) (Jeanneret, 1972: 66).

With regards to work organization, a "pretaylorist" paternalistic system seems to have been predominant. In the big enterprises, this system was characterized by regular and permanent employment relationships, a moderate work pace that permitted the development of strong social links within the enterprise ("*compañerismo*") and low wages complemented by various social benefits. The introduction of a taylorist system with time studies in every working post permitted Yarur, one of the main textile producers of that time, to reduce its labour force by half without reducing its production and without significant technological changes. The result for Yarur was an important competitive advantage compared to its competitors (Winn, 1986, 1990).<sup>139</sup>

In the **garment industry**, the first large enterprises of ready-to-wear clothes appeared at the end of the 19<sup>th</sup> century. In the 1920s, the Chilean garment industry produced a broad variety of articles (Varas, 1925: 174). In spite of the increasing industrialization of garment production, tailor-made clothes still held a considerable market share of 21.5 per cent in the mid-1960s (CADE, 1967: 53). Industrialization did not cause the home work production to disappear either (see section 4.3.4.).

The main characteristics of the garment industry during the ISI period were similar to those of the textile industry: vertical integration (although to a lesser degree than in the textile industry), diversified production and heterogeneous technology. The most

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<sup>139</sup> The introduction of a taylorist system was carried out with the help of the consulting enterprise Price Waterhouse and was the main reason for one of the most important strikes in Yarur's history.

relevant limitations to the industry's productivity did not lay in the machinery, but rather in the deficient flow of the work in process within the enterprise, problems in input sourcing and the absence of time studies for the different productive processes (CADE, 1967).

Being import-substituting industries par excellence, the textile and garment sectors were among the most affected by the abrupt commercial opening and the recessions of the 1970s and 1980s. The declines in production and employment were more substantial than for the manufacturing industry as a whole. Already in 1981 (that is, before the year 1982 with a record number of bankruptcies), the number of establishments in the sector (ISIC 32, thus including leather and shoe production) had diminished by 36 per cent compared to 1967. For the manufacturing industry as a whole, by contrast, the decline had been by only 13 per cent (Mizala, 1992; Aninat, 1986; Frías et al., 1987).<sup>140</sup> During the second half of the 1980s, the sector as well as the manufacturing sector in general experienced a strong recovery. This recovery was based on the massive incorporation of cheap labour and the use of unused productive capacity.

In sum, the textile and garment industries were typical import-substituting industries with the limitations that this development scheme involved, particularly the saturation of the domestic market and the obstacles for the introduction of efficient methods of work organization. After suffering a strong impact from the abrupt trade liberalization and the recessions of the 1970s and early 1980s, a recovery took place in the late 1980s.

### **5.2.2. Recent development in open markets**

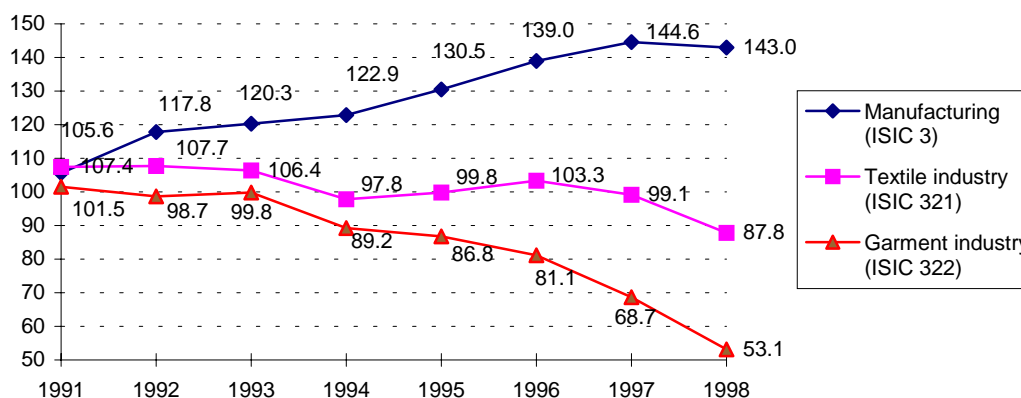
Following the recovery of the second half of the 1980s and up to the early 1990s, the textile and garment industry once again started to decline. Production data show stagnation and then decline during the 1990s, especially in the garment industry where production has almost halved between 1991 and 1998. In the textile industry, the production level was relatively stable up to 1997, but a decline by more than 10 per cent occurred in 1998. The performance of both industries contrasts with the manufacturing sector as a whole that has continuously increased its output level during the same period, except for a minor decline in 1998 (figure 5.2.).

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<sup>140</sup> From 1976 onwards, the sectoral business association *Instituto Textil* repeatedly protested against the government policy and its indifference face to "international dumping" (Wormald, 1985: 238).

**Figure 5.2. Physical production in the textile and garment industry, 1991-1998**

(Index, 1989= 100)



Sources: Banco Central (1996): Boletín Mensual, Nr. 818, April based on data from the INE; INE (1999): Compendio Estadístico.

With regards to the employment impact of the crisis, there are two different sources elaborated by the *Instituto Nacional de Estadísticas*:

- The *Encuesta Nacional Industrial Anual* (ENIA) is an establishment survey that, in principle, includes all manufacturing establishments with 10 workers or more.<sup>141</sup> The last available survey is from 1996. According to these data, by 1996, employment in the sector (49,118 persons in 747 establishments) had decreased by more than 8,000 persons since 1992 (57,870 persons in 735 establishments) (table 5.2.). The employment losses took place exclusively in the segment of establishments with 50 or more workers (from 45,628 in 1992 to 36,553 in 1996), while employment in smaller establishments (10 to 49 workers) remained stable. However, given the high number of microenterprises and homeworkers, especially in the garment production, these ENIA figures are far from covering the total employment.
- Indeed, the household survey *Encuesta Nacional del Empleo* (ENE) gives much higher numbers. ENE data put textile industry employment in 1996 at 45,629 persons, and garment industry employment for the same year at 106,609 persons, totalling 152,238 persons in the textile and garment industry. According to ENE data, employment in the textile and garment industry decreased from a peak of 187,250 persons in 1993 to 134,440 in 1997 (figure 5.3.).

Although the difference between ENIA and ENE data is largely due to the inclusion of the self-employed and those in establishments with one to ten employed persons into the ENE data, the comparison by category of employment and enterprise size shows that the ENIA coverage is incomplete even for establishments of ten and more employed persons (table 5.3.).

<sup>141</sup> It is very likely that the ENIA underestimates the number of, and thus employment in, smaller establishments with 10 to 49 workers. There are also some differences in definitions that cannot however by themselves explain such huge differences between both sources. For example, the ENE uses the term "enterprise" while the ENIA deals with "establishments"; in many cases, one enterprise consists of several establishments.

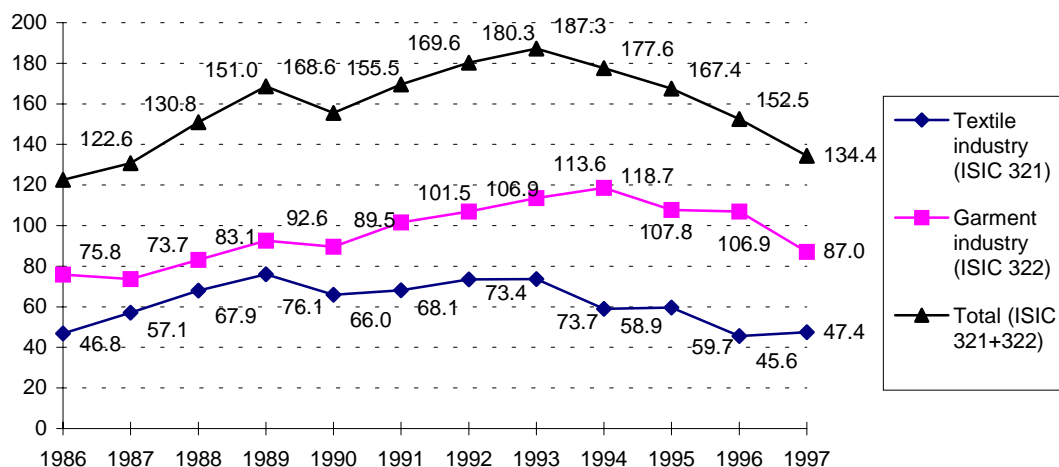
**Table 5.2. Employment in textile and garment establishments of 10 and more workers, 1980-1996**

Year	Textile industry (ISIC 321)	Garment industry (ISIC 322)	Textile and garment industry (ISIC 321+322)
1980	29 506	18 006	47 512
1981	25 967	15 915	41 882
1982	18 889	12 654	31 543
1983	19 796	10 603	30 399
1984	20 773	11 952	32 725
1985	23 317	14 140	37 457
1986	25 840	14 743	40 583
1987	28 966	18 176	47 142
1988	29 261	20 002	49 263
1989	32 626	22 709	55 335
1990	32 245	22 650	54 895
1991	32 490	23 822	56 312
1992	32 387	25 483	57 870
1993	30 196	24 555	54 751
1994	28 156	24 834	52 990
1995	26 920	23 664	50 584
1996	25 644	23 474	49 118

Source: INE (various years): Encuesta Nacional Industrial Anual.

**Figure 5.3. Total employment in the textile and garment industry, 1986-1997**

(in thousands)



Source: INE (various years): Encuesta Nacional del Empleo, October-December of each year.

**Table 5.3. Employment in the textile and garment industry according to different sources, 1996**

	Encuesta Nacional Industrial Anual (establishment survey, covering establishments with 10 workers or more)	Encuesta Nacional del Empleo (household survey)			
		Employment in enterprises with 10 and more employed	Employment in enterprises with 9 and less employed	Self-employed workers	Total employment
Textile industry (ISIC 321)	25,644	30,192	2,231	13,206	45,629
Garment industry (ISIC 322)	23,474	49,837	13,855	43,217	106,909
Textile and garment industry (ISIC 321+322)	49,118	80,029	19,086	56,423	152,538

Sources: INE (1996): Encuesta Nacional de Empleo, October-December; INE (1996): Encuesta Nacional Industrial Anual.

**Table 5.4. Total employment in the textile and garment industry by employment category and sex, 1997**

	Total	Employers	Self-employed	Salaried workers		Unpaid family workers
				Enterprises with less than 10 workers	Enterprises with 10 workers and more	
<i>Both sexes:</i>						
Textile industry (321)	47,438	1,365	10,706	1,742	33,610	45
Garment industry (322)	87,000	2,366	34,051	8,299	41,181	1,024
Textile and garment industry (321+ 322)	134,438	3,731	44,757	10,041	74,791	1,069
<i>Men:</i>						
Textile industry (321)	26,515	1,221	1,187	635	23,472	0
Garment industry (322)	19,494	1,765	4,126	1,200	12,296	107
Textile and garment industry (321+ 322)	46,009	2,986	5,313	1,835	35,768	107
<i>Women:</i>						
Textile industry (321)	20,923	144	9,519	1,077	10,138	45
Garment industry (322)	67,506	601	29,925	7,099	28,964	917
Textile and garment industry (321+ 322)	88,429	745	39,444	8,176	39,102	962

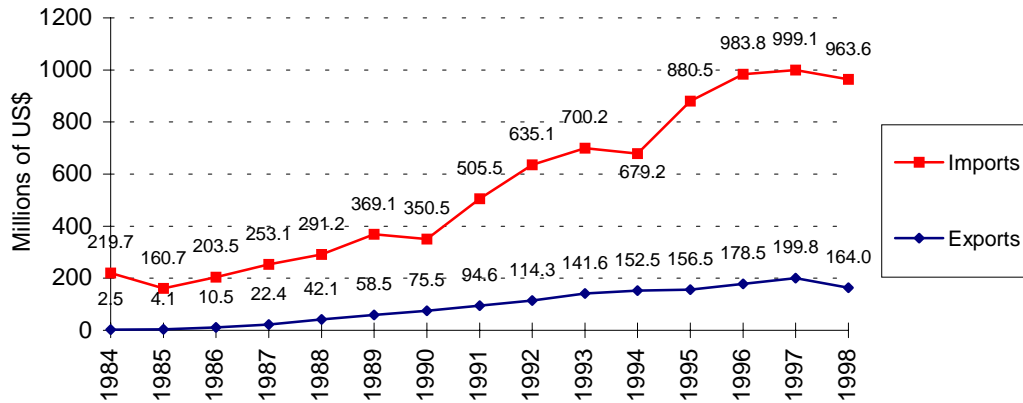
Source: INE (1998): Encuesta Nacional del Empleo, October-December 1997.

An analysis of ENE employment data by employment category and sex shows that men are mostly working as salaried workers in enterprises with 10 or more workers, while more than half of the employed women in the sector work in self-employment or in enterprises with less than 10 workers. The share of these very small enterprises

and of self-employment is much higher in the garment industry than in the textile industry (table 5.4.).

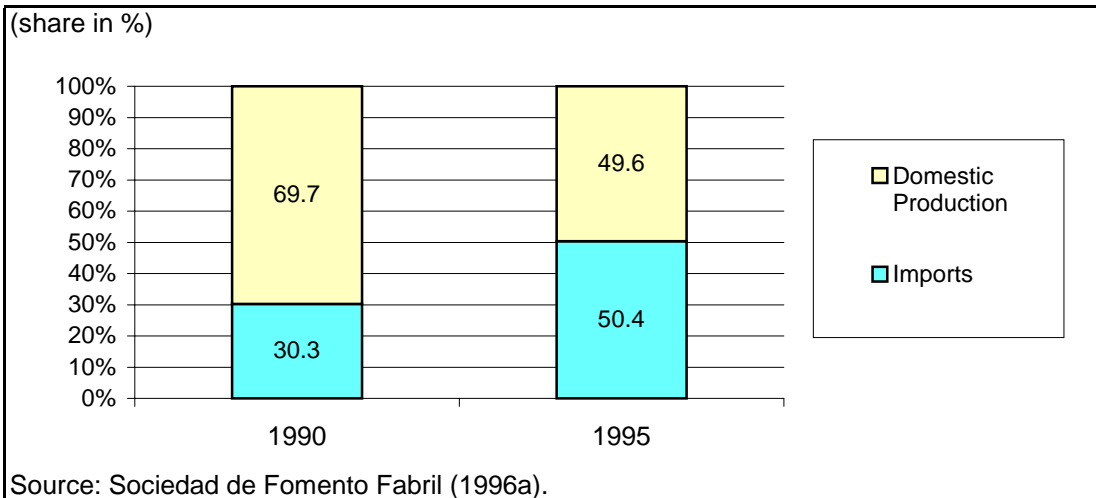
**Figure 5.4. Imports and exports of textile and garment products, 1984-1998**

(millions of US\$)



Source: Instituto Textil (various years).

**Figure 5.5. Domestic production and imports in the textile and garment industry, 1990 and 1995**



Source: Sociedad de Fomento Fabril (1996a).

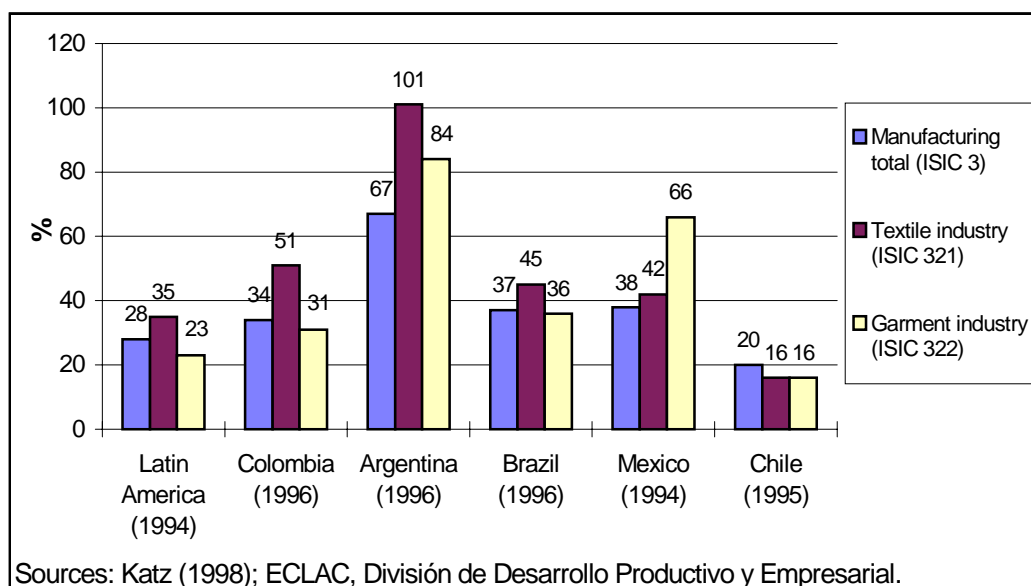
The economic crisis of the sector is closely related to the increase of imports, including imports of second-hand products. Although the strong increase in imports started already in 1991 (figure 5.4.), it did not have immediate negative consequences because the domestic consumption of textile and garment products was in strong expansion between 1990 and 1992. Between 1992 and 1994, domestic consumption maintained its previous level, but did not experience strong growth anymore. Thus, the continuous increase of imports started to have a direct impact on domestic producers.

While in 1990, garment imports accounted for 30.3 per cent of domestic consumption, this share had increased to 50.4 per cent in 1995 (figure 5.5.). It is true that exports also increased during the same period, but the volume of exports remained much below import volumes and was therefore unable to compensate the

loss of Chilean enterprises in domestic markets, the result being a declining production in Chile.<sup>142</sup>

The impact of the sectoral crisis was visible in several of the sample enterprises of this study, but not in all of them. Several of them had even been able to increase their production and employment levels. In any case, it has to be remembered that the sample data are not directly comparable with the overall sectoral panorama, because the sample enterprises logically exclude those that had already closed down as a consequence of the crisis when the survey was carried out.

**Figure 5.6. Productivity (value added per worker) relative to the United States in Chile and other Latin American countries, around 1995**



As has been mentioned before, the key problem of the Chilean textile and garment industry lies in the relatively low productivity levels. Productivity growth in the textile and garment industry over the last decades has been unsteady (Elter, 1996: 7):

- Between 1979 and 1985, labour productivity increased (7.2 per cent per year in the textile industry and 5 per cent in the garment industry) due to the lay-offs.
- Between 1985 and 1989, labour productivity decreased as employment grew almost twice as much as production.
- Between 1989 and 1993, the labour productivity of the textile industry stagnated while the one of the garment industry continued to decrease. During the same

<sup>142</sup> A special problem are the imports of second-hand clothes. They reached US\$ 15.6 millions in 1998. Although in monetary terms this is not very much, due to the low price of these articles (approximately US\$ 1.44 per kg), the quantities involved are considerable. Imports of second-hand clothes have however diminished relative to new clothes over the last years (Instituto Textil, various years). Another problem is the import of unsold production of the season, especially from the United States and Europe (*saldos de temporada*). (Given that Chile has inverted seasons with regards to Europe and the U.S., remainders at the end of the season which are sold at low prices can arrive just in time for the start of the Chilean season.)

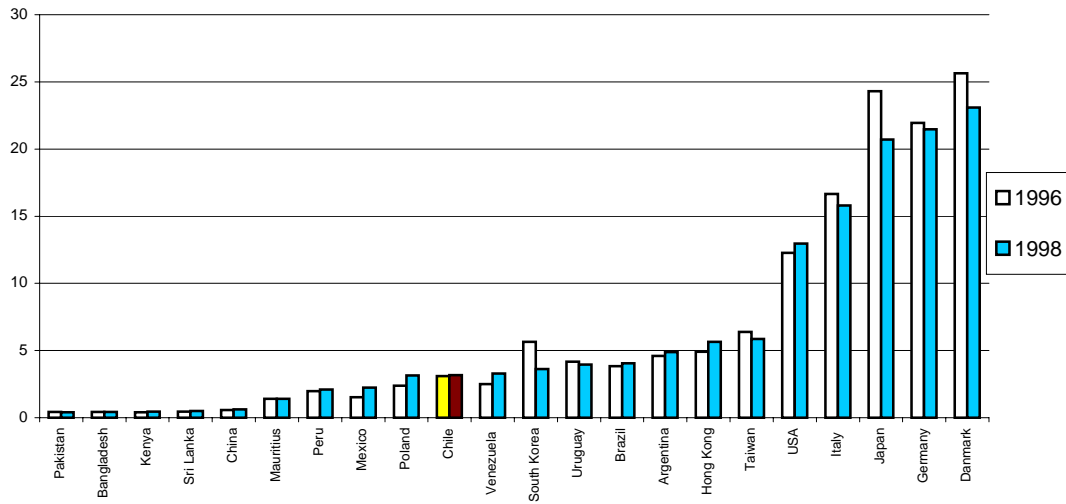


time, labour productivity in the manufacturing sector as a whole experienced a strong increase.

During the 1993-1997 period, it appears that labour productivity has increased in the textile industry as employment has fallen much more than physical production. In the garment industry, on the contrary, production levels have fallen faster than employment, suggesting further losses in labour productivity.

**Figure 5.7. Labour costs in the textile industry in selected countries, 1996 and 1998**

(Hourly cost including social benefits and fringes in US\$)

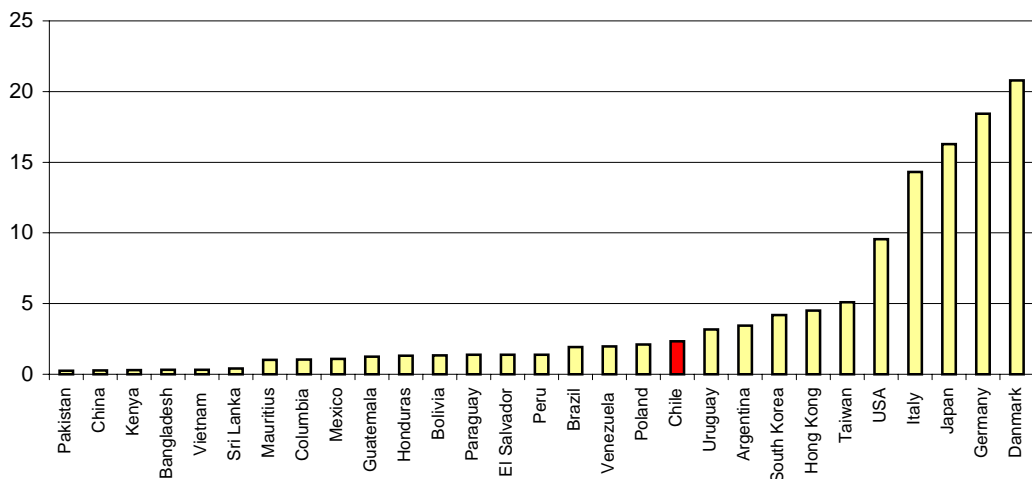


Source: Werner International (1996a; 1998).

Note: Countries are ranked by their 1998 labour cost.

**Figure 5.8. Labour costs in the garment industry in selected countries, 1996**

(Hourly cost including social benefits and fringes in US\$)



Source: Werner International (1996b).

Labour productivity in the Chilean textile and garment industry is not only low compared to industrialized countries like the United States; it is also considerably

lower than in several other Latin American countries, such as Argentina, Brazil, Colombia and Mexico (figure 5.6.).

Labour costs in Chile are in line with other middle-income countries. They are significantly higher than in many Asian developing countries, like China or India, but much lower than in industrialized countries. As figures 5.7. and 5.8. show, this is true both for the textile and the garment industries.

The following factors can explain the relatively low productivity levels in Chile: low technological level, small production runs in the case of highly standardized products, the relatively low educational level of the Chilean labour force (at least compared to industrialized countries) and the relatively backward systems of work organization and human resource development. The challenge of increasing the productivity levels of the Chilean textile and garment industries has to be addressed both by individual enterprises and by the institutional framework. The next section will describe the sector-specific institutional framework in which Chilean textile and garment enterprises operate.

### **5.2.3. Trade policy, industrial policy and social actors**

The capacity of the sector to face the challenges of restructuring does not only depend on the behaviour of the enterprises, but also on the government's action (through its trade policy, industrial policy and incentives for restructuring), the role of the social actors (mainly trade unions and business associations) as well as the social actors' capacity for social dialogue. These political and institutional factors have an impact on the enterprises' possibility to carry out a restructuring based on productivity increases and good employment quality (the "high road" strategy), rather than on cost-cutting and low wages (the "low road" strategy).

The sectoral **business association** is the *Instituto Textil*. It was created in 1960 as a result of a merger of several subsectoral associations. It has approximately 150 affiliates. Most of them are large or medium-size enterprises. The fact that textile enterprises (spinning and weaving mills) are in the same association as the garment enterprises sometimes causes conflicts of interest with regards to trade policy. While textile enterprises would prefer some import protection for their products, garment enterprises that do not have textile activities are in favour of free textile imports. Although these potential conflicts appear to be solved for the time being, the association suffers some degree of disorganization within its ranks. The former President of the *Instituto Textil* declared in 1994: "In my career as President I have seen dejection in the sector, I have seen apathy and an unjustified fatalism in the face of the present situation" (Instituto Textil, 1994: n.p.). In sum, although the *Instituto Textil* has a coherent strategy in order to defend its members' interests, the entrepreneurs themselves seem to lack the necessary cohesion as a collective actor.

With regards to smaller enterprises, a number are members of the *Asociación de la Mediana y Pequeña Industria de Chile* (AMPICH); indeed, some 62 out of the 300 constituent enterprises making up the latter institution belong to the textile and garment industry. Included among AMPICH's many activities are the provision of incentives for technological upgrading, entrepreneurial training, and the representation of sectorial interests vis-a-vis government authorities.

The **trade union** affiliation rate in 1995 was 33.6 per cent in the textile industry and 24.9 per cent in the garment industry. The rate for the textile industry is higher than the manufacturing average, while the one for the garment industry is close to average. The difference between both industries can be explained by the predominance of small enterprises in the garment industry (Selamé, 1996: 42-43). There are two trade union confederations for the textile and garment industry, the CONTEVECH<sup>143</sup>, close to the Christian Democrat party, with approximately 9,800 affiliated workers and the CONTEXTIL<sup>144</sup>, close to the Communist party, with 4,300 affiliated workers. Both confederations are affiliated to the CUT. The third trade union organization, the federation FENSITECO<sup>145</sup>, was created in 1993, has approximately 3,200 affiliates and is not affiliated to any higher-level organization.<sup>146</sup>

In order to defend the interests of the workers in small enterprises without trade union, the *Sindicato Interempresa*, affiliated to the CONTEXTIL, was created in 1995. It has some 60 members, most of whom work in the Patronato area of Santiago. Due to legal restrictions, the trade union cannot bargain collectively. Rather, it sees its main tasks in making the general public aware of the difficult situation of these workers, providing information on the labour legislation and legal assistance to workers.

In 1994, CONTEXTIL created a lunch facility (*Comedor Acogedor de la Mujer Trabajadora*) for textile and garment workers in the Patronato area with the financial support of the development agency OXFAM. It provides a place to have lunch for those workers in the surrounding workshops who do not have these facilities in their workplaces. Moreover, it organizes service and advice programmes for the workers.<sup>147</sup>

The fact that there are three different national-level trade union organizations has obviously weakened the capacity for effective action.<sup>148</sup> Various efforts to unite the sector's trade union movement failed due to strategic differences and communication problems between their leaders. In March 1997, a coordinating unit between the three organizations was created as the outcome of a seminar that had been organized by the

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<sup>143</sup> *Confederación Nacional de Trabajadores Textiles, del Vestuario, la Confección y Ramos Conexos de Chile.*

<sup>144</sup> *Confederación Nacional de Federaciones y Sindicatos de Trabajadores Textiles de la Confección, Vestuario, Pieles y Ramos Similares y/o Conexos de Chile.*

<sup>145</sup> *Federación Nacional de Sindicatos Textiles de la Confección, Comercio, Servicios y Ramos Conexos.*

<sup>146</sup> Affiliation data provided by the trade union organizations, 1997.

<sup>147</sup> The programme includes aerobic and make-up courses as well as legal advice, health services and conferences on labour law. Most services are free of charge for the participants (Interviews, *Comedor Acogedor de la Mujer Trabajadora*, Santiago, 24 October 1995 and 16 October 1996).

<sup>148</sup> There are other factors that contribute to the relative weakness of the trade union movement in the sector, such as the internal conflicts in the trade union movement at national level (see section 3.1.5.) and the indebtedness of many Chilean workers. This latter factor is explicitly considered as an obstacle to the success of collective bargaining because it limits the union's bargaining power in case of strike (Patricia Coñomán, then President of CONTEXTIL, opening address to the 14<sup>th</sup> National Congress of CONTEXTIL, Santiago, 6 June 1997).

ILO in cooperation with the organizations.<sup>149</sup> While this was a clear progress compared to the prior situation, conflicts between the organizations continue to hamper the coordination.

With regards to the **social dialogue** between business associations and trade unions, there have been informal discussions on several occasions. For example, the presidents of the *Instituto Textil* and AMPICH participated in the ILO trade union seminar in 1997 to present their views and to answer questions. The CONTEVECH had signed an agreement with the *Instituto Textil* in 1990, but several trade union leaders were not convinced that the enterprises affiliated to this business association had effectively put the contents of this agreement into practice.<sup>150</sup>

Business associations and trade union movements have similar opinions on a range of issues. Both sides would welcome a more active trade policy by the government in order to curb subsidized imports, especially from China. Both sides agree that employers should respect the obligations set out in the labour legislation. There is however disagreement with regards to the projects of labour reform that the government has tried to push through on several occasions (see chapter 7.). While the trade union movement sees this reform as an, albeit insufficient, effort to reestablish some of the rights the trade union movement lost during the period of military dictatorship, the employers strongly oppose what they see as the introduction of central bargaining mechanisms beyond the enterprise level (*supra empresa*) (Instituto Textil, 1996).

**Trade policy** is one of the most controversial issues in the discussion on the crisis of the textile and garment industry. The unrestricted opening up of the Chilean economy caused a strong increase in textile and garment imports. Although few entrepreneurs would generally defend a protectionist trade policy, they complain about unfair competition - especially imports of subsidized low-price products from Asia, end-of-season sales from Europe and the United States and second-hand clothes - against which no effective protection mechanisms exist. In the entrepreneurs' view, this unfair competition would justify higher import surcharges than those that are currently in use. This position was stated by several of the interviewed enterprises as well as in declarations by the *Instituto Textil*: "What we are asking for is to compete with the rest of the world under the same conditions" (Isaac Motles, former President of the *Instituto Textil* in *Estrategia*, 5 May 1994). The perception of unequal conditions refers to the inflow of subsidized products into the domestic markets as well as to the obstacles Chilean enterprises face in many potential export markets. To illustrate the point on subsidized imports, several of the interviewed enterprises had examples of products that were sold at prices that were hardly above the costs of the raw materials, impossible to reach without explicit or implicit subsidies.

The policy instruments the government has to protect the national industry against such imports are limited because the current legislation does not permit import prohibitions or import quotas. Although recent changes in the legislation introduced special safeguard mechanisms (*salvaguardias*) to protect Chilean producers against

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<sup>149</sup> Seminar "*Transformaciones en el Sector Textil*", Santiago, 19-21 March 1997.

<sup>150</sup> Another joint statement was signed between the *Instituto Textil* and the CONTEVECH in 1996 to take a common posture and back an agreement in Parliament on the national textile industry.

imports at distorted prices which could cause "serious damage", the procedures are still quite complicated (each product is treated on a case-by-case basis), the WTO-conform mechanism does not permit country-specific measures and the rates of the obtained import surcharges are relatively low (see ILADES, 1999). The *Instituto Textil* has voiced its dissatisfaction with the mechanisms and has even at some times temporarily stopped to make submissions to the Committee on Distortions.<sup>151</sup>

With regards to imports of second-hand clothes, the government considers that a prohibition would affect the interests of the poorest (who buy cheap second-hand products) without having a significant positive impact on the domestic industry. According to government estimates, a prohibition would reduce the consumption of clothes (in terms of physical quantities) by 20 per cent, while increasing domestic production by only 2 to 3 per cent. The government's action in this field is thus limited to avoiding fraudulent imports of new clothes declared as second-hand products, protecting consumers against potential health hazards by upgrading sanitary standards and making sure that second-hand clothes are clearly distinguished from new ones in retail stores.<sup>152</sup>

Most instruments of **industrial policy** in Chile are not oriented towards specific economic sectors (see chapter 7.). Textile and garment enterprises can thus benefit from the same industrial policy instruments that are available to other sectors:

- Textile and garment enterprises participate in Development Projects (*Proyectos de Fomento*, PROFOs) that provide enterprise support programmes financed by the Chilean Economic Development Agency CORFO (see chapter 7.). These programmes aim at encouraging enterprises to establish development projects, hire technical consulting services or participate in technological and marketing missions abroad. At the end of 1993, the government signed a formal agreement with the *Instituto Textil* that included the transfer of Ch\$ 150 million (US\$ 370,000) to finance PROFOs for the textile and garment industry (Muñoz, 1996b). During 1996, 57 textile and garment enterprises participated in PROFOs. The most common activities were entrepreneurial missions abroad. Several PROFOs have been very successful (for example a project in children's clothes) while others have closed down due to lack of activities.<sup>153</sup> Even though the *Instituto Textil* tries to encourage the participation of its member enterprises in

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<sup>151</sup> The prime example for subsidized garment exports is China, where the government awards bonuses to enterprises on the basis of the value of exports, repays producers for losses they incur in filling export quotas assigned to them and decreased tax rates for textile and garment enterprises (Dickerson, 1995: 426). Other countries in Latin America, despite having moved towards a free-trade orientation, have adopted a much stronger approach with higher and more broadly applied import surcharges. For example, Mexico's import surcharges for garment imports from China, range from 54 to 501 per cent. Another problem are fraudulent imports, where even the low import tariffs are evaded. According to a recent newspaper report, 160 importers face charges for the import of garments from Asia and some Latin American countries at undervalued prices. The revealed cases of fraud alone represented a tax evasion of US\$ 2 million (*La Tercera en Internet*, 20 October 1999).

<sup>152</sup> Ministerio de Economía (1994) and interview with Juan Carlos Scapini, *Ministerio de Economía*, Santiago, 29 March 1996.

<sup>153</sup> Interviews with María-Angélica Vega, *Instituto Textil*, Santiago, 23 November 1995 and 27 January 1997.

PROFOs<sup>154</sup>, interest conflicts between enterprises and the lack of trust between them are strong obstacles. According to available assessment studies, textile and garment PROFOs have been less profitable than in other sectors of the Chilean economy (Benavente et al., 1997).

- In addition to the links with CORFO, the *Instituto Textil* signed an agreement with the export promotion agency ProChile in December 1996. Under this agreement, The *Instituto Textil* is a recognized partner in the execution of ProChile activities and can handle its programme resources.
- The industrial subcontracting database *Bolsa de Subcontratación Industrial de Santiago* has been set up with public support to facilitate the contact between subcontractors and potential clients. In 1996, textile and garment enterprises accounted for 19 per cent of all subcontractor enterprises in the database and 12 per cent of all searches for subcontractors.<sup>155</sup>

In May 1994, the government presented a *Programa de Reconversión Textil* to support the restructuring process of the textile and garment industry as a response to the crisis (Ministerio de Economía, 1994). The main orientation of the programme was to facilitate the use of the existing instruments, but it also contained a limited amount of additional resources. The main activities in the programme were:

- The creation of technical committees to study in more detail the issues of imports of second-hand clothes, imports of clothes from Asia and end-of-season sales from Europe and the United States.
- A special retraining programme for the textile and garment industry. Within this programme, carried out through the *Servicio Nacional de Capacitación y Empleo* (SENCE), workers of the sector who have lost their employment or who were about to lose it, could obtain a training course, a scholarship for the duration of the course and services to facilitate the job matching after the course. This activity started with some delay in April 1996 with 116 participants of which 76 per cent were brought back into employment through the programme. Compared to the situation prior to the course, the share of low wage earners among the participants diminished. However, the number of trained workers remained far behind the set goal of 3,000 participants between 1994 and 1996 (Ministerio de Economía, 1994; SENCE, 1997b).
- The creation of a technological centre (*Centro Tecnológico Textil*), jointly financed by enterprises and the government. The idea was to start the technological centre as a PROFO and give it a different structure in a later phase of development. However, the project failed due to a lack of activities. According to the *Instituto Textil*, it was decided to abandon the project "[...] basically because there was no active entrepreneurial participation from most of its members, both in attending the meetings and making financial contributions" (Instituto Textil, 1995: n.p.).
- An attempt to foster the social dialogue between enterprises and trade unions, by encouraging them to sign enterprise-level "social agreements". These agreements

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<sup>154</sup> Interview with María-Angélica Vega, *Instituto Textil*, Santiago, 23 November 1995.

<sup>155</sup> BSIS (1996) and interview with Héctor Oyarzun, Manager, *Bolsa de Subcontratación Industrial de Santiago*, SERCOTEC, 29 April 1997.

were to include a collective bargaining period of four years (instead of two years), constant real wages, the protection of the oldest workers against dismissal, facilitated access to credits for technological modernization and a special programme of training and technological missions abroad. However, such an agreement was signed in only one textile enterprise, and neither the trade unions nor the enterprise was satisfied with its results. Both parties agree that the government did not keep its promises with regards to its participation in the agreement, for example the financing of technological missions abroad.<sup>156</sup>

By the end of 1995, the *Instituto Textil* considered the government's restructuring programme "a failure", although the Ministry of the Economy kept insisting in the necessity of using its instruments to their full extent (*Instituto Textil*, 1995). In January 1996, the Chilean Parliament voted a project on the reactivation of the textile and garment industry (*Instituto Textil*, 1996), but the results apparently remained very limited.

Another field of institutional factors are the efforts to **ensure compliance with labour and tax legislation**. In the textile and garment industry, an inspection programme called *Campaña Textil* was carried out in November 1996, organized by the *Dirección del Trabajo* in cooperation with the *Servicio Nacional de la Mujer*, NGOs and the sector's trade union confederations. The inspection programme focussed on the Patronato area characterized by a high concentration of predominantly small garment enterprises. It included inspections during two weeks, press conferences and the distribution of leaflets with information on labour law and minimum working conditions, a training session for employers and a contact point for workers to obtain information during their lunch break. The programme met with positive feedback from the workers.<sup>157</sup>

In summary, the institutional context contains both weaknesses and interesting and innovative approaches in different areas (industrial policy, labour inspection). However, these elements have not been sufficient to launch a restructuring strategy based on productivity increases and good employment quality. This analysis coincides with the assessment by the Ministry of the Economy (1994: 2):

First, there are deficiencies in the context of public institutions to correct for imports at subsidized prices, to foster exports and for professional training. Second, there is a strong dispersion among the entrepreneurs due to strong conflicts of interest, making their strategic cooperation to overcome weaknesses more difficult [...].

After characterizing the performance and challenges of the Chilean textile and garment industry as well as the sector-specific institutional context, the following sections analyze enterprises' innovation (5.3.) and flexibility (5.4.) strategies.

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<sup>156</sup> Interviews with CONTEVECH, Santiago, 21 November 1995, CONTEXTIL, Santiago, 17 December 1995 and the textile enterprise, 1995 and 1997. Apparently the reason for the government not to keep its promises was that against its initial expectations, only one enterprise signed a social agreement. In its view, any benefit for this enterprise could thus have been perceived as an arbitrary state subsidy to one specific private enterprise.

<sup>157</sup> Interview with Pamela Farías, *Oficina de Asistencia Técnica, Dirección del Trabajo*, 23 October 1996, and reports of the *Campaña Textil*.

### 5.3. Innovations

This section characterizes the pattern of innovation strategies in the Chilean textile and garment industry. Subsection 5.3.1. describes the general tendencies, while the following subsections (5.3.2. to 5.3.6.) deal with the different types of innovation. 5.3.7. summarizes the evidence.

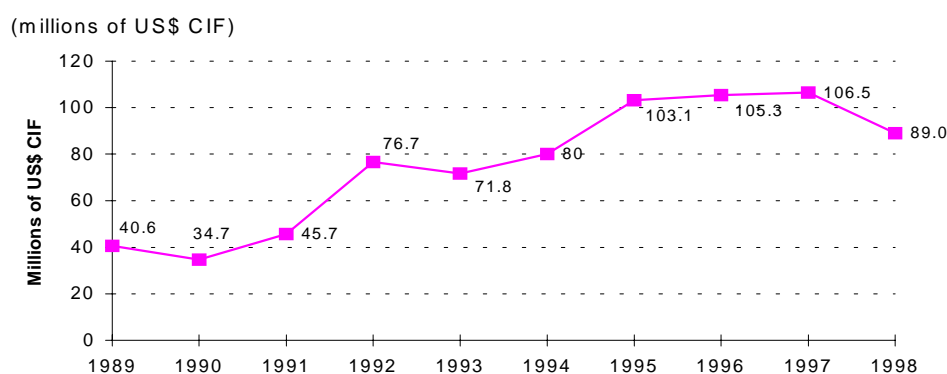
#### 5.3.1. General tendencies

According to a study carried out in 1959 (ECLAC, 1962), the Chilean textile industry was quite advanced technologically at that time. The share of modern cotton looms was higher than in most other Latin American countries, and even higher than in countries like Germany, France, or Great Britain. The limitations for the development of the industry during that period were due to the saturation of the domestic market and deficiencies in work organization.

During the 1980s, some of the enterprises that suffered the most severe problems or went bankrupt were among the most innovative ones. Especially those enterprises that had run into debts to finance new investments suffered from the abrupt currency devaluation and the economic recession in 1982. Conversely, careful innovators, who improved their machinery but did so gradually and without much debt, were more successful (Ibáñez/Winn, 1989: 6).

Data on imports of capital goods give some insights into the intensity of technological innovations in recent years. These data show that imports of capital goods for the textile and garment industry increased strongly up to 1995, but stagnated and then declined between 1996 and 1998 (figure 5.9.).

**Figure 5.9. Imports of machinery for the textile and garment industry, 1989-1998**



Source: Instituto Textil (various years): Informe Estadístico.

Some observers point out that the present crisis, at least in the textile industry, is related to a lack of innovation in the affected enterprises. According to them, enterprises which closed down or are about to close down are mostly those that have not had much technological innovations or have been too cautious in their innovative strategies, for example buying second-hand machinery instead of new state-of-the-art



machinery.<sup>158</sup> In fact, some of the enterprises interviewed for this study were reluctant to run into debts for new machinery, possibly as a consequence of their experiences during the 1980s when those enterprises that had not run into debts survived better than the most innovative ones with high debts.

Compared to other sectors, the textile and garment industry (here including leather and shoe production) has a medium degree of incorporation of information technologies and automatization in the big enterprises and a low degree in small enterprises. The coverage of these technologies is limited mostly to incorporated control of machines and basic systems of administration (Henríquez/Velásquez, 1996: 20). The interviews and enterprise visits for this study confirm a heterogeneous pattern of innovation (table 5.5.).

While some enterprises have hardly innovated at all during the three year survey period, others do have ambitious projects, both with regards to "hard technology" (machinery) and "soft innovations". In some cases, the "soft" innovations were difficult to evaluate given that they are often not considered as innovations as such but rather as consequences of "hard" technological innovations.

### **5.3.2. Product innovation**

It is relatively difficult to detect product innovations in the textile and garment industry because they are difficult to distinguish from the seasonal product changes. However, there is genuine product innovation when the new products have clearly different characteristics. This is for example the case with the introduction of a new product line in the enterprises T1 and T2. In the garment production, a product change can be considered a genuine product innovation when the new product is oriented towards a clearly different market segment, when innovative materials or inputs are used or when an explicit effort is made at incorporating new design that is not readily available. No clear examples of this were detected during the enterprise visits, although there is a general tendency of abandoning the lowest market segments and focussing on higher market segments instead.

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<sup>158</sup> Interviews with Gustavo Soria, Santiago, 1995 and 1996.

**Table 5.5. Innovation patterns in the textile and garment sample enterprises**

<b>Nr.</b>	<b>Principal activity(ies)</b>	<b>Number of workers</b>	<b>Product innovation</b>	<b>Innovation in technology and productive processes</b>	<b>Innovation in organization of production</b>	<b>Innovation in work organization</b>	<b>Innovation in human resource management</b>
T1	Cotton fabric (denim etc.)	612	Innovations in technical characteristics, design and quality of product	Important innovations (electronic and electromechanical machinery)	Changes due to introduction of new product line	Creation of semi-autonomous units within the enterprise	New training efforts; fixed wages instead of incentive system
T2	Woollen fabric (and wool - synthetic mixes)	1 116	Better quality and new product line	New, more rapid machines (new and second-hand)	New quality controls		New system of productivity incentives; start of a training plan
T3	Cotton and synthetic fabric	14		Electro-mechanical machinery (second-hand)			
T4	Printing of fabric	92		New machinery in some sections			
T5	Fasteners, labels, embroidery	80	New product, new designs and new product qualities	New state-of the-art machinery for new product line; no important changes in existing lines	New software for quality control and control of stocks; organizational changes to reduce time of intermediate product in the machine and to reduce dead times (external consulting firm was hired); Subcontracting to homeworkers of one phase of the production process in one production line	Introduction of modular system	Increasing shift-work and overtime work; start of training activities
T6	Panties and socks	19	Different inputs for some products	New machines in the context of the expansion of the enterprise	Quality control: second revision after dyeing; new system of stock control		Benefits ( <i>regalías</i> ) eliminated
T7	Knitwear and garments	18	Different inputs for some products	New machines (second-hand)			
T8	Spinning, weaving, knitwear, garments	2 000	More sophisticated (more expensive) products	New electronic and electro-mechanical machinery for different sections	Reorganization of the information systems	Organization of different sections as profit centres	Improvements in training system
G1	Garments (jeans etc.)	686		New machines (programmable sewing machines; automatic CAT/CAM machine for cutting)	Modifications in planification and coordination	(Previously introduction of modules)	
G2	Garments (shirts, dust coats, etc.)	25			Subcontracting of part of the production to homeworkers		Some workers with commercial contract instead of work contract
G3	Garments (subcontractor)	12		Limited innovation due to frequent product change	(Previous change: from own products towards working as subcontractor (except one product))		From a system of fixed wages with incentives according to subjective performance appraisal to system with stronger piece-rate elements

(table 5.5. continued)

<b>Nr.</b>	<b>Principal activity(ies)</b>	<b>Number of workers</b>	<b>Product innovation</b>	<b>Innovation in technology and productive processes</b>	<b>Innovation in organization of production</b>	<b>Innovation in work organization</b>	<b>Innovation in human resource management</b>
G4	Garments (subcontractor)	11		New machinery (expansion of activities)			
G5	Commercialization of garments	15		Medium-term project: acquiring computer equipment	Medium-term project: organize production in satellite workshops and stocks of finished products by computerized communication		
G6	Production and commercialization of maternity wear	10	Permanent creation of new models	(Does not have own productive installations)			
G7	Garments and commercialization	12					
G8	Garments and commercialization	7			Subcontracting of garment assembly		
G9	Garments and commercialization	38			Subcontracting of garment assembly		
G10	Garments (jeans)	35					
G11	Garments	6					
G12	Garments	77			New cost calculations for each product		
G13	Garments	210		New machinery		Modifications at some point of the production line	Introduction of fixed wage instead of incentive-based system
G14	Garments (predominantly subcontractor)	130	New product; abandoned export production				
G15	Garments	560	Changes in the design and quality of products	New electronic and electro-mechanical machinery; improvements of the plant layout	Introduction of computerized stock control		Training programs started
G16	Garments (subcontractor)	30	New fashion product with higher price	Minor innovations in the production processes	Important improvements in system of quality control; delivery system computerized		
G17	Garments (subcontractor)	28		New workshop to increase production capacity; new plant layout and improvements in the flow of intermediate products in the factory	Work exclusively as subcontractor for G15		

Source: Own survey, 1995-1997.

One type of innovation observed is the effort to acquire licensing agreements for trademark clothing, which permits to sell with higher margins. In some cases, this is more a commercial strategy than a product innovation, because the product itself may be maintained without changes. For example, G1 acquired two licences, but these do not correspond to garment trademarks but to other products (for example soft drinks) that use garments as one additional marketing tool. Thus, G1 uses its own product design prior authorization from the trademark representative (in one case, the representative in Chile, in the other one, the headquarters in the United States).<sup>159</sup>

In other cases, the cooperation with an international trademark requires some product modifications according to the specifications. This can be accompanied by some degree of technical assistance to help the Chilean enterprise to adapt to demanding quality standards (T8, G13).

The production for higher market segments or the fashion segment is one of the possible development perspectives for Chilean enterprises, be it in joint-ventures with foreign enterprises or via the strengthening of the "Latin American fashion" in which Chilean design could acquire a higher degree of independence from European and North American fashion. This goal is however difficult to achieve without a cooperation between several Chilean enterprises in order to obtain a sufficient "critical mass" to shape a new fashion.

### **5.3.3. Innovation in technology and in productive processes**

In the three biggest **textile enterprises** of the sample, important technological and process innovations have taken place, albeit of a very different character. In T1, a completely new production line has been installed, from the reception of inputs to the final product. Its layout has been designed specifically for the new project. By contrast, the technological innovations in T2 aim at eliminating bottlenecks that have been detected in the production process, without a complete renewal of the production line or important changes in the plant layout. Moreover, new machines are combined with others bought second-hand. T2 is however also starting to register productivity levels and the flow of intermediate products within the plant in a continuous manner, to detect bottlenecks with greater precision. T8 maintains a high degree of technological heterogeneity, similar to the one in T2, and state-of-the-art machines coexist with others from the 1950s and 1960s.

T5 is another enterprise with a strong push in technological innovations, including the installation of state-of-the-art machinery and CAD equipment for a new product line. Given the high capital-intensity of the new production line, the innovation has more weight in terms of production than in terms of employment.

In the other textile enterprises of the sample, technological innovations are much more cautious, albeit not completely absent. In some cases, the characteristics of

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<sup>159</sup> Recently, G1 has made a decisive turn towards more expensive products in niche products (e.g., with embroideries or other distinguishing details). This strategy has permitted the enterprise, which by 1997 was experiencing a very difficult situation, to stabilize its performance (Telephone interview with Gustavo Soria, 24 October 1999).

recently acquired machinery correspond more to a replacement of the capital stock than to a genuine innovation process.

The small and medium textile enterprises often work with obsolete looms (T3). In the case of knitwear, there are big differences with regards to speed and programming of the machines. These small enterprises have a high degree of technological heterogeneity. In T7, for example, relatively advanced equipment coexisted with knitwear weaving machines for domestic use that have obviously important disadvantages such as lower speed and a higher frequency of breakdown.

The biggest **garment enterprises** (G1, G13, G15) and garment production lines (T8) had introduced computerized systems (CAD/CAM) for design and cutting. With these systems, the fabric can be used with less waste, resulting in gains of about 5 to 15 per cent compared to other cutting methods (FISA, 1992). Moreover, they permit more precision in cutting.

With regards to sewing machines, the biggest enterprises have some automatic machines that carry out several operations (T8, G1, G13, and to a minor degree G15). The smaller enterprises, by contrast, do not have access to this type of machinery due to the high investment cost. They often receive second-hand machinery from the bigger enterprises, be it that they borrow them (G16, G17) or buy them.

The layout of most plants does not minimize the way intermediate products have to go while being transformed into the final product. In some of the small and medium enterprises, this happens because the productive plant is arranged by type of machine, and not by type of product. Thus, there is neither a production line, nor a modular setup (for example G12).

Among the sample enterprises, only one (T8) is working with a system of international Electronic Data Interchange.<sup>160</sup> One enterprise is preparing a system to receive information from Peru via modem for the production of textile labels (T5) and another has the intention of introducing an informatized communication system with subcontracted workshops on a national level (G5). G15 has a standing telephone and computer line to the department store (*multitienda*) to which it belongs (see section 5.5.7.3.) and T1 has a similar system between headquarters in Santiago and the productive plant in the 8<sup>th</sup> region.

These information and EDI technologies could receive a far stronger emphasis in Chile, given that Chilean enterprises are precisely characterized by their commercial strategies in international markets. Moreover, a high-quality communication network is already available in Chile. The problem apparently lies in the lack of strong cooperation structures between enterprises in Chile.

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<sup>160</sup> It is surprising that one of the biggest Chilean enterprises has specialized in the garment assembly for other enterprises has not even computerized its administration. Despite this, the enterprise has so far been quite successful economically (G14).

#### 5.3.4. Innovation in the organization of production

The study detected numerous innovations in the productive organization. Their character can in some cases be clearly defensive (for example G2: subcontracting of part of the productive process to homeworkers in order to avoid enterprise closure), but the general impression from the interviews and enterprise visits is that in most enterprises, a high degree of awareness with regards to the importance of these issues exists.

In several cases, innovations are oriented towards improving quality control. The quality is not only an issue discussed exclusively during seminars at managerial level anymore; it has become part of everyday life in most sample enterprises. In the enterprises T1 and T2, for example, quality indicators can be found on blackboards and documents in almost all offices. These quality indicators have the same importance as the produced quantities.<sup>161</sup> While in the large enterprises and in those with important technological innovations, quality control has become an integral part of the productive organization (T1, T2, T5), in the smaller enterprises the issue is tackled by multiplying quality controls throughout the production process (T6, G2).

Some enterprises use quality circles or similar periodical meetings to discuss possible quality problems and adequate solutions. It has to be pointed out, however, that these are meetings of supervisors and mid-level white-collar staff, not of blue-collar production workers (T5, G13). One of the visited enterprises prepared the certification according to ISO 9,000 and T2 has used international consulting services to establish a new reference manual for all production procedures in order to improve the compliance with quality standards.

The possibilities offered by Information Technologies are essential to organize quality control (T1, T5) and stock control (T5, G5). As has been mentioned before, the study did not detect any examples of advanced use of computerized communication between enterprises throughout the productive chain, such as the Quick Response system (see 5.3.3.).

The Just-in-Time system (see section 4.1.3.3.) is not in widespread use in the sample enterprises either. Although several of them have reduced their stocks of inputs, intermediate products and final products (T1, T6, G13), there are pragmatic reasons to apply only some elements of the Just-in-Time method or not to apply it at all:

- The most important input is imported, causing relatively long transport delays (T1).
- The characteristics of the order force the enterprise to maintain a stock of final products (T5).
- The production plant in the 8<sup>th</sup> region is far from the providers of inputs in Santiago (T2), etc.

The innovations in the organization of the production that are related to subcontracting arrangements and planning horizons are discussed in section 5.5.

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<sup>161</sup> For example, in T2 the quality of the produced yarn is classified according to an international standard and has improved from a backward position to an intermediate position over a period of several years.

In sum, the organization of production is a major field of innovation in the sample enterprises, especially with regards to quality control. However, these innovation processes are almost exclusively management-driven and do not adequately incorporate production workers.

### **5.3.5. Innovation in work organization**

The work organization naturally depends to some extent on the characteristics of the product and the technology in use. However, the work organization is not completely shaped by these factors. It also depends on enterprise strategies and the internal social organization of the enterprise.

In the **textile industry**, technological changes cause important modifications of task organization. In modern textile mills, every worker is in charge of a higher number of looms and the work consists basically in providing the machine with inputs and in controlling the process. In T1, the input supply is highly automatized, too. While the manual tasks have diminished, the requirements in terms of capacity of abstraction and data interpretation have increased.

Many of the most recent machines have digital control and programming devices. But these characteristics of the machines can give rise to very different patterns of work organization. Whether technological modernization causes deskilling or enskilling at the blue-collar level depends on the extent to which the "blue-collar work" includes the handling of these devices.

In T1, the management states that the blue-collar work has become easier with the introduction of more modern technology because the control and interpretation of the data provided by digital devices as well as all programming tasks correspond to higher-level personnel. In general, the contact of the blue-collar workers with electronic technologies is fairly limited. However, in some cases the production workers do carry out the most basic production and control tasks through these electronic devices. With regards to electronically controlled machines in small enterprises, in one case the production workers carried out the programming of the loom through a keyboard and screen system (T7) while in another case, the electronic programming of the machines is contracted out (T6).

In the **garment industry** the changes in blue-collar work due to technological changes appear to be less far-reaching. Some enterprises have introduced specialized machines that facilitate the work, for example cutting the yarn or guiding the fabric and the needle to ensure that the seam line corresponds to the desired one (T8, G1, G13, G15).

In G1, there are automatized machines that carry out several seam operations (for examples, all the necessary operations to fix a pocket on a blue jeans). This does not only increase labour productivity as several operations that used to be separate are merged into one single operation - it also changes the characteristics of work. In this specific case, the new machine has caused a clear simplification and deskilling of the task: the worker just introduces the two-dimensional pieces into the machine which then carries out the whole operation in a completely automatic matter, without any

further intervention by the worker.<sup>162</sup> The tendency in the enterprises T8, G13 and G15 that also used this type of machinery is very similar.

In the process of garment assembly, different degrees of division of labour can be observed. One extreme is the assembly of the complete garment (*por obra completa*), meaning that one worker is in charge of the complete assembly process, and the other extreme is the rotation system (*a la rueda*) where every worker carries out one single operation. In practice, enterprises often use intermediate solutions.

In fact, even though a system *por obra completa* is used, assembly work is usually at least divided in two parts, given that at least two different sewing machines are used (G7, G12, G17). In some enterprises, each worker carries out a couple of operation (G2, G3, G4, G9). This intermediate system is sometimes called "by positions" (*por posiciones*) (G2) or "flexible rotation" (*rueda flexible*) (G3). Other enterprises use a "pure" system of rotation, where each operation is carried out by a different worker (G1, G10, G13, G14, G15, G16).

The rotation system has the advantage to permit a higher degree of specialization of the workers. This has a positive impact on the quality and speed of the operations. The disadvantages lie in the relative rigidity in case one worker is absent, because an adequate replacement is not always available. For the worker, the work consists in the repetition of short and similar operations. Thus, the work tends to be more monotonous, with a potential negative impact on some of the more subjective dimensions of employment quality, such as the interest of work.

The system by complete garment, by contrast, implies a minor degree of specialization. The skill requirements are higher because the workers have to be at ease at a number of different operations and not just at one. This involves potential quality problems which can however be addressed with adequate systems of quality control. In case of a quality defect, its origin can be easily attributed to the responsible worker who will then be in charge of its correction. In the event of absent workers, the system is more flexible because the others can continue their work as usual. Finally, this system, by its lower degree of division of labour, implies a less monotonous work with the potential positive impact on employment quality.

In some cases, the division of labour goes beyond the border of the individual enterprise and some operations are contracted out. For example, in one case the first assembly operations are carried out within the enterprise, then the pockets are fixed and some finishing is done outside, and finally the garment returns for final finishing operations that require special machinery and ironing (G2, see section 5.5.). The availability of adequately skilled workers can also be a factor that intervenes in the division of labour. In G4, the system of assembly varies because the workers within the enterprise are not always sufficiently qualified to assemble the complete garment. This enterprise sometimes contracts out the most difficult operations because its best seamstresses were working at home. Finally, the degree of the division of labour in

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<sup>162</sup> It is interesting to note that this is one of the few sewing posts in G1 that employed male production workers. This is thus a case of vertical gender segmentation in the labour market that is favourable to women. In most other cases, the structure of vertical segmentation concentrates women in the subordinate positions.



garment assembly also depends on the technological level of the enterprise. The more specialized the machines are, the higher the degree of division of labour tends to be.

The assembly of formal men's wear is generally organized in production lines. Especially the jackets pass along conveyor lines with hangers (G13, G15, T8). All the other garment products are transferred within the enterprise in bundles or in baskets, except in T8, where women's trousers are produced according to the Unit Production System described in section 5.1.2.3.

The only important innovation of work organization is the introduction of modular systems for garment assembly (see section 5.4.4. on functional flexibility).<sup>163</sup>

The fact that production workers generally have a low degree of autonomy is not only related to their skills profile, but also to the labour relations system. The management's distrust of its workers is reflected in the importance of the concept of "control". In two cases, this has even led to the installation of video cameras to supervise the workers (T6, G10). In those enterprises where it was possible to talk directly to production workers, their complaints were not only about low wages and bad (objective) employment quality but also against what they perceive as "unfair treatment" by direct supervisors or enterprise owners (for example G12).

Although managers do not see a negative impact of trade unions (where they exist) on the enterprise's development (except G1), there are several examples of anti-trade union practices. In G12, there is a pending complaint for the dismissal of a worker at the moment when a trade union was about to be created. In G13, the enterprise has fostered the division of the existing trade unions in such a way that there are four trade unions for 210 workers. Several enterprises apply a traditional paternalist style of management (for example T6).

The uncooperative management style many Chilean enterprises adopt vis-à-vis their workers is also reflected in several infringements of the labour law, for example:

- Incomplete worktime registries (*registros de asistencia*) (G7).
- Lack of a written work contract for some workers (G4).
- Wage bonuses below the legally stipulated level (T7).
- Overtime work beyond the maximum time allowed by law (G1).
- Payment of part of the salary "under the table" (see 5.4.2.).

The difference between blue-collar workers (*obreros*) and white-collar workers (*empleados*) is reflected not only in salaries, non-wage benefits and the prestige associated with certain occupations. Some enterprises widen the gap between these categories (even though sometimes workers may work in relatively similar positions) with different colours of uniform within the production site, different lunch facilities and the implicit or explicit expectation that workers leave the trade union once they are promoted to white-collar status (G1, T8).

In sum, although many Chilean textile and garment enterprises have innovated in work organization, very few have introduced modular systems of garment assembly

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<sup>163</sup> It is however possible that other innovations in this area have not been detected during the survey, as very often, managers do not consider them "innovations" but simple consequences of some innovation in technology or the organization of production.

or Unit Production Systems. Work organization innovations are not inserted into a clear enskilling strategy, and most enterprises continue to apply authoritarian management styles.

### **5.3.6. Innovation in human resource management**

Generally, human resource management has not yet acquired the degree of priority it deserves, although the awareness about the issue has started to increase.

There are frequent changes in the incentive schemes (for example T2, G3, T1; see section 5.4.2.). In garment assembly, piece-rate wages are quite common, but they are not new to this activity. Moreover, in some enterprises even the seamstresses earn fixed wages (G2, G9, G11, G13). In some cases, incentive schemes based on individual or collective performance have been replaced by fixed wages (T1, G13). In these two cases, the experience with variable wage schemes has been considered unsuccessful, partly because the schemes were badly designed. This is not easy to correct, particularly in a unionized context where wage systems can not easily be modified unilaterally without negotiations. Moreover, both enterprises export and have high quality requirements, a factor that also contributed to the decision to abandon variable wages.

Some enterprises have recently introduced new human resource development strategies. Their goal is, first, to increase the skill level of the labour force and, second, to increase the identification of the workers with the goals of the enterprise in order to improve their work motivation (G1).

With regards to training policies, the introduction of new machinery is often followed by training courses to teach workers how to use it (T1, G13). However, these courses are generally of a short duration and can fail when workers do not have a sufficient preparation prior to the course.

It is principally the large enterprises that use the training benefits provided by SENCE (T1, T2, G13) and some of them use these benefits in their entirety (T2, G13). Among the enterprises of less than 100 workers, by contrast, few, like T5, have substantial training activities via SENCE benefits. Some of the smaller workshops even declare to have no training activities at all (G12), arguing that the offer of training courses is not adapted to their specific needs and their work force's profile.

Some enterprises organize their own training activities, for example by accepting students on internships and trying to attract the best among them after the end of their studies. In one case, the production chief is at the same time a university professor in garment subjects, contributing to giving both theoretical and practical training of good quality to internship students. This woman even has a project for the creation of a technical school for workers of the garment industry (G16).

In sum, Chilean textile and garment enterprises do carry out innovations in human resource management. In particular, they adapt the incentives systems in line with what they perceive as being most suitable for their specific needs. These needs are not defined exclusively in terms of the quantity of output and work intensity anymore; many enterprises also take quality aspects into consideration. However, the human resource management strategies still correspond predominantly to identified

short-term needs, while the medium- and long-term strategies in terms of skills development and training receive less emphasis.

### 5.3.7. Summary

The innovative strategies of the enterprises under study are highly heterogeneous. Many enterprises do not manage to situate their products in the higher market segments that would return higher margins and would also permit higher wages and better working conditions. Although they have strategies of product innovation, they do not have enough elements of original design to create their market niches. Rather, in most cases, Chilean enterprises are product imitators. Some ambitious innovation programmes have apparently been successful (T1), although it is still early for a final assessment.

Among the main explanatory factors of the differences between the patterns of innovation are the following:

- **Product and market characteristics.** This can be illustrated with the case of the enterprises T1 and T2. While T1 has a very ambitious project of technological innovation that includes the machinery and layout of a whole production line, T2 had much more limited innovations to remove bottlenecks in its production and gradually increase productivity. It turns out that T1 produces a commodity with high requirements of standardization and quality. The goal is to make production similar to a process industry, in which human intervention has more the character of supervision and control than of production work as such. T2, by contrast has an enormous variety of more than 1,000 different products per season. Under these conditions, the direct human intervention will always remain more important and production processes are bound to change frequently. The competitive strategy is clearly oriented at benefiting from this diversification to cover (domestic and export) niche markets where the big international producers have difficulties due the small production batches involved for each product. Recently, the enterprise added a new product line (fabric of semi-combed wool) to its two other lines (fabric of combed wool and fabric of carded wool). In the same way, in the garment industry, an enterprise that has its major strength in its capacity to accept very diversified orders at an accelerated rhythm (G3) has necessarily a different profile of innovations than another enterprise that is specialized in the production of big quantities of a relatively small number of products (G1). While G3 is characterized by incremental innovations and a high number of unused machines (most of them not very modern, but specialized in different types of production processes), G1 has to adopt a coherent innovation strategy based on considerations of long-term viability.
- **The size and the degree of management professionalization.** The Chilean textile and garment industry has a strong tradition of family-owned enterprises. Although the classification as a family-owned enterprise does obviously not exclude professional management and innovations, it can be observed that a considerable number of them has been for a number of years in a state of precarious survival. If these enterprises were to be managed professionally, there would be basically two options: innovate or close down. T5 is an enterprise

which, after a long family tradition, opted for a professional management structure and an innovative strategy that have enabled it to expand its business despite the crisis of the sector. Some of the family-owned enterprises become more professionally managed as the younger generation enters into the management after having finished relevant technical or academic studies (G5). Another disadvantage of the small enterprises is related to their higher birth and death rates. Each time an enterprise closes down, much of its internal knowledge is lost. Small enterprises also suffer restrictions in accessing information. Many of the interview partners in small enterprises do not know the benefits of government-sponsored programmes like the PROFOs.<sup>164</sup>

Despite the differences in product and market characteristics, size and professionalization of the enterprise management, most sample enterprises' innovation strategies have some points in common. The degree of workers' participation in the innovation processes is extremely low. Neither individual workers nor trade unions participate in implementing innovations. The lack of trust between workers and management does not only have negative consequences for workers, it is also a factor behind the failure of some types of innovation in Chilean textile and garment industries, especially those related to modern techniques of quality control and work organization. In this sense, the innovation profile of the sample enterprises reflects the general institutional context of the Chilean economy and the relationship between capital and labour in Chile.

The pattern of innovative strategies and the market positioning of the enterprise have a mutual impact on one another. The markets in which the Chilean textile and garment enterprises have to operate are generally characterized by fierce competition and low profit margins. The characteristics of the market influence in turn the flexibility requirements. The flexibility strategies of the enterprises under study are analyzed in the next section.

#### **5.4. Flexibility**

This section analyzes the different types of flexibility that have been presented in section 2.3. of this study. As has already been mentioned, the flexibility requirements vary according to the market segment in which the enterprise is operating. For example, in the production of fashion fabric with diversified designs, enterprises have to be able to produce the required design rapidly and maintain the required quality standards (CPC, 1992: 16). They thus need a higher degree of flexibility as capacity to develop and adopt new products and processes than is the case for enterprises that produce for markets of highly standardized mass products.

The flexibility patterns of the sample enterprises are summarized in table 5.6..

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<sup>164</sup> One of the enterprises (T5) participated with success in a PROFO, while another one (G16) started to participate in one but failed, mainly due to the lack of trust between the participating entrepreneurs.

**Table 5.6. Flexibility patterns in the textile and garment sample enterprises**

Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation about the product characteristics
T1	Cotton fabric (denim etc.)	612	External turnover 6% over the last 12 months		Overtime (3%, previous year 5-6%); shift-work	Open contracts that permitted to transfer workers without restrictions up to 1996; return to defined tasks due to pending conflict with trade unions			Main product is a commodity
T2	Woollen fabric (and wool - synthetic mixes)	1 116	External turnover 21% over the last 12 months (in a context of downsizing)	Incentive system based on performance of the department (share of incentives in total wages increased over the last three years)	Shift-work; overtime work (diminished during the last three years)		Subcontracting of the revision of fabric to homeworkers		Big product variety
T3	Cotton and synthetic fabric	14	Only one person with fixed-term contract (probation period)	Unofficial production bonus	Shift-work (reduction of the number of shifts from 3 to 2)		Production almost exclusively on order		
T4	Printing of fabric	92			Negotiations with trade union to work 4 days per week and avoid dismissals				
T5	Fasteners, labels, embroidery	80	External turnover 6% over the last 12 months	Different incentive systems in different departments; piece-rate wages only in embroidery	Overtime work (about 10%), increasing over the last years;  flexible shift-work system according to enterprise necessities	Functional flexibility in production modules (limited by training requirements for some tasks);  Open contracts, e.g. "various tasks in the fastener factory"	Production on order (internal organization adapted to changing output quantities);  Subcontracting of isolated tasks to homeworkers (cutting excess yarn in embroidery)		
T6	Panties and socks	19	External turnover 20% over the last 12 months		At present little overtime work;  One post working in two shifts since 1 year	Frequent rotation between posts (e.g. seaming - revise and return product)			

(table 5.6. continued)

Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation about the product characteristics
T7	Knitwear and garments	18	External turnover: polarization between some workers who have been working in the enterprise for several years and others who enter and exit at a rapid pace; Some workers without written contract or with fixed-term contract		Shift system for weaving workers				
T8	Spinning, weaving, knitwear, garments	2 000		Piece-rate wages and collective production incentives			Subcontracting to external workshops	Organization of production lines as profit centres	
G1	Garments (jeans etc.)	686	External turnover of more than 40% over the last 12 months (estimate)	Production incentive by module and individual bonus (of lesser importance); base wage accounts for around 70% of the total	Overtime work to keep with export orders (can temporarily attain Big volumes); Shift work only in washing	Frequent rotation within module	Subcontracting of approximately 25 000 garments per months; this permits to produce products for which internal knowledge is insufficient and maintain complete product lines		Relatively stable type of product; changes predominantly in brand mark specifications and sizes
G2	Garments (shirts, dust coats, etc.)	25	External turnover 17% over the last 12 months; 4 workers with fixed-term contracts and part-time	Piece-rate wages	No shift work; Part of the work force with commercial contract instead of work contract		Subcontracting of part of the production to homeworkers		
G3	Garments (subcontractor)	12	External turnover 18% over the last 12 months Hiring of a group of workers with fixed-term contract for a specific order	Pay system with strong piece-rate elements; Contract and social security contributions for minimum wage	Overtime work; No shift-work	No fixed posts because products change continuously Open contracts "Seaming and similar tasks"	Daily programming of "flexible rotation"	Own capacity to solve difficult problems in seaming tasks	Activity as subcontractor implies rapid product change

(table 5.6. continued)

Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation about the product characteristics
G4	Garments (subcontractor)	11	Extremely high external turnover (the majority of workers has less than 3 months of tenure) Some workers fixed-term or without written contract	Piece-rate wages for seamstresses; contract and social security contributions for the minimum wage	Overtime work	Type of organization permits functional flexibility, but limitations due to lacking skills of workers	Subcontracting to homeworkers Internal organization permits product change		Activity as subcontractor implies rapid product change
G5	Commercialization of garments	15					Subcontracting system: variable number of satellite workshops; For the medium term, project to introduce computerized data interchange systems		
G6	Production and commercialization of maternity wear	10					Production in home work	Own design capacities according to demand conditions	Product more stable over time than normal clothing; some models can be produced during several years
G7	Garments and commercialization	12		Piece-rate wages		Work organization by complete garment	Subcontracting of part of the production to other workshops		
G8	Garments and commercialization	7					Subcontracting of all garment assembly (except finishing)		
G9	Garments and commercialization	38				(No rotation policy; preference for specialization)			
G10	Garments (jeans)	35	Part of the work force with fixed-term contracts (others with several years of tenure)	Piece-rate wages					
G11	Garments	6							

(table 5.6. continued)

Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation about the product characteristics
G12	Garments	77		Piece-rate wages		Work organization by complete garment	Sporadically subcontracting of production		
G13	Garments	210			Overtime work, although diminishing over the last years				Long planning horizon: production is sold for the whole season in anticipation
G14	Garments (predominantly subcontractor)	130	Fixed-term contracts up to 7 months before indefinite contract	Piece-rate wages			Sporadically subcontracting of production to workshops		
G15	Garments	560		Piece-rate wages			Subcontracting of 90 per cent of the product lines women's wear and children's wear to workshops		75% of sales to one single client: department store in same ownership
G16	Garments (subcontractor)	30	Yearly turnover 35%	Piece-rate wages and collective incentive according to production line	Overtime work (2% in the reference week)				
G17	Garments (subcontractor)	28		Piece-rate wages	Overtime work (little)	Work organization by complete garment			

Source: Own survey, 1995-1997.



### 5.4.1. Numerical flexibility

The labour legislation in Chile is not a major obstacle to numerical flexibility (see chapters 4. and 7.). Enterprises can dismiss workers with indefinite work contracts due to "necessities of the enterprise", paying a severance pay of one month of pay per year of tenure (up to a maximum of 11). Chilean labour law also allows other forms of contract that do not entitle to severance pay at the end of the employment relationship. As has been seen in section 4.3.1., these forms of contract are quite common in Chile. Many of the sample enterprises have high labour turnover rates.

Some textile and garment enterprises further increase numerical flexibility illegally by signing contracts for the minimum wage while the effective wages including piece-rate payments are much higher. In these cases, the worker receives only the severance pay calculated on the basis of the minimum wage, unlike he or she can prove that the effective wage was higher (see section 5.4.1.).

Most workers do have written work contracts, even in the smallest enterprises.<sup>165</sup> In those enterprises where workers without written work contract were detected (T7, G4, G7), both the enterprise and the workers concerned agree that the employment relationship have just started and that for this reason a written work contract has not yet been signed. This may indicate some degree of complicity between employer and workers (in all detected cases female workers) or the workers' fear that holds them back from complaining against their employer. In any case, it seems that most of the affected workers have joined the enterprise recently (although not as recently as they indicated). In most cases, the workers are working in auxiliary jobs (such as packaging) rather than sewing.

Sometimes, the work contract is replaced by a commercial contract, implying that social protection becomes the responsibility of the worker. In one small enterprise in crisis that applied this system with several workers, the owner stated that the workers would have to "get used to work without [social security] contributions" (G2).

Several enterprises employ workers with fixed-term contracts. When this type of contract is used during the first one or two months of an employment relationship for a probationary period, it can hardly be considered as a specific tool of numerical flexibility. However, at least in the enterprises T7, G2, G4, G10 and G14, fixed-term contracts are used beyond the probation periods.<sup>166</sup>

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<sup>165</sup> These observations coincide with the results of the inspection programmes by the *Inspección del Trabajo* according to which there have been improvements in the compliance with the most basic labour norms (existence of a written work contract and *registro de asistencia*) during the last years. In the inspection programme in the Patronato area within the *Campaña Textil* mentioned in section 5.2.3., 26 out of 120 inspected enterprises had one or more workers without written work contract (85 workers in total), corresponding to 3.7 per cent of the total employment in the inspected enterprises (Dirección del Trabajo, 1996b). These data may however underestimate the share of workers without written work contract, as the evidence from the CASEN survey suggests a higher figure.

<sup>166</sup> These results do not coincide with Roman (1996: 37) who states that the **majority** of the workers have fixed-term contracts. Section 5.6. moreover shows that temporary employment does not appear to be more common in the textile and garment industry than elsewhere in Chilean manufacturing.

For the workers, the use of strategies of numerical flexibility has a higher degree of job insecurity as a direct consequence. For enterprises, numerical flexibility is crucial in the context of strategies aimed at lowering their fixed costs in order to survive. In the context of strategies oriented at increasing productivity however, the high external turnover and the job insecurity can become serious obstacles, given that they reduce the workers' identification with their enterprise and limit medium- and long-term human resource development strategies through professional training.

#### 5.4.2. Wage flexibility and pay systems

Table 5.7. presents information on the pay system, wage levels and trade unionization of the enterprises under study.

In the **garment and knitwear sectors**, piece-rate wages are very common.<sup>167</sup> Contrary to other sectors, where a tendency towards the introduction of this system has been observed recently (see section 4.1.3.5.), piece-rate wages were already in use before the economic and social restructuring under the military government. However, the characteristics of piece-rate wages have changed in the textile and garment industry, too.

During the ISI period, there were minimum hourly wages set for each profession and nationally fixed minimum rates for each operation on different types of machines.<sup>168</sup> Nowadays, by contrast, piece-rates can be freely set by the enterprise, the only existing regulation being the nation-wide monthly minimum wage. Thus, wage flexibility has increased, while workers are suffering from a lesser degree of reliability in their income.

In the other sectors within the **textile industry**, the predominant basic system is one of fixed wages (sometimes combined with group-based productivity incentives). This is due to the fact that in spinning and weaving, the pace of production is determined more by the rhythm of the machines than by the rhythm of the workers. In T1, a system of base salary plus productivity incentive has even been replaced recently by a pure fixed-wage system, although this shift implies a slight increase of the total wage bill for the enterprise. The reason for this decision is that the design of the previous incentive system was not optimal and that, instead of stimulating productivity, it created dissatisfaction among workers.

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<sup>167</sup> According to a survey carried out in 1991 among 325 female workers of the garment and knitwear industries, 63.4 per cent received a piece-rate wage. This share would be even higher if only the seamstresses were considered, excluding supervisors and those workers in charge of cutting machines (Díaz/Schlaen, 1994: 189). Among men, the share of piece-rate workers is lower because they rarely work as seamstresses.

<sup>168</sup> See for example the decisions of the *Comisión Tripartita para la Actividad Textil del Sector Privado* (FENATEX, 1972). There were nationally fixed rates even for spinning and weaving tasks, but even under the conditions of the ISI period it was difficult to define these rates. For example, the document states that for weaving machines "it was not possible to establish rates that are applicable to all weaving mills of the sector" (FENATEX, 1972: 66).

**Table 5.7. Trade union affiliation, pay systems and wages in the textile and garment sample enterprises**

Nr.	Principal activity(ies)	Number of workers	Existence of trade union and affiliation rate	Pay system	Method of wage determination	Available evidence on wages <sup>1,2</sup>
T1	Cotton fabric (denim etc.)	612	2 unions, 62%	Fixed wage (replaces system with base wage plus collective production-based incentive)	Collective bargaining	34.4% of all occupied below Ch\$ 150 000; 28.8% between Ch\$ 150 000 and Ch\$ 250 000; 18.6% between Ch\$ 250 000 and Ch\$ 350 000; 16.5% between Ch\$ 350 000 and Ch\$ 600 000; 1.6% more than Ch\$ 600 000
T2	Woollen fabric (and wool - synthetic mixes)	1 116	2 unions, 80%	Base wage plus productivity-based incentive according to production of the department; the share of the incentive in the total wage sum has increased	Collective bargaining	82.4% of all occupied between Ch\$ 120 000 and Ch\$ 300 000; 14% between Ch\$ 300 000 and Ch\$ 600 000; 3.6% more than Ch\$ 600 000
T3	Cotton and synthetic fabric	14	no	Base wage plus production bonus	Set by the enterprise	Blue-collar workers approximately Ch\$ 120 000; Contracts and social security contributions do not include the production bonus (approx. Ch\$ 30 000)
T4	Printing of fabric	92	yes, 70%	Fixed hourly wage	Collective bargaining	Lowest base wage Ch\$ 72 000, average (including blue- and white-collar workers) Ch\$ 170 000
T5	Fasteners, labels, embroidery	80	enterprise committee <sup>4</sup>	Different systems in different departments: fixed wage, fixed wage plus collective incentive, piece-rate wage	Bargaining between enterprise and enterprise committee	Depending on department: Embroidery: piece-rate, between Ch\$ 70 000 and Ch\$ 87 000 during low season; between Ch\$ 106 000 and Ch\$ 185 000 during high season Majority between Ch\$ 120 000 and Ch\$ 300 000
T6	Panties and socks	19	no	Base wage plus incentive	Set by the enterprise	Production workers all below Ch\$ 120 000
T7	Knitwear and garments	18	no	Piece-rate wages for most blue-collar workers	Set by the enterprise	Seamstresses Ch\$ 150 000, but contracts and social security contribution based on the minimum wage
T8	Spinning, weaving, knitwear, garments	2 000	yes	80% of all occupied with some incentive system (piece-rate or collective incentive according to production line)	Collective bargaining	
G1	Garments (jeans etc.)	686	yes, 40%	Blue-collar workers: base wage plus production incentive by module plus individual bonus White-collar workers: fixed wage	Base salary and benefits: collective bargaining; Incentive determined by enterprise	Blue-collar workers between Ch\$ 120 000 and Ch\$ 220 000
G2	Garments (shirts, dust coats, etc.)	25	no	Blue-collar workers: piece-rates; White-collar workers: fixed wage	Determined by the enterprise	Blue-collar workers between Ch\$ 70 000 and Ch\$ 150 000
G3	Garments (subcontractor)	12	no	Piece-rate wages introduced recently	Determined by the enterprise	Blue-collar workers on average between Ch\$ 100 000 and Ch\$ 110 000; some up to Ch\$ 160 000; change of pay system caused increases by approximately 30% Contract and social security contributions for the minimum wage

(table 5.7. continued)

Nr.	Principal activity(ies)	Number of workers	Existence of trade union and affiliation rate	Pay system	Method of wage determination	Available evidence on wages <sup>1,2</sup>
G4	Garments (subcontractor)	11	no	Blue-collar workers: piece-rate wage	Determined by the enterprise	Blue-collar workers between minimum wage and Ch\$ 130 000; Contract and social security contributions for the minimum wage
G5	Commercialization of garments	15	no	n.a.	n.a.	n.a.
G6	Production and commercialization of maternity wear	10	no	n.a.	n.a.	n.a.
G7	Garments and commercialization	12	no	Mainly piece-rate wage	Determined by the enterprise or negotiated individually	Most blue-collar workers between Ch\$ 80 000 and Ch\$ 100 000; some higher Contract and social security contributions for the minimum wage
G8	Garments and commercialization	7	no	Mainly with fixed wage, some with piece-rate wage	Determined by the enterprise	Highest wages for <i>modelistas</i> and cutters, between Ch\$ 200 000 and Ch\$ 300 000
G9	Garments and commercialization	38	no	Fixed wages	Determined by the enterprise or negotiated individually (informal system in case of collective concerns: a representative of the department talks to the employer)	Wage for <i>singerista</i> Ch\$ 85 000
G10	Garments (jeans)	35	no	Most blue-collar workers with piece-rate wage	Determined by the enterprise; no adjustment for three years; increase under study due to workers' complaints	Average wage for blue-collar worker Ch\$ 120 000; during the high season it can increase to Ch\$ 180 000 or Ch\$ 200 000
G11	Garments	6	yes	Fixed wage plus various wage and non-wage benefits	Collective bargaining	Blue-collar worker about Ch\$ 160 000 (average for all occupied Ch\$ 178 000)
G12	Garments	77	no <sup>5</sup>	Piece-rate wage plus incentive in case certain production targets are met; fixed wage for cutters and some productive tasks	Determined by the enterprise; piece-rates are sometimes not published or published late	Lowest wages about Ch\$ 80 000; highest wages Ch\$ 300 000 Checked pay sheet (Ch\$ 200 000) included piece-rate incentive
G13	Garments	210	yes, 3 unions, more than 90%	Fixed wage (being introduced)	Collective bargaining	Around 60 % of the blue-collar workers below Ch\$ 130 000
G14	Garments (predominantly subcontractor)	130	no, <i>comité paritario</i> informally used for bargaining	Piece-rate wage plus individual bonus	Determined by the enterprise; only partial publication of piece-rates	Between Ch\$ 100 000 and Ch\$ 250 000 for blue-collar workers
G15	Garments	560	enterprise committee <sup>4</sup>	Blue-collar workers: piece-rate wage plus incentive in case certain production targets are met; other (collective) incentive systems for other workers	Determined by the enterprise	Between Ch\$ 150 000 and Ch\$ 400 000 for blue-collar workers; About 75% of all occupied between Ch\$ 130 000 and Ch\$ 325 000, 20% between Ch\$ 325 000 and \$ 650 000, 5% more than Ch\$ 650 000

(table 5.7. continued)

Nr.	Principal activity(ies)	Number of workers	Existence of trade union and affiliation rate	Pay system	Method of wage determination	Available evidence on wages <sup>1,2</sup>
G16	Garments (subcontractor)	30	no	One production line with piece-rate wage, the other with collective incentive according to production plus individual bonus; Some workers with fixed wage	Determined by the enterprise	Blue-collar workers about Ch\$ 140 000
G17	Garments (subcontractor)	28	no	Most blue-collar workers with piece-rate wage; Ironers, supervisors and <i>limpieza</i> with fixed wage	Determined by the enterprise	Blue-collar workers about Ch\$ 160 000

Source: Own survey, 1995-1997.

Notes:

<sup>1</sup> Approximate exchange rate during the survey period: Ch \$ 415 = US\$ 1

<sup>2</sup> Approximate figures, based on interviews with workers and enterprises as well as enterprise documents. In the case of incentive payments "under the table", an estimate on effective wages including these payments was obtained.

<sup>3</sup> Declared turnover. The effective turnover is higher.

<sup>4</sup> A trade union exists according to the listing of the *Dirección del Trabajo*, but appears to be inactive.

<sup>5</sup> Pending complaint on anti-union practices (dismissals at the moment of trade union creation).

The piece-rate system has the advantage for the enterprise to increase the workers' work intensity. It also makes it easier for the enterprise to pay the wage bill, because salaries increase when production is up, while during the low season, wages drop with the legal minimum wage as the lower limit. Some enterprises using this system pay a little supplement on top of the minimum wage during the low season to make the change between "good" and "bad" months less abrupt (G10). According to the labour law, enterprises would even have to pay the average of the last three months when the diminution in produced pieces is due to a seasonal drop in production and not to a decline of workers' performance. However, this part of the legislation is not always respected. It is also very difficult to determine in legal terms whether the responsibility for a drop in production is with the enterprise or with the worker because the enterprise can easily change the products and rates during the low season. Thus, although the legislation is quite protective of workers' interests in seeking to avoid abrupt decreases in their wages, it seems that it is not sufficiently adapted to the reality of piece-rate workers. As a consequence, compliance levels are low and workers have few possibilities to prove their point in case of a legal dispute.

Previous studies (Díaz/Schlaen, 1994: 31; Roman, 1996: 41-44; Selamé, 1996: 31-35) emphasize the exploitative character of the piece-rate system currently in use in Chile, arguing that it increases work intensity and working hours while wages remain extremely low. The survey carried out for this study confirms this view in part. Indeed, the piece-rate system appears to increase work intensity and working hours, often beyond reasonable limits. In some enterprises, the supervisors even see themselves constrained to stop the workers from working too much, because the workers' attitude fostered by the incentive structure is such that they would "kill themselves working" (*se matan trabajando*) (T5). Moreover, the piece-rate systems often have arbitrary elements. Rates are determined unilaterally by the employer in the small enterprises. In the big enterprises, it is part of the collective bargaining process, but it is often difficult to negotiate the rates for different products that may come up in the future. As the production of every different garment implies different operations, the rates often change without the workers having any participation in the process. Sometimes, the rates are not even adequately made public, so that workers have even less control on the wage that corresponds to a given amount of work. For example, workers in G14 complain that the publication of piece-rates is incomplete, while G12 publishes these rates late. These problems even occur in medium-sized enterprises and are a source of considerable discontent among the workers.

While the concept of wage flexibility as such is not linked to the average level of wages (but rather to their fluctuations), wage levels and wage flexibility are closely linked. In this regard, the findings from the interviews and enterprise visits do not coincide fully with those from the studies by Selamé (1996) and Roman (1996). In both studies, the piece-rate system is associated with very low monthly wages: "Only the workers with long experience in the profession manage to obtain wages close to US\$ 300 [approximately Ch\$ 120,000]" (Selamé, 1996: 35). According to Roman (1996: 41), only one out of 30 interviewed workers of small garment enterprises earned between Ch\$ 130,000 and Ch\$ 150,000, while half of them earned less than Ch\$ 90,000.

According to the interviews with employers and workers for this study, some of the most skilled seamstresses earn up to US\$ 730 (Ch\$ 300,000) per month, and even

taking into account the low season, their annual average wages would have been higher than US\$ 490 (Ch\$ 200,000) per month. Moreover, according to the interviews, the wages of piece-rate workers tend to be higher, on average, than those of the fixed-wage workers. It has to be kept in mind, of course, that neither these previous studies nor the interviews for this study are based on an enterprise sample that is representative according to statistical standards, and within the sample enterprises, data for only some of the workers have been available. It is moreover difficult to obtain more reliable evidence through statistical sources, because many of the piece-rate workers have work contracts for the minimum wage only, although they earn in fact much more.<sup>169</sup>

It is not the aim of these considerations to deny the deficient employment quality for most piece-rate workers, including long working hours, physical and mental stress and a low degree of employment and income reliability. It is however important to consider the opportunity for relatively high take-home pay, albeit at a high cost, as one element that makes the system work and contributes to a change in mentalities where many salaried workers do not aspire to a secure factory job, but rather to becoming self-employed or small entrepreneurs. In this regard, the piece-rate system is in line with the emphasis on individual achievement in liberal development strategies.

The fact that in several cases of piece-rate work the contract and the social security contributions are made only for a minimum wage while the variable part of the salary is paid "under the table" without any documentation (among the sample enterprises at least in T7, G4, G7 and G3) has important consequences:

- The informal character of the piece-rate pay leaves the workers unprotected face to their employer should either a dispute on the total amount of the salary arise or the employer simply refuse to pay the full amount. Moreover, problems often arise in case of sickness leave or dismissal (severance pay) because the worker is often unable to prove the effective wage level.
- Obviously, paying social security contributions only for the minimum wage diminishes the worker's savings in his or her pension account and the contribution to the health insurance system. In this regard, the present system encourages this under-declaration instead of discouraging it. In a public hospital, it is often an advantage to be classified as "extremely poor" in the sense that a person not classified as poor has to pay a higher price for the medical services that are provided.<sup>170</sup> The affiliation to a private health insurance, on the other hand, is advantageous only for wage levels from four or five times the minimum wage upwards, an amount that most garment workers do not earn. With regards to the pension system, there is a similar disincentive given that the government is liable to pay a minimum pension to all retired persons who have contributed long enough to be entitled to a pension but whose own savings under the scheme are

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<sup>169</sup> This system of "unofficial" pay can be found predominantly (but not exclusively) in small and family-owned enterprises. In family-owned enterprises where the owner or one of his family members pays the workers, it is easy to pay "under the table" while in other enterprises it becomes difficult to control these payments without written documents.

<sup>170</sup> Waiting times can however be shorter in the "free election" modality of the Chilean health system where the patient has to pay part of the costs.

not sufficient. Given the relatively low contribution rates and the uncertainty about the profitability of the pension funds, a worker does not have any guarantee to obtain a higher pension than the minimum pension even paying social security contributions for the total wage. A lower declared wage can also facilitate the access to a subsidized dwelling through the *Servicio de Vivienda y Urbanismo*.

- It is very likely that the "informally" paid wages are not adequately registered in wage statistics. Thus, the gap between big enterprises' and small enterprises' wages may be somewhat exaggerated in the statistical sources. The failure to measure informally paid wages may also distort the assessment of the consequences of minimum wage increases.
- Finally, informally paid wages also have a macro and budgetary impact due to the evasion of social security contributions and taxes.

As has been mentioned before, the piece-rate system can in some cases also have negative consequences for the enterprise. First, it can give disincentives for high-quality production as the worker's priority is on the speed, rather than on the quality, of work. Second, it can affect the worker's willingness to contribute to innovations because any change is likely to slow down the work speed during a learning period, thus directly affecting piece-rate based wages.

Besides the individual piece-rate system, there exist several other incentive schemes in the enterprises under study, based on the department's or the enterprise's performance. Generally, in the bigger enterprises the share of the variable part of the wage is lower than in the smaller enterprises, even though a piece-rate system may still exist. This is partly due to collective bargaining, often fixing higher minimum amounts than the legally established minimum wage, thus setting a higher minimum limit than in the smaller enterprises. This increases the income reliability for the worker.

### **5.4.3. Internal flexibility in the amount of labour used**

The main devices to increase the enterprise's flexibility in the amount of labour used are overtime work, variable shiftwork systems, forced holidays in periods of low production and reduction of the number of working hours to avoid dismissals.

Due to the seasonal fluctuations in the textile and garment production, many enterprises work overtime during some periods of the year in order to comply with delivery delays for their products. Chilean labour law stipulates a maximum of two hours per day for overtime work, and establishes wage supplements of 50 per cent of the wage. In the big unionized enterprises, this legislation is generally respected, although even there, overtime sometimes exceeds the legal limit (G1). In the smaller enterprises, infringements are more frequent.

The piece-rate system that has been described in the last section (5.4.2.) as an instrument of wage flexibility has also an impact in the flexibility in the amount of labour used. In the high season, workers can earn more money if they produce more pieces and they are often willing to work overtime. However, what appears to be an advantage for the workers at first sight has also serious negative aspects. First, as regulations on work breaks are often not respected in small enterprises, long



workdays can cause worrying levels of physical and mental exhaustion. Second, the wage supplement to which workers are entitled in a fixed-wage system does not apply to workers who work exclusively on a piece-rate basis (Dirección del Trabajo, 1996a).

#### 5.4.4. Functional flexibility

There are several entrepreneurial strategies to overcome the rigid fordist division of labour and to increase functional flexibility. Among these are modules or semi-autonomous groups within the enterprise as well as human resource development strategies in order to obtain "multifunctional" workers.

Work groups or "modules" have been introduced in several of the enterprises under study (T1, T5, G1). However, comparing these Chilean cases with those found in the international literature on the issue, it emerges that this form of organization is used in the Chilean textile and garment industry in its poorest form. Although there is an increase of functional flexibility (rotation between work posts within the module), the work continues to be fractionated (extremely fractionated in the case of G1). The introduction of modules does not increase the workers' autonomy. The module leaders are generally perceived as supervisors. In G1, although the official title is "head of module" (*jefa de módulo*), workers and trade union leaders refer to them as "supervisor" (*supervisora*). The relationship between both sides is rather authoritarian and potentially conflictive.<sup>171</sup> In sum, this form of modules fits into the neotaylorist scheme described by Díaz (1990a).

Moreover, the work system by rotation in the garment industry (see section 5.3.5.) is characterized by a rigid division of labour that limits functional flexibility. While in G1, it is considered optimal that all production workers are able to carry out three different operations, other enterprises put more emphasis on specialization and transfer workers to other positions only when it is necessary to replace someone (for example G9, G12, G15). In the enterprises with piece-rate system, it is generally also in the worker's interest to minimize rotation between posts (G12).

The claim of some workers and trade unions to do only the work that corresponds to their job description has led some enterprises to draw more open work contracts where instead of a precise work post or profession, the task is only described as "work of sewing and related tasks" (G3) or "various operations in the fastener factory" (T5). In G13, weakening the trade unions is considered crucial in order to be able to redeploy workers flexibly to different posts.

In T1, a system of completely open contracts (without specifying the tasks) had been introduced in 1994, but caused a strong discontent among the workers. It was thus replaced at the end of 1996 by contracts that specify the work of each worker. In the workers' and trade union's perception, the system of completely open contracts was

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<sup>171</sup> The negative assessment of the modular system is shared by a worker of another garment enterprise of approximately 100 workers. The introduction of modules of 10 to 15 workers, paid with a fixed base salary plus a group-based incentive according to the production of each module increases the mutual control and rivalries between workers at the workplace (interview with a female garment worker, Santiago, 24 October 1995).

an obstacle to the professional development and the career development within the enterprise as it did not recognize the specific skills for each post.

In T2, the transfer of workers in order to replace absent colleagues is permitted, but the collective agreement contains a clause that protects the transferred worker against negative consequences. When the management transfers a worker for more than one working day, the worker is entitled to a higher base salary if the transfer is made to a post with a higher base salary, and to a supplement of 25 per cent if the transfer is made to a post with the same or a lower base salary (T2, *Contrato Colectivo Sindicato No.2*, Art.7).

In summary, functional flexibility in the enterprises under study is generally characterized as the employer's freedom to control the labour force and carry out transfers according to the enterprise's needs. It is thus based on the relative weakness of enterprise trade unions. By contrast, those elements of functional flexibility that originate from the professional training, the motivation and the autonomy of the workers are weakly developed.

#### **5.4.5. Flexibility in the amount, type and quality of output**

The subcontracting of parts of the productive process to other enterprises or home work permits to flexibly regulate the quantity, quality and type of output according to incoming orders. This is not only an issue of produced quantities: the system also permits enterprises to have types of products produced for which there is not enough qualified and experienced labour force available in-house. G1, for example, subcontracts about 25,000 pieces of garment per month. On a smaller scale, G4 has its best seamstresses for one type of machine ("*singeristas*") working at home, enabling it to comply with quality standards that it could not cope with internally.

The piece-rate pay systems contribute indirectly to adapt the production to seasonal fluctuations because the employer can start the low season with new and more difficult products, causing an automatic decrease in production.

Generally, in the enterprises under study, the required flexibility in the amount, quality and type of product is obtained via managerial decisions rather than through innovative strategies of productive development.

#### **5.4.6. Flexibility as the capacity to develop and adopt new products and processes**

No comparable quantitative indicators are available on this type of flexibility in the enterprises under study (such as lead times and setup times<sup>172</sup>). However, the survey gives some qualitative hints on the advantages of some enterprises in this field. For example, G3 is working as a subcontractor for other enterprises, an activity in which there is very fierce competition between a high number of (mainly small) enterprises. It manages to differentiate itself from the mass of competitors by its high capacity to

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<sup>172</sup> The lead time is the time between order and delivery; the setup time is the time it takes to adapt the production line in order to start a new production run.

carry out difficult tasks rapidly (for example, unusual types of seams or work with unusual materials).

In some way, all enterprises that work predominantly as subcontractors for other enterprises need this type of flexibility because the shift between different products and different work processes is part of their daily business. An interesting goal for an enterprise is to situate itself in the higher segments of the market, with higher quality standards and slightly higher profit margins.

One important factor is the internal knowledge workers have on the production processes and equipment, and the degree to which they are willing to share this knowledge with the management. In this respect, a high rate of external turnover will inevitably have a negative impact.

From the fragmentary evidence, it can be concluded that small enterprises manage to develop and adopt new product and processes rapidly, but suffer from low productivity levels. The larger enterprises, on the contrary, aim at maintaining longer production runs in their in-house production and cater for their flexibility requirements precisely by subcontracting parts of the production to other enterprises and workshops.

#### **5.4.7. Summary: a typology of flexibility strategies**

This section has described the different strategies of flexibility that enterprises use to face fluctuations in the market demand and in relative prices. In a somewhat schematic manner, the information on the individual enterprises can be regrouped into a typology of three types of strategy:

- **Strategy of productive stabilization.** Although the need for flexibility is often taken as if it were a universal truth, one obvious strategy for enterprises to face market fluctuations is to protect themselves against negative consequences by seeking to obtain positions in market segments that permit a medium-term planification, thus avoiding the disruptive impact of abrupt short-term changes. For example, T1 produces an international commodity. Its success rests on the production of high quantities of high quality that permits exports. Even though the 1998/1999 crisis has affected its profit margins, the enterprise could continue to produce at its full production capacity.<sup>173</sup> In G13 and G17, the stabilization strategy consists in selling the production for several months in advance. In G13, this is possible because it produces for the upper market segment; in G17, the demand is guaranteed, at least in the medium-term, through an informal arrangement with G15 that in turn sells most of the products to the department store to which it belongs. In principle, strategies of productive stabilization also permit to avoid extreme levels of job insecurity, thus improving the employment quality of the involved workers.<sup>174</sup>

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<sup>173</sup> The update on the situation in 1999 has been obtained through a telephone interview with the manager, 14 October 1999.

<sup>174</sup> It has however to be pointed out that in G13, despite the stabilization strategy, several workers were dismissed because they did not correspond to the desired profile, were considered too conflictive or had higher salaries than their colleagues due to historical trade union conquests.

- **Strategy of commercial and managerial flexibility.** This strategy consists in reacting quickly to changes in demand and prices. The emphasis in these reactions is in the commercial and managerial, rather than directly production-related, fields. This implies management-driven modifications in the mix between imported products, own production and subcontracted production and the use of strategies of numerical flexibility, internal flexibility in the amount of labour used and wage flexibility. By contrast, there are few adaptations in the productive sphere as such. This type of strategies is predominant in a number of the enterprises under study, at least in T7, G2, G3, G4 and G5. The importance of this type of strategy is partly explained by the context of the economic model in which the Chilean enterprises operate. In a small and open economy like Chile enterprises are predominantly "price takers". This explains their high degree of sensitivity to fluctuations in international markets and the arrival of imported products. The modification of the product mix through the use of subcontracting arrangements is thus the easiest strategy of response. Although it has permitted many enterprises to survive, at least in the short and medium term, the consequences for the workers' employment quality are clearly negative, particularly with regards to the decline in job security. In the long term, these strategies can have negative consequences on the productive development of the enterprises and limit other, more virtuous, types of flexibility. Moreover, these strategies have a strong defensive character when they are not combined with efforts to develop new products and explore new markets.
- **Strategy of productive flexibility.** This strategy consists in developing responses to market and price fluctuations within the productive sphere of the enterprise. The types of flexibility required for such a strategy are thus functional flexibility and the flexibility as capacity to develop new products and processes. This strategy rests on an active involvement of the production workers and is thus at cross-purposes with the purely management-driven strategy of commercial and managerial flexibility. The results of the survey show that despite the strong efforts of most enterprises to increase flexibility, there is a strong "lack of flexibility" with regards to those types of flexibility that require high degrees of workers skills and responsibility. The flexibility as capacity to develop new products and processes is either deficient or has its price in productivity losses. Functional flexibility, although present in many of the sample enterprises, tends to take its poorest form, with a continuing domination of low-skilled posts and a strong fragmentation of work. Chilean enterprises partly compensate this lack of flexibility by increasing their commercial and managerial flexibilities described above.

The predominance of the strategy of commercial and managerial flexibility permit to affirm that in the Chilean textile and garment industry the characterization of Chilean "neotaylorism" (Díaz, 1990a), in which a high degree of flexibility in the use of the labour force and multiple forms of subcontracting arrangements compensate the technical rigidity of production, remains valid.

## 5.5. Productive chains, subcontracting and home work

This section describes the configuration of the productive chains in the Chilean textile and garment industry, the integration of Chilean enterprises in international chains and the different types of subcontracting arrangements.

### 5.5.1. General tendencies

During the ISI period, the large and medium-size enterprises in Chile appear to have used less subcontracting arrangements than for example enterprises in Argentina or Brazil (Wormald, 1985: 274, 317). On the one hand, the degree of vertical integration was so high that many textile enterprises used at least part of their own fabric production to produce garments themselves. On the other hand, the bigger enterprises generally did not trust the smaller ones with regards to their quality and timely delivery. The sales tax (*impuesto de compraventa*) in place until 1974 was another disincentive for subcontracting.

This does not mean that subcontracting arrangements between enterprises did not exist during the ISI period. For example, one study from the 1960s distinguishes the "*confeccionistas completas*" and the "*confeccionistas de hechura*" among the small garment producers. While the former produced their own garments, the latter were in charge of assembly operations for clients that provided them with the fabric (cut or uncut) as well as design and size specifications (CADE, 1967: 134). Wormald (1985: 296-198) gives several examples of subcontracting activities in the textile and garment industry in the 1970s.

The two recessive crises of the 1970s and 1980s and the economic restructuring of the textile and garment industry (see section 3.2.1.) modified the productive chains.

In the **textile industry**, contrary to the tendency in other sectors of the Chilean economy, the enterprises that survived tended to increase their degree of vertical integration and diversification of their product mix between 1983 and 1988. Many enterprises bought machinery from other bankrupt enterprises (Aninat, 1986). In any case, the production processes in spinning and weaving have technological process characteristics that make a physical fragmentation highly unlikely. There has however been a fragmentation in the chains between the textile producers and their providers of inputs as the share of imported inputs has increased. During the last few years, it can be observed that many enterprises have tended to concentrate their production on the most profitable product lines, giving up or importing other products.<sup>175</sup>

In the **garment industry**, the intensification of import competition contributed to an increase in productive fragmentation via subcontracting. This is one strategy aimed at transferring costs and risks towards small workshops and homeworkers. In this way, the user enterprise tries to unload itself of from some of the problems and costs caused by demand fluctuations and product changes. Moreover, some of the enterprises that went bankrupt during the crisis paid severance pay to the dismissed

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<sup>175</sup> T8 is an exception in this regard. This enterprise has maintained a high degree of vertical integration and carries out spinning and weaving activities as well as garment assembly.

workers in machinery instead of money. These former salaried workers then transformed themselves into homeworkers or microentrepreneurs.

Like in the textile industry, the share of imported inputs has increased considerably since the start of the trade liberalization process.<sup>176</sup> Despite the advantages of subcontracting for the user enterprise in terms of costs and risks, there are also some disadvantages, especially when the coordination of the subcontractors network does not work well. Compared to the production within the enterprise, subcontracting makes it more difficult to ensure the required quality standards and the delivery dates. Moreover, the quantity of intermediate product in circulation increases, causing in turn an increase in the necessary working capital.

There are some specific cases where subcontracting declined instead of increasing, as is the case of the small knitwear producers in the municipality of La Ligua: "The majority of the enterprises stated that they had adopted organizational innovations precisely to avoid subcontracting, because in their opinion they were little reliable and produced articles of low quality" (Dini/Guerguil, 1993: 19).<sup>177</sup> These authors discovered an inverse relationship between the subcontracting intensity and the technological complexity of the enterprise. The most advanced enterprises in terms of technology and organizational methods avoided subcontracting because of bad past experiences and difficulties inherent in the coordination of the subcontractors' network.

While available ENIA data have permitted to quantify the increase of subcontracting in terms of production (4.2.2.), it is more difficult to quantify this increase in terms of employment. Statistical data derived from the *Encuesta Nacional del Empleo* show an increase of self-employment and salaried employment in small enterprises among the female workers of the garment industry between 1992 and 1995 (Reinecke, 1997: 49-51), but more recent data for 1996 and 1997 do not confirm this tendency.<sup>178</sup>

The literature on subcontracting in the Chilean garment industry sketches several types of productive chains including user enterprises, workshops and home work. In some cases, an intermediary intervenes who does not produce anything but matches the user enterprise's demand with workshops' and homeworkers' offer, earning a commission based on the value of the operations (Selamé/Henríquez, 1995; Selamé, 1996). Adding commercial enterprises (retailers) that can have an important role in the constitution of the chain, the following schematic representation can be obtained (figure 5.10.):

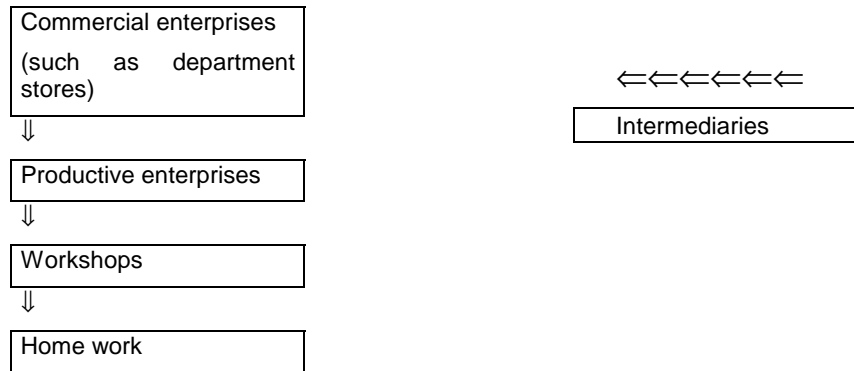
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<sup>176</sup> Macario (1995: 7-8) gives a figure of 68 per cent of imported inputs as unweighted average of a sample of 12 large and medium-size enterprises.

<sup>177</sup> In most cases, the subcontracted operations are the most labour-intensive ones of the assembly process, carried out by female homeworkers.

<sup>178</sup> Calculations based on data from the INE (various years): *Encuesta Nacional del Empleo*, October-December of each year.

**Figure 5.10. Schematic representation of the productive chain in the garment industry**



Source: Own elaboration.

In addition to the subcontracting of parts of the production process, an externalization (outsourcing) of productive and annex services can also be observed. Examples of externalization of productive services are dyeing (T6, G11), galvanization of metallic parts of fasteners (T5) and programming of weaving machines (T6). Outsourcing of annex services can be found for cleaning and gardening services, security and food services. According to ENIA data, the cost of such subcontracted services was equivalent to 1.7 per cent of the value added in the textile industry and 0.9 per cent in the garment industry in 1996. These figures are close to the average for the total manufacturing industry (table 4.6. in section 4.3.). The majority of the enterprises under study subcontract one or more of these tasks. Moreover, most of the small enterprises hire an external professional for the bookkeeping.

In addition to this "real" subcontracting to productive units that are independent from the user enterprise, there is another phenomenon that consists in the division of one enterprise in several legal entities (*razones sociales*). Sometimes, a separate legal entity is created for commercialization (T8, G13) but it is also common that within the productive activity itself, within the same factory and under the supervision of the same persons, two or more legal entities exist (G16, T5). There are various reasons for this kind of division:

- First, it permits to transfer profits from one unit to another and thus reduce the obligations to pay profit shares to the workers. This is done by shifting the major part of profits to a legal entity with few workers, often the one in charge of marketing. In one of the trade unions' view, in the links between production and marketing enterprises of the same owner, the marketing enterprise works as "chimney" (*chimenea*) for the profits made, while at the same time the productive

enterprise declares very low profits or even losses, affecting the trade union's capacity to obtain higher profit participation and benefits for the workers.<sup>179</sup>

- Second, the workers in the different legal entities cannot become member of the same trade union. The enterprise strategy can thus weaken and divide the trade union. In some cases, however, the *Dirección del Trabajo* has recognized an "economic unity" between legal entities, when workers work under the supervision of the same employer. Such a legal decision then makes the affiliation to the same trade union possible.<sup>180</sup>
- Thirdly, the splitting into several legal entities can be used in order to evade other obligations established in the labour legislation, such as the right to childcare facilities (*sala cuna*).

In sum, although subcontracting is not a new phenomenon in the Chilean textile and garment industry, the increased use of subcontracting arrangements has been one of the main enterprise strategies to face increasing competition.

### 5.5.2. International chains: the integration of Chilean enterprises

At the end of the 1980s, the low labour costs in Chile led multinational enterprises to increase their productive activities in Chile. For example, several U.S. and Swiss enterprises came to Chile to set up export-oriented production activities. Other multinational enterprises planned to transfer their operations from Mexico and Central America to Chile (Ibáñez/Winn, 1989). However, this system, where the buyer provided the product specifications and sometimes the fabric, while the unit located in Chile was only in charge of the garment assembly, did not have the time to develop fully. Due to both the increase of real labour costs in Chile and the appreciation of the Chilean Peso face to the US\$, this type of subcontracting was already declining by 1992 or 1993 (FISA, 1992).<sup>181</sup> Moreover, the geographical distance between the United States and Chile is much bigger than between the United States and Mexico or Central America. The sample enterprises that had been active in the assembly of blue jeans for export (G1, G14) diminished this activity gradually and ceased it completely by 1995 or 1996.<sup>182</sup>

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<sup>179</sup> Interview with Patricia Coñomán, then President of CONTEXTIL, Santiago, 17 December 1995.

<sup>180</sup> For an example in the textile industry, see Dirección del Trabajo (1994): *Dictamen* Nr. 5563/267, 21 September.

<sup>181</sup> The figures for the exports of blue jeans can be used as an indicator. In 1991, the exports of blue jeans reached US\$ 12.1 million; in 1993, they had increased to US\$ 18.9 million, but in 1994 and 1995, they declined to US\$ 16.1 million and US\$ 12.1, respectively (Cámara Nacional del Comercio, 1996).

<sup>182</sup> There is however one big enterprise in Arica (1<sup>st</sup> Region, Northern Chile) that produces blue jeans for different trademarks such as *Levi's*, *Calvin Klein*, *D.K.N.Y* and *Guess* for export and *Fiorucci*, *Diesel* and *Pepe* for sale in Chile and in the neighbouring countries Peru and Bolivia. The enterprise does not have its own product line but produces according to the clients' specifications (*Vestuario y Calzado*, March 1996; *Apparel Industry Magazine*, February 1997: 4).



Chilean enterprises continue to produce under international trademarks, but now they either do so for the domestic market, or they produce for the higher market segments. The higher quality requirements are an argument not to carry out these assembly activities for the higher market segments in low-wage countries. This view is confirmed by a sourcing report in a U.S. garment magazine:

Argentina, Chile and Uruguay are particularly well known for differentiated and designer duds, tailored clothing and wool garments [...]. Although the Southern Cone typically has a higher labor price tag than the rest of Latin America, discerning U.S. manufacturers may find that this region offers the right blend of product, quality, capability and quick response. (*Apparel Industry Magazine*, October 1998: 30, 33)

The cooperation of Chilean enterprises with international partners for products of the upper market segments does not only permit the access to new markets but can also involve a transfer of know-how and technical assistance related to productive processes and quality control procedures. For these reasons, a study by the government agency *Servicio de Cooperación Técnica* (SERCOTEC, 1995: 23) recommends the establishment of international subcontracting links to Chilean small and medium-size enterprises. However, such links are difficult to establish for small enterprises in an isolated manner and require cooperation within enterprise networks.

In the perspective of international commodity chains, the change in the mode of integration of Chilean enterprises can be considered as an upgrading, because the production for international trademarks in the upper market segments implies a higher degree of entrepreneurial independence for the local enterprise, higher levels of technology and skills as well as higher profit margins. The problem lies in that the increase of this type of production has involved little extra hiring of workers and is thus unable to compensate for the employment losses caused by the decline of other subsectors in the Chilean textile and garment industry.

On the other hand, Chilean commercial enterprises start to benefit from lower production costs in many Asian countries and subcontract textile and garment production to countries like China, South Korea, the Philippines, Sri Lanka and India instead of just importing ready-made textiles and garments from these countries.<sup>183</sup> This makes it possible to combine the designs that are most adapted to the Chilean market with lower production costs offered elsewhere.

Under circumstances where design, coordination of the production and marketing tend to be more value-added intensive than the garment production as such, this might be a valid upgrading strategy. As a result, a commercial and industrial structure could emerge where only the most knowledge- and technology-intensive operations throughout the chain are retained in Chile, while the labour-intensive assembly operations are subcontracted abroad. However, it can be observed that most of the international subcontracting activities originating in Chile do not involve the highest

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<sup>183</sup> In Chile, these Asian countries are often collectively perceived as low-wage countries. However, there are obvious differences between India and South Korea, and South Korean textiles are produced at a lower price than in Chile because of higher productivity levels, not because of cheaper labour (see figure 5.8.). The case of garments is slightly different, because even though they may be subcontracted to a South Korean enterprise, the actual garment assembly may actually take place in a low-wage country (triangular subcontracting arrangements) while the South Korean enterprise is in charge of coordinating the production and ensuring quality control.

qualities and market segments. Rather, Chilean enterprises act as followers of foreign fashion and subcontract copies of European and U.S. products at lower prices, without a substantive input of Chilean design capacities.

The commercial flexibility and the ease with which Chilean enterprises buy abroad imply a steady increase of imports of final and intermediate products.<sup>184</sup> Although it is not yet clear which modalities of international division of labour the Chilean enterprises will take in the long run, it is likely that unprofitable segments of the productive chains will disappear in Chile.

### 5.5.3. The *multitiendas* and the commercial part of the chains

Like in other countries, retailers in Chile have acquired a key role in organizing the textile and garment production. Department stores (*multitiendas*) give rise to multiple forms of productive chains within Chile and abroad. The textile and garment industry is a good example of the shift of economic power from the big textile factories towards the *multitiendas* that buy domestic production, import and subcontract to manufacturing enterprises that may or may not be in common ownership with the *multitienda*.

Until the 1970s, some big department stores had their own factories, which subcontracted part of their production to other enterprises. Given the restrictions inherent to the ISI model, the priority was to ensure sufficient production to meet the demand. At present, by contrast, it is easy and even sometimes much cheaper to import garments than to buy domestic products. Thus, commercial enterprises are much less dependent on productive enterprises.

Department stores generate different types of productive chains in the textile and garment industry. They subcontract directly to foreign or domestic enterprises, or work through associated productive enterprises that are completely or in part under the same ownership:

- **Direct international buying.** The direct imports of garments by department stores correspond in part to products developed abroad, especially in the case of expensive trademarks or end-of-season sales from Europe or the United States. In other cases, the department store is more or less involved in product development. The most basic degree is the simple choice from a catalogue of the provider, with minor adaptations of the sizes to the Chilean market and the use of a label corresponding to one of the department store's own trademarks. This system works especially with Asian countries like South Korea, Taiwan, China, Hong Kong, Pakistan and India. But there are also cases where the product is designed within the department store. This involves a higher content of domestic value added, although in most cases the development of own models is limited to copies of European or U.S. models, remaining in the position of a fashion follower. The garments produced this way are thus imitations of European or

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<sup>184</sup> Most Korean-owned enterprises in Chile benefit from the link to their home country to import inputs for their production (G9). In November/December 1996, a delegation of South Korean businessmen stated their interest to produce textile articles in Chile in order to avoid the transport costs from Korea.

U.S. garments, generally produced with fabric from the country where the assembly process takes place, and at prices considerably below the originals. Sometimes, Chilean department stores also send fabric samples to Asian countries in order to have a copy produced there. The reputation of Asian clothes in Chile is to be of rather low quality, although the generic term "Asian imports" does in fact correspond to very different countries, enterprises and product qualities. Due to the long distance, direct quality control is not easy. At least in one case, the *multitienda* has hired a special quality control service in each of the producing countries.<sup>185</sup> This subcontracting arrangement includes a quality control at the production sites and ensures acceptable quality standards. Due to transaction and transport costs, this kind of international subcontracting is generally not profitable for small production runs.

- **Direct national buying.** Under this system, the department store buys garments from a national provider with which it has no relationship of common ownership. Although, as mentioned above, these arrangements are not completely new, the department stores' commercial strategies have experienced radical changes since the 1970s and the resulting changes of the productive chains deserve a more detailed analysis (for one case study, see section 5.5.7.1.). Department stores buy through individual or seasonal orders, with few more stable long-term relationships. Sometimes the department store may participate in the design of the ordered garments, making the relationship more similar to subcontracting. The complete assembly of the garment is however the responsibility of the provider that generally also buys the inputs. In some cases however, department stores that do not have their own associated garment enterprises may participate in buying inputs. The provider can subcontract in turn part or all of the assembly process. For the provider, working for a department store has advantages and disadvantages. First, the sale through department stores is the most dynamic part of the garment business, while the sale through small retail shops is getting more and more difficult. It is thus interesting for manufacturing enterprises to establish relationships with department stores in the hope to benefit from their dynamism in the future. With regards to payment conditions, department stores are reliable creditors, but they usually have very long periods of payment (up to 120 days). This diminishes the requirements of working capital for the department store (when it has to pay for an article, it has generally been sold already) at the expense of producers, an additional indicator for the shift in the power balance between both parts. Some enterprises and workshops refuse to work for department shops precisely because they fear the consequences of the highly unequal bargaining power of the parties (G3).
- **National buying through associated manufacturing enterprises.** Several department stores have associated manufacturing enterprises that are in part or in total under the same ownership as the department store. These enterprises do not work exclusively for the department store they are associated with - they may also sell to other clients and even to other competing department stores. Generally,

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<sup>185</sup> Telephone interview with an employee of one of the major department stores, Santiago, 1997. In the United States, retailers have even stronger presence in the regions of offshore production via foreign buying offices (Dickerson, 1995: 457).

however, a high share of their sales is concentrated in their function as privileged provider for the department store to which they belong. The owners of the biggest department store in Chile own two garment enterprises which in turn work with several dozens of workshops each as subcontractors. These associated garment enterprises generally keep the production with the highest quality requirements and the formal men's wear within the factory. Men's wear adapts well to the production in big enterprises because the degree of the division of labour is high, the production runs are relatively big, and conveyor belt systems are often used. The rest of the production is carried out to a large extent outside the factory in external workshops. Contrary to the direct relationship between department stores and providers, in this case the associated productive enterprise carries out several tasks related to the coordination of the network of workshops, such as providing the pattern, buying fabric and other inputs, sometimes cutting the fabric, controlling the quality, borrowing machinery and providing technical assistance.

#### **5.5.4. Manufacturing enterprises (factories)**

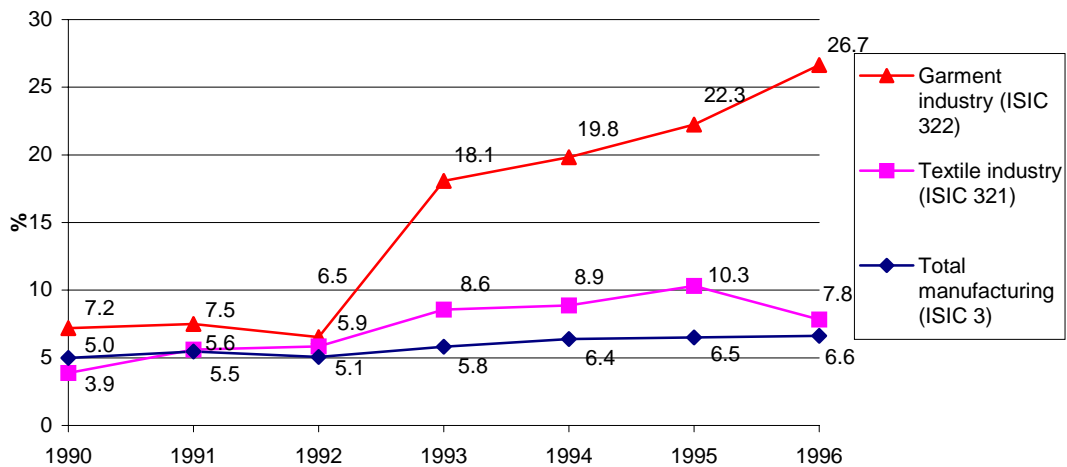
In the model of the complete chain, the manufacturing enterprise has machinery to carry out the production in part or totally. It can in turn subcontract part of the production process to workshops or homeworkers. Generally, it is in charge of buying the main inputs (fabric and distinctive inputs).

With the restructuring that has taken place in Chile over the last years, the distinction between commercial enterprises and manufacturing enterprises has been watered down. Many manufacturers are also actively importing garments that are no longer profitable to produce in order to maintain their product lines. The share of products bought and re-sold without any manufacturing transformation in the total sales of Chilean garment manufacturers has increased dramatically since the beginning of the crisis (figure 5.11.). This striking increase of the commercial (as opposed to manufacturing) activity can be considered as one main ingredient of the predominant strategy of commercial and managerial flexibility.

In most cases, relationships with subcontractor enterprises and workshops are rather short-term and involve only individual or seasonal orders (G1). Only in one case (G15) could a medium and long term strategy of provider development be observed (see section 5.5.7.1.).

**Figure 5.11. Commercial activity of manufacturing enterprises: products sold without transformation, 1990-1996**

(share of total value of goods and services sold, in %)



Source: Calculations based on data from the INE (various years): Encuesta Nacional Industrial Anual.

The subcontracting of production can be understood within the context of the predominant strategies of commercial and managerial flexibility. In order to be able to benefit rapidly from shifts in relative prices on the world markets, it is important not to encounter obstacles due to high fixed costs within the factory. Thus, the reason for subcontracting are not only costs as such but also insufficient in-house-capacity of machinery and specialized workers for specific products (G1).

### 5.5.5. Workshops

The concept of "workshop" that implies informality, small size and fragility has in fact no clear definition in Chile, because the majority of small enterprises do have at least some degree of formality. This means that they have declared a commercial activity (*iniciación de actividades declarada*), and that they have to pay taxes. However, there are several variables for which there is a continuum between informality, partial formality and total formality. These are, for example, partial or total payment of value added tax, existence or not of the municipal authorization and the degree of compliance with the labour legislation.<sup>186</sup>

According to the President of the Association of Small and Medium enterprises (AMPICH), the current application of the municipal regulations contributes to foster subcontracting. Workshops are generally denied the authorization to enlarge the

<sup>186</sup> According to a survey on micro enterprises in the Santiago Region in the early 1990s, 53.9 per cent of the 52 garment enterprises had a valid authorization of the municipality; among the 14 knitwear enterprises, none had it. The share that issued receipts (and thus paid value added tax) was 73.1 per cent among the garment enterprises and 28.6 per cent among the knitwear enterprises (Pardo et al., n.d.: 5).

building (*permiso de ampliación*), especially when they are located in residential zones. These denials occur despite the fact that garment enterprises are in most cases neither very noisy nor polluting. The maximum tolerated number of workers for this kind of workshops is generally nine workers.<sup>187</sup>

Among the small (and even medium) garment enterprises, there is a strong tendency to work more and more as subcontractors (*prestadores de servicio*) rather than on their own products. For example, G3 used to have a broad offer of its own products, but now produces only one of them, while the rest of its work is as a subcontractor. G16 also stopped to produce its own product and works exclusively as a subcontractor. G14 has its own trademark for shirts, but the share of this trademark in total sales has declined to only 7 to 8 per cent.

Generally, a workshop that accepts an order from a manufacturing enterprise is asked to carry out the whole assembly of the garment. However, the workshops can in turn subcontract part of this production to other workshops or to homeworkers, for example if they can not carry out the order alone because of limited production capacity or the lack of some specialized equipment. G3, for example, has accumulated experience in carrying out tasks that need special equipment or techniques. This can be a single position in the assembly process, such as fixing a special baste with elastic to a sports garment. The price for this operation is only Ch\$ 50 per garment. In such a case, there is no cost advantage for the enterprise that subcontracts such tasks, given that it has to pay the subcontracted enterprise (production cost plus a profit margin), plus the transport costs to move the intermediate product from one enterprise to the other. According to G7, the cost for subcontracting a task to a workshop is approximately twice as high as the direct labour costs within the enterprise, although this comparison does not apparently include other (non-labour) costs arising when the task is done within the enterprise.

There are still some small enterprises that have their own products and use their own distribution channels - own retail points and the sale through other retail shops (T7). However, the sale through small retail shops becomes more and more difficult as the department stores increase their market shares. This shifting consumer behaviour is only to a small extent due to prices - the small retailers, for example in Patronato, often offer even lower prices than the department stores. More important factors are convenience (a department store permits to see and try a large number of garments at one place) and payment conditions (department stores offer consumer credit through their own credit cards).

In addition to the small and micro enterprises integrated in subcontracting chains, another segment of micro enterprises outside these chains sell directly to consumers. In a survey on micro enterprises in Santiago carried out in 1992 and 1993 (Wormald/Rozas, 1996), 56 per cent of the garment enterprises sold directly to

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<sup>187</sup> Interview with Chaquib Sufan, President of AMPICH, Santiago, 27 February 1997.

consumers, while the rest sold to retail shops or enterprises (see Pardo et al., n.d.: 15).<sup>188</sup>

The major problem of most workshops is their lack of specialization which forces them to compete almost exclusively via low prices. As mentioned before, some workshops, like G3, managed to situate themselves in some market niche. The manager of an enterprise with numerous contacts with external workshops (G15) observed a tendency towards the constitution of workshops specialized in one specific phase of the production process and with relatively important investment in specialized equipment such as dedicated sewing machines (e.g. buttonholers) and machines for certain finishing operations. This tendency is however a recent phenomenon.

### 5.5.6. Home work

It is often difficult to distinguish homeworkers according to the ILO definition (see section 4.3.4.) from home-based micro enterprises. According to the study by Pardo et al. (n.d.: 32), 67.3 per cent of the garment micro enterprises (57.1 per cent in knitwear) were located within the entrepreneur's home, and a further 19.2 per cent (21.4 per cent) in a workshop attached to their home (*anexo a la vivienda*). Reca and Roman (1997) found that some microentrepreneurs worked during some periods of the year as dependant homeworkers.

Although data on the exact number of homeworkers are not available, it seems that their number has increased recently as a consequence of the subcontracting strategies adopted by enterprises and workshops (Díaz/Yáñez 1998; Selamé/Henríquez 1995). According to the socio-economic survey CASEN 1996, roughly 35 000 workers in the garment industry (42 per cent of total employment in that sector) and 11 000 workers in the textile industry (18 per cent) worked in their own living place. Although only a minority of these workers recognize themselves as dependant salaried workers (partly because no formal employment relationship exists), many work in fact as salaried homeworkers rather than small entrepreneurs or real own-account workers.<sup>189</sup> A 1997 survey that aimed more specifically at measuring the number of dependent homeworkers (as opposed to home-based microentrepreneurs) gives an estimate of 14,778 homeworkers in the textile and garment industry, of

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<sup>188</sup> In comparison to micro enterprises of other sectors included in that study (repair services, wood and furniture, food processing), the degree of compliance with labour norms was low: only 42 per cent of the salaried workers had a written work contract (between 67 per cent and 91 per cent in the other sectors), 55 per cent paid contributions for some social security system (between 69 per cent and 79 per cent) and 84 per cent received at least the legal minimum wage (between 93 per cent and 99 per cent) (Wormald/Rozas, 1996: 83).

<sup>189</sup> Calculations based on data from MIDEPLAN (CASEN 1996). According to an estimate by the sectoral business association, 60 per cent of women's and child wear and 30 per cent of men's wear are produced in home work (ILO, 1980: 23). This figure is often cited to prove the important role home work has recently taken in Chile (for example, Díaz/Medel/Schlaen, 1996: 5). Díaz et al. cite Wirth (1993: 13) who in turn cites Crummett (1988) who in turn cites Paukert (1984). However, the original source is the mentioned ILO report. Due to the age and the unclear methodology for the estimate, it should be taken with caution and cannot in any case prove a *recent* increase in home work.

which 12,498 (84.6 per cent) were women (Henríquez et al., 1999: tables 4, 5). Thus, roughly one in ten persons employed in the textile and garment industry is a homemaker.<sup>190</sup>

The textile and garment industry historically had a lot of homeworkers and is still one of the industries where homeworking is most frequent. It tends to be geographically concentrated in some areas and neighbourhoods. In Santiago, for example, garment homeworkers are concentrated in the municipalities of La Pincoya, Recoleta, Huechuraba, Padre Hurtado, Santiago, Pudahuel and Conchalí. Homeworkers also situate themselves in the neighbourhood of manufacturing enterprises that subcontract tasks to homeworkers, such as T2 and T5 in the sample of this study.

The earnings and employment quality of homeworkers are heterogeneous and depend not only on the type of work and the piece-rate agreed upon, but also on the type of sewing machine available and the worker's skills. Some workers declare that they do not want to work as factory workers because of the low wages there (Reca/Roman, 1997: 34). This would suggest earnings in home work at least equivalent to factory wages. One entrepreneur stated that his pay to homeworkers is equivalent to the piece-rate wages he pays to workers within the enterprise (G4). In G16, rates for homeworkers are somewhat higher in order to compensate for electricity costs. In any case, subcontracting to a homemaker is cheaper than subcontracting to a workshop, because in the latter case, the workshop owner's profit has to be added to the labour- and non-labour costs.

Among the homeworkers interviewed by Selamé and Henríquez (1995: 94-95), only one was able to earn the equivalent of the monthly legal minimum wage in 101 working hours, while the other interviewed workers needed more than 200 hours of work. This means that with a standard number of working hours (48 hours per week), they would earn little more than the minimum wage.<sup>191</sup> The rates for the different operations can vary, sometimes without prior notice, and there is little protection against non-compliance and abuse because agreements are hardly ever made in written form (Selamé/Henríquez, 1995; Reca/Roman, 1997). Another important problem is the lack of social protection and the issue of access to health services (Díaz/Medel/Schlaen, 1996). The main reason for home work is that it permits women to combine remunerated work with domestic work and childcare.

### **5.5.7. Some production chains: case studies**

The study of productive chains generally aims at reconstructing "complete" chains, that is, those that include all elements from the department store and the productive enterprise to home work, including one or several workshops and possibly intermediaries. In practice, the restrictions to the researcher's access to each of the actors along the chain make such an approach difficult. Moreover, chain

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<sup>190</sup> The number of homeworkers can be compared to the total employment in the textile and garment industry according to table 5.4.. Figures are not totally comparable, however, because the home work survey used a longer reference period than the usual employment survey ENE.

<sup>191</sup> From these amounts, which due to the nature of the work and the pay system can only be estimates, the spending for machine maintenance, some inputs (scissors, needles) and electricity have to be deduced.

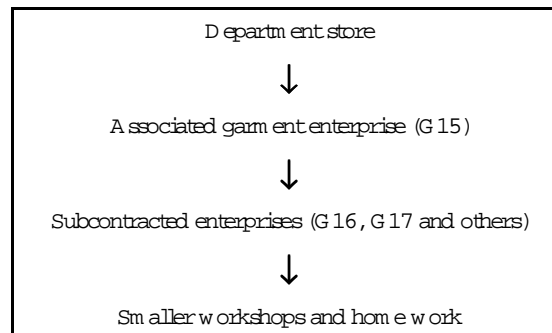


configurations in real life are often much more complex than the schematic representations, and exhibit a surprising diversity. This subsection describes some examples of productive chains that have been detected during the interviews and enterprise visits. Chain 1 is driven by one of the main department stores in Chile (5.5.7.1.); chain 2 by a small commercial enterprise with own cutting facilities (5.5.7.2.); chain 3 by a big garment manufacturing enterprise (5.5.7.3.); and chain 4 is an example for the subcontracting of some minor labour-intensive tasks to homeworkers (5.5.7.4.).

### 5.5.7.1. Chain 1: Driven by a department store

The central actor of this chain (figure 5.12.) is one of the main department stores in Chile. This department store generates its own productive chains via international subcontracting and buying directly from national providers, but it also buys an important share of its products from an associated garment enterprise (G15) that is in the hands of the department store's owners. G15 thus maintains a permanent contact with the department store and has standing computer and telephone lines.

**Figure 5.12. Retailer-driven chain**



Source: Own survey, 1995-1997.

G15 produces its product line of formal men's wear within the enterprise. According to the enterprise, this type of product is well suited for factory production, because it is relatively standardized, with big production runs and high quality requirements. The men's wear is not only sold to the department store, but also to other national and international clients and even to another, competing, department store.

The product lines of women's wear, by contrast, are to 90 per cent produced externally in approximately 30 workshops with 15 to 20 workers each on average. This is the result of a recent restructuring of the enterprise that reduced radically the share of production within the enterprise. The general enterprise policy is to establish stable links with the subcontracted workshops, and about half of them work during the whole year for G15. Two of the subcontracted workshops were visited for this study (G16, G17).

G16 produces school jackets and women's shirts for G15. On average, the sales to G15 account for 60 per cent of G16's total sales. G16 has occasionally produced

fashion wear for G15, but has not recently received any orders for this type of product. The school jacket and the women's shirt have very low profit margins, while the production of fashion products is more profitable. For this reason, G16 has tried to introduce a new product - a women's blazer - in its sales to its other clients, most of which are garment enterprises associated with other department stores. The produced quantities of this new product are however not sufficient to stop the production of the other, low-profit, products.

Although G16 does not work exclusively for G15, the link between the two enterprises goes beyond a simple sales link. G15 lent some machines and sent persons working in quality control to G16 to periodically observe the production process and control the final product. This control, however, was not satisfactory for G16 because the person in charge did not have the skills to make proposals on how to solve the detected quality problems. G16 thus asked for technical assistance that has finally been ensured by an expert who works in G15 and is hired after office hours by G16 to tackle the quality issue. With the help of this specialist, G16 has been able to considerably improve its quality levels.

The work is organized by rotation, and some operations are subcontracted to homeworkers. These are three female workers who used to work within the enterprise with a good performance and who preferred to work at home after the birth of their children. G16 has thus lent them a sewing machine. No work is subcontracted to other workshops because, in the view of the owners, this would involve a loss of control over the quality of the product.

Contrary to G16, G17 works exclusively for G15. Although, as in the case of G16, there is no written contract, there is an oral commitment from G15 to place sufficient orders to maintain G17 occupied during the whole year. G17 has recently moved to bigger premises and hired 12 new workers, making up for a total of 28 workers. G15 has lent various machines to G17 and sends someone out for quality control every second day. G17 also hired a supervisor who had previously worked in G15.

Production in G17 consists in several types of fashion wear for middle-aged women. The products are sold in the Chilean market or exported indirectly (via the department store to which G15 is associated) to Peru and Argentina. The short-term objective is to produce 5,000 garments per month. G15 provides the pattern, the uncut fabric and the other inputs except yarn. G17 carries out the complete process of garment assembly and all finishing including the packaging.

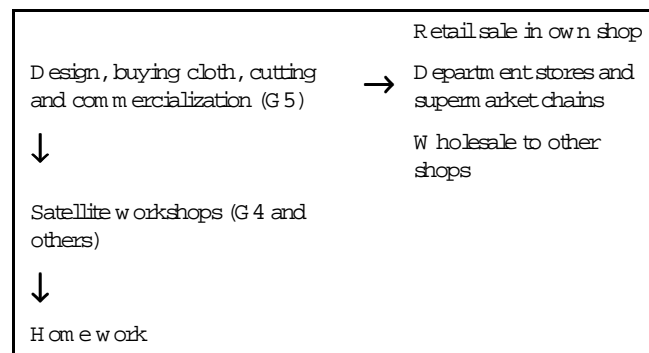
The work is organized by complete garment. Nothing is subcontracted further down the chain because this would be a risk for the attained quality levels. The owner also mentioned the risk that some intermediate product might be lost on its way or that the pattern could be copied by someone. However, another workshop that is producing exactly the same products for G15 does subcontract part of its production.

In sum, this chain is characterized by a relatively high degree of stability in the relationship between G15 and its subcontractors. This stability is made possible because G15 has a secured market due to its link with the department stores with which it is associated. Several of the workshops work exclusively for G15 during the whole year, permitting them a relatively stable medium-term planning. There are different forms of cooperation between G15 and the subcontractors reaching from simple quality control to lending machines and providing technical assistance.

### 5.5.7.2. Chain 2: Driven by a small commercial enterprise

The key actor of this chain (figure 5.13.) is a small family-owned enterprise that is specialized in garment commercialization (G5). The enterprise imports (shirts, trousers, *parcas*) and sells garments, but it also has its own product line. For this product line, it imports around 30 per cent of the fabric (the remainder is bought in the domestic market) and carries out the design and cutting. The garment assembly is contracted out to a variable number of "satellite workshops" (four at the moment of the visit, but up to ten or twelve in the high season). The finished garments are then collected from the workshops, although exceptionally, the workshops deliver them back to the enterprise.

**Figure 5.13. Small commercial enterprise-driven chain**



Source: Own survey, 1995-1997.

Although G5 is a small family-owned enterprise, there is a marked innovative spirit. This is partly due to the fact that two of the owner's sons study at university, acquiring a relevant professional expertise, and work in the enterprise. The technology, however, is still quite traditional. Cutting is not automatized and the computerization of stock control and orders is only under preparation. Production planning is based more on experience and intuitions than on statistics.

The enterprise owns two shops for wholesale and retail sale. An important share of the sales goes to retail shops. A high share of the production is made on order, based on product samples and introducing modifications according to the client's needs. The enterprise's aim is to maintain profit margins at some 30 to 40 per cent when selling in its own retail shop or to other small retail shops.<sup>192</sup> Recently, however, part of the production has been sold to supermarkets and department stores, although this business is just starting. In this case, the margins are much lower (maximum 10 per cent) but are compensated for by quantity. The contact with supermarkets and department stores is direct, sometimes through a salesman hired by the enterprise, but without intermediaries. The supermarket or department store in turn sells with

<sup>192</sup> See Reinecke (1997: 59-60) for an example of G5's cost and price calculations.

relatively low margins, causing sometimes complaints from clients who find the products cheaper in the supermarket than in the enterprise's own shop.

One of the satellite workshops that work for G5 has been included into the sample of this study (G4). G4 works exclusively as a subcontractor in garment assembly. It does not have its own design, cutting facilities, and own distribution channels. Its clients provide thus the cut fabric and the "distinctive inputs" like special buttons and decoration while the workshop puts its own "non-distinctive inputs" (standard buttons, yarn) and the labour force. The workshop was only created in 1994/1995. It is thus impossible to identify its long-term innovative behaviour. Several clients advanced money for machinery acquisition; the repay rates are retained from the payments for the work done. The technology in use is simple.

G4 suffers from a high degree of informality, excessively high external labour turnover rates, conflictive labour relations and partial compliance with tax and labour legislation. There are quality problems, as was demonstrated by one order of shirts for G5, some of which having been refused on delivery.

Work organization varies according to the product requirements and the available labour force. The system by rotation is predominant, because not all workers have the necessary skills to assemble the complete garment. Responsibility for quality control is not clearly assigned, causing the already mentioned quality problem and conflicts between the owner and the person responsible for the production line.

Despite the crisis in the garment sector, the owner of G4 stated that there was always work to be done. The limitations according to him are rather in the available resources of the workshop to ensure a given quantity and quality of production.

G4 in turn subcontracts part of the work to homeworkers. It even "sends the most complicated tasks outside" because it has the best workers there. The cost for the assembly in home work is similar to the one for internal assembly. Some home work is even more expensive than work done in the workshop because "the good *singeristas* charge higher prices". Home work also avoids problems with the labour legislation and with the Labour Inspection.<sup>193</sup>

In this chain, an excessive degree of flexibility can be observed, especially with regards to numerical flexibility. This has negative consequences for workers' employment quality (job insecurity) and is an obstacle for entrepreneurial development. The high level of labour turnover causes shortages of skilled seamstresses and difficulties for economic medium-term planning. Moreover, the conflictive labour relations appear to be directly linked to the flexibility pattern. All in all, the problems in G4 can illustrate the vicious circle of a "low road" strategy to competitiveness.

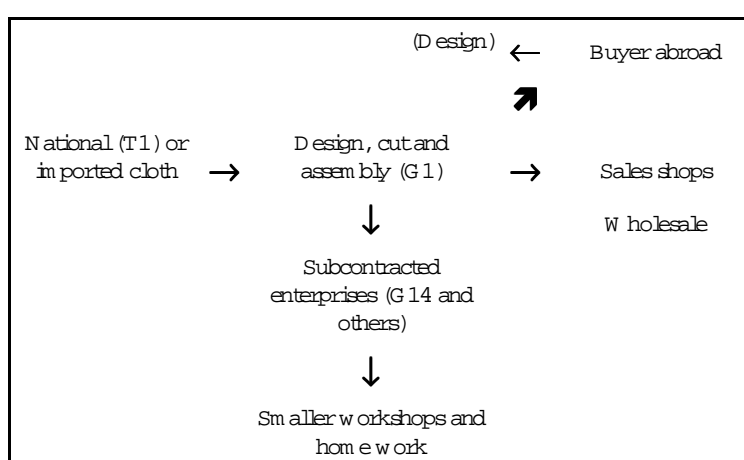
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<sup>193</sup> Homeworkers are forced by law to issue receipts (*boletas*) as independent workers, but the majority does not comply with this requirement.

### 5.5.7.3. Chain 3: Driven by a big manufacturing enterprise

The enterprise G1 produces blue jeans and other garments. 60 per cent of the fabric is bought from T1, while the rest is imported. The design is carried within the enterprise, based on foreign models. The first steps of design for one size of the garment are manual. Then, data are entered into a CAD/CAM system that automatically calculates the optimal cut lines for all other sizes and carries out the cutting process with a minimum waste of fabric. In the case of exports (20 to 25 per cent of sales), the client provides the design (figure 5.14.).

**Figure 5.14. Manufacturer-driven chain**



Source: Own survey, 1995-1997.

The total production costs for a pair of blue jeans for sale in the domestic market are between US\$ 8 and 9. For the export production, the costs are lower because the client provides technical specifications and some inputs like buttons. The profit margin are nonetheless extremely small (approximately US\$ 0.50 per unit), because the export price is only US\$ 7.50. The retail price in the United States for the same product is US\$ 48. This implies that the most important part of value added and profit is not in the production as such, but in the design, marketing and retailing. The wholesale price for the domestic market is US\$ 12, while the retail price is between US\$ 21 and 22.

A part of the production (approximately 25,000 pieces per month) is permanently subcontracted to outside workshops. However, these are "workshops" only from the perspective of the big enterprise and most of them have 30 to 50 workers or even more. Some of these enterprises subcontract in turn part of the production to smaller workshops or homeworkers.

The subcontracted products are often not the ones that are assembled within G1 but rather other products (like shirts) for which there is no sufficient internal know-how. G1 has a division of ten persons in charge of the coordination and the quality control of the subcontracted production. These persons visit the external workshops in order to carry out the controls.

To complete the product line, G1 imports some products for resale. These are products for which it is considered impossible to compete with imports. Of the total sales, around 5 to 10 per cent correspond to imported products, 40 per cent to external "workshops" and 45 to 50 per cent to production within the enterprise.

G14 is one of the subcontracted enterprises. At the moment of the enterprise visits, it was producing dress coats (*casacas*) for G1. G1 sends the fabric with the pattern (in other cases, clients send the fabric cut already) and G14 cuts the fabric, assembles the garment, makes the finishing and send the garment back to G1. G14 is one of the biggest enterprises that work mainly as subcontractors for other enterprises. Although it also has its own products, the share in the total production has been declining to only 7 per cent.

G14 started to work as subcontractor for G1 in 1988. In 1990, it started to work as subcontractor for export products (blue jeans). During the years of highest exports, employment reached 200 persons. However, the export business became more and more complicated (due, among other factors, to the appreciation of the Chilean Peso) and exports were finally abandoned in early 1995.

The technological level is relatively high, although it is surprising that the administration is not computerized. Compared to other enterprises of similar size, the administration is very small and seems to depend first of all on the intuitive management of the owner. Despite this, the enterprise is well situated in the subcontracting market and can choose among its potential clients. This relative independence is partly due to the quite complete equipment, including fabric cutting, washing for jeans and the capacity for its own design in those cases where the client does not provide the ready pattern or complete technical specifications.

The limitations for the development of the enterprise are given by the subcontracting business as such, especially after the end of the export business. For this reason, there are negotiations to acquire the rights for a well-known Italian trademark. This would permit in the future to lower the dependence on subcontracting with a relatively expensive product which offers more perspectives for enterprise development.

Workers in G14 are paid by piece-rate wages, with an additional individual incentive if the production is above a previously established production target. The monthly wages for the production workers are between Ch\$ 100,000 and Ch\$ 250,000 approximately. Social security contributions are in some cases paid for the total amount of wages, while in other cases a part is paid "under the table". The highest wages correspond to the dress coat production that has the highest skill requirements.

The piece rates are published in the enterprise, although according to one worker, the publication is incomplete as not all the rates currently in place are published. With regards to work contracts, fixed-term contracts are used during six or seven months when a new worker is hired before signing an indefinite contract.

G14 sometimes subcontracts part of the tasks to other enterprises. Unfortunately, it was not possible to get into contact with these enterprises.<sup>194</sup>

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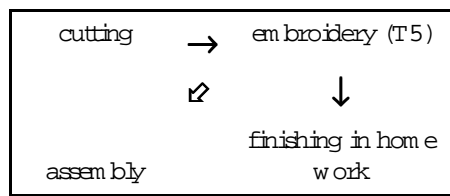
<sup>194</sup> G14 was the only sample enterprise where the owner, after a very cooperative attitude during the first two visits, radically changed her mind and preferred to end her participation in the study.

#### 5.5.7.4. Chain 4: Subcontracting of labour-intensive tasks to homeworkers

The enterprise T5 has several product lines. One of them is in fact a service, embroidery on garments (such as T-shirts or caps) and other products. In the case of embroidery on garments, the client sends the cut pieces before assembly. T5 prepares the pattern according to one of the models it proposes or according to the client's specifications. The price for programming the pattern varies, depending on its size and complexity, between Ch\$ 25,000 and Ch\$ 180,000. The embroidery as such is then charged by the number of stitches. A small embroidery on a pair of jeans can cost Ch\$ 50, while a big embroidery that covers a T-shirt can cost up to Ch\$ 2,000.

The production workers in embroidery are all women and work in up to three shifts during the high season. They are paid by piece rates. Depending on the work speed of each worker and the number of "extra stitches" (= overtime work), the monthly salary varies between Ch\$ 106,000 and Ch\$ 185,000 during the high season and between Ch\$ 70,000 and Ch\$ 87,000 during the low season.

**Figure 5.15. Subcontracting of labour-intensive tasks to homeworkers**



Source: Own survey, 1995-1997.

The cutting of the yarn that stands over on the backside of the embroidery used to be done within the enterprise but has begun to be subcontracted some months prior to the survey. It is now carried out by two or three homeworkers (figure 5.15). The homeworkers receive Ch\$ 4.7 per piece, independently of its size. T5 thus tries to distribute different sizes and difficulties in an equitable way among the homeworkers who charge the enterprise at the end of each month as independent workers with receipt (*boleto*). The amount fluctuates between Ch\$ 15,000 to 20,000 in the low season and Ch\$ 48,000 in the high season. According to the employee in charge of subcontracting this work, these salaries correspond to a work that is part-time (maximum 50 per cent). The homeworkers live close to the enterprise and come to collect and deliver the product.

#### 5.5.8. A garment district? The Patronato area in Santiago

The Patronato area (in the Recoleta municipality, Santiago) is characterized by its high concentration of garment enterprises, and, to a lesser degree, textile enterprises. According to an inventory (*catastro*) in a sample of blocks in this area, there are at least 740 productive units in Patronato, with more than 15,000 workers (of which more than 80 per cent are women). The average size of the productive units is clearly below the national average with about 20 workers per unit (Roman, 1996).

In fact, all the big enterprises are situated outside this area and only some of them have retail points there. Production in Patronato is closely linked to distribution because there is a high number of retail and wholesale shops. Some of the retail shops have their productive facilities outside Patronato, but very often, production workshops and retail shops are linked, the production facilities being situated directly behind the shop or on the second floor.<sup>195</sup>

About 15 to 20 years ago, entrepreneurs of Arab origin were predominant in the area. Since then, however, they have been partially replaced by Korean entrepreneurs.<sup>196</sup> Despite the high geographical concentration of garment and textile enterprises, the area does not have "industrial district" characteristics. Generally, there is no preference among the entrepreneurs to work with enterprises from this area and those enterprises that subcontract work, do so within the area as well as outside (interview with G8). The relationships between entrepreneurs are characterized by an excessive degree of rivalry oriented towards low prices and distrust. Sometimes, subcontracting tasks are given explicitly to enterprises outside the area for fear that the subcontractor could copy the design or try to short-cut the enterprise to get into direct contact with the final client and offer the same work at a lower price ("*levantar*" *los clientes*) (interview with G3).

However, there are links between enterprises in order to finance new machinery. For example, one enterprise lends some money for the acquisition of a machine to a smaller workshop, and the amount is gradually paid back by discounting it from the price for the subcontracted tasks (interview with G4).

Despite the crisis of the garment industry, many employment opportunities are offered through small advertisements in the retail shops. In the same way, entrepreneurs state that it is not difficult to find work as a subcontractor for garment assembly (G4, G8). In both cases, the problem lies in the volatility of the demand, the low profit margins for workshops and the job insecurity and low employment quality for the workers.

With regards to prices and quality standards, Patronato is an intermediate sector. Lower wages than in Patronato are common in areas further away from the centre, where the information flow about common piece-rates is incomplete. The best quality levels cannot be found in Patronato. Many of the most skilled seamstresses do not want to work in Patronato because of its bad reputation in terms of employment quality and conflictive labour relations.

In comparison with the national average for the Chilean textile and garment industry, trade unionization rates in Patronato are low, due largely to the small average size of the Patronato enterprises (Selamé, 1996: 47-48). The *Sindicato Inter-Empresa*

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<sup>195</sup> In addition to these relatively formal enterprises, there are other informal workshops and homeworkers that are invisible from the street.

<sup>196</sup> The presence of a segment of immigrant entrepreneurs is common to many countries (for the United States, see Taplin, 1997: 44). However, in most of these cases the workers are also immigrants (often recent immigrants who are excluded from the formal labour market), whereas in Chile the work force is predominantly Chilean. The linguistic and cultural communication problems in the Korean-owned enterprises between Korean entrepreneurs and Chilean workers were obvious during several enterprise visits and some spectacular cases of abuses have been reported by Chilean mass media.



mentioned in section 5.2.3. concentrates most of its activities in this area, but as it represents only a small number of workers, it is not very powerful. Moreover, it has no possibility to force employers into collective bargaining.

In sum, although the Patronato area presents a high local concentration of small textile and garment enterprises, it is not characterized by strong horizontal links and cooperation. It does not correspond to the model of "industrial districts" mentioned in section 2.2.2.2..

### **5.5.9. Summary**

The subcontracted enterprises in the garment industry are characterized by their high degree of dependence on the user enterprise. Their bargaining position is often extremely weak and their shrinking profit margins are an obstacle for their future development as necessary investments can hardly be made without outside support. Subcontractors have difficulty in obtaining market information (often, their only regular source are the client enterprises that do not provide independent information).

The user enterprise often buys the necessary inputs. This has the advantage for the subcontractor that it reduces the working capital requirements. However, the disadvantage is that barriers to entry are very low. This results in extremely stiff competition among workshops, especially in the lower market segment.

The lack of specialization of most subcontractors makes it easy to replace them at any time, further weakening their bargaining power. The predominant mode of relationship between user enterprises and subcontractors fits well within the predominant strategy of commercial and managerial flexibility described above (section 5.4.). It is characterized by short-term relationships, lack of trust and weak efforts of technical assistance and provider development in general. There are some exceptions to this general pattern as some enterprises seem to have realized the importance of subcontractor specialization.

The development of subcontracting over the last years has not increased labour productivity, precisely because of the lack of provider development strategies and the low technological level of most subcontractors. Moreover, there are coordination problems between the actors of the network that involve efficiency losses. The reduction of costs has thus often taken place by increased work intensity and deteriorations of employment quality (see section 5.6.1.).

Although the general conclusion is that the small enterprises are in a weak position face to the user enterprises, some caveats have to be made. First, the chains are mobile in the sense that, despite their structural disadvantage, small enterprises can benefit from their relationships with bigger enterprises in the framework of subcontracting relationships. Some of them even manage to move up the chain and to improve their relative bargaining position and their technological level.<sup>197</sup> Second, the position of enterprises along the chain is not completely determined by their size and their initial resources. During the fieldwork, several enterprises have been detected that, despite being small, externalize part of their production to other

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<sup>197</sup> A similar conclusion comes out from a study on Mexico (Dussel/Ruiz-Durán/Piore, 1996).

enterprises that are sometimes bigger than them. It would thus be interesting to investigate in more detail the factors that determine the positioning of enterprises along the production and distribution chain.

Within the context of the predominant emphasis on commercial flexibility, many enterprises have opted for externalizing completely the assembly of garment to external workshops within the country or to contractors in other Latin American countries or in Asia, specializing in design, organization of production, sourcing inputs and retailing. In fact, these are the most profitable stages of the chain of production and commercialization. Technology tends to be more advanced (e.g. CAD/CAM devices in design and cutting) than in the assembly stages, and employment tends to be more formal, protected and stable.

With regards to international chains, some Chilean enterprises are acting as subcontractors for international trademarks, while others (especially department stores) subcontract production abroad to foreign enterprises. The latter tendency, that could offer interesting perspectives due to the potential concentration of the most value-added- and knowledge-intensive phases in Chile, does not in practice give many impulses for national development. This is because the subcontracted products are generally copies of European or U.S. garments at lower prices rather than original designs for the upper market segment.

## **5.6. Employment quality**

This section presents some evidence on the employment quality in the textile and garment sector. Subsection 5.6.1. is mainly based on results from the enterprise visits and interviews in the sample enterprises, while subsection 5.6.2. completes the case study approach with statistical data from the representative household survey CASEN.

### **5.6.1. Evidence from the sectoral case study**

The following conclusions with regards to the quality of employment in the textile and garment industry can be drawn from the enterprise visits and interviews:

- The reliability of employment and income (job security) has decreased since 1973. The widespread use of temporary workers with fixed-term contracts is one of the main factors. In small enterprises, it is common that some workers do not have a written work contract.
- The degree of compliance with the minimum standards fixed in the labour legislation is relatively low in the textile and garment industry, especially in the smaller enterprises.
- One specific problem in this regard is the common practice of officially paying workers at the minimum wage rate, while concealing the remainder of the piece-rate wages to the tax and social security authorities. Although this practice often

counts with the workers' complicity, it diminishes their social protection entitlements and causes problems in case of illness or dismissal.

- The changes in the work organization have generally increased the intensity of work in the Chilean textile and garment sector. However, this has not implied a generalized increase in labour productivity, probably because many of the subcontracted work shops and homeworkers do not have access to modern technology.

Other important dimension of employment quality are the **physical conditions of the workplace** that have an impact on the physical and psychical wellbeing of the workers. Is the heating, lighting and ventilation adequate? Is the workplace set up in a way that minimizes the risk of work accidents? Is the work post conceived in an ergonomic way? In very general terms, it can be observed that the physical conditions in the bigger enterprises are more conducive to the workers' wellbeing than in the small enterprises.

Most small enterprises have deficient physical installations with regards to heating, lighting and ventilation. Moreover, there are generally no lunch facilities, forcing workers to eat at their work places or outside the production plant.

The existence of trade unions or other **representation mechanisms to defend the workers' interests** is another dimension of employment quality. As can be seen from table 5.7., only seven out of the 25 sample enterprises have an active enterprise trade union.

**Table 5.8. Employment quality in a sample of subcontracted enterprises of the garment industry, 1997**

(share in %)

Enterprise size (number of workers)	Type of contract (% of workers)				Proportion of workers who receive social benefits					
	Permanent	Fixed-term	Without written contract	Without data	Holidays	Transport subsidies	Food subsidies	Christmas bonus	Other benefits	No benefit
1 to 19	44.4	11.1	33.3	11.1	33.3	33.3	33.3	11.1	44.0	33.3
20 to 49	46.6	40.0	13.3	0.0	46.7	63.3	63.3	46.7	63.3	13.3
50 and more	85.7	7.2	0.0	7.1	92.8	85.7	64.3	78.6	92.9	0.0

Source: Díaz/Yáñez (1998:48).

Note: The figures presented in this table are based on a survey of only sixty workers and have therefore to be interpreted with caution.

The tendency of increased subcontracting arrangements in the textile and garments industry also contributes to deficiencies in employment quality. Employment quality in small subcontracted workshops is often characterized by a lack of employment stability and protection, an absence of social benefits and long working hours. Although reliable representative data are difficult to obtain, the survey by Díaz and Yáñez (1998) on a small sample of workers in subcontracted garment enterprises illustrates this tendency (table 5.8.).

In sum, although real wages in the sector have not fallen so far – due largely to the overall labour market situation in Chile – other dimensions of employment quality have been deteriorating.

### 5.6.2. A statistical analysis

Special tabulations based on data from the CASEN 1996 permit such a statistical assessment. In order to obtain a reasonable sample size, data have not been calculated at the 3-digit level of the ISIC classification (that is, 321 textile industry, 322 garment industry), but rather at the 2-digit level. Sector 32 includes, in addition to the textile and garment industries, the leather (323) and shoe (324) industries.<sup>198</sup>

**Table 5.9. Employment in the textile, garment and leather industries by category and sex, 1996**

(share in %)

	Textile, garment and leather industries (ISIC 32)			Total manufacturing industry (ISIC 3)		
	Total	Men	Women	Total	Men	Women
Salaried workers in permanent employment with written work contract	53.1	70.0	42.9	62.1	66.3	51.0
Salaried workers in temporary employment with written work contract	1.6	0.5	2.2	5.3	5.5	4.5
Salaried workers without written work contract	11.5	8.7	13.2	13.9	14.0	13.8
Self-employed workers	30.4	14.6	40.0	14.8	10.2	26.9
Employers	3.4	6.2	1.7	3.9	4.0	3.8
<b>TOTAL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

The first result of the tabulations for the textile, garment and leather industries is that there is no indication that temporary employment (1.6 per cent of total sectoral employment) and salaried employment without written contract (11.5 per cent) have a higher incidence than in the rest of the manufacturing industry (5.3 per cent and 13.9 per cent, respectively) (table 5.9.).<sup>199</sup> Only 42.9 per cent of the employed women in the textile, garment and leather industries are permanent salaried workers with written work contract, while this share is 70.0 per cent for men, a gender difference that is much stronger than for the total manufacturing sector.

<sup>198</sup> Even at this level of aggregation, the subsample contains relatively few cases; the statistical data related to should thus be regarded as rough estimates rather than precise indications.

<sup>199</sup> This is a surprising result that needs to be checked against other empirical evidence once it becomes available.

**Table 5.10. Earnings in the textile, garment and leather industries by employment category, 1996**

	Textile, garment and leather industries (ISIC 32)			Total manufacturing (ISIC 3)		
	Average earnings (Chilean Pesos)	Share with less than 1 minimum wage (%)	Share with more than 5 minimum wages (%)	Average earnings (Chilean Pesos)	Share with less than 1 minimum wage (%)	Share with more than 5 minimum wages (%)
Salaried workers in permanent employment with written work contract	163322	2.2	7.8	184562	2.0	14.2
Salaried workers in temporary employment with written work contract	85903	10.3	0.0	109292	9.7	5.2
Salaried workers without written work contract	113536	15.4	7.3	110239	19.9	5.8
Self-employed workers	166138	27.8	15.0	209775	20.4	21.2
Employers	1605982	1.7	74.9	1206458	1.6	84.5
All workers	205880	11.7	12.1	214247	7.6	16.4

Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

Average earnings are slightly lower than for total manufacturing (Ch\$ 205,880 against Ch\$ 214,247). The pattern across employment categories is relatively similar to total manufacturing. Salaried workers in permanent employment with written contract earn substantially more than temporary workers and those without written work contract. The average earnings for the temporary workers are hardly more than half of the permanent workers' ones (table 5.10.). As mentioned in section 5.4., the practice of salary payments "under the table" may distort earnings statistics for the sector. However, the under-declaration is likely to occur in all salaried employment categories alike and does not necessarily affect the salary structure across categories. Further in-depth studies would be necessary to give a definitive answer to this issue.

Table 5.10. also shows that more than ten per cent of the workers in the textile, garment and leather industries earn less than the legal minimum wage, a higher share than in the total manufacturing sector. These extremely low earnings are especially frequent among the self-employed workers, of which more than one quarter are affected.

**Table 5.11. Employment quality in the textile, garment and leather industries by employment category, 1996**

(share in %)

	Textile, garment and leather industries (ISIC 32)			Total manufacturing (ISIC 3)		
	Contributes to pension fund	Received professional training the previous year	Works more than 48 hours per week	Contributes to pension fund	Received professional training the previous year	Works more than 48 hours per week
Salaried workers in permanent employment with written work contract	95.3	7.2	15.9	96.4	16.9	23.5
Salaried workers in temporary employment with written work contract	84.4	0.0	13.7	85.1	12.5	27.7
Salaried workers without written work contract	37.9	2.5	22.6	34.8	8.0	28.0
Self-employed workers	20.1	7.3	25.0	21.5	7.3	31.1
Employers	49.9	13.7	37.5	52.1	16.1	47.1
All workers	64.1	6.7	20.1	74.4	14.1	26.4

Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

Data on other indicators of employment quality confirm the fundamental differences between permanent salaried with written contract and temporary and unprotected workers (table 5.11):

- With regards to social security coverage, 95.3 per cent of the permanent salaried with written contract contribute to a pension fund. This share is 84.4 per cent for the temporary salaried with written contract and only 37.9 per cent of those without written contract. It is even lower among the self-employed (20.1 per cent). Among employers, 49.9 per cent contribute to the social security system. These shares are very similar to the ones that can be found in total manufacturing. These findings raise the question on how to give incentives for self-employed workers to a voluntary affiliation to a social security scheme. Unless they accumulate private savings during their active period, many self-employed workers will suffer from poverty once they are not able to work anymore.
- The incidence of professional training is much lower in the textile, garment and leather industries (6.7 per cent received some training during the 12 months prior to the survey) than is the case for the manufacturing sector on average (14.1 per cent). This share is especially low among temporary workers and those without written work contract. These data illustrate the vicious circle of job insecurity and low productivity employment. Those workers who are not expected to stay within the enterprise for a long time are very unlikely to have the opportunity to upgrade their skills and may therefore easily become "trapped" in low quality, low productivity jobs.

- One fifth of the workers in the sector work more than 48 hours per week, slightly less than for the manufacturing sector as a whole. Self-employed workers and employers are the most likely to have very long working hours. Among the salaried workers, those without written work contract have the highest incidence of long working hours, illustrating again the deficient employment quality for these workers.

In sum, the statistical analysis of employment quality shows that temporary employment and salaried employment without written work contract is not more common in the textile, garment and leather industries than in the rest of Chilean manufacturing industries, but does have a stronger gender bias. Like in the manufacturing sector in general, workers in these forms of non-standard employment suffer a significantly worse employment quality than their colleagues in permanent employment with written contract. This is reflected in lower average earnings, lower social security coverage and strongly diminished access to professional training. In the case of salaried workers without written contract, there is also an increased likelihood of very long working hours. In all forms of salaried employment, access to professional training in the textile, garment and leather industry is significantly lower than in the manufacturing sector as a whole.

## **5.7. Conclusions**

The enterprises of the textile and garment industry are in a situation characterized by numerous restructuring challenges. These challenges are given, first, by the cost structure of Chilean production, including levels of labour costs typical of a middle-income country; second, by the low productivity compared to other countries with similar labour costs; and third, by the massive inflow of imported products in a free-trade environment. Faced with this situation, a number of enterprises closed down, causing considerable employment losses.

The restructuring of those enterprises that survived the crises is generally characterized by cautious innovation strategies and by strategies of commercial and managerial flexibility. In the context of such strategies, it is crucial to lower fixed costs, flexibilize the use of the labour force and adapt the mix between own production, subcontracted production and imports according to relative prices in domestic and international markets.

These strategies have permitted the survival of many enterprises for the time being, but involve risks for the future entrepreneurial development of the sector because they can weaken the productive capacity of the enterprises. The consequences of these strategies for the quality of employment are negative. Although real wages in the sector do not seem to be declining - this can be explained by the general rise of real wages in Chile and the situation of the labour market up to 1998 - there are various problems in other dimensions of employment quality. These include important fluctuations in income levels, job insecurity, elimination of social benefits, low social security coverage, intensification of work and long working hours.

It can thus be stated that within the typology of restructuring strategies mentioned above (section 1.2.), the Chilean textile and garment industry is closer to the "low

road" than to the "high road". Although several big enterprises have successfully increased their productivity levels to compete in international markets, the general tendency has rather been a cost reduction strategy with meagre productivity results, especially in the garment industry, where production has fallen more than employment.

This broad analysis can be differentiated according to the main concepts used in this sectoral case study:

- **Innovations** in most of the enterprises under study appear to be limited, but it is necessary to differentiate according to the type of enterprise and the type of innovation. With regards to "hard" technological innovations, there are some ambitious projects that involve large investment and long-term profitability calculations. Although it is still too early for a definitive assessment, some of these ambitious projects seem to be successful. However, in most enterprises innovation in "hard" technologies is relatively limited, particularly in family-owned and smaller enterprises. This also has repercussions for the organization of production. Although various enterprises have CAD/CAM systems and different degrees of computerization, hardly any installed technology for computerized communication between enterprises has been detected (e.g., EDI technologies). Thus, the Quick Response system, that is of growing importance in the garment production chains all over the World, does not yet exist in Chile. Given the commercial emphasis in Chilean enterprises' strategies and the availability of a modern telecommunication network, this technology could offer interesting perspectives to Chilean enterprises. With regards to product innovations, products change frequently due to the necessity to follow fashion tendencies and to choose those products that can still be produced profitably in Chile. However, there is a notable absence of original models that could turn Chilean enterprises into fashion leaders instead of followers. Innovations in work organization or human resource development strategies that would permit a major participation and creativity of the workers are scarce.
- With regards to the **flexibility** profile of the enterprises, strategies of commercial and managerial flexibility are predominant. This involves a management-driven combination of numerical flexibility, wage flexibility and some aspects of functional flexibility in order to adapt the amount of output and to react to changing relative prices in domestic and international markets. These strategies are based on a variable mix of own production, subcontracted production and imports. There is however a lack of productive flexibility as such, that is, of those aspects that require an active participation of the workers in the organization of productive processes. In this sense, most enterprises are far from a supposedly virtuous pattern of "flexible specialization". Piece-rate wages increase the wage flexibility and the short-term capacity of adaptation for the enterprise, but diminish enterprises' functional flexibility.
- The configuration of the **productive chains** can be much more complex than the current models suggest. The "typical" chain of user enterprise, workshop and home work with a decreasing size of the productive unit the further one gets from the user enterprise is only one among a variety of possible cases. The mechanisms of spatial fragmentation in the garment industry, such as



subcontracting, home work and the existence of intermediaries are not new to this industry. However, the hypothesis of an increasing degree of fragmentation of the productive processes can be backed with statistical data on subcontracting. The spread of subcontracting arrangements for particular parts of the production process may also explain the meagre productivity performance of the Chilean garment industry. Although, for the "head" enterprise, subcontracting may be a strategy to lower costs and increase flexibility (reducing the share of fixed cost in total cost), labour productivity in small subcontracted workshops or in home work is generally lower than in formal enterprises, given the technical and physical conditions of production. In many chains, the commercial part of the chain is crucial and determines the configuration along the chain. The growing role of the commercial actor and especially of the department stores is a much more radical change than the fragmentation as such. Given the good capacities of Chilean enterprises in business administration (especially compared to other Latin American countries), the Chilean garment industry could place itself at the top of productive chains not only oriented at the domestic market, but also for export markets. However, it seems that this does not happen (or only in exceptional cases), principally due to the lack of original design capacities and of Research and Development activities in general. The subcontracting processes under study are, in the majority of cases, not leading to a specialization of the subcontractor enterprises. This would however be necessary in order to make subcontracting a tool of genuine productivity increases. Most of the times, the dynamism is based more on the competition between enterprises with regards to prices than on medium- or long-term cooperation and the exchange of technical know-how.

- **Employment quality** in the textile and garment industry is shaped by the innovation and flexibility strategies. The piece-rate payment system does not lower average wages, but does contribute to the intensification of work and to the diminution of employment stability. In many cases, a trade-off between the amount and the reliability of incomes can be observed. For the trade unions, the situation is extremely difficult: not only the characteristics of employment change, but the whole value scale has started to evolve. This is a real challenge for future strategies of workers' representation. In the health and social security systems, perverse incentives have been detected. These encourage the payment of a part of the salary "under the table" and increase the gap between the public and private health and pension systems. The general predominance of short-term survival strategies becomes also evident in the very low incidence of professional training (about half the incidence found for the manufacturing sector as a whole). Professional training is virtually non-existent for temporary workers and those without written contract. A segment of the textile and garment labour force is flexibly employed when the necessity arises, but does not benefit from enterprise investments. In the long run, the consequences of such a low employment quality ("low road") strategy are negative both for the enterprise (low productivity) and the worker (low salaries and deficient employment quality).

## 6. Sectoral case study 2: innovations, flexibility and productive chains in the metalworking industry

*Metals manufacturing is a key component in furthering the development of Chile as an exporter of value-added products.*

ProChile: Trade & Investment Guide, Metal Manufactures, Santiago, 1999

### 6.1. Introduction

The metalworking industry (ISIC 38), which is the second sectoral case study presented, produces metal products, machinery, household appliances, cars and other similar products.<sup>1</sup> Within the metalworking sector, special emphasis is given to the white goods industry (household appliances). The main products of the white goods industry are refrigerators, washing machines, kitchen stoves and stoves (heaters). These products are classified within the sector "manufacture of machinery except electrical" (ISIC 382) and "manufacture of electrical machinery apparatus, appliances and supplies" (ISIC 383).

#### 6.1.1. The situation and challenges of the Chilean metalworking industry

Given the high technological content of the metalworking sector, its share in the total value added of the manufacturing sector is sometimes used as an indicator for the productive and technological development of a country (Quezada/Córdova, 1994: 41). In Chile, the metalworking industry accounts for roughly 10 per cent of the total manufacturing value added, down from the ISI period when it was between 15 and 20 per cent but up from the mid-1980s when it had fallen to around 6 per cent (figure 6.1.). In industrialized countries and the Newly Industrialized Economies of Asia, by contrast, this share fluctuates around 40 per cent. In the most industrialized Latin American countries such as Mexico, it is

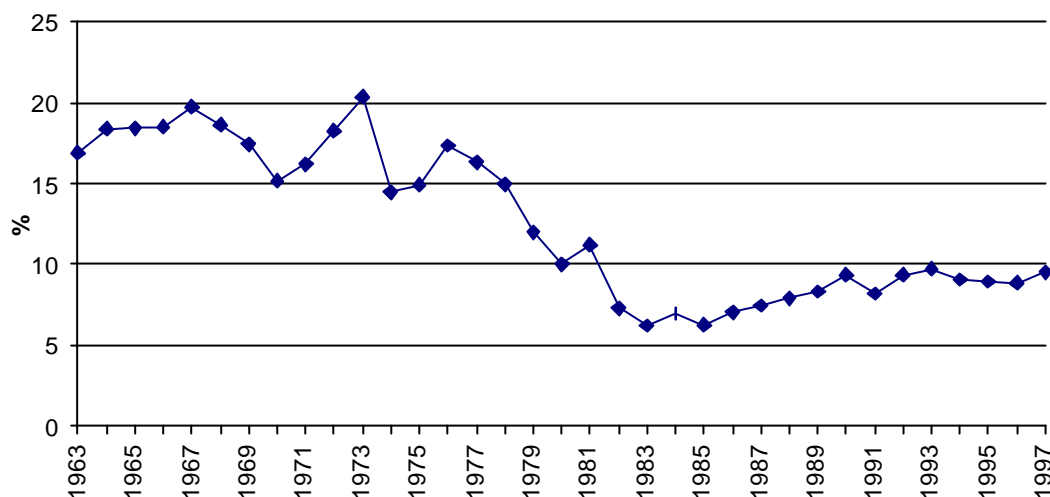
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<sup>1</sup> In the International Standard Industrial Classification (ISIC), the metalworking industry corresponds to the sector "manufacture of fabricated metal products, machinery and equipment" (ISIC 38). The sector is subdivided into five subsectors at the 3digit-level: manufacture of fabricated metal products, except machinery and equipment (ISIC 381); manufacture of machinery except electrical (ISIC 382); manufacture of electrical machinery apparatus, appliances and supplies (ISIC 383); manufacture of transport equipment (ISIC 384) and manufacture of professional, scientific and measuring equipment (ISIC 385). The metalworking industry is closely related to the metallurgical sector that provides the major inputs. ISIC sector 37 corresponds to "basic metal products", that is, the transformation of metal ores into metal products which can then be used in the metalworking industry. The metallurgical sector is in turn based on inputs that originate from the mining sector (ISIC 2). Although the metallurgical and metalworking complex are often considered together, the emphasis of this sectoral study will be on the metalworking sector (ISIC 38).

around 25 per cent while in other Latin American countries such as Uruguay, Costa Rica, Colombia and Venezuela, it is close to the Chilean level (figure 6.2).

**Figure 6.1. Share of the metalworking industry in total manufacturing value added, 1963-1997**

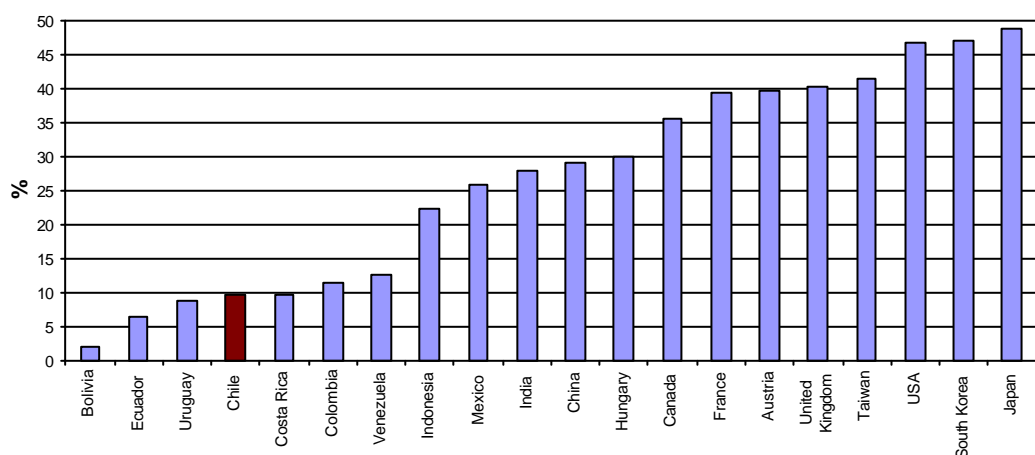
(share in %)



Sources: UNIDO (1999): Industrial Statistics Database; own calculations.

**Figure 6.2. Share of the metalworking industry in total manufacturing value added, selected countries, 1995/97**

(share in %)



Sources: UNIDO (1999): Industrial Statistics Database; own calculations.

Note: Data refer to the latest available year between 1995 and 1997.

Contrary to the textile and garment industry, the metalworking industry has continuously shown dynamic growth rates since the end of the 1982 recession, with the exception of the years 1998 and 1999 when production declined due to the recent recession. However, the

positive development during the rest of the period suggests that this recent decline is due to conjunctural, rather than structural, factors.

Although the Chilean metalworking industry is an import-competing sector, it has a key role to play in the country's strategy of moving towards a "second wave" of the export model. The mining sector is still the main export sector, in which the country has clear comparative advantages in terms of its resource endowments. Metals are mostly exported without or with a low degree of industrial processing. Within the "second wave" strategy, the linkages between the mining sector and the metallurgical and metalworking industries could be strengthened in order to export more value added-intensive products.<sup>2</sup> Moreover, the mining sector is a potential client of the metalworking industry because it requires a range of capital goods for its operations. Although the Chilean metalworking industry is already producing some capital goods for the mining sector, its share in the total capital goods requirements is still limited and could be expanded in the future.

## **6.1.2. International trends in the metalworking industry**

### **6.1.2.1. Technology**

Most subsectors of the metalworking industry are capital-intensive and intensive in advanced technologies. The principal product innovations are triggered by the progress in electronic and computer technology. Many products formerly controlled by electromechanical devices are increasingly controlled by electronic devices or computers. In the sector of household appliances, the world-wide output of traditional appliances such as refrigerators and washing machines tends to decline, while the production of deep freezers, dishwashers and microwave ovens is on the rise (International Metalworkers' Federation, 1994: 9). Recent product innovations in the white goods industry include energy-saving technologies, the incorporation of electronic control devices and, in the case of refrigerators, the introduction of no-frost technology and alternative environment-safe gases for the cooling system. In Latin America, the product technology for metalworking products is generally copied from foreign models or provided via royalty agreements or foreign ownership from abroad. This does not exclude minor adaptations and product improvements, but the bulk of the product technology originates abroad (Katz et al., 1986: 239-275).

Electronics and computer technologies are also the main factors behind the technological innovations in the metalworking production processes. Computer simulations are used to draw, design and analyze parts or products. Once the product is defined on the computer,

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<sup>2</sup> It has to be pointed out that the existence of a strong and competitive mining sector does not automatically constitute a competitive advantage for the metalworking sector. International prices apply for both domestic and export sales, the only advantage for the domestic client being the lower transport and transaction costs. Moreover, the effective advantage also depends on the national metallurgical industry that has to transform the metal ores into the required qualities of basic metal products at a competitive price.

the programme can be passed on to numerically controlled machines which carry out the necessary manufacturing operations. In technologically advanced metalworking plants, robots are in charge of feeding the machines with inputs and transporting the intermediate product from one machine to the other, thus greatly reducing the number of necessary workers and increasing productivity. Computers can monitor the production processes and control tightly defined precision levels for the produced parts (U.S. Department of Labour, 1992).

The Latin American metalworking industry is characterized by a late and partial introduction of production lines. Many enterprises were until recently organized by a succession of "workshops", where the production was carried out in a semi-standardized form or individually by the order. In this kind of enterprise, the engineering capacities were focused on the product design (generally copying or adapting from an available model), rather than on the production process (Katz et al., 1986: 239-275).

#### **6.1.2.2. Productive organization**

Like other industries, the metalworking industry underwent a process of globalization during the 1980s and 1990s. The international restructuring of the industry promoted the migration of jobs from high-wage to low-wage countries (International Metalworkers' Federation, 1994). While a large number of small and medium enterprises produce parts and components, the output of final products in many subsectors of the industry is highly concentrated, both geographically and in terms of the number of enterprises. For example, the production of electronical products is highly concentrated in Western Europe, the United States, Japan, and the Asian Newly Industrialized Countries (Newfarmer, 1985; International Metalworkers' Federation, 1994: 6).

In the white goods industry, the number of competitors world-wide declined dramatically during the restructuring processes of the late 1980s. By 1990, the top five producers accounted for almost 80 per cent of the global production (International Metalworkers' Federation, 1994: 9-10). These "global players" are multinational enterprises with production sites in various countries.<sup>3</sup> This is all the more important as relatively high transport costs for voluminous products have limited the growth of inter-regional trade.

As multinational enterprises increasingly focus on their core activities, including research, design, marketing, assembly and the production of some key components, subcontracting is becoming more important for the sourcing of a wide range of inputs, components and services. Generally, assemblers tend to work with a smaller number of subcontractors, but have a closer relationship with each of them. The main reason for this is that new management techniques such as Just-in-Time and Total Quality Management make close and long-term relationships between assemblers and component suppliers necessary. Moreover, as suppliers are increasingly in charge of complex subsystems of the final

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<sup>3</sup> In the early 1990s, after the acquisitions of the 1980s, the global leader Electrolux had 43 factories producing household appliances in 15 countries (International Metalworkers' Federation, 1994: 21).

product rather than just simple components, a close coordination of research strategies is necessary (International Metalworkers' Federation, 1994: 70-71). As in the garment industry, Electronic Data Interchange systems allow the computerized management of the supply chain.

Unlike the buyer-driven garment production chain, the production chains for metalworking products are largely producer-driven (Gereffi, 1995). This means that the key actors of the chain are not the retailers, but the main manufacturing enterprises, often multinational companies.

### **6.1.2.3. Work organization**

Most available studies on changes in the work organization in the metalworking industry deal with one specific subsector, the car industry. Indeed, the car industry has received more attention from researchers than any other industrial sector. Most of these studies find a varying degree of introduction of the so-called "Japanese management techniques" (Elgar/Smith, 1994).

While the impact of innovations in work organization on productivity levels is largely positive, there is a controversial discussion on the employment quality aspects. Some researchers point out the positive aspects in terms of autonomy at the workplace and the content of work (Womack/Jones/Roos, 1990). Others, by contrast, see a deskilling of work, work intensification and "management by stress" as the main consequences (Parker/Slaughter, 1988). The negative aspects of the implementation of Japanese management concepts and its US adaptations in the car industry are the very limited team autonomy, short cycle times with highly monotonous tasks and constant "no buffer" pressure on the work force (Turner/Auer, 1996: 238).

As an alternative to the usual "Japanese" and lean production techniques, the Swedish car industry has experimented with an integrated assembly system, where the work cycles can be as long as 12 hours. In a comparative study of these and traditional car factories, Berggren (1993) concludes that work can be organized efficiently without the monotony of traditional assembly lines or lean production systems.<sup>4</sup>

Studies on other subsectors of the metalworking industry are relatively more scarce. The existing studies reveal diverging tendencies depending on the subsector under study and the national and regional context:

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<sup>4</sup> The two "model" car production plants, on which Berggren's (1993) study is based, closed down their operations in the early 1990s. The plant closures were apparently caused by the strong recession the Swedish economy experienced during that period, and not by productivity deficiencies of these plants (for a more detailed analysis, see Lindgren, 1997). Despite this, the closures have given rise to concern about the viability of "Swedish work organization techniques" in the global economy. However, the two car plants were no isolated phenomena, and there are other Swedish enterprises that combine a participatory approach and less monotonous work with longer job cycles, while at the same time being internationally competitive (Thompson/Sederblad, 1994).

- In his study on metalworking enterprises in Massachusetts (USA), Farrant (1998) identifies a tendency towards the introduction of semi-autonomous working groups and more complex incentive schemes based on group or enterprise performance, rather than simple piece-rate pay systems.
- In the Australian non-automotive metalworking sector, there has been a recent increase of outsourcing (subcontracting) and temporary employment. Innovations in internal work organization have increased functional flexibility, without however being consistently accompanied by a skills upgrading strategy (Buchanan, 1998).
- Mylett (1998) studies a valve and pneumatic control manufacturer in Australia. He finds the implementation of a modern work organization pattern based on Japanese management techniques. This includes job security for the core work force and the use of Japanese management techniques. Production peaks are covered hiring temporary workers.

The **white goods industry** experienced a decline in the number of enterprises on an international scale and a parallel broadening of their international outreach. In the regional context of the Chilean white goods industry that will be analyzed in this chapter, it is interesting to consider the recent restructuring of this activity in Brazil. Brazil is important for the Chilean white goods sector both as a competitor and as a potential export market.

During the 1990s, the main white goods manufacturers in Brazil have been acquired by multinational enterprises. They have carried out important innovations in the fields of technology and productive processes as well as in production and work organization. Following the international trend, white goods producers have increasingly subcontracted services and parts of the productive process. The tendency has been to limit the number of provider firms and establish closer and more long-term relationships with them, including the requirement for more formalized quality control systems. Client enterprises have started to classify providers according to their quality levels, and the most reliable providers can deliver their parts directly without passing the entry quality control on arrival at the client enterprise. In many cases, relationships between client enterprise and providers are formalized in written contracts (Gitahy et al., 1997).<sup>5</sup>

In sum, although less in the focus of public and research interest than the car industry, other metalworking sectors have experienced considerable innovation in their work organization. It is however difficult to obtain a representative overview of these innovations.

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<sup>5</sup> This study on the Brazilian white goods industry included enterprise visits and interviews in a major white goods manufacturer, one major first-tier provider (an enterprise that manufactures the compressor, the "heart" of a refrigerator), and ten second-tier providers in the Campinas region (Gitahy et al., 1997).

**Table 6.1. The metalworking sample enterprises: basic characteristics and type of information obtained**

Nr.	Principal activity(ies)	Number of workers	Yearly approximate turnover (Ch\$ millions) <sup>1</sup>	Exports (share of total sales, in %)	Sales to M1 and M2 (share of total sales, in %)	Questionnaire	Enterprise visit	Interview with enterprise	Interview with production workers / trade union
M1	White goods (domestic refrigerators, washing machines, kitchen stoves)	1356	73 000	10	-	X	X	X	X
M2	White goods (domestic refrigerators, washing machines, kitchen stoves)	640	25 000	8 - 10	-	X	X	X	X
M3	Parts for white goods (Aluminium and steel tubes)	18	350	0	M1: 50	X	X	X	
M4	Parts for white goods and spare parts for bicycles and carriages	20	203	0	M1: 80	X	X	X	
M5	Metal parts and painting processes	54	510	0	M1: 30	X	X	X	
M6	Metal parts for white goods (esp. for kitchen stoves)	135	1 200	15	M1: 20 M2: 30	X	X	X	
M7	Metal parts for white goods and moulds	170	800	low	M1: 80 M2 and other clients: 20	X	X	X	
M8	Metal bands and steel hoops	140	550	low	M2: minor share		X	X	
M9	Metal furniture (lockers and shelves)	40	566	7	-		X	X	
P1	Plastic parts for white goods and others	49	600	0	M2: 25 M1 and other white goods producers: 25	X	X	X	
MArg	White goods (domestic freezers) and industrial refrigerators and freezers	305	26400 (US\$ 60 million)	22	(final product for sale in Chilean market)	X	X	X	

Source: Own survey, 1996-1998.

Notes:

<sup>1</sup> Approximate exchange rate during the survey period: Ch\$ 415 = US\$ 1.



### 6.1.3. Approach to the sectoral case study

This sectoral case study is based on enterprise visits and semi-structured interviews in 11 enterprises (table 6.1.). Of these, two are white goods manufacturers (M1, M2).<sup>6</sup> The enterprise M1 is the market leader for white goods in Chile.<sup>7</sup> Seven enterprises are providers of one or both of the white goods manufacturers (six of them are metalworking enterprises (M3 to M8) while one is a plastic enterprise (P1)). The sectoral case study has thus a clear subsectoral focus on the white goods industry (for more details on the research method, see annex 1). One enterprise is a metalworking enterprise outside the white goods sector, producing metal lockers and shelves (M9). All Chilean enterprises are located in Santiago.

The case study of M1 includes not only visits of some of its providers, but also in the technical service enterprise belonging to the same holding and the Argentine affiliate of M1, recently bought by the Chilean holding (MArg).<sup>8</sup> MArg is located in the town of Rosario and produces freezers for domestic use as well as refrigerators and freezers for commercial use.

## 6.2. The Chilean metalworking industry: production, employment and international trade

### 6.2.1. Historical development: emergence of a strategic import-competing industry

The beginnings of the Chilean metalworking sector date back to the 19<sup>th</sup> century. During the 1860s, national foundries started to develop. The main stimulus for the development of the metalworking industry during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries was the demand from the nitrate and mining industries. The sector started to decline during the 1920s, because it was unable to keep path with the changing demand patterns that originated from railway electrification and the technological progress in the copper industry (Ortega, 1992).

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<sup>6</sup> M1 is the *Compañía Tecno-Industrial* (CTI), the only sample enterprise that does not have to remain anonymous. The enterprise has had a very cooperative attitude to outside researchers and has been the subject of several enterprise case studies (Díaz, 1992; Vera/Katz, 1995; Katz/Vera, 1997; ILADES, 1997; Maldifassi, 1999). Although the enterprise has already been studied several times, this case study adds two important aspects not dealt with in detail in previous studies: the relationship between CTI and its providers and the regional expansion strategy in Southern America, with an enterprise visit of the foreign affiliate in Argentina acquired by CTI in 1994 (MArg).

<sup>7</sup> In 1996, M1 hold the following market shares in Chile: refrigerators 55.1 per cent; kitchen stoves 59.2 per cent; washing machines 39.5 per cent; gas stoves 41.4 per cent; kerosene stoves 59.1 per cent (data provided by enterprise M1).

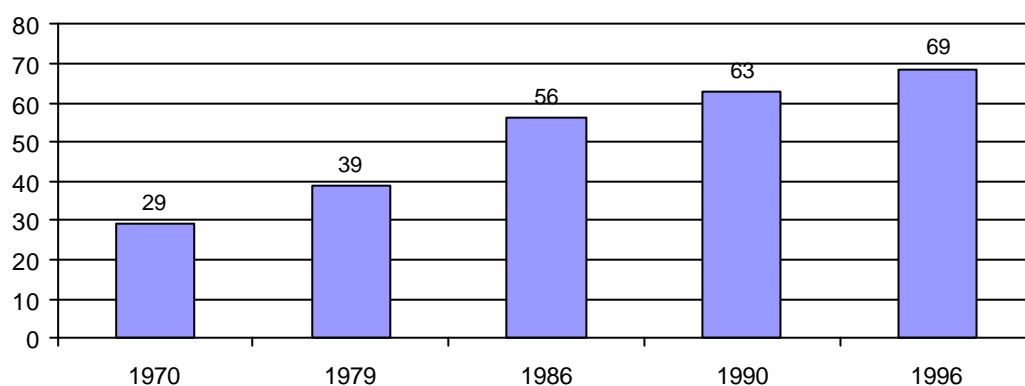
<sup>8</sup> Díaz (1992: 9) reports that M1 had already attempted to invest in Argentina in the late 1970s, but the attempt failed. Unfortunately, no additional information on this failed attempt is available.

From the beginning of the import substitution process at the end of the 1930s, the steel and metalworking sector was considered a strategic priority. By virtue of a 1944 law, steel producers exploiting national mineral resources obtained tax breaks and other important benefits. The Chilean Development Corporation CORFO launched a large-scale enterprise called *Compañía de Acero del Pacífico* in Huachipato (8<sup>th</sup> region, Southern Chile) which started to produce steel in 1950 (Gandarillas, 1951).

During the 1950s and 1960s, the sector continued to develop under the conditions of the ISI strategy. Although many goods would not have been internationally competitive in terms of quality and prices (and depended thus on the significant degree of import protection under the ISI scheme), there was genuine technological development. Chile produced metalworking products of a considerable technological complexity, mainly for the domestic market, but also for export to the partner countries of the *Pacto Andino*<sup>9</sup> with which special trade agreements existed (Merino/Weinstein, 1986: 179).

**Figure 6.3. Share of imports in the total consumption of metalworking products, 1970-1996**

(share in %)



Sources: Instituto Chileno de Acero (1980: table 3); UNIDO (1998): Industrial Demand-Supply Balance Database; own calculations.

The radical shift in the economic policy in general and the trade policy in particular after the 1973 military coup had a strong negative impact on the production and employment levels in the metalworking industry. The 1982/1983 recession also had a devastating impact on the metalworking sector. The physical production of each subsector of the metalworking industry in 1983 was below the 1970 level. In the machinery industry (ISIC 382), the production level was at only one fourth of the 1970 level, and in transport equipment (ISIC

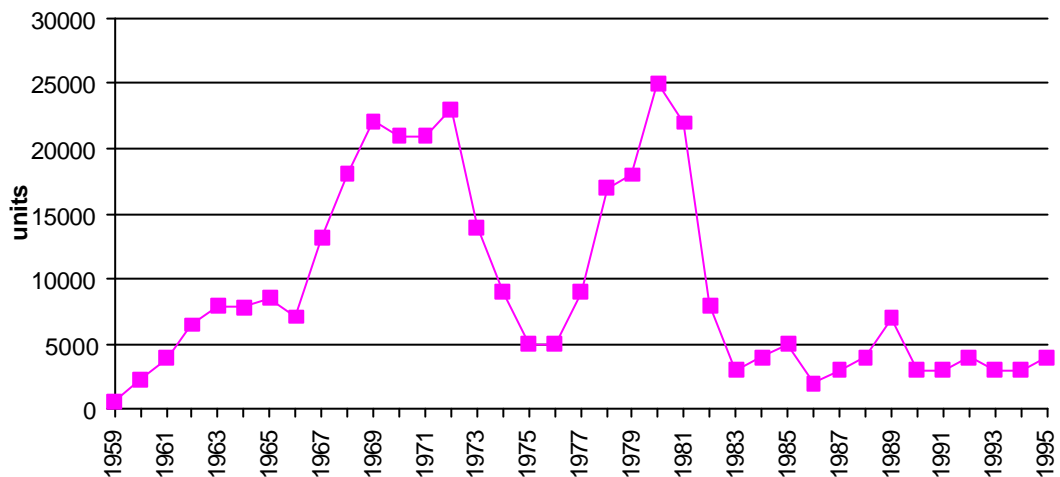
<sup>9</sup> The *Pacto Andino*, signed in 1969, included the following countries: Bolivia, Colombia, Chile, Ecuador and Peru. Prior to the *Pacto Andino*, Chile had already participated in another regional trade agreement with a larger number of countries (Treaty of Montevideo, signed in 1960). However, in terms of industrial development, those countries with a broader and more diversified industrial structure, like Argentina, Brazil and Mexico, had more possibilities to benefit from the opportunities arising from the trade agreement than the smaller or more backward countries (Zegers, 1971).

384) it was hardly above 40 per cent that level (Merino/Weinstein, 1986: table 13). The share of imported products in the total consumption of metalworking products in Chile increased from 29 per cent in 1970 to 39 per cent in 1979 and 56 per cent in 1986 (figure 6.3.).

The technological level of the metalworking sector also declined as many products ceased to be produced in the country and products that had been assembled with domestic inputs were increasingly assembled from imported inputs. Among the products that ceased to be produced in Chile are electric motors, some types of hydraulic pumps, some types of compressors, machine tools for metals, machine tools for wood, components of agricultural machinery, some types of mining equipment, some components of cars, train wagons and compressors for refrigerators (Merino/Weinstein, 1986: 178-179).

**Figure 6.4. Production of cars, 1959-1995**

(produced units)



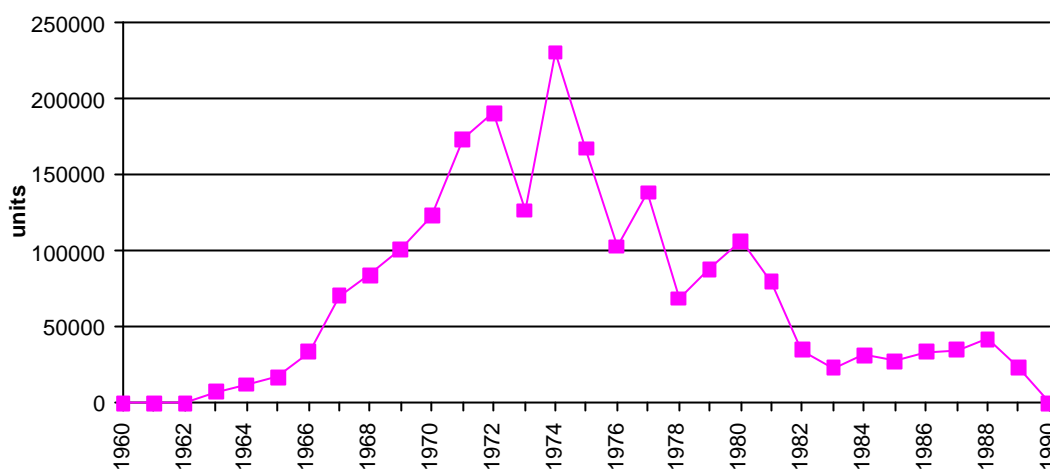
Sources: Bennett/Sharpe (1987: table 6.4); United Nations (1999a).

A special case is the Chilean **car industry**. Like in other countries, the car industry received special attention under economic policies aiming at industrial development and special policies and incentives were set up to develop the Chilean car industry. These included operating licenses for car assemblers and minimum local content requirements.<sup>10</sup> Car production in Chile started in 1959 with 632 cars produced; the production increased almost continuously up to 1972, when it attained a peak of 23,000 cars. During that year, the plans for future expansion of the car industry projected an output of 100,000 cars in 1980 (*Ercilla*, 25 August 1972). Instead however, although special incentives for the car industry have been maintained even under radical neoliberalism, the car production reached only 25,000 cars in 1980 and dropped to less than 10,000 cars per year from 1982 onwards (figure 6.4.).

<sup>10</sup> For a description of the development of minimum local content requirements from 1963 to 1979, see Instituto Chileno de Acero (1980: 66-67).

**Figure 6.5. Production of television sets, 1960-1990**

(produced units)

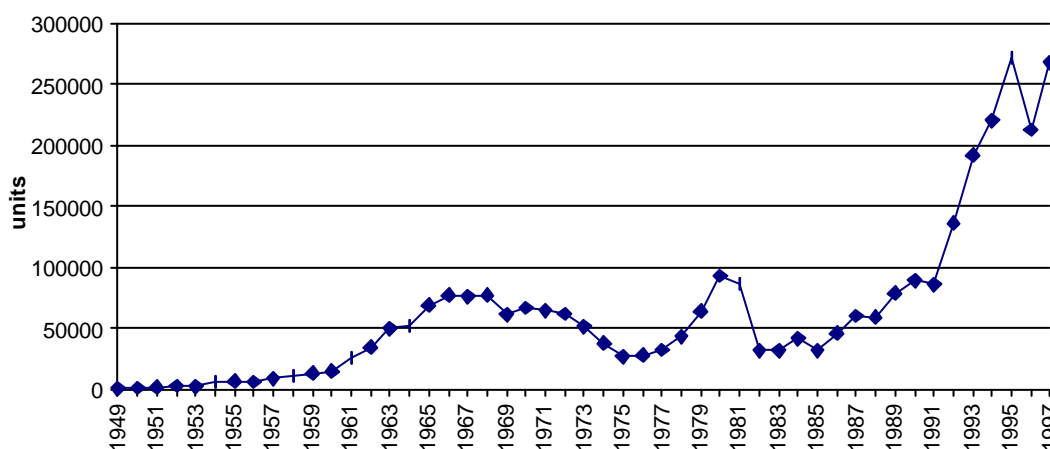


Sources: Banco Central (1989:446); INE (various years): Índice de Producción Física de Industrias Manufactureras.

The industry of **electrical appliances** was one of the most affected by the opening up of the Chilean economy; this is not surprising considering the extremely high import tariff rates of 455 per cent that protected this sector in 1969/1970 (Errázuriz/Leiva, 1985: table 3). The production of electronic goods like television sets and radios disappeared altogether (figure 6.5.). At present, Chile does not have an electronic industry as such, with the exception of some small and medium enterprises that develop highly specific solutions on the basis of clients' specifications. Small electric consumer goods, for which transport costs are not a significant barrier to imports (such as electric blenders), have suffered from import competition and experienced a decline in their production.

**Figure 6.6. Production of refrigerators for domestic use, 1949-1997**

(produced units)



Sources: Díaz (1992: 4-5); Banco Central (1989:446); United Nations (1999a).

The Chilean **white goods industry** started to produce the first refrigerators in 1949 and attained 13,000 units in 1959 (figure 6.6.). During the ISI period, the white goods industry was considered one of the key sectors of industrial development strategies. It thus benefited from high import protection and subsidized credits. In 1966, seven enterprises produced altogether 77,000 refrigerators. However, the high number of enterprises in a relatively small market limited the possibilities for economies of scale and increasing efficiency. The small production runs made it virtually impossible to attain high levels of productivity, balance the production lines and diminish "dead times" in the production process. Moreover, the conflictive labour relations of the late 1960s and early 1970s also contributed to a stagnation and later decline of the Chilean white goods production (Díaz, 1992: 5-6, 13). An interesting early experience of regional integration (box 6.1.) collapsed after the policy changes following the 1973 military coup.

The number of Chilean white goods enterprises decreased considerably after 1973 due to enterprise mergers and close-downs. Between 1970 and 1980, the number of enterprises producing refrigerators declined from seven to three, and the number of enterprises producing washing machines from five to two (Instituto Chileno de Acero, 1980: 95; Díaz, 1992: 8). Many white goods enterprises suspended their investment projects, contributing to the technological decline of this sector.

### **Box 6.1. Regional integration and the white goods industry in the 1960s and 1970s**

The regional integration via trade agreements with neighbouring countries is currently debated as one key strategy for the development of the Chilean metalworking industry (see 6.5.2.). In this context, it is interesting to consider the case of the white goods industry in the 1960s and 1970s, when attempts for a regional strategy within the *Pacto Andino* (Andean Pact) were undertaken. Obviously, the regionalization efforts at that time took place under very different conditions than the current strategies in the context of closer economic links with Mercosur countries. The case of the white goods production also illustrates the technological development up to 1973, albeit under protectionist conditions, and the technological decline after 1973.

During the late 1960s and early 1970s, between 95 and 100 per cent of the domestic market of white goods was supplied by domestic producers and on average, 90 per cent of the inputs for national production were of domestic origin (Zegers, 1971). The approach of the *Pacto Andino* was to give manufacturing sectors of the member countries the possibility to specialize and to benefit from economies of scale by producing for the markets of other member countries in addition to their own domestic market.

The Chilean manufacturing industry was more developed than that of Colombia, Ecuador and Peru, and the Chilean refrigerator and kitchen stove production had a higher local content than in those other countries, including the refrigerator compressor that accounted for 55 per cent of the total costs of inputs for a Chilean refrigerator. This component is the "heart" of a refrigerator and one of the technologically most complex products that the Chilean metalworking sector has produced. However, the producer prices for refrigerators and kitchen stoves were higher in Chile than in the other countries (Zegers, 1971). These higher prices were apparently due to the overvalued Chilean currency at that time and the higher wages of Chilean workers, rather than a lower level of labour productivity compared to these countries.<sup>11</sup>

The four major domestic producers of refrigerators initiated an interesting common effort to create a national provider of compressors for refrigerators. This production expanded to cover not only the domestic market, but also the regional market of the partner countries in the *Pacto Andino*. With the radical shift in the trade policy after 1973, Chile withdrew from the *Pacto Andino*. The enterprise therefore lost its export markets, while it was also suffering from more competitive imports in the domestic market. As a consequence, the enterprise had to close down in 1979 and its installations were sold to Brazil. Ironically, during the 1980s Chilean refrigerator producers bought their compressors precisely from the Brazilian enterprise that had acquired these installations, and used exactly the same technology as prior to the close-down of the domestic enterprise (Merino/Weinstein, 1986: 178-179; Instituto Chileno de Acero, 1980: 142; Díaz, 1992: 21).

With the economic changes after 1973, other components were also increasingly imported or subcontracted to smaller workshops, and the refrigerator producers tended to transform themselves into mere assemblers (Instituto Chileno de Acero, 1980: 87). At the same time, the imports of complete refrigerators (as well as kitchen stoves and washing machines) also increased. In 1979, refrigerators for almost US\$ 20 million were imported (table 6.2.). Most of the imported refrigerators came from Spain and Italy; other countries of origin included the USA, Brazil, France and West Germany. In the case of washing machines, Chilean enterprises ceased to produce automatic models and concentrated on the most simple type of machine (Instituto Chileno de Acero, 1980: 89, 93).

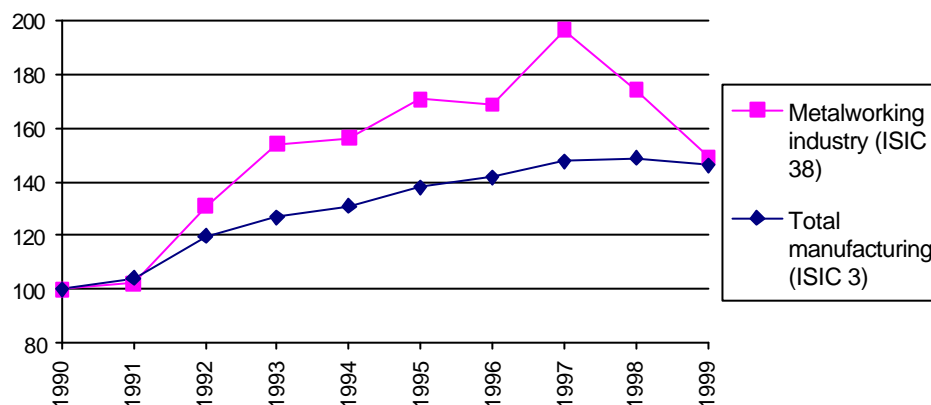
<sup>11</sup> Another important issue in Zegers' (1971) study is the cost of producing or importing from one of the *Pacto Andino* partner countries, rather than importing freely from the most advantageous provider in the world. The approach of the study is shaped by the free trade preferences of its author. In fact, the study is the author's graduation thesis under the supervision of the economist Sergio de la Cuadra, one of the authors of an economic programme for the right-wing presidential candidate Alessandri in 1970, that became later the basis of the first economic programme for the Pinochet government. Zegers himself also participated in right-wing economic think tanks in 1973 (see Centro de Estudios Públicos, 1992: 8, 10). Regardless of the ideological context, the study does give interesting and well-documented examples of the trade-offs involved in import-substitution and regional integration policies.

### 6.2.2. Recent development: recovery and expansion

After 1983, the production of the metalworking sector started to recover from the deep crisis caused by the 1982 recession. Between 1990 and 1997, the metalworking sector experienced a dynamic development. The metalworking production increased at a higher annual rate than was the case of the manufacturing sector as a whole. Data for 1998 and 1999 indicate a strong negative impact of the recent economic crisis (figure 6.7.). However, unlike the textile and garment industry, which production has declined even during years of rapid economic growth and is now far below the 1990 level, the production in the metalworking sector is still well above the 1990 level, despite the 1998/1999 crisis. It can thus be argued that the current difficulties of the metalworking sector are of a conjunctural (rather than structural) nature. If this is the case, the main challenge is how to get back to the previous growth path as quickly as possible.

**Figure 6.7. Physical production of the metalworking industry, 1990-1999**

(Index, 1990= 100)



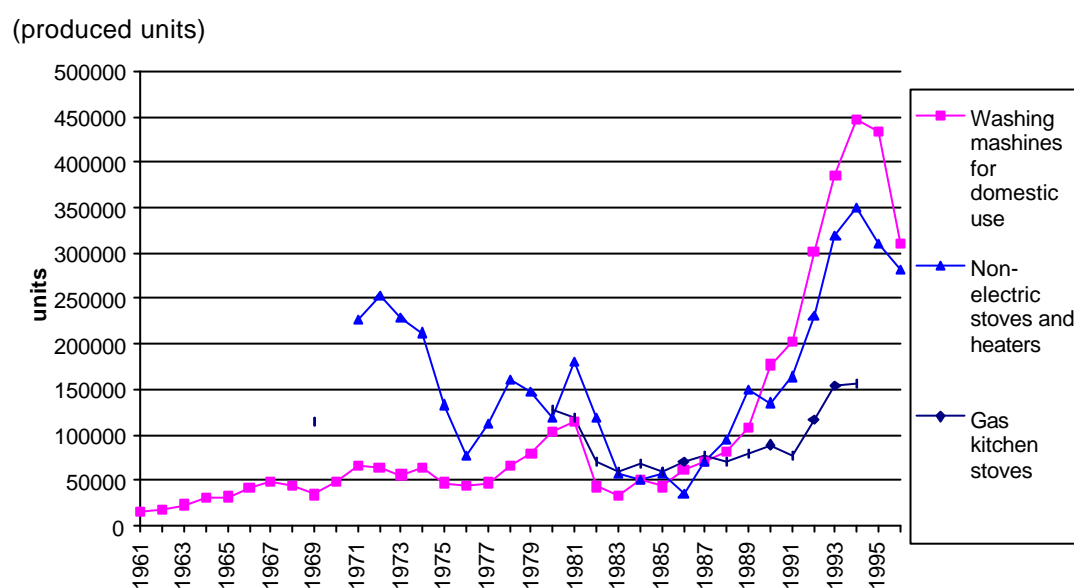
Source: ASIMET (1999) and ASIMET (various issues): Cifras Sectoriales, based on data from the Sociedad de Fomento Fabril.

The strong expansion of the 1990s has not led to a revival of the **Chilean electronics industry**. For example, as can be seen from figure 6.5., the production of television sets that stopped in 1990 has not been taken up again and all television sets that are now commercialized under Chilean trademarks are in fact imported.

The Chilean **car production** has stagnated during the 1990s. Between 1990 and 1995, the yearly production of cars fluctuated between 3,000 and 5,000 (figure 6.4.). New challenges are ahead because of the planned phasing out of the industrial policy programmes favouring the sector. In any case, under the general economic context of "neutral" policies, the net benefits of the maintenance of a special car policy are doubtful. Although this special treatment has probably helped to avoid the closure of the remaining car manufacturers in Chile, the production scale is certainly too small to benefit from economies of scale and synergies between these manufacturers and their suppliers which

could set a generalized upgrading process in motion.<sup>12</sup> Moreover, the largest car manufacturer in Chile, General Motors, has been accused of fiscal fraud of more than US\$ 25 million by sending false production and import data to the Car Committee (*Comisión Automotriz*) of the Chilean Development Corporation, in charge of granting the benefits under the car industry benefit scheme.<sup>13</sup> The phasing out of the car industry subsidy programme and the closer trade links which can be expected with the car industries of the Mercosur countries (*La Tercera en Internet*, 11 December 1998), will contribute to shape the future of the Chilean car industry.

**Figure 6.8. Production of washing machines, kitchen stoves and non-electric stoves and heaters, 1961-1996**



Sources: Banco Central (1989:446); Instituto Chileno de Acero (1980); INE (various years): Índice de Producción Física de Industrias Manufactureras; INE (various years): Compendio Estadístico; United Nations (1999a).

In sum, neither the production of metalworking products of high technological complexity (cars, compressors for refrigerators), nor the electronics industry (television sets, radios, semiconductors), nor the production of small electric articles for which transport costs are low and do not constitute a natural protection (hairdryers, blenders) recovered from the impact of the trade opening and the two recessions of the 1970s and 1980s.

By contrast, the Chilean **white goods industry** (specialized in assembly operations) expanded strongly. The production of the main final goods of this industry - refrigerators,

<sup>12</sup> In order to apply for subsidies under the special car scheme, an enterprise has to have activities in car assembly. This has apparently led component producers to maintain an assembly line, although the number of assembled cars was so small that the assembly activity would clearly be unprofitable in the absence of these subsidies (see Herrera/Rivas, 1993: 5).

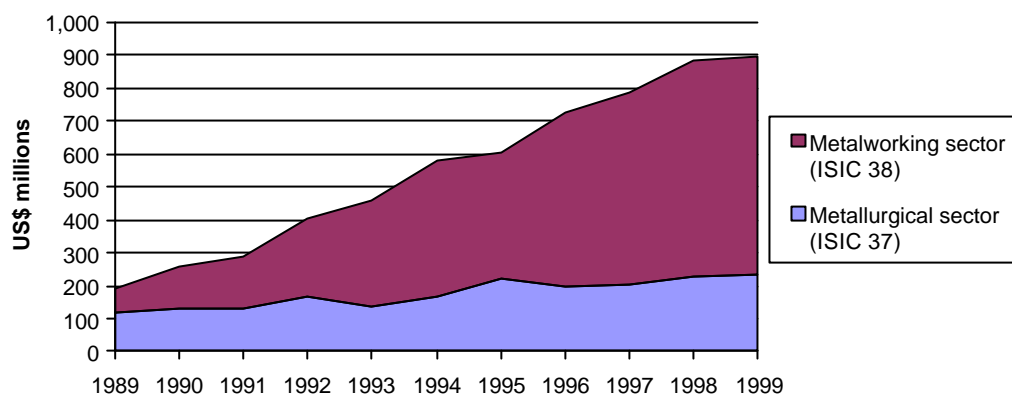
<sup>13</sup> Interviews with Hector Ramos, Santiago, 1997 and 1998. Hector Ramos is a former employee of General Motors Chile and has brought up the case. It received wider public echo when it was made public by a Member of Parliament (For press coverage, see for example *La Tercera en Internet*, 18 March 1999). The final decision with regards to the accusations is still pending.



washing machines, kitchen stoves and non-electric stoves and heaters - recovered after the decline of the 1982 recession and expanded strongly during the 1990s (figures 6.6. and 6.8.). The white goods industry is particularly sensitive to economic downturns as it has a strong procyclical behaviour. This means that during economic booms the sales of white goods increase more than the average, while during recessions, they decrease more than the average (Cámara Nacional de Comercio, 1997: 1).

**Figure 6.9. Exports of the metallurgical and metalworking industries, 1989-1999**

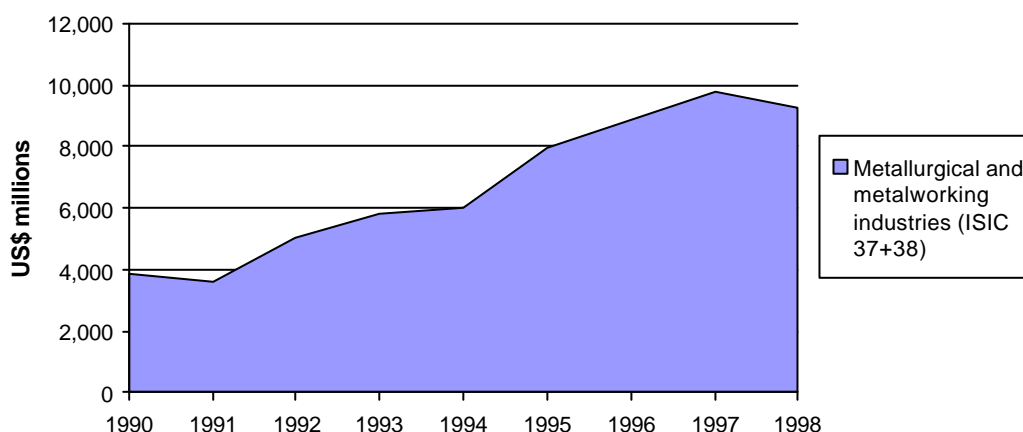
(millions of US\$)



Source: ASIMET (1999); ASIMET (various issues): Cifras Sectoriales.

**Figure 6.10. Imports of the metallurgical and metalworking industries, 1990-1998**

(millions of US\$)

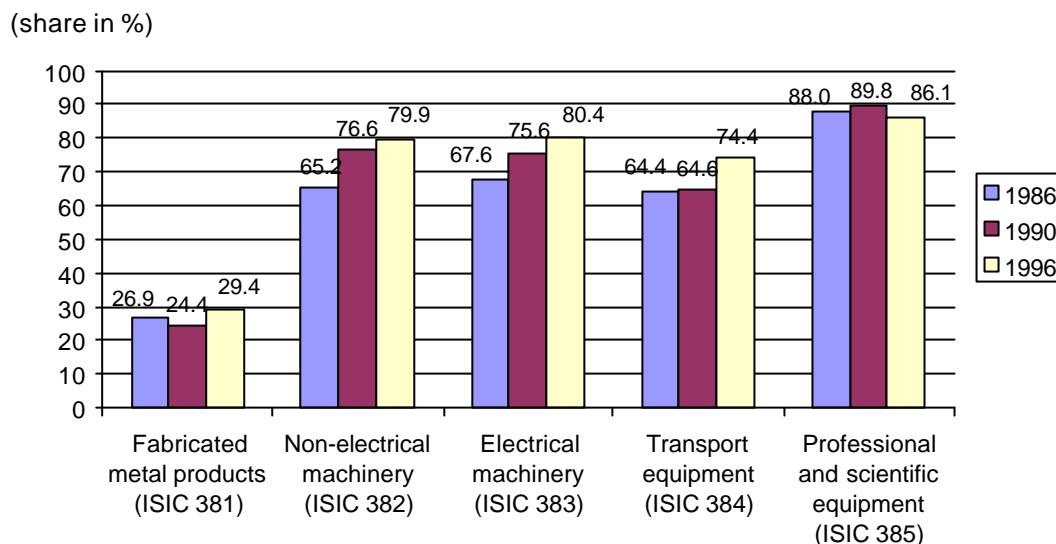


Sources: ASIMET (1999); ASIMET (various issues): Cifras Sectoriales.

Both **imports and exports** of metalworking and metallurgical products have seen substantial increases since 1990. Exports have increased from around US\$ 200 million in 1990 to almost US\$ 900 million in 1998. It is interesting to observe that the rising trend was not affected by the economic slowdown in 1998. The increase in exports over the period is mainly accounted for by the metalworking sector (ISIC 38), whereas the

metallurgical sector has shown a far less dynamic behaviour (figure 6.9.). Imports of metallurgical and metalworking products have more than doubled between 1990 and 1998, despite a slight decline from 1997 to 1998 (figure 6.10.). Even though exports have increased more than imports, the volume of imports is still more than ten times higher than the sector's export volume.

**Figure 6.11. Share of imports in the total consumption of metalworking products, by subsector, 1986-1996**



Sources: UNIDO (1998): Industrial Demand-Supply Balance Database; own calculations.

The crucial role of imported products in the Chilean consumption of metalworking products can be seen from figures 6.3. and 6.11.. In all subsectors of the metalworking industry, except professional and scientific equipment, the share of imported products has been increasing since 1986. For the subsectors of non-electrical machinery (ISIC 382), electrical machinery (ISIC 383), transport equipment (ISIC 384) and professional and scientific equipment (ISIC 385), the share of imported products in the Chilean consumption was higher than 70 per cent in 1996. Only in fabricated metal products, the share of imported products is below 30 per cent.

Exports are concentrated in other Latin American countries, which in 1999 received almost 65 per cent of the Chilean metalworking exports. The share of the MERCOSUR countries alone in total exports was above 40 per cent.<sup>14</sup>

<sup>14</sup> ASIMET (2000): Cifras Sectoriales, March 2000.

**Table 6.2. Chilean imports and exports of some products of the white goods industry, 1979-1998**

(Millions of US\$ CIF)

	1979	1990	1991	1992	1993	1994	1995	1996	1997	1998
Refrigerators, household										
Imports	10.9	9.5	9.6	17.8	21.2	15.0	28.1	28.0	39.6	21.0
<i>of which (%)</i> : Brazil	<i>n.a.</i>	63.6	73.4	71.2	53.3	23.7	11.0	0.3	0.2	2.0
Other Mercosur	<i>n.a.</i>	0.5	0.0	1.6	0.0	1.6	0.0	0.0	0.0	0.0
Other Latin America	<i>n.a.</i>	0.0	0.0	0.0	0.4	0.1	8.5	23.8	28.1	15.6
South Korea	<i>n.a.</i>	3.1	4.9	4.8	17.1	45.1	51.6	53.2	53.1	54.3
Other countries	<i>n.a.</i>	32.7	21.7	22.4	29.2	29.5	28.9	22.7	18.6	28.1
Exports	<i>n.a.</i>	0.1	0.4	0.5	2.4	4.2	5.4	8.0	9.1	9.7
<i>of which (%)</i> : Argentina	<i>n.a.</i>	1.2	7.3	0.1	87.0	87.2	86.3	85.9	91.7	85.4
Other Mercosur	<i>n.a.</i>	46.9	20.4	20.8	9.2	10.8	3.8	1.8	4.6	12.5
Other Latin America	<i>n.a.</i>	51.9	71.6	78.5	3.0	0.8	9.9	12.1	3.6	2.1
Other countries	<i>n.a.</i>	0.0	0.7	0.6	0.8	1.2	0.0	0.2	0.1	0.0
Kitchen stoves										
Imports	4.6	3.4	3.0	4.5	8.6	7.3	10.3	15.7	<i>n.a.</i>	<i>n.a.</i>
Exports	<i>n.a.</i>	0.2	0.4	1.3	2.4	3.3	3.7	4.4	<i>n.a.</i>	<i>n.a.</i>
Washing machines, household										
Imports	4.7	6.2	7.9	15.4	21.5	30.1	40.2	55.6	59.8	48.9
Exports	<i>n.a.</i>	0.0	0.1	0.2	0.3	0.0	0.2	0.5	0.6	0.4
Water heaters, non-electric										
Imports	<i>n.a.</i>	0.3	1.0	0.4	1.4	1.0	0.8	0.8	2.9	4.1
Exports	<i>n.a.</i>	0.1	0.3	0.5	0.7	1.5	1.7	3.4	3.7	5.3
Stoves (heaters), non-electric										
Imports	<i>n.a.</i>	2.0	1.2	2.1	4.4	3.2	4.5	7.8	8.1	10.0
Exports	<i>n.a.</i>	0.1	0.2	0.5	1.6	2.0	1.7	2.9	2.9	2.6
Floor buffers and vacuum cleaners										
Imports	<i>n.a.</i>	2.9	3.2	5.3	7.0	9.6	11.0	11.4	<i>n.a.</i>	<i>n.a.</i>
Exports	<i>n.a.</i>	1.4	2.0	3.8	6.1	7.3	5.9	7.2	<i>n.a.</i>	<i>n.a.</i>

Sources: Instituto Chileno de Acero (1980: 89); Cámara Nacional de Comercio (1997: tables 4, 6, 10); United Nations (1999b); own calculations.

Exports of white goods, virtually non-existent in 1990, have increased between 1990 and 1998. For example, exports of refrigerators increased from US\$ 0.1 million in 1990 to US\$ 9.7 million in 1998. At the same time however, imports of the same goods continued to increase (table 6.2.). The simultaneous increases of imports and exports can be interpreted as an increasing globalization of the Chilean white goods industry, a tendency that can also be found in the metalworking sector as a whole. Chilean enterprises are thus increasingly exposed to international competition, both in domestic markets (with competing imports) and in export markets. For all goods, except water heaters, imports are significantly higher than exports. Increased international competition is reflected in declining profit margins in the white goods industry. In particular, the unit prices in US\$ of the Chilean white goods exports have fallen between 1990 and 1996 for kitchen stoves and

refrigerators, while only marginal increases have occurred in the case of vacuum cleaners and stoves (Cámara Nacional de Comercio, 1997: table 11).

One important development in the Chilean white goods market is the massive arrival of South Korean products. While in the early 1990s, only a tiny share of Chile's imports of refrigerators was from South Korea, this share has increased to more than 50 per cent from 1995 onwards (table 6.2.). An analysis of white goods promotion booklets from the two main department stores by the origin of the trademark also illustrates this fact (table 6.3.).<sup>15</sup> In the case of washing machines and refrigerators, South Korean trademarks account for one third or more of the models on offer, more than Japanese, U.S. and European trademarks taken together. By contrast, the market for kitchen stoves is still largely in the hand of Chilean trademarks.

**Table 6.3. Offer of white goods products in leading Chilean department stores by origin of trademark, 1997**

(number of products offered, per cent share in brackets)

	South Korean	Japanese	US and European	Chilean	Total
Washing machines					
Falabella	6 (35.3)	1 (5.9)	4 (23.5)	6 (35.3)	17 (100.0)
Almacenes Paris	8 (44.4)	0 (0.0)	3 (16.7)	7 (38.9)	18 (100.0)
Refrigerators					
Falabella	7 (41.2)	0 (0.0)	5 (29.4)	5 (29.4)	17 (100.0)
Almacenes Paris	4 (23.5)	1 (5.9)	2 (11.8)	10 (58.8)	17 (100.0)
Kitchen stoves					
Falabella	0 (0.0)	0 (0.0)	2 (15.4)	11 (84.6)	13 (100.0)
Almacenes Paris	0 (0.0)	0 (0.0)	2 (9.1)	20 (90.9)	22 (100.0)

Source: Analysis of promotional leaflets of Falabella (1997) and Almacenes Paris (1997).

The white goods manufactured in Chile contain a far higher share of imported inputs now than was the case under the ISI scheme. For example, while around 1970 a refrigerator was produced in Chile around 1970 with almost 90 per cent of domestically produced inputs, this share had decreased to 40 per cent in 1998.<sup>16</sup> The compressor, the most expensive component of a refrigerator, accounts for a substantial part of this difference.

According to the establishment survey *Encuesta Nacional Industrial Anual* (ENIA), **employment** in the metalworking industry in 1996 was 66,099 persons, roughly 8,500 more than in 1990. Of these, almost half (32,094) worked in the production of fabricated metal products. Non-electrical and electrical machinery and appliances employed 15,237 and 5,804 persons respectively. When these data are compared to 1967, it can be seen that the relative importance of the electrical machinery and appliances (ISIC 383) and the

<sup>15</sup> The South Korean trademarks are Goldstar, Daewoo and Samsung. The Korean participation in terms of production is even higher, given that some of the products under Chilean trademarks are in fact imported from South Korea (especially fully-automatic washing machines and no-frost refrigerators).

<sup>16</sup> Zegers (1971: table 8) and information provided by M1.

transport equipment industries (ISIC 384) has decreased, while the share of the metal products industry (ISIC 381) has increased (table 6.4.). This reflects, on the one hand, the relative decline or phasing out of the relatively more complex metalworking products, such as cars or electrical and electronical devices. On the other hand, the diminution of vertical integration and the increased use of subcontracting arrangements may also contribute to this shift as operations as parts and components that were previously produced within the main enterprises are contracted out to other enterprises that are classified under the metal products sector.

**Table 6.4. Employment in the metalworking establishments of 10 and more workers, 1967-1996**

Year	Total metalworking industry (ISIC 38)	Fabricated metal products (ISIC 381)	Non-electrical machinery (ISIC 382)	Electrical machinery (ISIC 383)	Transport equipment (ISIC 384)	Professional and scientific equipment (ISIC 385)
1967	70,818	23,554	15,986	7,995	22,253	1,030
1979	49,755	21,268	9,938	7,635	10,377	537
1983	30,579	13,720	9,096	3,418	3,864	481
1985	35,324	17,448	8,448	3,918	4,966	544
1987	45,925	22,031	11,046	5,023	7,117	708
1989	55,044	25,062	16,200	4,695	8,279	808
1990	57,590	26,732	15,115	4,567	10,280	896
1991	57,066	25,977	15,858	4,497	9,782	952
1992	63,804	28,081	15,721	5,219	13,775	1,008
1993	64,684	29,456	15,299	5,207	13,789	933
1994	66,832	31,418	15,814	5,169	13,344	1,087
1995	67,049	31,351	16,063	5,610	12,997	1,028
1996	66,099	32,094	15,237	5,804	11,773	1,191

Sources: INE (various years): Encuesta Nacional Industrial Anual; Merino/Weinstein (1986: tables 3, 4, 9) based on data from the INE manufacturing census; own calculations.

Note: Given that published manufacturing Census data for the years 1967 and 1979 include employment in establishments between 5 and 9 workers, these establishments had to be excluded from the employment figures in order to obtain a coherent series for the whole period.

As is the case in the textile and garment industry, household survey data from the *Encuesta Nacional del Empleo* (ENE) give much higher numbers of employed persons. For 1996, the employment in the metalworking industry according to ENE data was more than twice as high (143,183) than according to ENIA data (table 6.5.). This difference is explained by the more than 27,000 self-employed workers, the workers in enterprises of less than 10 workers as well as the under-representation of enterprises between 10 and 49 workers in the ENIA.

**Table 6.5. Employment in the metalworking industry according to different sources, 1996**

	Encuesta Nacional Industrial Anual (establishment survey, covering establishments with 10 workers or more)	Encuesta Nacional del Empleo (household survey)			
		Employment in enterprises with 10 and more employed	Employment in enterprises with 9 and less employed	Self-employed workers and unpaid family workers	Total employment
Metal-working industry (ISIC 38)	66,099	99,500	16,394	27,289	143,183

Sources: INE (1997): Encuesta Nacional de Empleo, October-December 1996; INE (1999): Encuesta Nacional Industrial Anual, 1996.

**Table 6.6. Total employment in the metalworking industry by employment category and sex, 1997**

Metalworking industry (ISIC 38)	Total	Employers	Self-employed	Salaried workers		Unpaid family workers
				Enterprises with less than 10 workers	Enterprises with 10 and more workers	
Total	170,958	6,851	28,519	15,647	119,219	712
Men	149,730	6,466	26,258	15,192	101,102	712
Women	21,228	395	2,261	455	18,117	0
Share of women, in %	12.4	5.8	7.9	2.9	15.2	0.0

Source: INE (1998): Encuesta Nacional del Empleo, October-December 1997.

Employment in the metalworking industry is strongly male-dominated. Only 12.4 per cent of the employed persons are women. Most of the women work in enterprises of 10 or more workers, where they represent 15.2 per cent of the labour force. They are weakly represented in the smallest enterprises and among employers and self-employed workers (table 6.6.). This pattern of a relatively high share of women in salaried employment in enterprises with 10 or more workers differs from other sectors, where women are often concentrated precisely in the smallest enterprises or in self-employment. The likely explanation for this pattern is that women in the metalworking sector are largely concentrated in administrative tasks rather than in direct production work. These administrative tasks are often carried out by the owner or manager himself in the case of the smallest enterprises.

### 6.2.3. Trade policy, industrial policy and social actors

As in the case of the textile and garment industry, the sector-specific institutional environment is of great importance for enterprises' strategies to cope with competitive challenges.

The main sectoral **business association** is the *Asociación de Industrias Metalúrgicas y Metalmecánicas* (Association of Metallurgical and Metalworking Industries, ASIMET), founded in 1938. ASIMET proposes a whole range of services to its members. The following ones are among the most important:

- The business association has several activities to foster professional training. Firstly, it organizes training courses for the managers and workers of the member enterprises.<sup>17</sup> Secondly, it has its own professional training corporation (*Corporación de Capacitación y Ocupación Laboral*, CORCAPLAM), created in 1977. CORCAPLAM acts as an intermediate institution that aims at matching training offer and demand under the framework of the Chilean legislation on training subsidies. In 1994, 13,418 workers in 434 enterprises were trained through this system (ASIMET, 1998a: 8; ASIMET, 1996: 28). Thirdly, ASIMET provides its members with detailed information on the new law on professional training and the legal aspects of contractual arrangements aiming at maintaining workers within the enterprise after their participation in professional training programmes (ASIMET, 1998c). And fourthly, ASIMET manages a technical school that is implementing a system of dual education based on the German model for metallurgical and metalworking professions (ASIMET, 1996: 8).
- ASIMET also has its own technological development corporation (*Corporación de Desarrollo Tecnológico*, CORDETEC) which coordinates the needs of the metallurgical and metalworking enterprises face to the industrial policy programmes promoted by the Chilean Development Agency CORFO and other public sector institutions. This includes the participation of enterprises in development projects under the PROFO scheme. For 1998, it was scheduled that 110 metallurgical and metalworking enterprises would participate in such programmes or initiatives to establish such a programme. The main objectives are common efforts to develop integrated products, obtain quality labels, access markets and providers, improve marketing strategies and hire technical assistance (ASIMET, 1998b: 22).
- ASIMET organizes working groups at subsectoral levels (for example, electrical appliances, capital goods, etc.) (ASIMET, 1996: 20-25). These working groups address issues that are common to the subsector in order to find common solutions, make common efforts and improve the relationship between enterprises in the subsector. Several of these working groups are quite active and initiate PROFOs, although the distrust between competing enterprises is sometimes an obstacle to common activities (ASIMET, 1997: 18-19).

Like other business associations, ASIMET has lobbied against the labour reforms planned by the Chilean government during the last years. These lobbying activities included meetings

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<sup>17</sup> In 1997, around 480 persons participated in these training courses (ASIMET, 1998a: 8).

with Ministry of Labour officials and presentations to the relevant commissions of the Parliament and the Senate (ASIMET, 1996: 9, 12).

There are three main **trade union organizations** in the metalworking industry, although they are not limited to metalworking, but also include the metallurgical industry and commercial enterprises that sell metallurgical and metalworking products:

- The *Confederación Nacional de Trabajadores Metalúrgicos* (CONSTRAMET). Created in December 1980, CONSTRAMET continues the tradition of the *Federación Metalúrgica* (FEMET) that existed up to 1973. Its political orientation is close to the Communist Party, although not all affiliated trade unions are communist. As of late 1995, CONSTRAMET had more than 13,000 members according to its own statements (CONSTRAMET, 1994, 1995).
- The *Federación y Confederación Nacional de Trabajadores Electrometalúrgicos, Mineros y Automotrices* (CONSFETEMA). This organization considers itself as politically neutral. It is clearly opposed to a communist approach to trade unionism. The emphasis is on technical work, training for the workers and the trade union leaders and regular contacts with the employers. CONSFETEMA tries to obtain similar bargaining results in all its affiliated enterprises and hopes to move towards sectoral bargaining mechanisms in the long term. As of early 1996, the organization had 7,500 members.<sup>18</sup>
- The *Federación de Sindicatos de Maipú* (FESIMA). The organization principle of FESIMA is not the economic sector, but the geographic location in the area of Maipú in the Western part of Santiago. However, Maipú is characterized by a high concentration of metalworking and metallurgical enterprises and most of the enterprises that are affiliated to FESIMA belong to this sector.

In terms of the **social dialogue** between the actors in the metalworking sector, there have been since 1990 several sectoral agreements between ASIMET and the trade union organizations CONSFETEMA and FESIMA. One important aim of these agreements is to foster professional training. CONSFETEMA is entitled to organize training courses under the SENCE subsidy system, thus giving a stronger weight to trade union representatives in the training process. Other issues treated in the sectoral agreements are recommended social benefits. The agreement is however not legally binding for the affiliated enterprises and does in no way come close to a genuine sectoral collective bargaining process (ASIMET 1991; Acuerdo entre ASIMET, CONSFETEMA y FESIMA, 1992; CONSFETEMA, 1997).

The communist-oriented CONSTRAMET has only once, in 1992, signed a sectoral agreement with ASIMET. Its content is almost identical with the CONSFETEMA/FESIMA-ASIMET agreement of the same year, but there are slight differences in wording that take the different ideological background of CONSTRAMET into account. For example, the reference to the "fundamental role" of private enterprises in the development strategy that can be found in the agreement with CONSFETEMA and FESIMA has been omitted in the agreement with CONSTRAMET (Acuerdo entre

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<sup>18</sup> Interview with Salvador Castro, President of the Executive Council of CONSFETEMA, Santiago, 3 January 1996.



ASIMET, CONSFETEMA y FESIMA, 1992; Acuerdo ASIMET, CONSTRAMET, 1992). In CONSTRAMET's perception, enterprises have not complied with the commitments of the 1992 agreement. The organization has thus refused to sign any agreement since then because it is opposed to agreements with "merely rhetorical" content that in its view have only advantages for the enterprises, but not for the workers.<sup>19</sup>

With regards to **trade policy**, the issue is far less contentious than in the textile and garment industry, where the negative impact of import competition is much stronger. ASIMET points out that it does not want subsidies nor differentiated import tariff rates. However, the sector complains about subsidized imports against which the existing safeguard mechanisms provide little protection (ASIMET, 1995: 4).

As far as **industrial policy** is concerned, the instruments and benefits described in chapter 7. are available to metalworking enterprises. The metalworking industry is the main beneficiary of the government-supported industrial subcontracting database *Bolsa de Subcontratación Industrial de Santiago*. In 1996, metalworking enterprises accounted for 43 per cent of all subcontractor enterprises in the database and 35 per cent of all searches for subcontractors (BSIS, 1996). As mentioned above, the business association ASIMET proposes some services to its members to facilitate enterprise development projects with public support. In addition to these general benefits, the car industry is the only one in the metalworking sector that still receives sector-specific incentives. However, as mentioned above, it is doubtful whether these benefit schemes can be considered successful, and in any case, they will have to be phased out in the context of the negotiations with the Mercosur countries.

In sum, compared to the textile and garment industry, the entrepreneurial sector is much better organized in the metalworking sector. Although distrust between enterprises exists, a network of institutions, corporations and working groups work to overcome such limitations and find concrete solutions to the problems of the sector. Sectoral agreements in the metalworking sector have had more importance and continuity than in other sectors of the Chilean economy. Although these agreements are not legally binding, they provide a basis for regular working contacts between business associations and trade union organizations. Due to a different ideological orientation, the communist confederation CONSTRAMET has ceased to sign sectoral agreements.

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<sup>19</sup> Interview with Miguel Soto, President of CONSTRAMET, Santiago, 17 November 1995.

## **6.3. Innovations**

This section describes the innovation strategies of Chilean metalworking enterprises. A first subsection (6.3.1.) presents the evidence from previous studies on the metalworking sector carried out during the second half of the 1980s and during the 1990s. The following subsections deal with each of the different types of innovation presented in chapter 2., based on enterprise visits and interviews (6.3.2. to 6.3.6.). Finally, subsection 6.3.7. summarizes the evidence for the metalworking sector.

### **6.3.1. General tendencies**

With regards to the innovative behaviour of Chilean metalworking enterprises during the late 1980s, an ECLAC (1989) study of a sample of 19 enterprises comes to the following conclusions:

- Despite conditions that were little conducive to ambitious innovations (notably the existence of unused productive capacities after the 1982/1983 crisis and the offer of cheap second-hand machinery from bankrupt enterprises), many of the sample enterprises had taken up a serious innovative approach.
- Most product innovations continued to be imitations or adaptations of foreign models.
- Some enterprises had introduced some numerically controlled machines, but other types of advanced technology had not been found in the sample enterprises.
- The use of computers was still very limited. Only two of the sample enterprises had computer systems to plan their production and six used computers for their stock control. Very few enterprises used Computer Aided Design (CAD) or Computer Aided Manufacturing (CAM) technologies.

As has been shown in chapter 4. for the Chilean economy in general, the successful strategies of the late 1980s were bound to end up in exhaustion during the 1990s because of the changed economic conditions. The existing studies of the innovative behaviour of the metalworking industry in the early 1990s (notably Merino, 1995; Herrera/Rivas, 1993; Geller/Ramos, 1997; Sepúlveda et al., 1992) suggest an intensification of innovation compared to the 1980s. The main tendencies according to these studies are the following:

- While the introduction of advanced technologies such as numerically controlled machine tools was very limited up to 1990, almost 900 units of this type of machinery were imported from 1991 to 1994 (Merino, 1995: table 2). This suggests an important technological upgrading for parts of the Chilean metalworking industry, given that these machines allow to produce in a more flexible way and with higher quality standards (higher precision). Nonetheless, as Geller and Ramos (1997: 9) point out, the share of enterprises in the metalworking sector using microelectronic equipment is still low.
- A 1992 study found that 20 per cent of the sample metalworking enterprises had introduced CAD/CAM technology. Of these, most had done so in the six months prior to the survey (Sepúlveda et al., 1992).

- The technological upgrading in Chilean metalworking enterprises has not been without problems. The most frequently mentioned problem is the lack of adequately trained workers to handle the new type of machinery (Merino, 1995: table 6).
- Many enterprises have diversified their production, while at the same time standardizing the components used (Geller/Ramos, 1997: 10).
- In terms of productive organization, available evidence suggests a continuing trend towards the use of subcontracting arrangements. In some cases, however, technological upgrading has implied the incorporation of previously externalized production processes into the enterprise (Herrera/Rivas, 1993: 6). The relationships between client enterprises and subcontractors continued to be predominantly of a purely commercial nature, with a low incidence of technical assistance and more trustful long-term relationships (Geller/Ramos, 1997: 14).
- In some enterprises, modern management and organization principles have been introduced, including statistical process controls and "modules" or working groups. These innovations have been introduced without the involvement of the trade unions. The potentially conflictive labour relations and the lack of trust between workers and management appear to be among the major obstacles to a major "depth"<sup>219</sup> in the implementation of these innovations (Herrera/Rivas, 1993). The layout of the production plants by production lines or modules accounted for only 25 per cent of metalworking enterprises, while a layout "by process" (that is, closer to a handicraft-like setup) was used in the majority of enterprises (Sepúlveda et al., 1992: 26).
- On the whole, although the issue of work organization received more attention than during the 1980s, it was still one of the weak points of the Chilean metalworking sector. The main tendency was a broadening of the workers' tasks (additional tasks, especially quality control) and work intensification without however increasing the skills content. The increase of workers' participation through quality circles or similar structures was extremely limited. Only in one sixth of the enterprises did the trade union have the opportunity to engage in some sort of consultation or bargaining over the consequences of technological and organizational innovations on workers. The increasing incidence of piece-rate wages was one of the devices that contributed to work intensification (Geller/Ramos, 1997: 11-13, 28, 31).
- With regards to innovation in human resource management, training programmes had a higher incidence than during previous periods, but suffered from several important deficiencies. The detection of training necessities continued to be made on an intuitive rather than systematic basis, and workers' participation in the

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<sup>219</sup> The lack of depth in the implementation of organizational innovations refers to a phenomenon that is common in many developing countries, especially when innovations are made under pressure from foreign owners or strategic partners, as is the case for the enterprise studied in the study by Herrera and Rivas (1993). Although the innovations are formally introduced, the changes remain superficial, and the informal work organization procedures reflect the spirit of the old organizational principles instead of fully incorporating the changes.

definition of training strategies was very low.<sup>220</sup> Moreover, the training contents were biased in favour of administration, computers and English, but against more technical subjects related to the metalworking industry (Herrera/Ruiz-Tagle, 1997; Geller/Ramos, 1997: 21-26).

### 6.3.2. Product innovation

Most sample enterprises have carried out some product innovations during the survey period (M1, M2, M3, M5, M6, M7) (see table 6.7.).

The Chilean market leader M1 is a follower in terms of product characteristics. The technologically most advanced products in the Chilean market are imported, and M1 thus follows these new technological tendencies at some distance. It is not the enterprise's strategy to convert itself into a leader of product technology; rather, it aims at copying more rapidly and thus decreasing the technological gap compared to the most advanced products.<sup>221</sup>

The market positioning of M2 is even more strongly related to mature products. The strategy is to occupy niches in the production of technologically simple products that the big leading international enterprises do not produce anymore and that can be sold either in Chile or in other Latin American countries with similar or lower per capita incomes. These can be produced at relatively cheap prices in Chile. According to the managers, it is impossible to compete in the most advanced products because of the high engineering efforts and the continuous technological changes this would require. Thus, the most expensive and modern products which M2 offers, such as automatic washing machines, are imported rather than produced internally. However, the enterprise will start the production of No Frost refrigerators, previously imported from Turkey for commercialization under their own trademark.

With the massive arrival of Asian imports on the Chilean white goods market, the Asian product technology has become a very strong reference for both M1 and M2. Asian products are either copied informally (reverse engineering), or license agreements including a formal technology transfer are signed.<sup>222</sup>

Although the other enterprises work mostly as providers of parts and components for M1 and/or M2, receiving the product specifications from their clients, this does not mean that they have no own activity in terms of product innovations. For example,

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<sup>220</sup> For example, among the trade unions affiliated to CONSTRAMET, only 7 per cent had included the training issue in their enterprise collective agreements (Geller/Ramos, 1997: 25-26).

<sup>221</sup> While regularly introducing new products, M1 maintains the two trademarks that originate from the name of the two enterprises prior to their merger in 1975. This enables the enterprise to cover slightly different market segments. The trademark FENSA has a stronger standing in the upper market segment.

<sup>222</sup> For example, M1 has signed an agreement with the Japanese enterprise Matsushita for the technology of No Frost refrigerators. The Japanese enterprise has been preferred to the South Korean competitors because the Korean technology is basically a copy of Japanese technology. A direct agreement with the Japanese can thus narrow the technology gap between the most advanced products and M1's products.

the enterprise M7 explicitly states that it wants to move out of "*maquila* production". Thus, the enterprise took the initiative to develop a hinge (for an oven door) by itself. The hinge is based on an Italian model, but the enterprise adapted and improved the original model so that according to the enterprise's manager the result is better than the original. The model could thus replace imports (first selling it to M1 and then possibly to other white goods enterprises) and later be exported.

Other enterprises have their own products in parallel to the work as subcontractor for one or more white goods enterprises (M5, M6, M8). For example, M5 sells 70 per cent of its production to 1,500 hardware shops all over the country and has carried out some innovations to improve these products.

In sum, product innovations are an important activity of the sample enterprises. However, the objective of product innovations is not to invent new products and set new standards internationally, but rather to keep up with product innovation tendencies elsewhere in the world, either informally via reverse engineering or via formal license agreements. This does not exclude that in some cases copies of foreign models are adapted and improved (e.g., M7) with the view of moving away from a dependent subcontractor status towards producing own products. In terms of product technology, the two white goods manufacturers M1 and M2 are thus imitative innovators according to the terminology presented in section 2.2.. Product innovations are aimed at reducing the time gap compared to the world leaders, not at eliminating it. The provider enterprises are mostly dependent innovators as they depend on the specifications supplied by their clients, but some of them also act as defensive innovators, that is, they launch their own product developments with adaptations and improvements of the original.

**Table 6.7. Innovation patterns in the metalworking sample enterprises**

Nr.	Principal activity(ies)	Number of workers	Product innovation	Innovation in technology and productive processes	Innovation in the organization of production	Innovation in work organization	Innovation in human resource management
M1	White goods (domestic refrigerators, washing machines, kitchen stoves)	1356	New models, new characteristics (No Frost technology for refrigerators; shift from washing machines for horizontal loading to models for vertical loading; built-in models; new design)	New equipment (electromechanical and electronic): Complete new production line for refrigerator production; new equipment for other products; new test station for refrigerators	Subcontracting of the administration of stocks; Improved quality control based on ISO 9,000		Declining share of incentive in wages of production workers; increased training in cooperation with trade unions
M2	White goods (domestic refrigerators, washing machines, kitchen stoves)	640	New models under preparation at the moment of the visit	New equipment (electromechanical and electronic)	Computerization of stock control; Improved quality control based on ISO 9,000	Quality control incorporated into production workers' tasks	Modifications in shift work system (external training: 60 persons in 1996)
M3	Parts for white goods (Aluminium and steel tubes)	18	Product modifications to safe material; development of own moulds	New equipment (electromechanical), own development of ad hoc equipment, new inputs used and innovations in the production process	Modifications of quality control (common project with M1 and SERCOTEC)	Quality control incorporated into production workers' tasks	Training activities within the enterprise (not much external training except welder: 1 person)
M4	Parts for white goods and spare parts for bicycles and carriages	20		New equipment (electronical)	Modifications of quality control (common project with M1 and SERCOTEC), introduction of quality records		Increased training activities (external training: 5 persons in 1997)
M5	Metal parts and painting processes	27	Improved quality of produced moulds	New equipment (electromechanical) for moulds	Improved quality control based on ISO 9,000		Abolition of shift work and diminution of overtime work; some external training
M6	Metal parts for white goods (esp. for kitchen stoves)	135	Products of better quality and with more modern technical features	New equipment (electronical and electromechanical), innovations in production processes and development of own ad-hoc equipment	Computerization of stock control, buying and sales; diminution of stocks of inputs modifications of quality control based on ISO 9,000	More specialization of production workers in one task; increasing work speed and higher mental workload	Increase of shift work; modifications in pay system (increased share of incentives); different training policies (less workers, but longer and more technical courses) (external training: 14 persons in 1996)

(table 6.7. continued)

Nr.	Principal activity(ies)	Number of workers	Product innovation	Innovation in technology and productive processes	Innovation in the organization of production	Innovation in work organization	Innovation in human resource management
M7	Metal parts for white goods and moulds	170	Moving towards development of own products (rather than upon specifications from clients)	New equipment (electromechanical and electrical); state-of-the-art technology for mould production	Improvements of quality control (precision)	Modifications in task organization, attempting to incorporate annex operations in production workers' tasks	Introduction of second shift, new wage incentives; increasing overtime work; internal and external training activities (external: 8 persons in 1996)
M8	Metal bands and steel hoops	140		New equipment (investment of US\$ 6 million in 1994)	Computerization of administrative processes		Training for workers on new machines
M9	Metal furniture (lockers and shelves)	40		New machinery (bought new or second-hand)			
P1	Plastic parts for white goods and others	49		New machinery and improved efficiency of production processes	Externalization of some production processes to spin-off enterprises of the same owner		Modifications in incentive system
MArg	White goods (domestic freezers) and industrial refrigerators and freezers	305	Modifications in design as commercial products (vertical displayers) are sold in cooperation with a major soft-drink producer; other modifications in design ("soft design"); development of smaller vertical models	New machinery (electromechanical); automatization of pre-joint section of the cabinets of freezers; re-arrangement of production lines and modules (diminishing minimum production batch and production time)	Improvements of quality control based on ISO 9,000 and introduction of quality circles; Increased vertical integration as plastic parts are now produced internally instead of being bought from external providers; Pilot projects for introduction of Just-in-Time	Some tasks simplified; work intensification	Modification in training system and increased training, based on survey on training needs within the enterprise

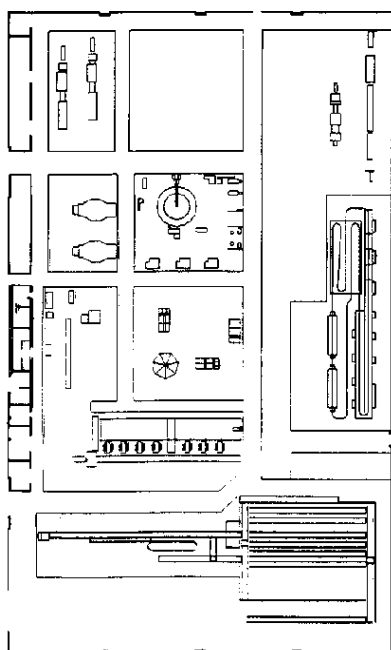
Source: Own survey, 1996-1998.

### 6.3.3. Innovation in technology and productive processes

The enterprise M1 has undergone a strong innovation process. While the other sections - washing machines, kitchen stoves and stoves (heaters) - have benefited to some extent, the most far-reaching innovation project can be found in the refrigerator plant:

- In 1992, the refrigerator production was still a predominantly manual operation, the production plant was divided into workshop-like units and the production took place in batches. The maximum productive capacity at that time was 150,000 refrigerators per month (figure 6.12.A).
- By 1995, a new production plant was installed in its basic configuration and the predominance of separate workshops had been replaced by a pattern of production lines, implying a more continuous production process. The maximum productive capacity was 200,000 refrigerators per month (figure 6.12.B).
- Finally, in 1997, new machines have been installed that permit a semi-automatic production process. Throughout the pre-assembly production steps, the production line works in a fully automatized manner, including the loading and unloading of the machines as well as the transport to the following work station. The maximum production capacity has increased to 400,000 refrigerators per month, although this production volume was not yet attained at the end of 1997 (figure 6.12.C).

**Figure 6.12.A. Enterprise M1: layout of refrigerator plant, 1992**

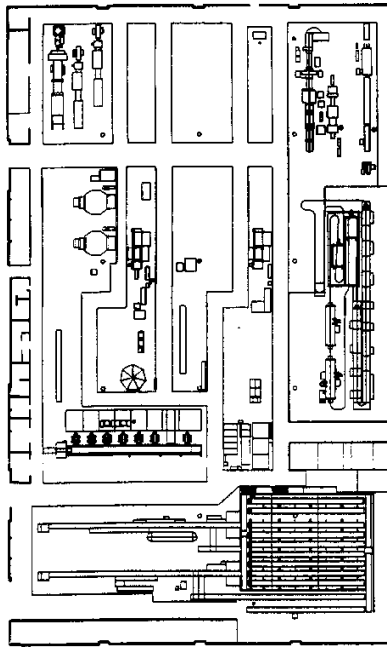


- ↗ Capacidad instalada *150.000*
- ↗ Proceso *manual*.
- ↗ División por *talleres*.
- ↗ Forma de trabajo por *lotes*.

Source: Enterprise M1.



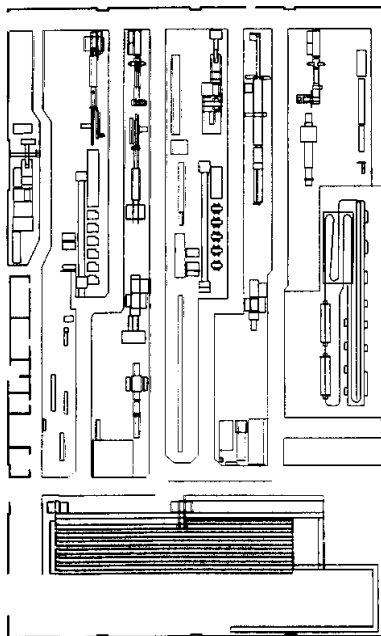
Figure 6.12.B. Enterprise M1: layout of refrigerator plant, 1995



- Capacidad instalada 200.000
- Proceso *manual*.
- División *por líneas* productivas.
- Trabajo *continuo*.

Source: Enterprise M1.

Figure 6.12.C. Enterprise M1: layout of refrigerator plant, 1997



- Capacidad instalada 400.000
- Proceso *semi-automático*
- División *por líneas* productivas
- Trabajo *continuo*
- Trabajo *flexible*

Source: Enterprise M1.

The result is one of the most modern refrigerator plants in Latin America, producing good quality and with high material productivity. CAD is being used for the design of products in M1 since 1991.

Data on labour productivity up to 1997 (for the whole enterprise) show however that the progress has been less spectacular than the fundamental technological changes would let expect (figure 6.13.).<sup>223</sup> Several explanations can be given for this relatively weak performance:

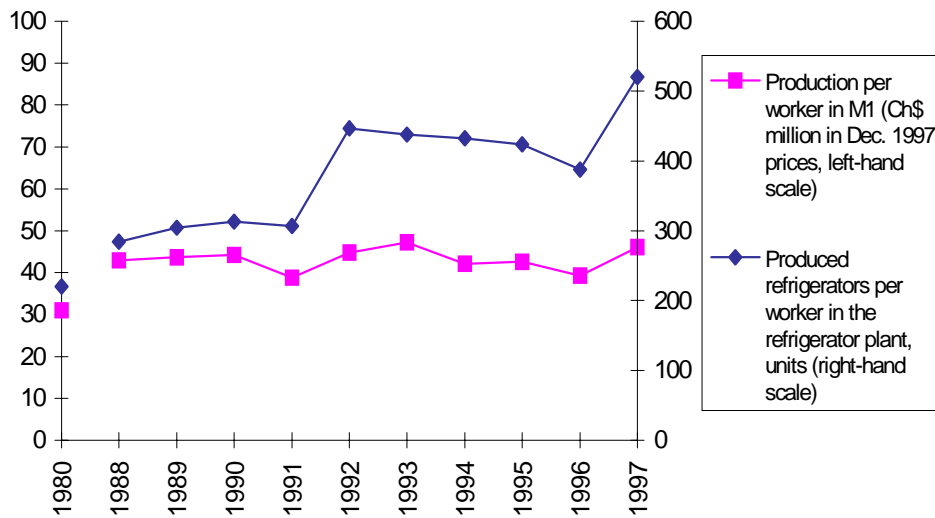
- These data include the production of other products (washing machines, kitchen stoves and stoves), where technological progress has been less radical than in the refrigerator plant.
- The intensification of international competition may have driven prices for this type of goods down.
- The introduction of the new production line took place during the collective bargaining period. By fear of a possible strike, the enterprise used fixed-term workers (who do not participate in collective bargaining). This may be one reason for the difficulties in making the new production line work according to the expectations.
- More generally, the production with the new refrigerator plant has not yet been fully in place in 1997. For example, some moulds from abroad had not arrived yet.

M2 has also carried out several important innovations, albeit less comprehensively than M1. In some parts of the enterprise, the technology is very modern and workers carry out mainly loading and control functions; in other parts, the work process is still quite handicraft-like. The newly installed dry painting line is "the most modern in Latin America" according to the management. There is no coherent modern plant layout, but rather islands of modernity in a relatively traditional assembly plant. In several positions the machinery used is very modern, but the loading and unloading of the machine is still manual.

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<sup>223</sup> These data refer to sales per worker. This is not an optimal indicator because changes in vertical integration can distort the figures.

**Figure 6.13. Indicators of labour productivity in enterprise M1, 1980-1997**



Sources: Data provided by enterprise M1; Vera/Katz (1995); own calculations.

Most of the other enterprises, providers of parts and components, are characterized by considerable technological heterogeneity and manual machines can co-exist with industrial robots of the last generation (M6).<sup>224</sup> M9 is the only enterprise in the sample that consistently uses relatively simple technologies, a rather handicraft-like production system in batches, no production line, manual transport of work-in-process between posts, simple work and short cycle times.

All sample enterprises have acquired new equipment during the survey period, in many cases including electronic machines. One of them has bought several CNC machines that produce metal-parts of high precision (M4). Several of the providers complain that specific investments are not profitable to them due to the relatively low number of pieces of each type. The tendency of their clients to develop several (competing) providers for each piece threatens to further lower the number of pieces (see section 6.5.1. for more details on the strategy of provider development).

A problematic aspect of the innovation processes is the lack of workers' participation. At best, workers and trade unions are informed about the changes, but there is generally no active participation of the trade union or production workers in shaping innovations or their implementation. In M1, the trade union leader stated that at least written information is provided by the enterprise on request, while the management in M2 is very reluctant to give any document to its trade union.<sup>225</sup>

<sup>224</sup> A cautious attitude towards debts due to the experience of the 1980s also explains that innovation plans are not more ambitious (M7).

<sup>225</sup> In this context, one trade union confederation asked for a mechanism of social agreements prior to the introduction of new technologies and related changes in the working conditions. Other related demands are the communication of complete information to the trade union prior to decision-making and adequate training for the involved workers (CONSTRAMET, 1994: 13).

#### 6.3.4. Innovation in the organization of production

The main types of innovation in the organization of production are modifications in the quality control procedures, in the administration of stocks and production, as well as in the subcontracting arrangements.

The system of **quality control** has been a major area of innovations in most of the sample enterprises. Many enterprises declared that they are working according to ISO 9,000 or that they are preparing the procedures according to that norm (M1, M2, M5, M6).<sup>226</sup> Others just declared that they would like to move towards ISO 9,000 in the medium-term future (M7).

M1 and several of its providers have modified their quality control procedures in the context of a common provider development programme under which providers undergo a certification procedure and may then deliver their parts and components directly to M1's production line without previous quality check on arrival (see 6.5.1.). This programme, called *pase libre*, has also given the opportunity for mutual visits of the productive facilities between M1 and its providers. It has triggered crucial changes in the enterprises' attitude to quality and the importance of registering quality-related data.

Most providers already improved their quality control prior to their participation in the provider development programme. For example, in M6, the switch from one final quality control to several quality controls throughout the production process already occurred around 1993. The implementation of quality circles had then been interrupted in that enterprise, but has taken up again recently.

The implementation of a standardized quality control (including data registry) is also a precondition for the introduction of **Just-in-Time procedures** along the production chain as it allows the direct delivery of inputs on the production line, diminishing both the delays and the requirements for a buffer stock of inputs. The enterprise M1 also plans to introduce an Intranet page that would permit to share information with all providers and other authorized business partners.

Among the sample enterprises, M1 is already working on the introduction of the just-in-time system. In fact, M1 has already substantially reduced its stocks of inputs. However, this does not always mean that the system as a whole has become more efficient, because in some cases the stock requirements have been transferred to providers (M3).

M2 has been preparing the introduction of Just-in-Time within the enterprise. The introduction of Just-in-Time with the providers is however seen as more problematic given that such a move would make the enterprise more dependent on the provider enterprises: "We would be in the hands of the providers".

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<sup>226</sup> It is interesting to note that many of the sample enterprises declared to work on ISO 9,000 while on the other hand, only a few metalworking enterprises are officially certified under that norm. As of 1998, eight metalworking enterprises affiliated to ASIMET are certified under ISO 9,000, one enterprise is in the process of certification and five enterprises (among which M1) are working with Total Quality Management (ASIMET, 1998d). One possible explanation of this difference is that working under ISO 9,000 involves a whole process and a series of activities, only at the end of which the official certificate is accorded by the ISO.

M3 has been preparing the introduction of computerized **stock control**. The goal is to have a bar code system compatible with the one used in M1 so that information between both enterprises could be exchanged easily. M7 has computerized its stock control and productive flows, but data entry is still manual. However, new software for the programming of the production is under preparation.

The white goods manufacturers M1 and M2 have also experienced innovations in their **acquisitions and sales systems**. With regards to sales, at one stage, four clients accounted for 60 per cent of M2's total sales. The enterprise has recognized that this concentration of sales on only a few clients diminished its bargaining power and has tried to broaden its clientele. One way is to give more generous conditions with regards to payment to smaller clients, similar to the treatment that had already been given to big clients. Both M1 and M2 have invested in marketing, especially M1 which has developed a highly visible marketing campaign for its two trademarks.

**Subcontracting** productive tasks and services has become a very common strategy in Chilean metalworking enterprises. Diminishing the vertical integration of production and subcontracting more operations and services is still very frequent.<sup>227</sup> For example steel components that M1 used to produce internally are now subcontracted. M3 subcontracts the production of a metallic nut to an external enterprise, but with its own machines. (Before, M3 used to obtain this piece from M1.)

However, there are also opposite tendencies of incorporating parts of the production process that used to be subcontracted into the enterprise's operations. This is for example the case for plastic injection (production of plastic parts) in M1 and M5. In M1, the main reason that was mentioned for this decision was that, given the relatively high volume of plastic parts, it is cheaper to produce them within the enterprise than outside. In M5, the decision was mainly taken to improve the quality.

Many of the provider enterprises for M1 or M2 are quite reluctant to further subcontract parts of their production or their production process because they fear quality problems. The subcontracting of production is not primarily used as a device for numerical flexibility, but rather as a strategy towards specialization. For example, M7, one of the bigger providers, sees the diversity of production processes as a cause for inefficiencies because it is an obstacle for production in line. The enterprise thus aims at subcontracting tasks that "contaminate" the production processes and hinder specialization. In a similar way, M6 declared that it only subcontracts tasks that are not directly within the enterprise's field of specialization. According to M6, one problem is loyalty: the subcontractor can try to get into direct contact with the client enterprise. Therefore (and also for quality reasons), even small quantities are produced internally.

By contrast, it is very common to subcontract productive and other services, such as security (M8), cleaning (M6, M8), eating facilities (M8), transport (M8) or accounting (M7, M8). M3 subcontracts the production of moulds and M3 and M7 the maintenance of machinery.

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<sup>227</sup> There is also evidence on the subcontracting of labour, for example subcontracted workers who work within a foundry in Talcahuano (8<sup>th</sup> region, Southern Chile) (Interview with Miguel Soto, President of CONSTRAMET, Santiago, 17 November 1995).

In sum, Chilean metalworking enterprises have been quite active in innovating their organization of production. Major emphasis has been given to the subcontracting systems. Contrary to the textile and garment industry, the increasing subcontracting of parts and components has been driven less by the need to adapt to market fluctuations than by a strategy of specialization by virtue of which the big manufacturers specialize on assembly operations while subcontracting most parts and components to provider enterprises.

### **6.3.5. Innovation in work organization**

The consequences of the introduction of new technologies on the work and skills profile of production workers depend to a large extent on the patterns of work organization, that is, on whether production workers participate in the skill-intensive tasks of programming the production. In the sample enterprises, production workers do not generally participate in these tasks. Their participation is also limited with regards to other tasks in the preparation of the production.

Rather than leading to a general upgrading of the production workers' skills profile, such a pattern tends to polarize between, on the one hand, the engineers, programmers and technicians who are in charge of the skill-intensive preparation tasks, and, on the other hand, the production workers in the manufacturing process who do not participate in programming and whose skills are threatened by the introduction of numerically controlled machines. With increasing automatization of the metalworking industry, many tasks are predominantly machine-loading and controlling functions, although manual functions continue to exist, especially where production runs are small (M6). These loading and unloading tasks, whether with modern or older equipment, often have very short cycle times and tend to be monotonous (M5, M6). In P1, the production workers have quite simple tasks, including the unloading of the automatic machines, some manual finishing of the plastic parts and sometimes manual packaging. The work cycle times are generally quite short. Production workers do not do any of the programming and there is a separate category of workers who set up the moulds (8 persons).

The enterprise M8, where production workers have substantial control functions over automatized equipment, is quite exceptional among the sample enterprises. In M2, production workers themselves change the moulds at some posts.

The changes in the work of production workers are characterized by a broadening of their tasks and work intensification. In M2, M3 and M7, quality control activities and other annex operations have been incorporated into the production workers' tasks. According to a trade union representative in M2, changes in work organization aim primarily at eliminating "dead times" for the workers: "They work like robots".

In sum, the introduction of new technologies is in most cases combined with a kind of work organization that does not lead to a generalized "enskillings" among the production workers. Programming and changing moulds are generally carried out by a different category of workers than the normal production workers (operators). This makes work in these enterprises different from the optimistic descriptions of new work organization practices, according to which these tasks tend to be incorporated

into production workers' tasks, leading to more meaningful work for production workers.

In the same way, although several enterprises adopt more **group-based work and decision techniques**, these normally exclude the normal production workers. M1 holds monthly meetings of product committees, but participants are managers and supervisors rather than blue-collar workers. Many enterprises do not hold meetings where the managers inform all workers about the situation of and the changes in the enterprise. Rather, the hierarchical organization principle makes it easier to organize a meeting with supervisors who then in turn inform the production workers (M1). This lack of genuine participation and direct communication may be one obstacle for a stronger identification of the production workers with their enterprise and the idea that workers should "know what to do when the boss is not around" (M7).

Although trade unions in Chile focus mainly on wages and benefits, they do have an assessment of work organization practices. The trade union confederation CONSTRAMET criticizes the lack of genuine innovations in the field of work organization. According to its President, the only real change is the acceleration of the work path while the "dictatorship" within the enterprises continues to exist and workers' participation is not valued.<sup>228</sup> Another trade union source states that the employers (rather than the unions), are old-fashioned because they want to be able to do and undo everything ("*quieren poder hacer y deshacer todo*") instead of adopting a more participatory approach.<sup>229</sup>

### **6.3.6. Innovation in human resource management**

The main areas of innovations in human resource management that have been considered during the enterprise visits and interviews are modifications in training policies, payment systems, shift work and overtime work.

Most enterprises have some training activity, many of them through the SENCE benefit scheme (M1, M2, M3, M6, M7, M9, P1).<sup>230</sup> In some cases, this training activity is quite limited and refers to one single worker (M3), while in others, it is a continuous strategy. Some enterprises declare that they organize training activities only within the enterprise. In line with the general tendency of the Chilean economy in general and the metalworking sector in particular, several of the sample enterprises have recently increased their training activities (M1, M4, M8).

In 1997, M1 has spent more than 3 per cent of its total wage bill on training measures. While the SENCE benefits attains Ch\$ 53 millions, the enterprise has spent Ch\$ 190 millions in training. During the first six months of 1997, 513 persons have participated in training activities (roughly 50 per cent of permanent workers

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<sup>228</sup> Interview with Miguel Soto, President of CONSTRAMET, Santiago, 17 November 1995.

<sup>229</sup> Interview with Salvador Castro, President of the Executive Council of CONSFETEMA, Santiago, 3 January 1996.

<sup>230</sup> One enterprise (M9) had participated in *Chile Joven*, a programme aimed at improving the skills level of young persons of modest social background. However, out of five initial participants, four stayed away during the duration of the programme.

during those months), with a total of 6,358 person-hours.<sup>231</sup> M1 is the only enterprise of the sample which developed a training programme jointly with its trade unions. Within the context of this joint programme, 160 workers have been trained in 1997 on subjects such as quality control, ISO 9,000 and technical issues related to the production. Moreover, the increasing emphasis on skills has led to modifications in the recruitment policy. As a general policy started in 1993/94, the enterprise hires only workers with at least completed secondary education. As of June 1997, there are still 14 per cent of the work force with only primary education and 12 per cent with incomplete secondary education. Different types of complete secondary education account for 65 per cent.

While one of the problems of the Chilean training system is the bias towards administrative and general training, at the expense of the production workers and technical training contents, most enterprises included technical contents and production workers into their training programme.<sup>232</sup> One enterprise declared explicitly that it has changed their training strategy by moving towards courses with more technical content and of longer duration (for example in INACAP, one of the most reputed training institutions in Chile), even if this implies that fewer persons can participate in training over the year (M6). However, among the production workers, it seems that those who are already more specialized have more opportunities for training than the unskilled or semi-skilled workers.

Several enterprises have been faced with the problem that workers left the enterprise after having participated in training activities (M7, M9, P1), or that they asked for higher salaries.<sup>233</sup> In the enterprises' view, there should be a system that keeps the worker in the enterprise at least during one year.

Another problem that was mentioned during the interviews is that there are no specialized schools or training courses for some of the required specializations (P1). This problem occurs with modern technologies, such as numerically controlled machines, because training institutions lag behind the most innovative enterprises with regards to the introduction of these machines. There is thus a shortage of skills for this new equipment even among those persons who have recently participated in training courses. Given the relatively high number of skilled engineers in Chile, this shortage is more pronounced at the level of technicians than at university level.

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<sup>231</sup> This implies, however, that the average duration of training activities was rather short (12.4 hours per trained worker).

<sup>232</sup> The distribution of training activities between white-collar and blue-collar workers can sometimes be a conflictive issue. For example, the blue-collar trade union in M2 complained that the enterprise's training activities tend to favour white-collar workers. The on-site training for new production workers is, according to the union, very superficial and lasts for only two to three days. In 1997, the training legislation was modified in order to give incentives for a stringer cooperation between management and workers' representatives in defining training programmes through a bipartite *Comité de Capacitación* (see chapter 7.). However, in M2 for instance, this committee had not been formed by early 1998.

<sup>233</sup> For example, in one case, one worker asked for a higher salary immediately after having participated in a training course and was "recommended" to leave because the manager's opinion was that the worker would first have to prove his increased productivity before asking for more money (P1).



Several enterprises have introduced innovations concerning their **pay systems** (M1, M6, M7, P1). Contrary to the textile and garment industry, the predominant system is not based on a simple piece-rate system, but rather on a combination of piece rates with more qualitative individual performance appraisals or on collective incentive schemes (see section 6.4.2. for more details). Recent reforms in the payment systems do not appear to obey to a common logic. In some cases, the incidence of variable incentive elements in the total wage has increased (M6), in others it has diminished (M1).

In M1, the average share of the variable salary (incentive based on the collective performance) in total salaries has decreased during recent years, from roughly 40 per cent to 23 per cent under the latest collective agreement. The diminution of the variable share was one of the major trade union demands. In order to keep its incentive system up to date, M1 regularly carries out time studies in the enterprise.

The use of **shift work and overtime** experienced significant changes in the enterprises M2, M5, M6 and M7. There is no clear tendency in these changes as some enterprises have increased the use of these instruments, while others have diminished it. This suggests that the observed changes correspond to flexible short-term reactions to changes in the demand, rather than to a long-term strategy (see also 6.4.4.).

### 6.3.7. Summary

Like in the textile and garment industry, the innovation patterns in the metalworking industry depend on the product and market characteristics as well as on the size and professionalization of the enterprise.

Overall, there is a stronger tendency towards innovation than in the textile and garment industry. The innovations include both the installation of new machines, often with electronic control devices, and organizational issues. While Chilean metalworking enterprises do not aim at being the leaders in product technology, they do innovate their process technology and product organization in order to increase their productivity.

Modifications in work organization generally involve a broadening of the production workers' tasks, but not systematically an upskilling process. Very often, the most skill-intensive tasks of programming, control and planification are carried out by a different category of workers and not by the production workers themselves. This, together with the lack of workers' participation in innovation processes, can be an obstacle for their identification with the enterprise's goals.

This does not mean that the current growth model is already exhausted. Indeed, once the Chilean economy returns to a growth path, the metalworking industry may well grow another decade at a high rhythm, despite the identified obstacles. In the longer term, however, the sector may experience stagnation if the current challenges in terms of workers' motivation and participation are not adequately addressed by enterprises and workers.

## 6.4. Flexibility

This section describes the flexibility strategies in the Chilean metalworking sector. According to both the literature and the discourse of the social actors, flexibility is one of the key concepts in the metalworking industry.

As in other industrial sectors, the trade unions are highly critical with regards to the flexibility strategies employed by the metalworking enterprises. However, the President of CONSTRAMET affirms that he is not against flexibility "under certain conditions", that is, if flexibility does not mean a lack of protection for the workers involved.<sup>234</sup> CONSFETEMA agrees that flexibility, quality and productivity are necessary, but this has to go hand in hand with satisfactory working conditions and training for the workers.<sup>235</sup>

The study by Sepúlveda et al. (1992) draws the following conclusions with regards to flexibility strategies in the metalworking industry:

- Contrary to the garment industry, the use of subcontractors to ensure punctual delivery in case of short-term production peaks is relatively rare. The principal mechanism in this case is working overtime (Sepúlveda et al., 1992: 41)
- Most metalworking enterprises have short programming horizons for their production. Only a tiny minority of less than 6 per cent of the sample enterprises studied by Sepúlveda et al. (1992: 41) had planning horizons of more than 50 days.

The following subsections deal with each of the different types of flexibility presented in chapter 2., based on the enterprise visits and interviews (6.4.1. to 6.4.6.). Subsection 6.3.8. summarizes the evidence for the metalworking sector.

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<sup>234</sup> Interview with Miguel Soto, President of CONSTRAMET, Santiago, 17 November 1995.

<sup>235</sup> Interview with Salvador Castro, President of the Executive Council of CONSFETEMA, Santiago, 3 January 1996.

**Table 6.8. Flexibility patterns in the metalworking sample enterprises**

Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation on the product characteristics
M1	White goods (domestic refrigerators, washing machines, kitchen stoves)	1356	Fixed-term contracts during 12 months (25% of the total work force at the time of the enterprise visit); internal subcontracting of stock administration and parts of quality control	Variable element (23% of production workers' wages)	Shift work and overtime work (15% in November 1997)	Enterprise policy that each production worker should be able to work in different posts, although they usually work in the one they are most specialized in	Each main product line converted into a semi-autonomous unit within the enterprise	(Product development takes substantially longer than in South Korea or Japan)	
M2	White goods (domestic refrigerators, washing machines, kitchen stoves)	640	Fixed-term contracts during 6 months; subcontracting of productive services (electrical installations, maintenance of equipment) and other services (lunch facilities, cleaning, etc.)	Variable element	Changing number of shift workers	Concept of multifunctional worker is used		(Product development takes substantially longer than in South Korea or Japan)	
M3	Parts for white goods (Aluminium and steel tubes)	18	1 person with commercial contract instead of work contract; fixed-term contracts only during probation period (2 months) (approx. 30 persons (9%)); subcontracting of some productive services (machinery maintenance and some moulds) and production (one component)	Variable element (approximately 50% of wages)	(no overtime work)	Rotation of workers between posts as enterprise policy	Flexibility attained through development of ad-hoc equipment and manual work processes (but at the cost of inherent limitations of productivity)	Flexibility through capacity of ad-hoc development and adaptation of machinery	Production runs too small for thorough automatization
M4	Parts for white goods and spare parts for bicycles and carriages	20	Fixed-term contracts for 2 persons (10%)	Variable element (25 to 30% of wages)	Overtime work (on Saturdays)	Rather specialization than rotation of workers, but workers do know to carry out several operations			
M5	Metal parts and painting processes	27	Fixed-term contracts only during probation period (max. 4 months); Some subcontracting of production processes and services	Variable element (piece rates, approximately two third of production workers' wages)	(Diminishing use of overtime work)				

(table 6.8. continued)

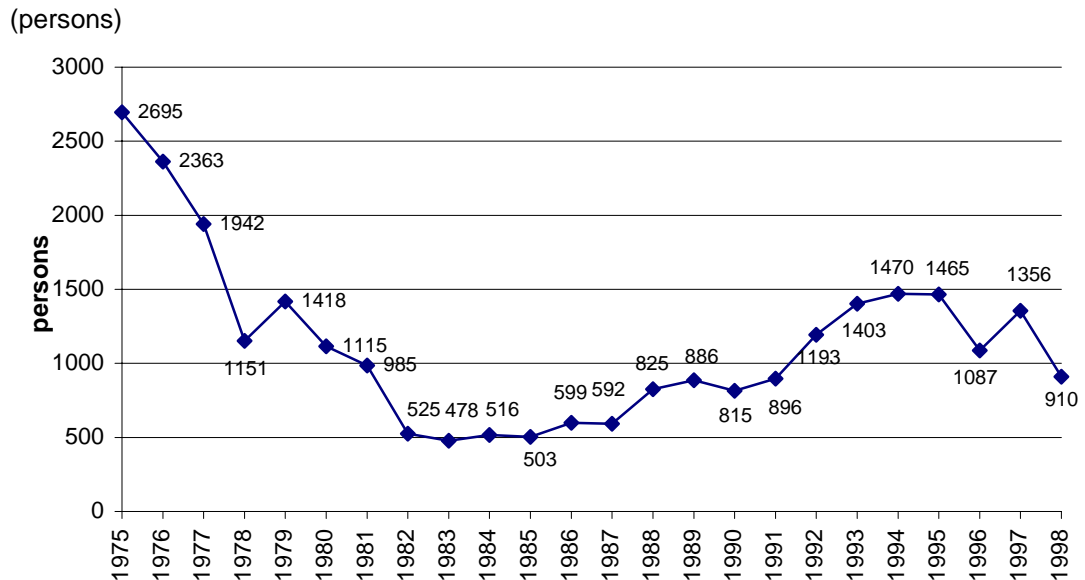
Nr.	Principal activity(ies)	Number of workers	Numerical flexibility	Wage flexibility	Internal flexibility in the amount of labour used	Functional flexibility	Flexibility in the amount, type and quality of output	Flexibility as capacity to develop and adopt new products and processes	Observation on the product characteristics
M6	Metal parts for white goods (esp. for kitchen stoves)	135	Use of fixed-term contracts during probation period of 3 months (7% of work force)	Wage incentives, variable element (30 to 40% of total wages; likely to increase in the future)	Shift work and overtime work (about 6% of total)	(More specialization of production workers, less rotation between posts than before)	Manual installations for small production runs	Own engineering capacities for product development	Generally relatively big production runs; products with tight profit margins. Competition mainly from one national enterprise and imports from Italy and Portugal
M7	Metal parts for white goods and moulds	170	Use of commercial and fixed-term contracts beyond the usual probation period (approx. 20% of work force); Several production tasks subcontracted	Wage incentives, albeit not directly related to production	Shift work and frequent overtime work (8% of normal working hours)	Computerized work force report contains information on each worker's position and helps to organize rotations	(Target is to have longer programming horizons and longer production runs that make more automatized production profitable)	Own engineering capacities for product development	Relatively small production runs, attempt to move towards longer production runs (specialization)
M8	Metal bands and steel hoops	140	Use of fixed-term contracts for probation period of 2 months	Wage incentives; variable element (approx. 25% of total wages)	Shift work (in the enterprise's view, mainly because of technical characteristics of production process)				Some products (some type of metal bands) without domestic competition, but competing imports.
M9	Metal furniture (lockers and shelves)	40	(No fixed-term contracts; yearly turnover approx. 10%)			Rotation for unskilled workers, specialization for skilled workers (welders)			
P1	Plastic parts for white goods and others	49	Several production tasks subcontracted to spin-off enterprises of the same owners	Individual incentive, albeit variable element less important than under previous system of piece rates					no own products
MArg	White goods (domestic freezers) and industrial refrigerators and freezers	305	Fixed-term contracts (work force increases to about 500 during the high season); additional short-term labour through temporary employment agencies	Incentive system causes production workers' wages to fluctuate between US\$ 300 and US\$ 1,100 according to the seasonal fluctuations	Shift work, variable working hours and overtime work (working time from 6 hours per day in low season to 11 hours in high season)	Workers are rotated between different posts of their speciality, although this is not done as a result of a specific policy, but rather on the basis of the production needs	Diminished minimum production batch after rearranging production lines and modules		

Source: Own survey, 1996-1998.

### 6.4.1. Numerical flexibility

Numerical flexibility consists in the adaptation of employment levels to the fluctuating requirements by hiring or laying off workers. Most sample enterprises use strategies of numerical flexibility (table 6.8.). As can be seen from figure 6.14., M1 has experienced enormous fluctuations in its employment levels according to the economic circumstances. These fluctuations are not limited to the restructuring of the 1970s and 1980s. As a reaction to a temporary sales crisis in 1996, the enterprise reduced its employment level by almost 400 persons in three months, but started to hire workers progressively again almost immediately afterwards. Due to the economic downturn in 1998, the employment level has diminished again by more than 400 workers during 1998. In addition to these conjunctural employment fluctuations, M1 also adapts its employment levels to the seasonal variations in the production level.

**Figure 6.14. Employment in enterprise M1, 1975-1998**



Source: Data provided by enterprise M1.

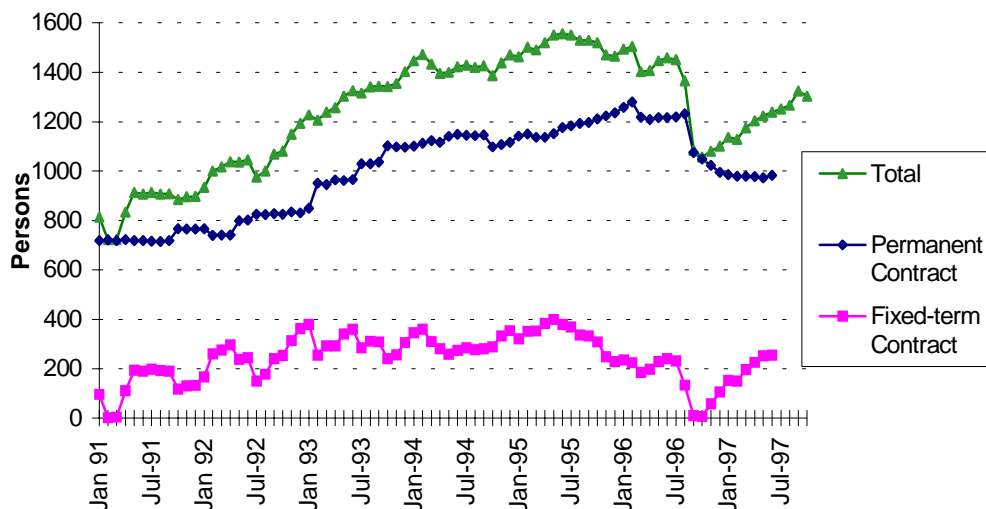
Note: Figures refer to December of each year, except for 1975 and 1976 (yearly averages).

Numerical flexibility is attained by the use of fixed-term contracts which fluctuated between 0 and 31 per cent of the enterprise's total employment during the 1991-1997 period (figure 6.15.). The expiration of fixed-term contracts permits to adapt to the above-mentioned changes in the mix of production and imports as well as to the seasonal and conjunctural fluctuations of sales. The monthly gross exit flow for the fixed-term workers often reaches 10 per cent or 15 per cent, while the exit flow among the permanent workers is less than 1 per cent in most months. As a consequence of the 1996 sales crisis, the enterprise dismissed nearly all fixed-term workers and 13 per cent of permanent workers in September 1996 (figure 6.15.).

Although temporary workers with fixed-term contracts already existed in this industry in 1970 (Díaz, 1992: 32), their share in total employment has increased substantially since then.<sup>236</sup> These fixed-term workers receive lower benefits than the permanent production workers, although some of the benefits beyond the legal obligations, for example the supplements for work on Sundays and the early morning shift, are extended to them.

**Figure 6.15. Employment in enterprise M1 by type of contract, 1991-1997**

(persons, monthly data)



Source: Data provided by M1.

The enterprise is aware of the fact that the high turnover of workers has some negative consequences, but according to one manager, the economic cost of accumulating stock of final products during the low season would be much higher than the cost of workers' turnover.<sup>237</sup>

In M2, the use of fixed-term contracts is less widespread, but new workers are hired during the first six months with such a contract before being hired with an indefinite work contract.<sup>238</sup>

The seasonal and conjunctural fluctuations of the white goods industry and the metalworking industry in general obviously affect the provider enterprises as well.

<sup>236</sup> Moreover, due to the changes in the labour legislation and the weakening of the trade union movement, it has become much easier to dismiss even those workers with an indefinite work contract.

<sup>237</sup> Apparently, the section producing washing machines has a strategy of avoiding excessive labour turnover despite the volatility of the market. Unfortunately, no employment data by type of contract disaggregated by product line are available. In any case, it has to be taken into account that the sale of washing machines suffers less seasonal fluctuations than is the case for refrigerators or stoves (heaters).

<sup>238</sup> Apparently, the labour turnover is still very high. According to the trade union, this is mainly due to the low wages.

This leads to employment fluctuations.<sup>239</sup> Although among the provider enterprises precise data are difficult to obtain, it seems that external flexibility is stronger in M1 than in most of the visited providers. The owner of one of the provider enterprises (M4) explicitly stated that he had been waiting for M1's orders to recover during the 1996 sales crisis in order to avoid the dismissal of workers, but finally had to take the decision of dismissing six workers; a bit later, the orders from M1 increased again and M4 hired four persons.

Several enterprises stated their objective to have a low turnover of workers, but parallelly, some of them use fixed-term contracts as a device of numerical flexibility (M7). This apparent contradiction suggests that enterprises implicitly define a group of core workers who are deemed more essential and are maintained during economic downturns, while other workers are thought to be easier to replace and thus hired on a more volatile basis.

#### **6.4.2. Wage flexibility and pay systems**

All sample enterprises have some variable element in their salaries. Table 6.9. presents the evidence on the pay systems in the sample enterprises. Contrary to the textile and garment industry, the pure piece-rate system, where the incentive is linked exclusively to the individual physical production of the worker, is relatively rare in the metalworking sample. It is used only in some divisions of M5 and for some workers in M2.

As has been discussed previously, piece-rate wages are likely to increase the workers' productivity, but also have a number of drawbacks. According to the manager of M7, "piece-rate wages are the enemy of good quality and cause accidents". That enterprise has thus established an incentive system based on the supervisor's assessment of the worker's attitude. A pure piece-rate system is difficult to implement in a system of production lines (M4) and enterprises are thus forced to use other performance indicators to establish a variable element in their workers' salary.

In most enterprises, the incentive incorporates either collective elements (the performance of a group of workers, or of the whole enterprise) (M1, M2, M3, M5, M8) or the assessment of the worker's performance (such as punctuality, cooperative attitude, quality, etc.) (M7, M9), or both (M4, M6). These systems can ensure the twin goals of productivity and quality better than a pure piece-rate system and at the same time introduce an element of flexibility into the enterprise's wage bill. Typically, the variable element of the production workers' salary accounts for 25 to 50 per cent of the total salary.

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<sup>239</sup> Providers are also forced to accept lower profit margins during economic downturns, adding to the negative impact of lower volumes (M7).

**Table 6.9. Trade union affiliation, pay systems and wages in the metalworking sample enterprises**

Nr.	Number of workers	Existence of trade union and affiliation rate	Management's evaluation of labour relations (very cooperative – cooperative-regular – conflictive)	Strike during last three years	Pay system	Available evidence on wages <sup>1</sup>
M1	1356	2 unions, 57% (76% when fixed-term workers are excluded)	Cooperative	no	Base wage plus collective incentive based on physical production	Production workers around Ch\$ 135,000 (701 persons), skilled workers around Ch\$ 180,000 (163 persons)
M2	640	2 unions, 99% among blue-collar workers, significant share of white-collar workers	Between regular and conflictive	yes	Base wage plus collective incentive for workers on production line, individual piece-rates for workers who produce individual pieces. About 70 per cent of total variable (when production changes, average of last months is paid)	According to trade union 70 or 80% between Ch\$ 90,000 and 110,000
M3	18	no	Cooperative	no	Base wage plus collective (group-based) incentive based on physical production. About 50 per cent of total variable	Production worker about Ch\$ 180,000 (Ch\$ 90,000 base wage and Ch\$ 90,000 incentive); supervisor about Ch\$ 280,000
M4	20	no	Cooperative	no	Base wage plus individual incentive based on performance (presence, punctuality) and production	Production worker between Ch\$ 130,000 and Ch\$ 160,000; programmer about Ch\$ 550,000
M5	27	no	Cooperative	no	Base wage plus individual piece-rates for production workers in metalworking processes (not in painting, where it is difficult to introduce them); base wage plus collective incentive based on sales volumes for white-collar workers	11% of workers below Ch\$ 150,000; 68% between Ch\$ 150,001 and Ch\$ 350,00; 15% between Ch\$ 350,001 and 700,000; 6% Ch\$ 700,001 and more; Average wage for production workers between Ch\$ 180,000 and Ch\$ 220,000
M6	135	no	Between cooperative and very cooperative	no	Base wage plus individual piece rate plus individual incentive based on supervisor's assessment of performance (punctuality, responsible behaviour, etc.) plus collective incentive based on enterprise's performance	Average wage of production workers approximately Ch\$ 150,000
M7	170	no	Regular	no	Base wage plus individual incentive, based not on physical production, but rather on punctuality and cooperative attitude	Lowest wage Ch\$ 93,500; other production workers between Ch\$ 100,000 and Ch\$ 152,000
M8	140	yes	n.a.	yes	Base wage plus collective incentive based on hourly labour productivity	Lowest wage Ch\$ 115,000; average for overall workforce Ch\$ 285,000
M9	40	no	Cooperative	no	Base wage plus individual incentive based on physical production and worker's attitude (punctuality, etc., as evaluated by supervisor)	Lowest wage Ch\$ 82,315 (4 persons), highest wage Ch\$ 724,000 (1 person)
P1	49	yes, less than 50 per cent, inactive	n.a.	no	Base wage plus individual incentive based on physical production on top of an established minimum threshold, variable part accounts for approximately 15 per cent of total	Production workers approximately Ch\$ 120,000 to Ch\$ 130,000; workers in charge of installing moulds approximately Ch\$ 180,000
MAr <sub>9</sub>	305	covered by branch of sectoral trade union	Cooperative	no	Incentive system based on productivity	Production workers' wages fluctuate between US\$ 300 and US\$ 1,100 throughout the year. At the time of visit, 70% up to US\$ 1,000, 19% between US\$ 1,001 and US\$ 2,000 and 11% more than US\$ 2,000

Source: Own survey, 1996-1998.

Note:

<sup>1</sup> Approximate figures, based on interviews with workers and enterprises as well as enterprise documents. In the case of incentive payments "under the table", it was tried to obtain an estimate on effective wages including these payments.



### 6.4.3. Internal flexibility in the amount of labour used

The main devices for the internal flexibility in the amount of labour are changing volumes of shift work and overtime work. Both instruments are very common in Chilean metalworking enterprises. Five of the nine sample enterprises used shift work (M1, M2, M6, M7, M8) and the same number used overtime work in different quantities (M1, M4, M5, M6, M7). The high incidence of overtime work in M1 (15 per cent), albeit based on data for only one month (November 1997) is all the more remarkable as the enterprise used at the same time very intensively temporary employment as a device of numerical flexibility.

### 6.4.4. Functional flexibility

Since the weakening of trade union power after 1973, enterprises have been free to redeploy workers at different posts of the enterprise as they see fit.<sup>240</sup> Collective contracts sometimes contain clauses to protect workers against negative consequences of rotation within the enterprise (e.g. lower wages as a consequence of assignment to a lower-classified post), but do not restrict the right of the enterprise as such. The degree of functional flexibility depends thus mainly on enterprise policies and on the adaptability of the workers' skills.

Several enterprises in the sample use a regular rotation of workers between work posts as a policy to make sure that workers are able to carry out several operations and that they know what happens upstream and downstream the production process (M1, M3, M7, M9). However, enterprises also value specialization and may therefore try to keep rotation to a minimum. This seems to be the case in M6, where less rotation than a couple of years ago takes place. In M9, rotation is used for unskilled production workers, but not for the most skilled workers (welders) who specialize in one specific work post.

In M1, the policy with regards to the rotation between posts depends on the supervisor. In the stoves section, the production manager declared that unlike in the past, nowadays a worker can work everywhere within the stoves section and switch between tasks very rapidly. According to the trade union leader in M1, not all workers are happy to rotate between work posts although the monotony of their task might justify a rotation to introduce some change. In fact, some even feel "exploited" when they have to move between different posts.

In the refrigerator plant of M1, a plan of systematic rotation between posts exists, although its application seems to be somewhat vague. This, as well as the planned participation of workers in quality circles and via other mechanisms, is part of the so-called "productivity project". The declared goal is to form not just "technicians" but "experts" who know how to analyze the problems and find solutions. However, the relationship between management and workers seems to be problematic. According

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<sup>240</sup> Díaz (1992: 30-31) describes how in M1 functional flexibility increased as obstacles towards the redeployment of workers were removed after 1973.

to one interviewed manager, "when you speak about participation, they (the workers) always speak about money" and "it is difficult to obtain an altruistic contribution".

#### **6.4.5. Flexibility in the amount, type and quality of output**

The white goods sector suffers strong market variations. Indeed, the decision to buy a new refrigerator or a new washing machine can be postponed or accelerated according to the economic conjuncture. Several white goods products also suffer strong seasonal variations. For example, refrigerators are mainly sold during a summer season of four to five months, while stoves (heaters) are mainly sold in winter. Moreover, consumers' tastes change rapidly with regards to different models and designs.

Given that enterprises try to reduce their stock to a minimum, they are forced to adapt their amount and composition of output accordingly. Previous subsections have already dealt with M1's and M2's strategies of numerical flexibility in this regard. Another strategy aiming at increased flexibility is the standardization of a maximum number of parts and components between different models and designs. For example, M1 can switch between the production for its two trademarks Fensa and Mademsa within the day without problem.

The choice of the machinery involves a trade-off between flexibility and productivity to which all providers for M1 or M2 are confronted:

- For the production of metalworking parts, all enterprises have "flexible" machines - manual lathes that can be programmed rapidly and are thus suited for small production runs. For example, in M4 it takes 3 to 4 hours to modify the programme for the automatic lathes, but the manual one can be changed much more quickly. The problem is that the high flexibility of this type of manual equipment has its cost in relatively low productivity that makes it unprofitable for long production runs.
- On the other hand, many enterprises have simple dedicated machines, often developed in-house (for example M3). These machines are much less flexible because it takes a relatively long time to adapt them for the production of a different piece. The advantage lies in the relatively high speed that these dedicated machines can attain and that makes them suitable for long production runs. In the case of these simple machines in the sample enterprises, the loading process is manual although the rotation system allows the loading of one piece while another one is being transformed in the machine. More sophisticated systems with automatic loading do of course exist, but are rarely profitable below 150,000 or 200,000 pieces of the same piece or component (M6).
- The modern numerically controlled machines come in as an alternative that combines a much higher speed than manual lathes with much faster programming than dedicated machines. Moreover, these new machines have advantages in terms of precision.

Due to the trade-off between flexibility and productivity, most enterprises see flexibility as a necessary evil rather than a panacea. Enterprises would prefer longer planning horizons and longer production runs (M4). The enterprise M7 already

implemented a longer planning horizon that allows it to improve its productivity performance. M3 and M4 declared that they have to programme their production monthly and cannot programme anything on a medium-term basis, which they would prefer. However, M1 obliges M3 to keep the stock for one month of production. Previously, M1 used to hold that stock, but they now have only one week of stock because it is cheaper for them. M1 has thus transferred the cost of stocking components to their provider.

Moulds have to be changed frequently to produce a different part. In M6, this happens every two to three days and the change takes one or two hours. In M2, the assessment is that it takes half an hour to change a mould, but this setup time could be decreased to five minutes. There is thus a potential for future flexibility gains in the productive sphere.

In several enterprises, although automatic equipment exists, it can not always be fully used because the setup times are longer than for the more simple machines (M3). Thus, a more manual work process is required unless the production run attains a certain number of identical pieces. Components of 20,000 pieces per year do not justify to buy an expensive machine from Europe (M3).

In the productive sphere, flexibility is sometimes hampered by the fact that imported inputs take time to be delivered. Another problem is that the more complicated matrixes are not produced within the country, but have to be ordered abroad.

#### **6.4.6. Flexibility as the capacity to develop and adopt new products and processes**

The capacity of enterprises to develop new products and to adopt new products and processes can be a crucial ingredient of a flexibility strategy that anticipates market changes in an early stage and explores dynamic market segments. The requirements to obtain this type of flexibility lie in the enterprise's engineering capacities, but also in the skills profile of the whole work force, including the production workers.

This flexibility is limited by the fact that the most complex moulds are not produced in Chile. They have thus to be imported, with the consequent delays. For example, in M1, one of the reasons why the production had not yet attained the level the new machinery and plant layout permit, was that some moulds that have to be imported had not arrived yet. Operating in a context without a complete "industrial tissue" of internal backward and forward linkages is not just a theoretical disadvantage, but has very concrete and direct negative consequences.

In Chile, it takes one and a half to four years between the first idea of a new product and its appearance on the market. In other countries, this delay is much shorter, generally less than one year (for example in Japan or South Korea) (Interview, M2; ILADES, 1997: 6).

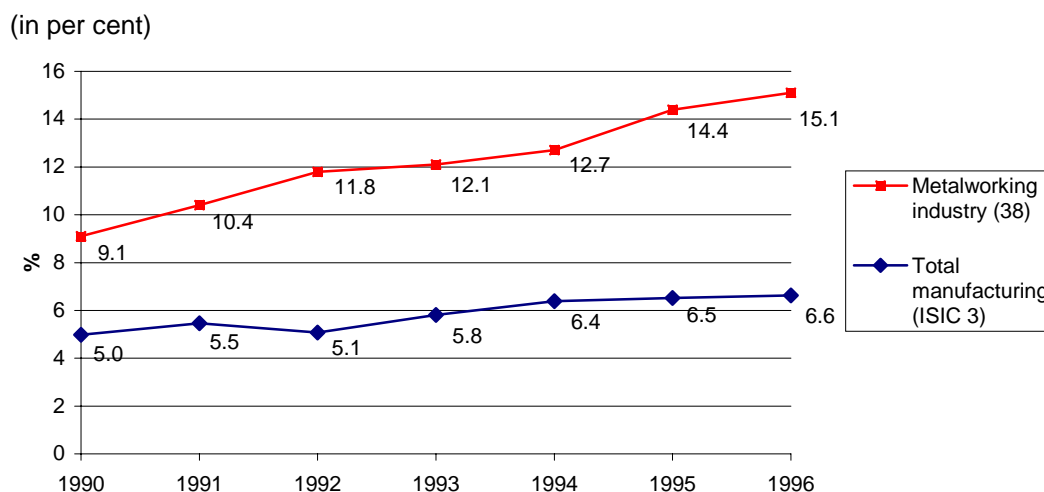
Most of the provider enterprises have in-house capacities for the development of products upon specifications of their clients, and in many cases, they also produce the corresponding moulds in-house (M6).

### 6.4.7. Summary

In several aspects, the flexibility strategies in the metalworking industry are similar to the ones in the garment industry.

Like in the garment industry, numerical and wage flexibility are among the most important devices to adapt to conjunctural and seasonal demand fluctuations. Similarly, metalworking manufacturers have increased their commercial activities. The fact that some enterprises have replaced their own production by imports has also been a subject of concern for the sectoral business association (ASIMET, 1995: 4).

**Figure 6.16. Commercial activity of manufacturing enterprises: resales as a share of total sales, 1990-1996**



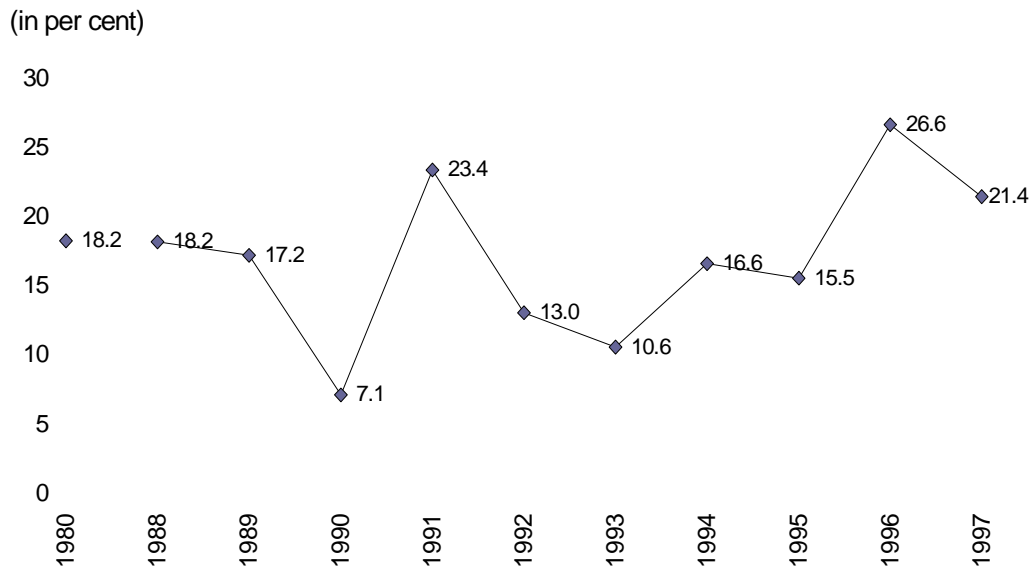
Source: Calculations based on data from the INE (various years): Encuesta Nacional Industrial Anual.

Note: Defined as "products sold in the same state in which they have been acquired" as a share of total income for sold goods and services.

In 1996, more than 15 per cent of all sales of metalworking enterprises were accounted for by the resale of products without any manufacturing transformation. In 1990, this share was still around 9 per cent (figure 6.16.). As in the garment industry, enterprises react to shifts in relative prices by substituting imported products to their own production when the latter becomes less profitable.

In enterprise M1, the share of resales in total sales fluctuated between 8.1 per cent and 26.6 per cent over the last years (figure 6.17.). The enterprise used to import No Frost refrigerators from the Korean enterprises Goldstar and Samsung (these imports have now be replaced by M1's own No Frost refrigerator production) and is still importing, among other products, dishwashers, laundry dryers, combined washing machines/dryers, some types of kitchen stoves and microwave ovens. For several white goods, M1 is not only a main producer, but also one of the main importers in Chile. From 1992 to 1996, a period of strong appreciation of the Chilean Peso vis-à-vis the US\$, the share of imported final products increased considerably due to the rising relative cost of Chilean products compared to imported ones.

**Figure 6.17. Commercial activity of enterprise M1: resales as a share of total sales, 1980-1997**



Source: Data provided by enterprise M1; own calculations.

In M2, the share of imports for resale in total sales is even higher. 45 per cent of sales correspond to imported final products, while 55 per cent are produced internally. The enterprise ceased to produce catalytic stoves, vacuum cleaners and electric blenders - in the case of electric blenders, it has transformed itself into the most important distributor in Chile. Also, the most expensive and modern products, such as automatic washing machines, are imported rather than produced internally. M8 imports plastic bands from Argentina in order to be able to offer a complete collection to their clients.

Compared to the garment industry, it is less frequent that production is contracted out to national providers as a reaction to short-term changes in relative prices. On the whole, the division of work between producers of final goods (M1, M2) and their providers appears to be comparatively more stable over time, and most changes obey to middle- or long-term strategies rather than short-term adjustments. Subcontracting in the metalworking industry is thus not so much a flexibility strategy as a specialization strategy, where the producers of final goods specialize in the assembly process rather than the production of pieces and components.

Compared to the textile and garment sector, metalworking enterprises have a stronger long-term orientation in their flexibility strategies. There is thus a stronger emphasis on the production-related aspects of flexibility. Enterprises invest in new flexible numerically-controlled machinery in order to introduce more flexibility into the productive sphere, and most enterprises (even among the smaller providers) have a relatively strong engineering capacity to be able to adapt production processes to changing circumstances and to develop new products.

Despite these efforts, Chilean enterprises are much slower in developing new products than South Korean enterprises, which are in direct competition with them in the Chilean domestic market. Some examples from the field research also suggest

that Chilean enterprises are relatively slow in fine-tuning new technologies and new production processes.

There are several explanations for these limitations in productive flexibility:

- Chile does not have a domestic industry for most required capital goods and for the production of highly complex moulds. Both are needed in the metalworking industry, and importing causes delays.
- As has been mentioned in previous sections, production workers do not actively participate in shaping innovation processes. They may thus be less motivated to make innovations work than would otherwise be the case.
- Several of the sample enterprises use a lot of temporary workers in order to obtain numerical flexibility. The fact that the workers pursue mainly short-term interests and not the longer-term interests the enterprise would like them to pursue can at least to some degree be attributed to the lack of workplace stability. Moreover, an excessive turnover can erode the skill development of the enterprises' workers.

Thus, while productive flexibility is also an explicit goal of the enterprises, it is sometimes contradictory to the use of strategies of commercial and administrative flexibility. It is fair to say that some of these obstacles go beyond the horizon of the individual enterprise and rather lie in institutional factors. Metalworking enterprises work like textile and garment enterprises in a context that favours short-term adjustment strategies more than long-term development strategies. Unfortunately, the strong use of these short-term strategies can make it difficult for enterprise to undergo the learning processes that are necessary for the successful use of long-term strategies. The excessive use of short-term adjustment strategies may thus become a development trap for Chilean enterprises in the long term.

## **6.5. Productive chains, subcontracting and regionalization**

The last sections of this chapter have analyzed the innovation (6.3.) and flexibility (6.4.) strategies of the sample enterprises. Although the analysis has already occasionally touched upon issues such as subcontracting, provider development and regional expansion strategies, the main focus has been on the individual enterprises without going into the details of the links that exist between them and that determine to a large extent the outcomes of such strategies.

In order to complete the analysis, this section thus deals with the way the enterprises are interrelated. The following subsection (6.5.1.) deals with the subcontractor chains between the two white goods manufacturers M1 and M2 and their providers. Special emphasis will be given to one intent to make these relations more efficient, namely the provider development scheme aiming at improving the quality control system *pase libre*. Subsection 6.5.2. then analyzes in more detail the regional strategies of the Chilean white goods industry, specifically the relationship between M1 and the Argentinian enterprise MArg that has been acquired by M1 in 1994 and the innovation and flexibility strategies applied within MArg.

## 6.5.1. Subcontracting chains and provider development

### 6.5.1.1. Enterprise M1

The enterprise M1 was created in 1975 following the merger of two white goods enterprises, Fensa and Mademsa. Although the history of Fensa goes back as far as 1905, the production of refrigerators started in 1950 and in 1956 the enterprise started to produce under the licence of the US company Whirlpool. During the government of the *Unidad Popular*, both enterprises became part of the state-controlled sector (*Area de Propiedad Social*). The new enterprise authorities attempted to rationalize the production. For example, in FENSA, the engineers successfully streamlined the production lines. However, the enterprise ended up with a 15 per cent excess labour, given that for social reasons no dismissals took place during that period (Díaz, 1992: 20).

After 1973, the production was reorganized according to tayloristic principles, and the employment level was reduced drastically. As a result, labour productivity increased strongly even though the intensity of technological innovations was relatively low. This process of rationalization is consistent with the general tendencies described for the manufacturing industry in section 4.1.1.

Parallel to this rationalization process, the enterprise adopted a specialization strategy by virtue of which the number of different products and the degree of vertical integration decreased (Díaz, 1992: 26).<sup>241</sup> The enterprise also subcontracted services like security, cleaning and lunch facilities.

More recently, a new outsourcing campaign has been launched in 1996. In that year, a fundamentally new step was made with the subcontracting of the stock administration. This means that an external enterprise is in charge of receiving inputs from providers, stocking them and bringing them to the production line at the right time. This modification is assessed very positively by the management: the losses of material have decreased, and the subcontracted enterprise is acquiring a level of specialization that makes it superior to what could have been done internally. Although this enterprise was created with workers from M1 who were in charge of stock control before, it is now able to propose its services to other enterprises (although they have a prohibition, by contract, to work with other white goods producers). In terms of employment quality, these workers were transferred from M1 with the obligation for the new enterprise to maintain the same wage levels and benefits for at least three months. The only change that may have occurred immediately was related to the health scheme. For the future, the subcontracting of other services is planned, for example informatics and the administration of imports.

Currently, M1 has a strategy of subcontracting everything except the most critical elements such as the refrigeration foam, painting and enamelwork. Beyond these

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<sup>241</sup> However, while the long-term comparison between 1970 and 1990 suggests a relatively coherent process, the more detailed historical research by Vera and Katz (1995) reveals the fluctuations in the process of changes, especially as a result of the 1982 recession. During the 1982 to 1986 period, the number of products increased, the enterprise returned to very small production runs and production systems that used the handicraft type of work organization of the 1960s and early 1970s.

elements, the enterprise focuses on assembly. Technologically complex inputs are either imported or bought from national providers, and there is no sign that M1 aims at increasing the internal production of such inputs.<sup>242</sup>

Despite the decrease in vertical integration and the increasing reliance on subcontractors and imports for parts and components, by the early 1990s, M1 had not yet established a solid network of reliable providers (Díaz, 1992: 27). The existence of competent providers becomes a crucial condition for the competitiveness of M1.<sup>243</sup> For this reason, the enterprise has taken several initiatives of provider development. In some cases, M1 has itself encouraged the setup of provider enterprises; for example, the owner of M3 is a former worker of M1 who has been encouraged to set up the enterprise. Another activity within the context of provider development are anticipated payments, especially when new products are introduced (M7).

But the most important initiative is without a doubt the *pase libre* programme that M1 has initiated with the public support by SERCOTEC.<sup>244</sup> Within this provider development programme, a certain number of selected providers introduce a system of quality control that enables them to be certified as a reliable provider and deliver their parts and components directly to the production line instead of going through the normal quality control on delivery to M1. The system permits to trace back any deficient part in order to know when it was produced and who did it. For those enterprises that had already introduced a good system of quality control, the main change was not the quality control as such, but rather the record-keeping (M4).

On the whole, this programme has given good results and 21 providers have already been certified. Most participants value highly M1's approach to quality control and the common working programme for the *pase libre* scheme. For example, M3 participated in the provider development programme with M1 and SERCOTEC (they had to cover one third of the cost, Ch\$ 800,000 out of Ch\$ 2,400,000) and see the results as highly positive: "We are satisfied with what we learned". M4 also participated in the *pase libre* programme (partly financed by SERCOTEC). They went to visit M1 together with production workers; this increased their motivation because now they know where the pieces are going. Both M3 and M4 have been certified under the *pase libre* scheme. Some providers also declare that there have been beginnings of a more fluid dialogue between them and M1 on the product characteristics (M7)

It has to be added, however, that this constructive approach towards provider development was not shared by all departments in M1, leading sometimes to

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<sup>242</sup> M1's subcontracting and provider development strategy incorporates foreign enterprises. The enterprise is in discussion with a Brazilian enterprise with free productive capacities to develop it as a provider for some inputs (different types of painted steel). Some parts are produced in Taiwan with a mould provided by M1. Adding up the different production lines in M1, imports account for 52 per cent of all inputs.

<sup>243</sup> It is obvious that the relationship with M1 is also crucial for many of the providers, as can be seen from the high share of M1 and M2 in their total sales (see table 6.1.).

<sup>244</sup> This public support for a Programa de *Desarrollo de Proveedores* is available for groups of at least one client enterprise and ten provider enterprises. The public support consists in a subsidy for the activities of provider development undertaken within the programme (up to 60 per cent of the total cost during the first one and a half years, up to 50 per cent during the following two years).



contradictory enterprise policies. At one point, M1 even interrupted for some time its formal participation in the provider development programme with SERCOTEC due to internal conflicts.

The sometimes contradictory attitude of M1 with regards to provider development is also reflected in interviews with the providers. Several providers think that M1 has not always a consistent attitude when it comes to other elements of its dealings with providers:

- M3 used to have a contract with M1 that made it the only provider for this type of input. However, the contract expired and M1 is currently developing other providers for the same kind of input. M3 criticizes the short-term perspective in M1: "They want a cheap kitchen stove here and now". Several providers criticize an excessively short-term approach to prices, leading client enterprises to be ready to buy from "a person in his backyard" if that person is able to offer at a lower price (M7). They see M1's attitude in this regard as contradictory: on the one hand, they want lower prices, but on the other hand they want to divide their sourcing between several providers, making it more difficult for each of them to produce at low cost. This can be interpreted as an indication that M1 relies more on pure market regulation (competition between different providers and strong bargaining position) than on more institutional mechanisms (increasing the providers' productivity through cooperation strategies) for obtaining low input prices. On the whole, provider development is often driven by circumstances rather than strategy. However, M1 does help punctually lending machinery or with anticipated payments.
- As one professional in M1 admits, the trade-off between national and imported inputs is not always well analyzed. While the direct cost may often appear lower for the imported input, there are more dynamic considerations, for example the benefit of common learning processes with local enterprises and resulting improvements, that are not systematically taken into account. In this sense, a more decisive support for national providers could be economically beneficial if a medium- or long-term perspective is taken.
- M1 aims at having several providers for each input in order not to be too heavily dependent on a single provider. There are however several inputs for which M1 has not managed to find more than one provider that satisfies the quality requirements (M5).
- The enterprise M3 has its own engineering capacity but complains that it often lacks a competent partner in M1 for discussions regarding engineering issues. In fact, M3's relationship with some persons in M1 is very good, while it is more distant or conflictive with others.

Despite these problems, the provider development programme between M1 and its providers with the support of SERCOTEC is an ambitious initiative, at least in the Chilean context where competition between enterprises is generally valued higher than cooperation. The results are clearly positive with regards to the direct goal of improving the quality control in M1's providers and make the direct delivery on the production line possible. It is however still too early to assess whether there are sustainable positive side effects for the cooperation between M1 and its providers in

other fields such as the development of process technologies, and whether the example will encourage other enterprises to take similar initiatives.

#### **6.3.1.1. Enterprise M2**

Like M1, M2 declared that less and less specific inputs are produced within the enterprise. Roughly 45 per cent of all inputs are imported, 15 per cent produced inside the enterprise and 40 per cent bought from national providers. Four years before the survey, the share of inputs produced within the enterprise was still 20 per cent and the share from national providers only 35 per cent. Examples of activities that have been externalized are the manufacturing of some components and the preparation of cables.

The general enterprise strategy is to have at least two providers for each product, but as in the case of M1, it is sometimes difficult to identify two enterprises that satisfy the requirements in terms of quality, delivery and price. The providers do not rely exclusively on sales to M2 either.

There are some examples of provider development. The enterprise has already given technical assistance to its providers, but there is no formalized programme as is the case for M1.

#### **6.3.1.2. Some comparative elements**

Several of the providers sell parts and components both to M1 and M2. Working for M1 and M2 simultaneously can lead to economies of scale, given that the required parts are often quite similar. For example, the burner tap produced by M6 (based on an original Italian design) and sold to M1 and M2 is different only in its polishing.

In the context of this study, these provider enterprises are interesting because they can compare the experiences they had in dealing with M1 and M2. M7 works for M2 mostly on moulds and not on parts and components because in its view, M2 pays too low prices for pieces and components while M1 has higher quality requirements than M2 and is ready to pay for it. For M6, on the contrary, M1 and M2 pay similar prices and have similar quality standards. Both enable M6 to have a planning horizon of several months. The contact is easier with M2 because employees have more power to take quick decisions, whereas relations with M1 are seen as more bureaucratic.

Most of the providers are sufficiently independent to buy the inputs they need by themselves, rather than obtaining them from M1. However, there are exceptions due to the fact that M1 as a big client is sometimes able to negotiate better prices and conditions than a small or medium enterprise would be able to (M2, M3, M6). This is especially the case with imported inputs, such as aluminium pipes from Italy or Brazil (M3)<sup>245</sup>. Providers do not necessarily want their clients to supply them with

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<sup>245</sup> M3 had previously used domestically produced aluminium pipes, but had to switch to imported inputs due to quality problems.

raw materials because this is sometimes interpreted as a strategy to control the prices (M2).

Neither M1 nor M2 has currently written contracts with its providers. M1 used to have contracts, but has apparently abandoned this practice (M7). To some extent, long-term relationships are constructed informally through the direct work relationship. It is nevertheless characteristic that both M1 and M2 are reluctant to take any firm long-term commitment with their providers. This strengthens the providers' perception that they cannot rely on the business relationship because the clients would easily move to a different provider if the opportunity arose (M6).

## **6.5.2. A regional expansion strategy: the Chilean white goods industry in the Mercosur**

### **6.5.2.1. Introduction**

Although the major part of Chile's exports goes to Asia and the European Union, Latin America has an important role to play in the strategies for a "second export wave". Compared to exports to other regions, exports to Latin America have a higher share of highly processed manufacturing products. Metalworking exports are one important component of this type of exports (ProChile, 1999b).

It is in this context that Chile associated itself with the Mercosur in 1996. According to the association treaty, the Mercosur countries (Argentina, Brazil, Paraguay, Uruguay) will gradually open up their markets for Chilean products. This is especially important for the Chilean white goods industry where the limited size of the domestic market is a serious obstacle for the increase of production necessary to benefit from economies of scale.

Although the opening up of the Mercosur countries to Chilean exports has been more difficult than expected, there are continuous advances in this area. The importance of the region becomes obvious when the size of the Chilean market is compared to the Argentinian and Brazilian markets. For example, about 280,000 refrigerators were sold in Chile in 1996, while the market size is between 600,000 and 800,000 units per year in Argentina and about 3,500,000 in Brazil.<sup>246</sup> In 1998, 85.5 per cent of Chile's exports of refrigerators went to Argentina, and another 12.5 per cent went to other Mercosur countries (table 6.2.).

The opening up of the Mercosur market is thus an opportunity for the Chilean white goods producers, but also for their providers. While most of the provider enterprises would possibly benefit from the increased exports of the Chilean white goods manufacturers by providing inputs to them, some are considering direct exports. For example, M6 sees more opportunities than risks because it considers that it produces at competitive prices and with better quality than most Mercosur competitors. M6 has already started negotiations with one Brazilian enterprise. This enterprise produces

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<sup>246</sup> Data provided by M1 and ILADES (1997: 14).

250,000 kitchen stoves per month, compared to M2 with 5,000 to 6,000 and M1 with 20,000.

#### **6.5.2.2. The enterprise M1 and its regional expansion strategy**

M1 has recently begun a commercial strategy of "regionalization". In the context of this strategy, commercial links with the Mercosur countries and Peru have been intensified; total exports have grown from US\$ 4.2 millions in 1993 to US\$ 16.7 millions in 1998. The main destiny of exports in 1998 was Argentina (US\$ 14.7 millions), while the remainder went mainly to Uruguay, Peru, Bolivia and Belgium.<sup>247</sup> Interestingly, the growth of exports continued even during the years 1996 and 1998, when domestic sales declined. The take-over of MArg enabled M1 to export Chilean products to Argentina under the Argentinian trademark owned by MArg.<sup>248</sup> At the same time, MArg was able to increase its exports to Chile by producing under the established Chilean trademarks of M1.

One of the goals of M1 is to start to export to Brazil, too. This is a major challenge, due on the one hand, to the size of the Brazilian market, and on the other, to the still relatively strong protection of the Brazilian market and the competition from much bigger Brazilian manufacturers which are allied with multinational enterprises.

If M1 is successful in developing its market in the whole Southern Cone of Latin America, the enterprise could consider producing several products that are currently imported for commercialization under its own trademark, such as laundry dryers or microwave ovens.

The next subsection looks briefly into the innovation and flexibility strategies applied in MArg.

#### **6.5.2.3. The enterprise MArg and its innovation and flexibility strategies**

As mentioned above, in 1994, M1 acquired MArg, an Argentinian enterprise (created in 1983) located in the town of Rosario and specialized in the production of refrigerators for commercial purposes and freezers for both domestic and commercial use. The product lines for commercial purposes are generally produced on order and in shorter production runs, while those for domestic use are produced in longer production runs.

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<sup>247</sup> Trade data were provided by the enterprises under study or taken from the DICOM (1999) database.

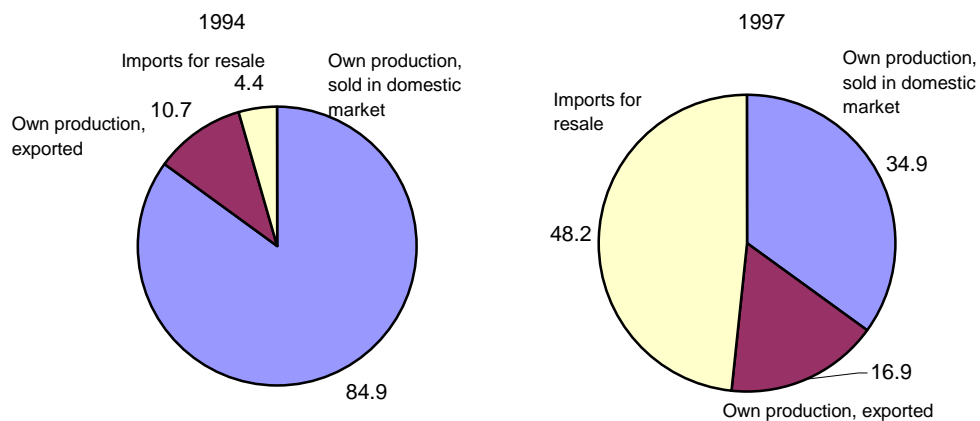
<sup>248</sup> The fact that Chilean retail chains and supermarkets have started to set up affiliates in Argentina may provide another specific entry point for Chilean exports to that country (ILADES, 1997: 22, 33).

In these products, MArg is the market leader in Argentina and an important player in several Latin American countries.<sup>249</sup> MArg has been included into the study with an enterprise visit and several interviews during two days in January 1998. The inclusion of MArg into this study permits, first, to shed some more light on M1's regional expansion strategy and, second, to carry out some simple comparisons between M1 and MArg. These two enterprises belong to the same owner and to the same industrial sector, but are situated in two countries and thus in two different institutional contexts.

The association with the Chilean enterprise M1 has enabled MArg to substantially increase its exports. While MArg exported 11 per cent of its production in 1994, this share increased to more than 30 per cent during the years 1995 to 1997. At the same time, the enterprise also serves as a channel for M1's exports from Chile to Argentina. Figure 6.18. shows the fundamental shift in the MArg's total sales between 1994 and 1997. In 1994, almost 85 per cent of the sales corresponded to the enterprises' own production that was sold on the Argentinian domestic market. In 1997, this share has declined to 35 per cent, 17 per cent were exports and 48 per cent were resales of imports (predominantly produced by M1).<sup>250</sup> With the imported goods from M1, MArg has broadened its offer to include different products for domestic use.

**Figure 6.18. Productive and commercial activity, enterprise MArg, 1994 and 1997**

(share of total sold units in per cent)



Source: Data provided by enterprise MArg.

The enterprise has recently been very dynamic in its **innovative strategies**, especially since the takeover by the Chilean enterprise M1. With regards to the technology in use and the production processes, the starting point is however somewhat below the level in M1. In some cases, equipment which is not in use anymore in M1 has been

<sup>249</sup> In 1997, MArg held a share of 38 per cent in the market of these products in the Argentinian market. In the combined export markets of Chile, Brazil, Uruguay, Paraguay and Bolivia, it held 15 per cent market share for the type of commercial refrigerators it produces, 8 per cent for commercial freezers but only 0.4 per cent for freezers for domestic use.

<sup>250</sup> Some models of vertical freezers for domestic use are imported from South Korea and Japan.

transferred to MArg where it still implies an improvement compared to the previously used technology.

The two production plants of the enterprise, located at short distance within the same town, share similar levels of technology, but have important differences in their layout. While the first plant has already been reorganized into a rational structure of productive cells, the second plant appears quite randomly designed and so does the productive flow through the plant.<sup>251</sup>

Like M1, MArg has subcontracted most of the pieces and components to external providers. The work with most providers is characterized by long-term relationships with technical assistance to providers, but, like in M1, there are no written contracts with them. For some inputs, MArg uses multi-sourcing as a policy, while others come from only one provider. Some more tasks of low value added will be subcontracted in the future. Conversely, the production of plastic parts, formerly acquired from external providers, has recently been integrated into the enterprise.

MArg is quite active in its training activities. The enterprise departments have their training budget which is mostly spent for computer courses and training on new machines. However, the enterprise admits that there is still no coherent training policy. The enterprise has already carried out a survey on training needs that will help in the systematic and decentralized detection of training needs and in the formulation of a new strategy.<sup>252</sup> In order to contribute to the development of a new training strategy, the enterprise has set up a special training commission. This training commission is one of several thematic commissions that have been introduced to develop strategies on a series of crucial issues for the enterprise. It is interesting to note that the participation in these commissions is voluntary and open. This means that production workers who are interested in one of the issues dealt with in the commissions are invited to join it. This approach is more participatory than in any of the Chilean sample enterprises.

The sale of freezers has extreme seasonal peaks. As a result, the sales of the enterprise in November and December are more than three times higher than in February and March (figure 6.19.). The enterprise responds to these fluctuations via a high degree of numerical flexibility, internal flexibility of the amount of used labour and wage flexibility.

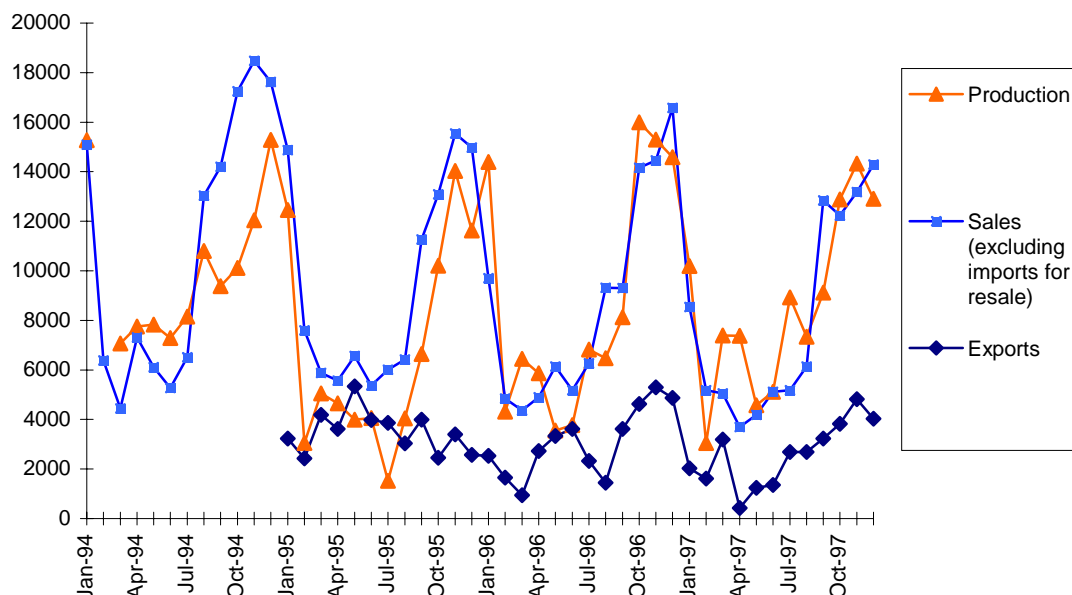
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<sup>251</sup> The description of the historical changes in the organization of M1 (Díaz, 1992; Katz/Vera, 1995) suggests some similarities in layout between the enterprise M1 during the 1980s and the second plant of MArg during the enterprise visit in January 1998.

<sup>252</sup> Before carrying out the survey, the enterprise, as one employee put it, "did not know its workers" with regards to their training needs and capacities. The absence of a coherent strategy is also illustrated by the fact that at the time of the enterprise visit, no statistics on training activities were available. The minimum educational requirement for joining MArg is complete primary education (seven years) and the ability to read and write. For posts of skilled production workers, a technical school diploma is required.

**Figure 6.19. Seasonal fluctuations of sales, production and exports of enterprise MArg, 1994-1997**

(units, monthly data)



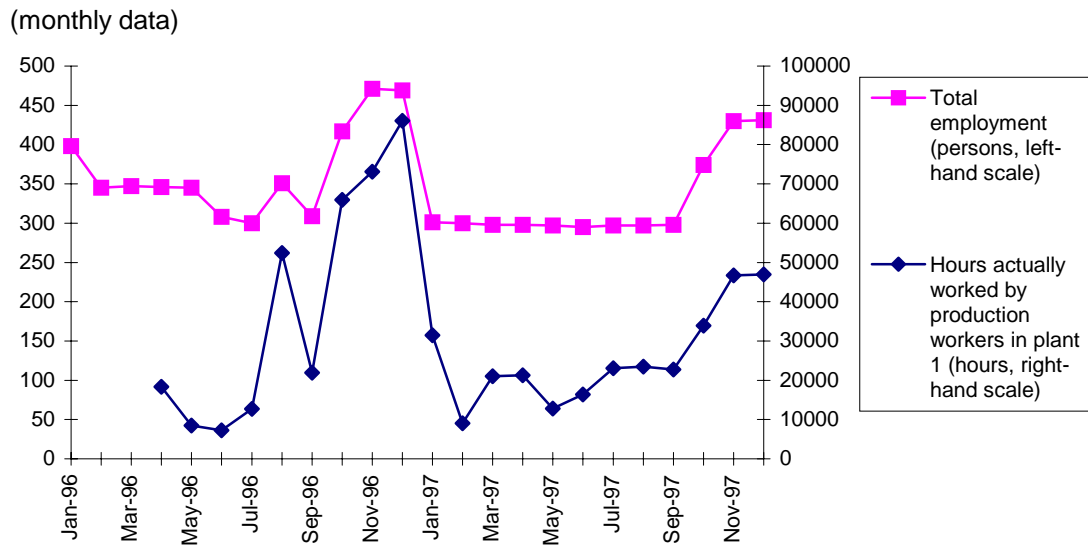
Source: Data provided by enterprise MArg, 1998.

**Numerical flexibility** is obtained mainly through the use of temporary workers.<sup>253</sup> The work force, which amounted to 305 persons at the moment of the enterprise visit in January 1998, has fluctuated between 298 and 431 during 1997 (figure 6.20.).

The use of temporary workers as such is nothing new in the enterprise where, due to the type of production, this device has always been used to cover seasonal fluctuations. What has changed, however, is the legal status of the temporary workers. The new legislation on the probation period of three months (Paragraph 92 bis of the Argentinian labour legislation) has given the enterprise a tool which offers the advantage of lower social security contributions. Now, temporary workers who have already been working for the enterprise are under the system of fixed-term contracts, while the first time workers work under the special status of the probation period. Some of the workers under probation status are then retained for permanent posts. In addition to this, workers are hired through two temporary employment agencies (one for specialized labour, one for unskilled labour) in order to cover short production peaks of a few days and replacements in case of accidents and unplanned absence. The temporary workers with a fixed-term contract earn 20 to 30 per cent less than the permanent workers, while those on probation status earn around 40 per cent less than permanent workers.

<sup>253</sup> This is however not the only strategy to achieve numerical flexibility. In 1996, the enterprise's spending on commercial contracts (*honorarios*), services contracted from third parties (*servicios de terceros*) and external labour force (*mano de obra de terceros*) amounted to the equivalent of 10 per cent of the spending on salaries and social security contributions.

**Figure 6.20. Seasonal fluctuations of employment and hours actually worked in enterprise MArg, 1996-1997**



Source: Own survey, data provided by enterprise MArg, 1998.

As in the case of the Chilean M1, the widespread use of temporary workers has some inconveniences related to the skills level and the work motivation. Although fixed-term workers follow a short induction course, they are obviously not as familiar with the production process as the permanent workers are. Moreover, one manager stated that "they have a different type of mentality". This remark refers to the lesser degree of identification with the enterprise goals, a difference which in fact is not surprising, given the expectation of a short tenure in the enterprise for most of them and the lower salaries.

The **flexibility in the amount of labour used** is obtained by varying patterns of shift work and overtime work. While these are close to zero during the low season, overtime and night work can come close to 50 per cent of the total hours worked in production during the seasonal production peaks. Most workers work up to 11 hours a day during the high season, but only six to nine hours during the months of low production. The combined effect of these worktime arrangements, holidays during the low season and the hiring of temporary workers during production peaks is a huge variability in the number of hours actually worked (figure 6.20.).

**Wage flexibility** is attained through variable wages with an extremely high incidence of overtime pay and a production-related incentive causing wages to fluctuate between US\$ 300 to 400 during the low season to up to US\$ 1,100 during the high season.<sup>254</sup>

With regards to the **flexibility in the amount and composition of output**, the enterprise can quickly change its composition due to the fact that one production line is dedicated to the production of more standardized models, while another line is producing multiple models in small production runs. There is also some degree of

<sup>254</sup> Modifications of the pay system were under study at the moment of the enterprise visit.



**functional flexibility.** Workers are easily redeployed to different work posts, although rotation is not an explicit enterprise policy.

It would be convenient to produce a good with less seasonal variation in order to "smoothen" the fluctuations in the volume of production. In principle, increasing exports could also help in this regard under the condition that the destination countries have a different climate and thus different seasonal demand peaks. For the time being, however, export sales often have their peak at the same period as the national sales and they are thus not contributing to smoothen seasonal fluctuations (figure 6.19.).

Although the description of one particular Argentinian enterprise (MArg) cannot be generalized, at least two conclusions can be drawn with regards to the similarities and differences between Chilean and Argentinian enterprises:

- The degree of wage flexibility and numerical flexibility in MArg show that these strategies are by no means limited to the Chilean institutional context.
- Compared to all Chilean sample enterprises, MArg has a stronger emphasis on participation and a weaker emphasis on discipline.

On the whole, the takeover of MArg by M1 is an interesting example of a regional expansion strategy that benefits both sides. Moreover, given the slightly different specialization of both enterprises, they complement each other and the merger did not cause dismissals.

As is often the case when a foreign direct investor takes over an enterprise, there have been some misunderstandings and conflicts of interest between the new Chilean top management and the rest of the enterprise work force. According to one manager, in the beginning, there was a strong vision of "them and us" between Chileans and Argentinians. This feeling was strengthened by the fact that the new Chilean management has prohibited some types of behaviour that had become common, such as the use of radios and cassette players at the factory work place.<sup>255</sup>

According to the Chilean manager, while "the Chilean blue-collar worker comes from a lower class background, the Argentinian blue-collar worker is a middle-class person". This reference to a middle-class attitude implies that the Argentinian blue-collar workers will more readily speak out when they feel that their rights are not respected, and that they are more open to discussions. According to the same manager, Chilean blue-collar workers are generally more obedient and less open to an open exchange with their superiors.

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<sup>255</sup> Despite these restrictions imposed by the new Chilean top management, the labour relations in MArg are still somewhat more relaxed and less hierarchical than in the Chilean sample enterprises. For example, during my visit to the production plants, one production worker was singing aloud in the production plant, something I had never seen in any of the Chilean textile, garment and metalworking enterprises I visited.

## 6.6. Employment quality

This section presents some evidence on the employment quality in the metalworking sector. Subsection 6.6.1. summarizes some of the findings from the enterprise visits and interviews in the sample enterprises, while subsection 6.6.2. uses the representative household survey CASEN to obtain a statistical description of some dimensions of employment quality.

### 6.6.1. Evidence from the sectoral case study

The enterprise visits and interviews provided evidence on some dimensions of employment quality:

- Like in other sectors of the Chilean economy, the reliability of employment and income (job security) has decreased since 1973. The widespread use of temporary workers with fixed-term contracts is one of the main reasons for this decrease. In most enterprises, temporary workers receive lower salaries and social benefits than permanent workers.
- The degree of compliance with the minimum standards fixed in the labour legislation is better than in the textile and garment industry.
- The changes in the work organization have generally increased the intensity of work in the Chilean metalworking sector.
- There has been no systematic improvement in the interest of the work. Many production workers still work in monotonous tasks of loading and unloading, and only a minority participates in the more skill-intensive tasks of programming and planning.

With regards to the **physical conditions of the workplace**, it can be observed that the physical conditions in the bigger enterprises are more conducive to the workers' wellbeing than in the small ones. This is not surprising and corroborates the observations made in the textile and garment industry.

Having deficient physical installations is however by no means a fatality for smaller enterprises. For example, the enterprise M4 has excellent sanitary installations and lunch facilities despite its small size. According to the owner, "there is no reason why the workers should have dirty toilets and eat between the iron parts". Thus, the management's priorities in this area do make a difference for employment quality. M7, one of the bigger provider enterprises in the sample, has also made strong efforts to offer a modern work place with clean, bright, pleasant and well-decorated facilities. Workers also wear more protection elements than in other enterprises in order to reduce the risk of accidents.

On the other hand, M6, despite being relatively big and using advanced technology in some parts of the enterprise, is characterized by a relatively untidy appearance, deficient light and less satisfying conditions of the enterprise's facilities.

With regards to **representation mechanisms to defend the workers' interests**, three enterprises in the sample have an active enterprise trade union (M1, M2, M8)

(table 6.9.). Interestingly, in the biggest enterprises without trade union, an explicit anti-trade union attitude and policy has been identified (M3, M4). In M6, management holds regular meetings with all staff, but tries to avoid the creation of collective mechanisms. It fears that a trade union would protect the "bad" workers at the expense of the "good" ones. Also, in M6's view, a trade union can easily become politicized. In M7, a trade union does still formally exist in one enterprise that has recently been acquired and incorporated into M7. However, the trade union will finish its activity as it is "a policy of the enterprise that there is no trade union" (!).

In M1, the last strike dates back to 1991. The relationship between trade unions and management is relatively good as can be seen from the incorporation in the development of a joint training programme and the fact that management hands out written information on specific economic and technological issues to the trade union leaders on request.

In M2, the two last collective bargaining rounds ended with a strike. More recently, the relationship between management and trade unions in M2 has improved somewhat as there is more communication. However, management and trade unions agree in that labour relations are far from satisfactory. While workers complain about low salaries, the management complains about the workers' lack of identification with the goals of the enterprise. The organization principles are quite hierarchical.<sup>256</sup> With regards to information on economic and technological issues of the enterprise, the management only shows information without leaving copies at their disposal. According to the trade union, the enterprise should adopt a more open information policy. This does not mean that the trade union wants to get involved in the management of the enterprise. The relationship between the two trade unions in M2 (one for blue-collar workers, the other one for white-collar workers) is far from satisfactory. The leadership in the blue-collar union complains about the disinterest of the workers: "They are not interested in anything" ("*No están ni ahí con nada*"). For example, they did not want to have a party to celebrate the birthday of the trade union but rather preferred a voucher of Ch\$ 5,000 to be spent in a supermarket.

The contents of the collective agreements in M1 and M2 show that collective bargaining ensured in both cases several benefits that go far beyond the obligatory benefits according to the labour law.

In M8, the trade union has been weakened by a recent strike. After 40 years without strike, the strike experience has had a strong impact on the work atmosphere which was still relatively tense at the moment of the enterprise visit. During the strike, the enterprise continued to work with those workers who were not affiliated to the trade union. Finally, the workers had to accept the enterprise' offer. As the enterprise "won" the conflict, the trade union has been weakened and lost some of their members.

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<sup>256</sup> In fact, according to the internal regulations of M2, the first obligation of workers is to "be respectful with superiors and follow their orders" (M2, *Reglamento Interno de Orden, Higiene y Seguridad*).

## 6.6.2. A statistical analysis

The previous subsection provided some evidence on how the strategies in a sample of Chilean metalworking enterprises shape the employment quality for their workers. However, as in the case of the textile and garment industry, it is useful to complete the case study approach of enterprise visits and interviews with statistical data that have a more representative coverage. The figures are based on special tabulations from the CASEN 1996 for the metalworking sector (ISIC 38).

The composition of metalworking employment in terms of employment categories is similar to the total manufacturing sector. 63.5 per cent of employment corresponds to salaried workers in permanent employment and with written work contract. Temporary employment and salaried employment without written contract account for 6.1 and 13.0 per cent respectively. Unlike the textile and garment industry, female employment in the metalworking industry has a higher-than-average share of permanent salaried employment with written work contract (table 6.10.). The explanation may lie in the fact that women in the metalworking industry are predominantly concentrated in administrative tasks that suffer less employment fluctuations than the production itself. In any case, women account for a small part (12 per cent) of the sectoral employment (table 6.6.).

**Table 6.10. Employment in the metalworking industry by category and sex, 1996**

(share in %)

	Metalworking industry (ISIC 38)			Total manufacturing (ISIC 3)		
	Total	Men	Women	Total	Men	Women
Salaried workers in permanent employment with written work contract	63.5	63.1	72.6	62.1	66.3	51.0
Salaried workers in temporary employment with written work contract	6.1	6.4	0.4	5.3	5.5	4.5
Salaried workers without written work contract	13.0	12.7	16.8	13.9	14.0	13.8
Self-employed workers	12.1	12.4	6.0	14.8	10.2	26.9
Employers	5.3	5.4	4.2	3.9	4.0	3.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

**Table 6.11. Earnings in the metalworking industry by employment category, 1996**

	Metalworking industry (ISIC 38)			Total manufacturing (ISIC 3)		
	Average earnings (Chilean Pesos)	Share with less than 1 minimum wage (%)	Share with more than 5 minimum wages (%)	Average earnings (Chilean Pesos)	Share with less than 1 minimum wage (%)	Share with more than 5 minimum wages (%)
Salaried workers in permanent employment with written work contract	195587	0.6	15.7	184562	2.0	14.2
Salaried workers in temporary employment with written work contract	148533	1.1	10.7	109292	9.7	5.2
Salaried workers without written work contract	118521	14.6	3.2	110239	19.9	5.8
Self-employed workers	231756	3.5	28.4	209775	20.4	21.2
Employers	1038352	4.1	89.6	1206458	1.6	84.5
All employed persons	231765	3.0	19.3	214247	7.6	16.4

Source: Tabulations based on data from MIDEPLAN (CASEN 1996).

Average earnings are higher than in total manufacturing (Ch\$ 231,765 against Ch\$ 214,247). The pattern across employment categories is relatively similar to total manufacturing. Salaried workers in permanent employment with written contract earn substantially more than the temporary workers and those without written work contract. Reflecting the slightly more favourable earnings situation compared to the total manufacturing sector, only 3 per cent of the workers earn less than the minimum wage (against 7.6 per cent in total manufacturing), while 19.3 per cent earn more than five times the minimum wage (16.4 per cent in total manufacturing) (table 6.11.).

As in the textile and garment industry, data on other indicators of employment quality confirm the fundamental differences between permanent salaried with written contract and the temporary and unprotected workers (table 6.12.):

- With regards to social security coverage, 97.8 per cent of the permanent salaried with written contract contribute to a pension fund. This share is 92.6 per cent for the temporary salaried with written contract and only 51.8 per cent for those without written contract. It is even lower among the self-employed (16.7 per cent). Among employers, 72.5 per cent contribute to the social security system. These figures show a slightly better performance in this indicator of employment quality than in the total manufacturing sector.
- The incidence of professional training is slightly higher in the metalworking industry (16.8 per cent received some training during the 12 months prior to the survey) than is the case for the manufacturing sector on average (14.1 per cent). Contrary to other sectors, some access to professional training exists even for

temporary and unprotected salaried workers. However, the incidence of professional training for self-employed workers is extremely low.

- More than one forth of the workers in the metalworking industry work more than 48 hours per week, slightly more than for the manufacturing sector as a whole. Self-employed workers and employers are the most likely to have very long working hours. Among the salaried workers, those without written work contract have the highest incidence of long working hours, illustrating the deficient employment quality for these workers.

**Table 6.12. Employment quality in the metalworking industry by employment category, 1996**

(share in %)

	Metalworking industry (ISIC 38)			Total manufacturing (ISIC 3)		
	Contributes to pension fund	Received professional training the previous year	Works more than 48 hours per week	Contributes to pension fund	Received professional training the previous year	Works more than 48 hours per week
Salaried workers in permanent employment with written work contract	97.8	17.8	20.9	96.4	16.9	23.5
Salaried workers in temporary employment with written work contract	92.6	15.2	25.1	85.1	12.5	27.7
Salaried workers without written work contract	51.8	15.2	30.5	34.8	8.0	28.0
Self-employed workers	16.7	0.8	44.6	21.5	7.3	31.1
Employers	72.5	39.2	62.9	52.1	16.1	47.1
All employed persons	80.4	16.8	27.5	74.4	14.1	26.4

Source: Tabulation based on data from MIDEPLAN (CASEN 1996).

In sum, the statistical analysis of employment quality shows a similar incidence of temporary employment and salaried employment without written work contract in the metalworking industry than in the rest of Chilean manufacturing industries. Like in the manufacturing sector in general, workers in these forms of non-standard employment suffer from a significantly worse employment quality than their colleagues in permanent employment with written contract. This can be seen in lower average earnings, lower social security coverage and, although to a lesser degree than in other sectors, diminished access to professional training. In the case of salaried workers without written contract, there is also an increased likelihood of very long working hours.

## 6.7. Conclusions

Like the textile and garment industry, the metalworking sector is under constant adjustment and restructuring pressures due to the openness of the Chilean economy and the fierce import competition. However, unlike the textile and garment sector, the metalworking sector was able to face the competitive challenges rather successfully as the production has expanded during the 1990s, except during the recent 1998/1999 recession.

Chilean metalworking enterprises are no offensive innovators. They do not have the ambition to situate themselves in an international avantgarde position. Rather, their strategy consists in imitating technologies available elsewhere (reverse engineering) and occasionally adapting and improving them. Despite the predominance of defensive innovation strategies, all sample enterprises have acquired new machinery during the survey period, in many cases including modern numerically controlled machines.

Like in the textile and garment industry, a strong emphasis is put on commercial and managerial flexibility:

- Enterprises constantly adapt the mix between their own production and imports according to shifts in relative prices in domestic and international markets. Subcontracting relationships between manufacturers of final products and their provider are a key element in the flexibility strategies, but the division of labour between both sides is relatively more stable than in the textile and garment sector. Subcontracting is generally not used to cover temporary production peaks, but rather to develop a specialization in well-defined parts of the production process. In the case of the Chilean white goods industry, the manufacturers of final goods largely restrict themselves to assembly, while most pieces and components are either acquired from national providers or imported.
- Managerial flexibility is achieved through numerical flexibility (use of temporary workers), internal flexibility in the amount of labour (shift and overtime work) and wage flexibility (variable element in wages). The use of these flexibility strategies is by no means restricted to the smaller enterprises. On the contrary, the big manufacturing enterprises appear to be relying on them as much as the smaller enterprises do.

The consequences of these strategies for the quality of employment are ambiguous. Real wages and benefits have increased during the 1990s, but there does not seem to be any substantial improvement with regards to job security, the opportunities for workers' participation in the enterprise and the interest of work. The work intensity has increased in most cases when changes in work organization occurred.

The restructuring strategy of the Chilean metalworking sector is between the "high road" and the "low road" strategy mentioned in section 1.2.. On the one hand, Chilean metalworking enterprises have increased their productivity and this enabled them to compete successfully in international markets, despite the appreciation of the Chilean Peso vis-à-vis the US\$. However, the sector does not completely fall into the "high road" category. Cooperative contacts between competing enterprises are quite weak, market fluctuations are mostly compensated by varying employment levels, working hours and salaries. The workers have thus to bear the major part of the costs

of these fluctuations. More generally, while some improvements in wages and benefits have occurred, there is no progress with regards to most other dimensions of employment quality.

This is directly linked to the fact that enterprise strategies focussed too much on commercial and engineering aspects, neglecting the technicians' and blue-collar workers' role in the production processes. It is true that many enterprises have already been confronted with the limitations of the short-term flexibility mode of the "wild capitalism" period of the second half of the 1980s. They try to take steps to move to a different phase. In doing this, however, they are confronted with a number of obstacles that lie in the institutional context:

- Despite the stronger accent on increasing labour productivity compared to the textile and garment industry, blue-collar workers are generally excluded from the planning and implementation of productivity strategies. They may thus be reluctant to share their internal knowledge with management.
- More generally, although the incidence of open conflicts between labour and capital (strikes) is low, the labour relations in most enterprises are not characterized by broad and constructive dialogue between workers and management.
- Despite efforts of cooperation between enterprises (e.g. provider development schemes), the relationship between enterprises is dominated strongly by short-term price competition rather than longer-term development considerations.

If these problems are not addressed properly, they will probably limit the economic success of the Chilean metalworking sector in the long term. In the short and medium term however, it is likely that the expansion of the metalworking sector will continue. The signs are that the year 2000 will bring the Chilean economy back to a path of satisfactory economic growth and that the metalworking sector will participate in the growth process.

The future expansion strategies will in any case continue to have a strong global dimension. The sectoral case study has shown the global strategies of Chilean metalworking enterprises regarding the sourcing of inputs, technology transfer agreements with foreign enterprises, and imports of final goods for resale. On the other hand, there are regional expansion strategies in Latin America that have a stronger emphasis on opening up export markets and establishing strategic alliances with enterprises in other Latin American countries. This kind of regional expansion was studied in some detail using as an example the strategies of M1 and its recently acquired Argentinian affiliate enterprise MArg.

The access to the markets of other Latin American markets, especially of the Mercosur countries, will permit Chilean enterprises to transcend the limitations of the domestic market. While exports to these markets are the most obvious strategy, foreign direct investments and strategic alliances with enterprises in those countries are also promising. The case of the enterprises M1 and MArg shows how these regional expansion strategies can lead to increased efficiency and strengthened export potential on both sides. Moreover, due to the complementarity between both enterprises' products, the takeover has not led to employment losses.



In sum, Chilean metalworking enterprises have coped with global competitive struggles with dynamic innovation strategies that have enabled them to increase their productivity and expand their production. They have also grasped the opportunities of the globalizing economy with active global and regional trade and procurement strategies. At the same time however, the dynamism of these enterprises has been limited by the contradictions inherent in the economic and institutional characteristics of the "Chilean model". For example, enterprises depend more and more on workers' commitment and motivation as new productive challenges arise, but the labour relations within most enterprises are characterized by unilateral management control and workers' passivity. The strong use of fixed term contracts and other instruments of numerical flexibility also runs against strong workers' commitment. Also, many metalworking enterprises have recognized the importance of a network of reliable providers and started activities of provider development. At the same time however, procurement strategies are often based on distrust and short-term price criteria running against the objectives of provider development.

Beyond the negative impact on enterprises' development perspectives, workers suffer the immediate negative impact of these contradictory strategies as they are affected by authoritarian labour relations with few opportunities for meaningful participation and job insecurity. The next chapter describes the institutional framework and identifies some of the factors that are linked to this apparently contradictory behaviour of Chilean enterprises.

## **7. Shaping innovations, flexibility and employment quality: the institutional framework**

*Nuestra inferioridad económica que se traduce en la inferioridad social, tiene su razón de ser principal en la flojera que nos es característica, y la solución de nuestros problemas no puede buscarse en otros procedimientos que los que se refieren a una adecuada educación para que la población obrera trabaje.*

*El Sur, Concepción, 30 April 1944, S.3*

The overview in chapter 4. and the sectoral case studies in chapters 5. and 6. have analyzed Chilean enterprises' strategies and their consequences for employment quality. In short, many enterprises have systematic innovation strategies, but they follow the international state-of-the-art at a safe distance. Innovations in the work organization do generally not lead to an enrichment of production workers' tasks or more participation. Flexibility strategies are biased towards commercial and administrative flexibility with a strong emphasis on numerical flexibility via fixed term work contracts and subcontracting. As a consequence of these strategies, the employment quality (especially job security) in Chile has developed less favourably than the good performance of the economy during the 1990s would let expect. This chapter will turn towards the institutional framework in which enterprises and social actors operate and which have a direct impact on enterprise strategies (see chapter 2.).

At the general level, one important positive factor in Chile's institutional framework is the relatively efficient state administration. Compared to most other Latin American countries, corruption is less widespread in Chile and the legal framework is more coherent. For instance, one detailed study that compared the regulatory environment in Chile and in Brazil found that Chile is characterized by relative legal simplicity and consistent enforcement (Stone/Levy/Paredes, 1992).

This chapter analyzes selected aspects of the institutional framework. The selection of these institutional areas is based on the direct link with the issues analyzed in the previous chapters, that is, enterprise strategies and employment quality. In addition to the functioning of the current institutional setting, the chapter also presents evidence on the decision processes on recent reform projects, thus giving insights into the changing orientation and the learning capacity of the society under the "Chilean model".

Section 7.1. analyzes Chile's labour institutions, taking into account both statutory regulation (labour legislation) and voice regulation (collective bargaining and social dialogue). Section 7.2. deals with the training system, an institutional area that is directly linked with human resource development strategies and enterprises' possibilities to move into sectors with higher technological and skill requirements. Section 7.3. takes a closer look at the institutions that aim at fostering productive development and innovations. Finally,

section 7.4. presents some conclusions with regards to Chile's institutional framework and its impact on enterprise strategies.

## **7.1. Labour legislation: institutions, flexibility and employment quality**

### **7.1.1. Introduction**

In the context of this study, labour market regulations and institutions are key issues because they have a direct impact on enterprise strategies and employment quality. It is also a field where the neoliberal ideology behind the "Chilean model" has had very clear consequences. The military government's *Plan Laboral*, the labour legislation according to the neoliberal ideology, is indeed one of the key reforms under Pinochet.

The main differences between the *Plan Laboral* and the labour legislation of the late 1960s and early 1970s were the abolition of the "closed shop" principle<sup>257</sup>, the limitation of collective bargaining exclusively to the enterprise level, a lower degree of workers' protection against dismissals and a greater permissiveness towards non-standard forms of employment (for a summary see Imbusch, 1997). The labour legislation was reformed during the early 1990s (see 7.1.4.), but the general orientations of neoliberal thinking can still be found in the current legislation.<sup>258</sup> The reforms did not change the basic principles of the labour legislation inherited from the military government, but rather "softened" them. Without a doubt though, these reforms made Chile's labour institutions more equitable than they were during the military government. Table 7.1. presents some key characteristics of the labour legislation during the last years of the ISI scheme (late 1960s to early 1970s), under the *Plan Laboral* (during the 1980s) and after the reforms to the *Plan Laboral* in the early 1990s.

The Chilean governments since the return to democracy have consistently pointed out their achievements in labour matters, but they have also recognized that several issues are still unsettled and will require further reforms. According to a recent document by the Ministry of Labour, the state has set five main actions for its activities in labour issues (Ministerio del Trabajo y Previsión Social, 1999): improving the quality of employment, broadening and adequately protecting workers' rights, improving the social security schemes, modernizing the Ministry's administration and fostering social dialogue.

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<sup>257</sup> The closed-shop principle means that once an enterprise trade union is established, membership is compulsory for all workers in the enterprise. In Chile, this principle applied only to blue-collar workers.

<sup>258</sup> It also seems to have inspired more recent labour reforms in other Latin American countries where collective bargaining has been progressively decentralized and regulations of protection against dismissal dismantled. For the cases of Argentina and Uruguay, for example, see Marshall (1997).

**Table 7.1. Comparison of labour legislation of different periods**

	ISI period (late 1960s and early 1970s)	<i>Plan Laboral</i> (1980s)	Current labour legislation (1990s)
Dismissals	Under the law economic reasons are a valid reason for dismissal. However, the interpretation of the labour courts considers most dismissals unjustified. The severance pay in case of unfair dismissal is 1 month of wage per year of tenure in the enterprise	Enterprises can dismiss workers without giving reasons. Severance pay of 1 month of wage per year of tenure in the enterprise, but only up to a maximum of 5 monthly wages	Enterprises have to give a reason for dismissal. Economic reasons are considered as a valid reason for dismissal. Severance pay of 1 month of wage per year of tenure in the enterprise, up to a maximum of 11 months of salary
Fixed-term contracts	Some restrictions on the use of fixed-term contracts, maximum duration 6 months	No restrictions on the use of fixed-term contracts, maximum duration 2 years	No restrictions on the use of fixed-term contracts, maximum duration 1 year
Trade unions and federations	Mostly enterprise unions; "closed shop" for blue-collar workers. Sectoral federations and national confederations with weak legal position (except 1971-1973), but relatively strong influence in practice.	Enterprise unions; abolition of "closed shop"; individual decision to join or not to join union. Sectoral federations with weak position.	"Closed shop" remains abolished; individual decision to join or not to join union. Sectoral federations have a somewhat stronger position than during the military government, but remain weaker than prior to 1973.
Level of collective bargaining	Mainly at the enterprise level, but some elements of bargaining by economic sector (tripartite commissions)	Exclusively on the enterprise level	Almost exclusively on the enterprise level. Right for confederations to advise enterprise unions during collective bargaining
Scope of collective bargaining	Relatively broad bargaining contents	Bargaining contents severely restricted by a list of issues legally excluded from negotiations	Bargaining contents restricted by the prohibition to negotiate issues that limit the capacity of the employer to organize and manage the enterprise
Strikes	Severely limited, but increasing number of illegal strikes.	Severely limited, few illegal strikes; maximum duration 2 months. Striking workers can be replaced by external workers	Unlimited duration, but striking workers can under some conditions be replaced by external workers

Sources: Código del Trabajo (1995); Walker (1997); Pagés/Montenegro (1999: table1); Morgado (1999); Mac-Clure (1989).

The following subsections deal with different aspects of Chilean labour institutions: statutory regulations with regards to dismissals and non-standard forms of employment (7.1.2.), voice regulation in the form of collective bargaining and social dialogue (7.1.3.) and finally, the recent attempts for a reform of the current labour legislation (7.1.4.).

### 7.1.2. Statutory regulations and flexibility<sup>259</sup>

Statutory regulations with regards to dismissals and non-standard forms of employment have a direct impact on enterprise flexibility strategies. The Chilean legislation, designed during the military government but reformed under democratic government in the early 1990s, facilitates numerical flexibility in several ways.

First, as shown in table 7.2., the Chilean labour legislation makes **dismissals** relatively simple by international standards. For instance, the employer has the right to dismiss workers for general economic reasons, without any further specific justification. In other countries, dismissals are subject to requirements regarding either consultation with workers' representatives or notification and reporting to labour authorities. Dismissal compensation represents the equivalent of one monthly wage per year of service, with a maximum of eleven monthly wages. This requirement comes close to the international average.

Second, the Chilean legislation is relatively permissive with regards to temporary employment, contract labour and other non-standard forms of employment that enhance enterprises' numerical flexibility:

- There exist a variety of **short-term contracts** that may differ from the contract with indefinite duration in terms of working conditions. The short-term contract can be of any fixed-term duration, with a maximum of one year. The contract "until completion of the task" has no specific duration and no defined criteria for its transformation into an indefinite work contract and is thus particularly unstable.
- Chilean legislation does not restrict the enterprises' faculty to **hire contract labour** or **subcontract** productive activities and services. A limitation that had existed in this regard since 1968 was abolished in 1979.<sup>260</sup> To protect the concerned workers from abuses, the law establishes that an enterprise (the "user enterprise") that uses workers from another enterprise (the "subcontractor") has to pay the wages of the workers and fulfil other social obligations in case the subcontractor has failed to comply with them.<sup>261</sup> This process, however, can be long for workers affected by non-compliance - it reportedly takes between eight months and several years (Agacino/González/Rojas, 1998). In other countries, legislation requires a more active role on the part of user enterprises, thereby reducing the risk of abuse.<sup>262</sup>
- Chile's legislation does not explicitly recognize or regulate **temporary employment agencies**. In practice, these enterprises operate in a legal "grey zone", entailing an element of insecurity regarding the status of workers with respect to the agency that hires them and the enterprise where they actually work. Several countries have found it

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<sup>259</sup> Parts of this subsection draw on ILO Task Force (1998).

<sup>260</sup> The *Ley Nr. 16,757* (1968) prohibited the main and permanent production activities of an enterprise to be externalized to a subcontractor. The *Decreto Ley Nr. 2,759* (1979) derogated that law.

<sup>261</sup> This is referred to in Chilean labour legislation as "subsidiary responsibility", see *Código del Trabajo* (1995: Art. 209).

<sup>262</sup> For example, in Spain, the user enterprise has to make sure that subcontractors have not accumulated arrears in the payment of social security contributions.

useful to provide legal status and to regulate the activities of temporary employment agencies.<sup>263</sup>

While the Chilean legislation is relatively permissive with regards to dismissals and non-standard forms of employment, it has to be borne in mind that it is not only the law which matters; the degree of compliance must also be considered. In this regard, it can be stated that the degree of compliance with the law is probably higher than in most other Latin American countries, although numerous violations of the law do exist.<sup>264</sup> Generally, informality in Chile does not take the form of completely unregistered businesses, but rather of partial compliance with tax regulations (selling one part of the production "officially", and another part "under the table" without paying VAT) and labour regulations (respecting some labour laws, but not others). Although there are some small workshops and homeworkers outside the scope of the tax and labour inspections, enterprises that are visible from the street generally have to "formalize" themselves in order to avoid possible sanctions.<sup>265</sup>

In recent years, the Chilean State has intensified its efforts to monitor the compliance with the law. As can be seen in figure 7.1., the number of inspections carried out by the *Inspección del Trabajo* and the coverage relative to salaried employment have increased strongly since the return to democratic government. The inspections take two different forms. First, there are inspection visits following workers' complaints. Second, the *Inspección del Trabajo* started some years ago to carry out inspection programmes in specific economic sectors and with regards to priority issues. This innovative approach combines enterprise inspections with awareness rising campaigns to the general public and information on labour law for employers and workers. Moreover, a 1996 law broadened the capacities for the labour administration to include issues of occupational health in their enterprise inspections.<sup>266</sup>

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<sup>263</sup> The legislation of the ISI period explicitly prohibited private activities in employment intermediation, reserving this field to government services free of charge (Código del Trabajo, 1970: Art. 86-87).

<sup>264</sup> One case in point is the high number of salaried workers who have no written work contract, although this is compulsory under Chilean law (see chapter 4.).

<sup>265</sup> According to the interviews with enterprises and key informants, the most drastic sanctions are not those by the *Inspección del Trabajo*, but the tax sanctions by the *Servicio de Impuestos Internos* (SII). However, the fact of having a tax record with the SII makes the enterprise eligible for labour inspections at some time, because the SII registers are communicated to the *Inspección del Trabajo*.

<sup>266</sup> *Ley Nr. 19,481: Amplia facultades de la Dirección del Trabajo, 1996.*

**Table 7.2. International comparison of legislation on dismissals**

	Period of notice (in days)	Severance pay	Prior administrative authorization
<b>Chile</b>	30	<ul style="list-style-type: none"> <li>· one monthly wage per year of service</li> <li>· maximum of 11 monthly wages</li> <li>· compensation in case of unfair dismissal is up to one and a half monthly wages per year of service</li> </ul>	no
<b>Republic of Korea</b>	60	<ul style="list-style-type: none"> <li>· one monthly wage</li> </ul>	Dismissals must follow rules regarding consultation with unions and report to authorities
<b>New Zealand</b>	as stated in the employment contract	<ul style="list-style-type: none"> <li>· none by law</li> <li>· usual practice in employment contracts is one months' pay for the first year of service and 2 weeks pay for each year thereafter</li> </ul>	no
<b>Spain</b>	90	<ul style="list-style-type: none"> <li>· one monthly wage per year of service, with a maximum of 12 monthly wages (48 monthly wages in case of unfair dismissal)</li> </ul>	no
<b>Uruguay</b>	n.a.	<ul style="list-style-type: none"> <li>· one monthly wage per year of service</li> <li>· maximum of 3 to 6 months</li> </ul>	n.a.

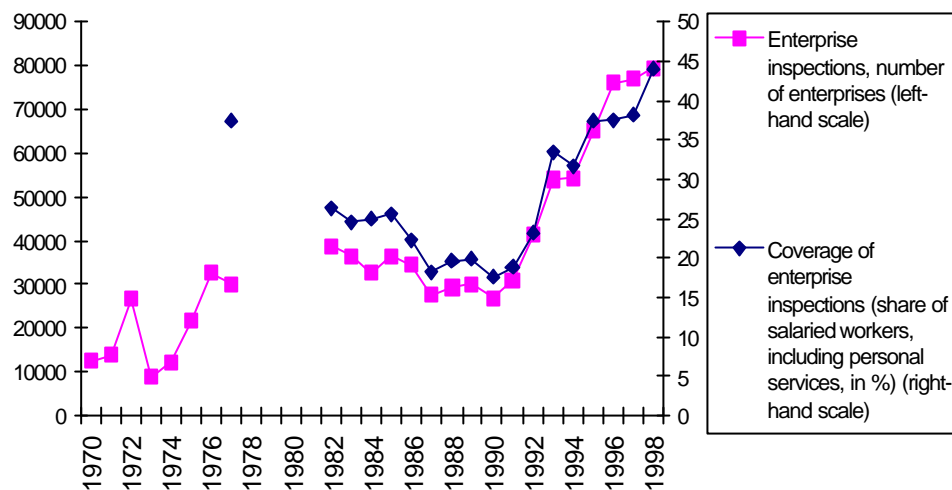
Source: ILO Task Force (1998: table 21) based on information from the ILO (NATLEX database) and labour codes of certain countries.

Note: The Chilean system of severance pay may in the future be merged with the planned unemployment insurance system PROTRAC (see table 7.3.).

This means that while the permissive legislation encourages numerical flexibility, this flexibility is at least to some extent regulated. Despite this regulation, however, the widespread use of strategies of numerical flexibility implies a high degree of labour market instability for important parts of the occupied population. Under these conditions, and in order to minimize the negative social impact of labour market contingencies, establishing an appropriate level of social protection is important.

**Figure 7.1. Inspection activities by the *Dirección del Trabajo*, 1970-1998**

(number of enterprises and coverage of inspections as share of salaried employment)



Sources: Dirección del Trabajo (1999a) for inspection data; consolidated employment series (see annex 1).

There is, however, little unemployment protection in Chile. As a result, given that many services like high-quality health and education have to be paid for, even a temporary job loss can have a considerable impact on the affected households. A proposal for the introduction of a protection scheme for unemployed workers (*Sistema de Protección al Trabajador Cesante*, PROTRAC), based on joint contributions by employers (3.6 per cent of the salary) and workers (0.8 per cent) to individual savings' accounts, has been under discussion over the last years. The system would work as an individual insurance rather than as a social security scheme, but the government would come in to finance a minimum benefit of 70 per cent of the minimum wage for workers whose savings at the time of becoming unemployed are not sufficient. As shown in table 7.3., the proposed system is not especially generous by international comparison.<sup>267</sup> It would however undoubtedly improve the social protection in case of unemployment.

<sup>267</sup> Straightforward international comparison is not easy as the new PROTRAC system would be merged with the existing system of severance pay. The new system would thus have to be compared to the sum of unemployment benefits plus severance pay available in other countries.



**Table 7.3. International comparison of selected aspects of unemployment benefits systems**

	Minimum contribution period to qualify for unemployment benefits	Maximum duration of benefits	Level of benefits
<b>Chile</b>			
existing system	12 months	12 months	38 US\$ per month during first three months gradually declining to 19 US\$ per month
proposed system (PROTRAC)	12 months	5 months	the benefit depends on accumulated funds in individuals' savings account minimum of 70 per cent of the minimum wage, gradually declining to 50 per cent of the minimum wage the proposed system would be merged with the current system of severance pay (see table 7.2.); The maximum total benefit (unemployment benefits plus severance pay) would thus be of 11 monthly wages for workers with 11 or more years of service
<b>Argentina</b>	12 months	up to 18 months	60 per cent of highest wage minimum of one minimum wage and maximum of four times the minimum wage
<b>Brazil</b>	36 months	4 months	50 per cent of average earnings in last 3 months with a minimum of one minimum wage and a maximum of 3 times the minimum wage there is also a 'personal savings' account to which employers contribute 8 per cent of earnings
<b>Uruguay</b>	6 months	6 months	50 per cent of average earnings (additional 20 per cent of benefit for workers with dependents) minimum of 50 per cent of the minimum wage and maximum of 8 times the minimum wage
<b>New Zealand</b>	none	6 months	approximately 340 US\$ a month for beneficiaries with no dependents income-tested system
<b>Republic of Korea</b>	6 months	3 months	50 per cent of average earnings minimum of 70 per cent of the minimum wage, maximum of 4 times the minimum wage
<b>Spain</b>	12 months	up to 2 years	70 per cent of average covered earnings minimum of 75 per cent of the minimum wage and maximum of 1.7 times the minimum wage set for the occupation of the unemployed

Source: ILO Task Force (1998: table 17) based on information from the US Department of Health and direct submissions by national authorities.

Despite the fact that government, labour and business agree that some type of unemployment protection should be introduced, the government's proposal has not obtained favourable reactions from the other social actors. For the trade union movement, the CUT has asked for the project to be withdrawn (*La Tercera en Internet*, 9 August

1999). In their view, some workers would be worse off if the new system is merged with the current severance pay system as planned in the proposal. Instead, they ask for a new national unemployment fund. Business representatives agree with the principles of the new system but are concerned about the increasing labour cost due to the employer contribution of 3.6 per cent. For the time being, the unemployment protection scheme is pending, waiting for further parliamentary debate.<sup>268</sup>

In sum, the statutory regulations contained in Chilean labour law encourage strategies of numerical flexibility via relatively easy dismissals and permissive regulations of non-standard forms of employment. This has had negative consequences for the employment quality of Chilean workers in the form of high job insecurity and lower levels of salaries, social benefits and voice representation for most workers in non-standard employment.<sup>269</sup> As has been seen in the sectoral case studies on the textile and garment and on the metalworking industries (chapters 5. and 6.), this numerical flexibility may at the same time have reduced enterprises' capacity to develop other, more "virtuous", forms of flexibility.

Indeed, these other forms of flexibility - such as functional flexibility or the flexibility to develop and adopt new products and processes rapidly - often depend on relatively harmonious labour relations with participatory mechanisms for the involved workers (see the next subsection 7.1.3.) and on continuous skill upgrading of the work force (see section 7.2. on professional training). Both participation and skill upgrading are more difficult to carry out in a climate of job insecurity, and non-standard workers are generally excluded from professional training and from participatory mechanisms when they exist. Thus, while the legislation's emphasis on numerical flexibility has certainly strengthened Chilean enterprises' capacity for short-term adjustment to market fluctuations, it has not contributed to improve the long-term prospects of enterprises to move into more technology- and skill-intensive sectors and to offer higher quality jobs to their workers.

### **7.1.3. Labour legislation and voice regulation**

The last subsection dealt with statutory regulations, that is, regulations imposed via law. But many issues are most efficiently dealt with by negotiation between the concerned parties. Voice regulation has the potential to allow workers an equitable share in the fruits of their work, while also taking into account divergent interests and market realities. But market realities do not exist independently from social factors. Even though it can be argued that wages should be related to the worker's productivity, there is always an indetermination range of productivity. In the absence of an appropriate balance of power between employers and workers, wages will tend to be set at the lower bottom limit of that indetermination range (Beyer, 1999b: 2). The capacity of workers to defend their interests

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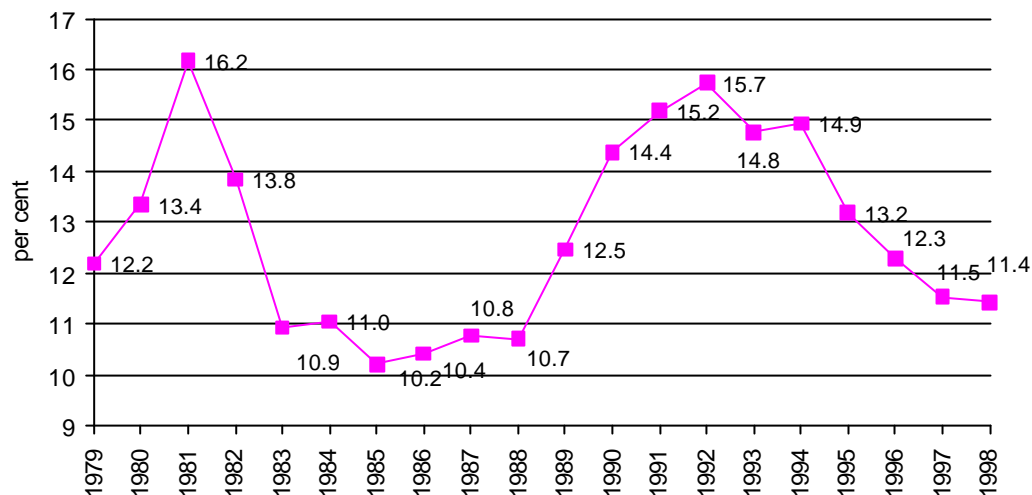
<sup>268</sup> The unemployment protection scheme is one of the priorities of the newly elected President Ricardo Lagos. It is likely that the PROTRAC project will be replaced by a new formula that is more likely to satisfy both employers' and workers' demands, possibly through a stronger state participation in the funding of the scheme (*La Tercera en Internet*, 23 March 2000).

<sup>269</sup> See chapter 4. for the empirical evidence on the employment quality of workers in non-standard employment relationships.

and struggle for higher wages and better employment conditions thus depends to a large extent on the scope and coverage of collective bargaining.

**Figure 7.2. Coverage of collective bargaining, 1979-1998**

(share of salaried employment without personal services, in %)



Sources: Frías (1991: 115); Dirección del Trabajo; consolidated employment series (see annex 1).

In Chile, the coverage of collective bargaining has increased between 1989 and 1992, but has since then been declining again (figure 7.2.). In 1998, collective bargaining covered a mere 11.4 per cent of total salaried employment,<sup>270</sup> a low figure both by international standards (table 7.4.) and in comparison to Chile's own historical figures: in 1967, the coverage of collective bargaining was above 20 per cent.<sup>271</sup> The low coverage of collective bargaining reflects the exclusion of certain categories of workers and institutional problems regarding workers' representation:

- Temporary workers are excluded from collective bargaining. Given the virtual absence of collective bargaining at sectoral level, the same is true for all workers in small enterprises without trade unions.
- As mentioned above, the unionization rate in Chile is low and declining. Although some restrictions to trade union activities were abolished in the 1990 labour law reform, the upward trend in union density came to a halt in 1992 and union density has been decreasing continuously since then (see chapter 3.). Moreover, the average size of trade unions is shrinking, pointing to a fragmentation of the trade union movement. A study by the *Dirección del Trabajo* (Yanes/Espinosa, 1998) found that employers'

<sup>270</sup> As in most countries, the coverage of collective bargaining is much higher for the larger enterprises than for the smaller ones. In Chile, this gap is huge. Available data for the year 1993 indicate that the coverage of collective bargaining was 36.1 per cent for enterprises with 50 workers and more, but only 1.3 per cent with workers of less than 50 workers (Arrate, 1995: 199).

<sup>271</sup> Calculation based on data in Mac-Clure (1989: 113).

negative attitude towards unionized labour has contributed to the weakness of trade unions. There is also some evidence that employers tend to dismiss workers arbitrarily after collective bargaining processes (ILO, 1995b). Another problem is the difficulty trade unions experience in adapting to new patterns of production and work organization, such as the division of enterprises into smaller units, subcontracting practices and temporary employment.

**Table 7.4. International comparison of collective bargaining coverage rates**

Country	Year	Proportion of salaried workers covered by collective agreements (%)
Chile	1998	11.4
Argentina	1995	72.9
Uruguay	1993	21.6
United States	1995	11.2
New Zealand	1995	23.1
Taiwan, China	1995	3.4
Germany	1996	90.0
Spain	1996	82.0

Sources: ILO (1997a) and figure 7.2.

Note: Collective bargaining coverage rates are measured as the proportion of salaried workers covered by collective agreements in the formal sector.

By law, collective bargaining takes place almost exclusively at the enterprise level.<sup>272</sup> There have been some sectoral agreements, especially during the first years after the return to democratic government, but they are very general and rather informal in nature (see the example in the metalworking industry in chapter 6.). Since 1994, there is a national tripartite institution named *Foro de Desarrollo Productivo* whose agenda covers several important policy issues related to the sustainability of the current pattern of socio-economic development. However, its role, too, is stronger in strengthening the informal exchange between social actors rather than attaining binding agreements.<sup>273</sup> Moreover, the *Foro* has

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<sup>272</sup> Again, this situation can be contrasted with the one prior to the military government. Although collective bargaining at enterprise level has always been dominant in Chile (unlike the situation in many other Latin American countries, where sectoral bargaining was more common), sectoral collective bargaining in Chile had progressively widened its coverage during the 1960s and early 1970s. A 1969 law established tripartite commissions, and in 1972 about 208,000 workers were covered by sectoral collective agreements (Mac-Clure, 1989: 114-115).

<sup>273</sup> Among the concrete results of the *Foro* is the creation in 1994 of the tripartite productivity centre *Centro Nacional de la Calidad y la Productividad* that works under the supervision of the *Foro* and has been quite active in organizing events with the participation of social actors and academics.

not been consulted for the most contentious issues such as the pending labour reforms (see 7.1.4.).

In addition to limited coverage, collective bargaining is also limited in scope. The contents of collective bargaining in Chile are generally limited to wages and social benefits. Issues that involve the employer's faculty of administrating and managing the enterprise are explicitly excluded from collective bargaining by the labour legislation (Código del Trabajo, 1995: Art. 306). This means, for example, that the establishment of participatory mechanisms within the enterprise cannot be negotiated in the collective bargaining process (ILO, 1994b: 127).

The legal prohibition on the negotiation of issues that limit the employer's unilateral management capacity is somewhat ambiguous (in a strict sense, the process of bargaining itself is already a limitation to the employer's management capacity). In any case, this prohibition has operated as a disincentive to the inclusion of any issues going beyond wages and social benefits into the negotiations between employers and trade unions. For example, in most cases, decisions on training programmes are still taken by employers alone, rather than in coordination with workers' representatives. Professional training is covered by only 27 per cent of all collective agreements in Chile.<sup>274</sup> And although in some sectors institutions exist that contribute to improve the matching of demand and supply of training programmes, international evidence suggests that an even stronger role for sectoral institutions in this field might prove useful.

If Chilean trade unionism is less antagonistic now than it used to be during the 1960s and early 1970s, this does not mean that it has become cooperative in an active and innovative way. Rather, it has become passive and reactive due to the unfavourable external conditions as well as its internal weaknesses. The problem is not the radicality of the trade union movement's proposals, but on the contrary its lack of innovative ideas for Chile's future. This, together with the lack of technically skilled trade union leaders and advisers, has made the trade union movement a difficult partner for social dialogue.

In many countries, voice regulation mechanisms are successfully used not only for the periodical negotiation of wages and social benefits, but also for a more continuous participation of workers in the enterprise they work in. In Chile, the only legally established mechanisms of participation are the committees on occupational health (*Comités Paritarios de Higiene y Seguridad*) and, more recently, the bipartite training committees (*Comité Bipartitos de Capacitación*). There is no provision for more broadly conceived enterprise committees.

In view of the absence or weakness of participatory mechanisms and the authoritarian management style of many employers, the trade union movement has asked for a move towards the democratization of the enterprise and the establishment of participatory forms of management (CUT, as cited in Ruiz-Tagle, 1993: 145). For businessmen, however, unilateral management control is one of the most eagerly defended characteristics of the

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<sup>274</sup> Data from the *Dirección del Trabajo*. This share is however a progress compared to the situation in 1994/1995, when professional training was mentioned in only 19 per cent of all collective agreements (Programa de Economía del Trabajo, 1997: 23).

"Chilean model" at enterprise level. Most Chilean entrepreneurs and managers flatly reject anything that remotely resembles "co-determination".

The fact that voice regulations within the enterprise can be beneficial to both workers and entrepreneurs if diverging and converging interests are recognized and dealt with constructively is not common sense in Chile. Chilean enterprises' innovations are exclusive management initiatives, sometimes with the involvement of professional staff, but without the participation and often even without prior knowledge of the trade unions and the majority of workers (see the sectoral case studies in chapters 5. and 6.).

This contrasts with the situation in many other countries. Even in the United States, a country that like Chile has a rather decentralized bargaining system, innovations for instance in the metalworking industry lead generally to negotiations between the enterprise and the trade union concerning the changes in working conditions (U.S. Department of Labour, 1992: 36).

This negative business attitude towards worker participation may partly be explained by the country's recent history. First, the *Unidad Popular* government during 1970-1973 was a traumatic period for private business during which workers' participation was closely linked to a socialist model of development that was diametrically opposed to private business interests. Second, during the long period of military dictatorship (1973-1990) the predominant ideology was a radical break with the past and unrestricted freedom for private economic initiative.

As a result of these periods in Chilean history, entrepreneurs perceive any departure from the dogma of unilateral management control over the enterprise as a step backward towards the 1970/1973 situation. For the period prior to the 1970s, however, there is little evidence that strong antagonism between enterprises and enterprise trade unions was generalized. On the contrary, the study by Barrera (1969), based on survey data of the early 1960s, draws a relatively positive picture of these relations. Even then however, there were no legally established mechanisms of participation in Chilean enterprises (ILO, 1994b).

Even though most enterprises see participation as a threat rather than an opportunity, there are some exceptions of enterprises that have signed "strategic alliances" with their trade unions. The enterprises with strategic alliances are big companies from both the private sector (*Compañía Minera Disputada de las Condes*, mining and *Compañía de Telecomunicaciones de Chile*, telecommunications) and the state (CODELCO, mining).<sup>275</sup> Although the trade union position in such alliances is relatively weak (as it is not backed by any legal regulation), the differences in comparison with other enterprises in Chile are enormous. The key elements of these strategic alliances are:

- The establishment of joint management-trade union committees that meet regularly and are closely involved in the enterprise's strategy and day-to-day administration.
- The free flow of relevant information from the management to the workers and trade unions.

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<sup>275</sup> See *Compañía Minera Disputada de las Condes* (1997), Tapia (1996: 34-35) and CODELCO (1993).

- Training for the trade union leaders in technical and management issues.
- A change in the rhythm of collective bargaining, from once every two years as usual in Chile, towards longer periods of three to six years. One important advantage of the alliance for the enterprise is that, in principle, open labour conflicts should not arise during a long period of time.

These strategic alliances worked successfully for several years in the enterprises mentioned above. However, the economic crisis in 1998/1999 put heavy strain on them. Press reports about at least two of them (*Compañía de Telecomunicaciones de Chile* and CODELCO) suggest a return to more conflictive patterns, principally due to enterprise plans on dismissals that had not been subject to the established consultation and participation procedures. The reports do not indicate a formal suspension of the strategic alliance in any of the two enterprises, but it is clear that the trust between management and union has suffered a severe setback.<sup>276</sup> These examples tend to confirm Streeck's (1997) argument of "beneficial constraints": The temptation for the enterprise to bypass the structures set up through the strategic alliance would have been much smaller if the participatory mechanisms had been legally binding and compulsory, instead of voluntary, in nature.

Given the limited role of collective bargaining and participation mechanisms, the individual work contract appears to be the predominant mechanism in employment relationships in Chile. This individualistic market-driven form of regulation entails the risk of an insufficient degree of protection, especially for unskilled workers, whose bargaining position is often limited by their lack of information on alternative employment opportunities. In addition, there are instances where the decisions of individual agents are not conducive to an efficient allocation of resources unless these decisions are coordinated. Professional training is an area where this problem typically arises (see section 7.2.).

In sum, the Chilean labour institutions are characterized by a low rate of trade unionization and collective bargaining coverage. The imbalance between business and labour in favour of business is somewhat smaller than during the military government, but it has not disappeared. The low incidence of strikes and industrial unrest in Chile is therefore not a valid indication of a compromising attitude of the social actors, but rather of the weakness of the trade union movement. The lack of participation is also evident in the internal administration of the enterprises where the employer retains the unilateral management control. The scope for collective bargaining is mostly restricted to wages and social benefits, while issues related to professional training and innovation flexibility are generally excluded. The key axis of the labour legislation remains the unrestricted faculty of the employer to manage the enterprise (Walker, 1997: 21).

The deficient voice regulation mechanisms (combined with the permissiveness of the law) had an incidence in the lack of protection for many Chilean workers and the deficiencies of employment quality. Moreover, the vertical style of labour relations is an obstacle when the enterprise would need the production workers' knowledge and feedback to improve the production processes. Despite the weakness of collective bargaining, real wages have risen

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<sup>276</sup> In CODELCO, the *Federación de Trabajadores del Cobre* (1999) confirmed the commitment to the strategic alliance in a public declaration signed 30 January 1999.

strongly for most workers during the 1990s, given that market forces were for a recovery even under conditions of predominant individualistic negotiation.

This subsection has demonstrated that the "Chilean model" has important challenges ahead in the field of labour institutions. The way Chile's social partners address these issues will have a strong bearing on the economic and social development prospects of the country. The next subsection will present the decision-making process around planned reforms to the labour legislation as one case study into this issue.

#### **7.1.4. The difficult path of labour law reform**

Given the difficult labour law inheritance from the military government, labour reforms have been a priority issue from the return to democratic government in 1990 up to the present. Let us first consider very briefly the compromise about the labour reforms in 1990 and 1991 before turning to the more recent, and still pending, reform plans.

The 1990/1991 reforms intended to give labour a more balanced position face to business and to improve the workers' protection in case of dismissals. Given that the government did not have a majority in the Upper House of Parliament (*Senado*), it had to reach a compromise with at least some of the mostly pro-business orientated opposition senators. From the start of the reform process, the Ministry of Labour involved the CPC as the peak business organization in the process. According to Manuel Feliú, then president of the CPC, "tax and labor code changes were negotiated settlements with the government" (as cited in Silva, E., 1997: 174).

The government held a series of meetings with the CPC to discuss the draft legislation and compromised with regards to those elements of the bill that were perceived as excessively "pro-labour" by the business representatives. The government notably compromised on collective bargaining and unionization rights while it maintained the most important elements of the regulations on severance pay and protection in case of dismissal (Silva, E., 1997: 174-175).<sup>277</sup>

Thus, while the compromise on the labour reform confirmed the democratic government's capacity to improve the workers' situation without endangering political stability, it also demonstrated the continued subordination of labour to business interests (Silva, E., 1997: 175). Although the labour movement, whose key leaders were from the same political parties as the government coalition, was dissatisfied with the compromise, it did not organize large-scale protests because it preferred to maintain social peace and ensure a smooth continuation of the political transition process.

The reforms of the early 1990s were systemized in 1994 into a new labour code that replaces the 1987 labour code of the military government. However, in the view of a major labour law specialist in Chile, the new labour code "with regards to its substance rather seems to be a modified edition of the one elaborated in 1987" (Walker, 1997: 7).

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<sup>277</sup> See Thiery (1997) for a summary comparison between the original government project and the compromise that finally became law.



Let us now turn to the more recent labour reform plans. After the first few years following the 1990/91 reform, the government concluded that a proper balance between business and labour was still not re-established and that further reforms were necessary in this regard.<sup>278</sup> This assessment was based on the indicators on the rates of unionization and collective bargaining coverage. The government thus decided to launch an effort for a second labour law reform. The intention for further reforms had also been explicitly stated in the programme platform for the second coalition government (Presidencia de la República, 1993: 60).

The trade union movement returned to a somewhat more combative attitude in favour of more far-reaching labour reforms by 1994. This change in attitude was based both on the assessment of the functioning of the reformed labour legislation and the perception that the trade unions had obtained too little benefits from their compromising behaviour during the first years of transition.

By contrast the business associations were opposed to any further reform of the labour legislation. They argued that the existing law had proven beneficial to both enterprises and workers as the economy had continued to grow, new jobs were created and real wages increased.

In January 1995, the government of President Eduardo Frei launched the legislative procedure with a proposal that included, inter alia, a broadening of the scope of collective bargaining, wider obligations on the employer regarding information to trade unions, the bargaining rights of inter-enterprise unions and a somewhat broader definition of anti-trade union practices. The Lower House of the parliament approved the project with some modifications in December 1995.<sup>279</sup>

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<sup>278</sup> A public opinion survey carried out for the government in 1995 confirmed this perception of unbalance: 64.6 per cent of the surveyed persons stated that the current labour legislation favoured the entrepreneur, while only 13.1 per cent stated it was favourable for the worker. Moreover, the survey gave the workers' fear to be dismissed as the main reason for the low trade union affiliation rates (Ministerio del Trabajo y Previsión Social, 1995: 1, 8).

<sup>279</sup> The following chronology is based on press reports (in particular *La Tercera en Internet*, 24 November 1999 and 2 December 1999) and the parliamentary reports on the project.

**Table 7.5. Comparison of the present labour legislation with labour reform project**

	<b>Present situation</b>	<b>Reform proposal</b>
Strike	Striking workers can under some conditions be replaced by external workers	Striking workers can not be replaced
Information requirements	The employer must give the relevant economic information to justify the bargaining position during the collective bargaining process.	The employer must give information on the enterprise's human resource development strategy, on its economic and financial situation and on the impact of possible innovations to the union or elected workers representatives. This obligation is not restricted to periods of collective bargaining. Information considered confidential is excluded from this requirement.
Scope of collective bargaining	Bargaining contents restricted by the prohibition to negotiate issues that limit the capacity of the employer to organize and manage the enterprise	Maintains the same restrictions, but adds new issues as explicitly being part of collective bargaining, such as the communication system within the enterprise and productivity, quality and efficiency procedures
Collective bargaining beyond enterprise level	Inter-enterprise unions are only entitled to negotiate if the employer agrees	Inter-enterprise unions are entitled to negotiate. However, the negotiations remain at enterprise level (they take place for each enterprise separately), unless the employer agrees to a negotiation between various enterprises
Collective bargaining for temporary workers	Temporary workers are excluded from collective bargaining	Temporary workers can, under certain conditions, bargain collectively. These yearly negotiations do not take place during critical periods of the year to be determined by the employer (e.g. during the harvest season)
Anti-union practices	Anti-union practices are defined in a relatively restricted way. In case a dismissal is found by the labour court to constitute an anti-union practice, the concerned worker obtains a severance pay that is 25 per cent higher than the normal severance pay	Definition of anti-union practices broadened. In case a dismissal is found by the labour court to constitute an anti-union practice, the concerned worker can choose between reincorporation into the enterprise or a severance pay of at least two times the normal severance pay

Sources: Código del Trabajo (1995); Informe de la Comisión Mixta (1999).

However, as for the 1990/1991 reforms, the government coalition had no majority in the Upper House of parliament and thus needed to negotiate a compromise with the right-wing opposition. The Minister of Labour, Jorge Arrate, negotiated a compromise with the president of the Labour Commission of the Upper House, William Thayer.<sup>280</sup> This compromise "softened" several points of the initial project and separated one of the most contentious issues, the elimination of the right to replace workers during a strike, from the project to leave it to a separate vote. Despite the compromise with the institutional senator Thayer (who was supposed to act on behalf of most, if not all, opposition senators), the senate rejected the project in November 1997.

According to Chilean law, a mixed Lower House / Upper House commission (*Comisión Mixta*) has to be created in cases of disagreement between both chambers. For another two years, the project remained in a "waiting position" and given the negative outcome after the previous negotiation, neither the government nor the opposition was very keen on a quick discussion of the project. In fact, most observers believed that the Frei government would leave the task to a new government after the 1999 presidential elections.

However, in November 1999, only a few weeks before the first round of the presidential elections, the government decided in a surprise move to give "maximum priority" (*suma urgencia*) to the pending reform. The status of maximum priority involves an accelerated procedure and the coalition majority approved a project that is very similar to the original government project (and not to the Arrate/Thayer compromise) only two days later, on 17 November 1999. During the meeting of the commission, the opposition asked to revive the Arrate/Thayer compromise it had rejected two years earlier, but the coalition insisted in its own project. Table 7.5. shows a comparison between the current labour legislation and the situation in case the project would have been approved. On 18 November, the Lower House approved the project with the votes of the government coalition and the abstention of the opposition and sent it again to the Upper House for decision on 1 December.

According to press reports (*La Tercera en Internet*, 28 November 1999), the following reasons motivated president Frei to use the "maximum priority" option:

- The presidential candidate of the opposition, Joaquín Lavín, had stated in several interviews that the rights of temporary workers should be strengthened. While it is not entirely clear whether these statements were due to a genuine departure from traditional right-wing positions, or rather to the populist attitude that Lavín used throughout the election campaign, this opened a window of opportunity for the government. Indeed, it hoped that the opposition or some parts of it would be forced to approve the project (or at least to abstain) in order not to endanger Lavín's electoral prospects. In fact, given the distribution of seats, and the fact that two opposition senators were unable to vote - Augusto Pinochet was in London and Francisco Javier Errázuriz faced legal charges in Chile and had lost his parliamentary immunity - the favourable vote or abstention of one single opposition senator would have been sufficient.

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<sup>280</sup> William Thayer is a labour law specialist and former Minister of Labour under the military government. He was originally a member of the Christian Democrat party, but was excluded due to his collaboration with the dictatorship. He was appointed as an institutional senator by the outgoing military government.

- President Frei was also upset with the opposition candidate who had used throughout his electoral campaign the slogan that the *Concertación* coalition "had done nothing to solve the country's problems" during almost ten years. The president's decision was a move to demonstrate the capacity of action of his government.

While during the first days after the government's surprise move, it looked very much like the strategy could be successful, the panorama became very quickly more complicated:

- The business associations, although not expecting the government's move, did not take long to prepare their defence. They repeated their arguments against the reform project, but they were careful enough not to compromise Lavin's electoral strategy. They did not exclude a reform of the labour legislation in the future, but insisted in the technical character of such a project that should not be voted in a pressurized manner during an electoral campaign.
- After an initial phase when the Chilean press reported in a neutral way on the project and the pending decision of the Upper House (see "Reformas laborales a un paso de convertirse en ley", *La Tercera en Internet*, 19 November 1999), press reports soon took position against the project and the way it had been presented by the government (among many others, see "Reformas laborales crean incertidumbre económica", *La Tercera en Internet*, 25 November 1999).
- Perhaps most importantly, some senators of the coalition Christian Democrat party voiced their reservations about the project, stating that it contained some technical imperfections and could cause a drop in employment creation.<sup>281</sup> Other Christian Democrats, especially from the right wing of their party, backed Foxley's reservations. This endangered the original strategy of denouncing the opposition's anti-labour stance in case their senators would vote against the project. During the debate, the critical statements from within the government sector were often used by the opposition as testimonies for the low quality of the project.
- Finally, several Ministers also made known their reservations about the project, be it in public or in internal coalition meetings.<sup>282</sup> The government's reaction to the criticism from the own ranks was to announce the possibility of a presidential veto against the project once voted in the Upper House. Such a procedure would have allowed final modifications to the project before the enactment as a law. However, for the political purpose of pushing the law, it implied a further loss of credibility, raising the question on why the project had to be voted urgently and not at a later stage after having made the necessary corrections.

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<sup>281</sup> The first coalition senator to criticize the project was Alejandro Foxley, former Minister of Finance under the Aylwin government. Foxley said he agreed with the substance of the proposed changes, but that the project could still be improved by changes in the wording in order to make it sound less threatening to the employers (see "Foxley plantea cambios a reformas laborales" in *La Tercera en Internet*, 23 November 1999).

<sup>282</sup> The main public statement came from Raúl Troncoso, Minister of the Interior, who declared that the project could be problematic for workers in small and medium-size enterprises (*La Tercera en Internet*, 2 December 1999).

As a result of these complications, all opposition senators (including the institutional senators close to the opposition) voted against the project on 1 December. Although all coalition senators finally voted in favour of the project, the final result was 23 in favour and 23 against the project. The project had thus failed to obtain a majority and will not become law. The decision does not close the way for a future reform (the project can be re-presented immediately for a new vote), but this obviously depends on the new Lagos government which apparently would prefer to avoid a confrontation with business interests.

From the point of view of the electoral strategy, it does not seem that the opposition's repeated vote against the labour reform damaged its presidential candidate Joaquin Lavín (see *La Tercera en Internet*, 3 December 1999).<sup>283</sup> In order to demonstrate the good will for future changes, the opposition presented an alternative project prepared by José Antonio Guzmán, former president of the CPC, and researchers from the pro-opposition think tank *Instituto Libertad y Desarrollo* (*La Tercera en Internet*, 2 December 1999). The president of the CPC declared "We are available to back a modification, but it has to be useful for the country and lead to harmony in Chile" (*Estrategia Internet*, 2 December 1999). In any case, the result of the first round of the presidential elections was unexpectedly good for the opposition candidate.

The case study on the intents for a second labour reform permits an insight into the relationship between government, business and labour in Chile:

The **government** is interested in a modernization of labour relations in Chile. If the relationship between business and labour was balanced, bipartite negotiations could be good instruments for efficient and equitable management. However, according to Labour Minister Arrate's statement upon the presentation of the government project,

[...] the strength of bipartism lies in the capacity of its actors. In other words, what the country needs for its future are modern and innovative entrepreneurs, which their workers recognize as such; representative, technically skilled and future-oriented trade unions that are respected by the employers in their existence, functioning and rights. (Arrate, 1995: 197-198).

The position of the **trade union movement** is supportive of the project, although the CUT has demands that go beyond the reform project: collective bargaining by economic sectors and a further reform of the legislation on dismissals in order to improve job security (CUT, 1997: 16). The unions have also repeatedly raised the issue of labour reforms during several demonstrations.

Finally, the business opposition to the reforms illustrates the difficulties for more modern labour relations. Participation is not seen as a positive element:

The success of a labour policy is not measured by the number of employees who bargain collectively or assessing its capacity to artificially strengthen the trade unions, even beyond the wished of the workers themselves. It is measured by its capacity to create employment, increase the workers' earnings and create relationships of collaboration and harmony

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<sup>283</sup> An opinion poll carried out on 30 November 1999 had given a majority of 38 per cent of the surveyed persons in favour of the reform project, and 32 per cent against it (*La Tercera en Internet*, 2 December 1999).

between enterprise and workers. In these three variables, the current legislation in Chile has demonstrated to be completely successful. (Ayala, 1997: 375-376)<sup>284</sup>

Ayala mentions "collaboration and harmony between enterprise and worker" as one indicator for the success of labour policy. The Chilean labour legislation has indeed been successful when the low incidence of strikes and labour unrest is taken as an indicator. However, the absence of open conflict is not a sufficient indicator for effective cooperation between enterprises and their workers.

Unilateral management control turns out to be one central issue of the business opposition. For example, even the information requirement in the reform project (enterprises must give information on their economic situation and strategy to their union) is interpreted as a limitation to the employer's right to manage the enterprise (Ayala, 1997: 395). Similarly, CPC president Walter Riesco considers the definition of productivity targets and their measurement (mentioned as possible issues for collective bargaining in the reform project) as issues of the enterprise's internal programming and organization and thus as management tasks which should be carried out "without interference or negotiations" (Riesco, 1997: 579).

Riesco even went as far as to consider the broadening of the issues of collective bargaining in the reform proposal as contrary to the property rights as fixed in the Constitution (1997: 579-580).<sup>285</sup> In the business view, more participation at the enterprise level can at the very most be a result of a voluntary employer initiative, but not part of compulsory regulations.

In sum, the labour reform issue has proven to be extremely contentious and business representatives are unwilling to lose their position of strength *vis-à-vis* labour. This constitutes an obstacle to more balanced and participatory labour relations and a limitation for future progress in terms of both efficiency and equity in the "Chilean model".

## **7.2. Professional training: improving human capital**

### **7.2.1. Introduction**

Improving workers' human capital is generally recognized as one key strategy to enhance enterprise competitiveness and to improve the social aspects of restructuring processes in the light of technological change and globalization.<sup>286</sup> In Chile, human capital is considered

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<sup>284</sup> Ayala is an economist who has worked for several business associations, among them the industrial association *Sociedad de Fomento Fabril*.

<sup>285</sup> A similar argument comes from *Instituto Libertad y Desarrollo*: "By eliminating the right to replace striking workers, the strike is transformed into a mechanism of expropriation, because the employer is kept from using the capital to produce" (Instituto Libertad y Desarrollo, 1997a: 2).

<sup>286</sup> For one example among the abundant citations in this sense, see World Bank (1998: 105): "There is an increasing awareness on the part of society that a highly skilled labor force and its capacity to use knowledge flexibly will be a key to a country's ability to compete in the global marketplace of the next century."

one of the key elements of an industrial upgrading strategy that would permit the "second wave of exports" with products of higher technological and skill content. This is all the more so as Chilean enterprises recognize the lack of qualified workers as one of the main obstacles to innovation (see sections 4.1.2. and 6.3.). In this context, both the general educational system and the professional training system are obviously of key importance. This section will focus on the professional training system as one element of the institutional framework that is more closely related to enterprises and their strategies.<sup>287</sup>

At first sight, professional training seems to be an issue of consensus between all involved parties. Everybody agrees that more and better professional training is important for future development, and nobody would reasonably be *against* training. However, this superficial consensus may conceal the complex questions that have to be dealt with in order to create a good training system:

- How is professional training organized?
- Who decides on who participates in training activities and on what should be the content of the training programmes?
- Who pays for professional training?
- What are the major stumbling blocks and disincentives against training, and what can be done to remove these obstacles?

The following subsections will briefly describe the Chilean training system (7.2.2.) and analyze its strong and its weak points along the lines of the above questions (7.2.3). Finally, the last subsection will address the recent reforms of the training system and the link between these reforms and the business-labour relationship in Chile (7.2.4).

### **7.2.2. A brief description of the Chilean training system**

The main instrument of the Chilean training policy is an enterprise-based tax rebate system. Under this system, established with the enactment of the Professional Training and Employment Act (*Estatuto de Capacitación y Empleo*) in 1976, enterprises can claim back up to one per cent of their annual wage bill for the purposes of training. The *Servicio Nacional de Capacitación y Empleo* (SENCE), set up in 1977 and linked to the Ministry of Labour, acts as supervisory body while the providers of training are predominantly private. The formerly tripartite semiautonomous national training corporation *Instituto Nacional de Capacitación Profesional* (INACAP), created in 1966, was privatized in 1976 alongside the transfer of more than 70 centres of occupational training to the private sector (Haagh, 1999: 441, 449-450; Martínez, 1994: 9).

While the state gives financial incentives to encourage training activities and sets a framework of administrative rules, the training contents themselves are the result of the market interaction between enterprises' demand for training and the offer from predominantly private training institutions. Decentralized demand decisions from enterprises

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<sup>287</sup> On the general educational system in Chile and its recent reforms, see Aedo (1998) and Mena/Bellei (1998).

are thus the leading force guiding the provision of training services, and market competition among training agencies is the means for efficiency and quality in the provision of training services. This market-oriented system is fundamentally different from the typical Latin American model where these services are provided by an official, largely monopolistic, professional training institution financed mainly by a payroll levy on enterprises. It also contrasts with the state-driven system in Chile prior to the 1976 training legislation (Martínez, 1994: 1, 9; ILO, 1973, IV).

**Table 7.6. Coverage of professional training programmes, 1977-1998**

	Number of participants in enterprise programme (tax rebate scheme)	Number of participants in all programmes	Participants in enterprise programme as a share of total employment (in %)	Participants in all programmes as a share of total employment (in %)
1977	22640	55165	0.8	2.0
1978	59546	108443	2.0	3.6
1979	68795	120648	2.3	4.0
1980	97223	149076	3.0	4.6
1981	93236	114369	2.9	3.5
1982	88171	109056	3.0	3.7
1983	105452	125091	3.3	3.9
1984	122890	144572	3.7	4.3
1985	136783	158767	3.7	4.3
1986	138125	152932	3.6	4.0
1987	162849	176420	4.1	4.4
1988	174724	184559	4.1	4.3
1989	186857	199948	4.2	4.5
1990	199604	206288	4.4	4.6
1991	265403	291854	5.7	6.3
1992	297261	322029	6.1	6.6
1993	328864	361132	6.4	7.1
1994	397158	421875	7.8	8.2
1995	417255	438240	8.1	8.5
1996	451934	482303	8.5	9.1
1997	482914	512531	9.0	9.5
1998	476436	522757	8.8	9.6

Sources: SENCE (1997a: table 1); SENCE (1998); SENCE (1999a); consolidated employment series (see annex 1); own calculations

While in most cases, enterprises deal directly with the training institutions of their choice, they may voluntarily affiliate to one of the so-called Intermediary Technical Organizations (*Organismos Técnicos Intermedios*, OTIR). These OTIR plan and organize (but do not carry out) training activities for affiliated firms. Each OTIR, generally organized on a sectoral or regional basis, pools the state subsidies for the affiliated firms and acts as buying agent for a group of firms, especially those that are too small to have their own training department (Martínez, 1994: 10).

The annual number of trained workers under the tax rebate scheme remained below 200,000 up to 1990, but experienced rapid growth from 1991 onwards. Between 1996



and 1998, the number of training participants was above 450,000 per year. This means that between 8 and 9 per cent of the employed persons in Chile (between 9 and 10 per cent when other programmes are included) participate in professional training activities each year (table 7.6).<sup>288</sup> This statistical increase of professional training activities coincides with studies from the enterprise level that have found an increasing emphasis on training in most enterprises (see chapter 4.).

**Table 7.7. Professional training by origin of training and current labour force status, 1998**

(trained persons)

	Employed	Unemployed	Economically inactive	Total
By the enterprise	777303	17139	22084	816526
<i>of which</i> : via SENCE tax rebate scheme	n.a.	n.a.	n.a.	476436
Via social programmes	129293	22244	83630	235167
By own means	133512	13055	38202	184769
By other means	17280	2597	10711	30588
Total trained persons	1057388	55035	154627	1267050

Sources: Tabulations based on data from MIDEPLAN (CASEN 1998); SENCE (1999a).

Note: Data for the SENCE tax rebate scheme are not strictly comparable with those in the other lines of the table. This is due to differences in the type of source (administrative registers instead of household survey) and the reference period (calendar year 1998 instead of 12 months prior to November/December 1998).

Data from the 1998 CASEN survey show that training activities in Chile are not restricted to the SENCE tax rebate scheme. Other enterprise training activities, social programmes and training courses financed by the participants themselves also play an important role (table 7.7.). When these programmes are included, almost one in five employed persons has received some type of professional training during the 12-months period prior to the survey.

While the enterprise-based tax-rebate scheme as the main instrument accounts for more than 90 per cent of all participants in SENCE-sponsored training activities, there are several other programmes that subsidize individuals directly, especially workers not covered by enterprise-trained training, i.e. unemployed and underemployed adults, young labour force entrants and workers displaced by industrial restructuring. One of these public training programmes is the youth training scheme *Chile Joven*, aiming at facilitating the entry into the labour market for young persons from a relatively unfavourable social background. The dual format of the training (partly in an enterprise, partly in a training

<sup>288</sup> These percentages maybe slightly over-estimated due to double counting. Some workers participate in more than one training activity over the year.

institution) is modelled on the German dual system. In addition to the training costs, the programme finances a living allowance for the duration of the training.<sup>289</sup>

Even though the coverage of professional training measures still lags behind industrialized countries (Scapini, 1999: 155), the recent development can be considered satisfactory in quantitative terms. The following subsections will analyze the distribution of professional training across economic sectors, enterprise types and categories of workers. It will also identify some of the strong and weak points in the organization of the training system and in the quality of training courses.

### 7.2.3. The strengths and weaknesses of the training system

The previous subsection presented a brief overview of the functioning of the Chilean training system and its dynamism during the 1990s. This dynamism in itself is already one important strength of the system: the subsidies provided by the tax rebate scheme have encouraged enterprises to increase their training activities, although further increases will be necessary in the future to attain the levels of developed countries. But of course it is not only the quantity of training that matters. It is also important that the training activities effectively correspond to the skills needed in order to increase enterprises' productivity. Here lies another inherent strength of the Chilean training system: given that the offer is driven by the decentralized demand decisions of enterprises, the training activities automatically correspond to their perceived needs.<sup>290</sup> This is a major advantage in comparison with traditional state-driven training systems where there is an inherent risk that the training activities organized by the state do not correspond to the skills needed in the market. The innovative aspect of the Chilean system is therefore that it introduced a market-driven approach but yet does not limit the state to a pure "hands-off" approach.<sup>291</sup>

The youth training scheme *Chile Joven* also was relatively successful. Follow-up studies showed that six months after finishing the programme, 60.7 per cent of the participants were either working or studying, while the share in a control group that had not participated in the programme was only 42.9 per cent (SENCE, 1999b: 15). Despite this relative

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<sup>289</sup> For more detailed information on *Chile Joven*, see SENCE (1999b) and Haagh (1999). The programme was started in 1991 via a contract with the Inter-American Development Bank. From 1996 onwards, the programme has been financed from the regular state budget.

<sup>290</sup> Whether these perceived training needs really correspond to the enterprise's needs depends on the system of detection of training needs used. In most enterprises, the detection of training needs is still fairly ad-hoc and intuitive, but more systematic procedures are starting to become more common, at least in the bigger enterprises.

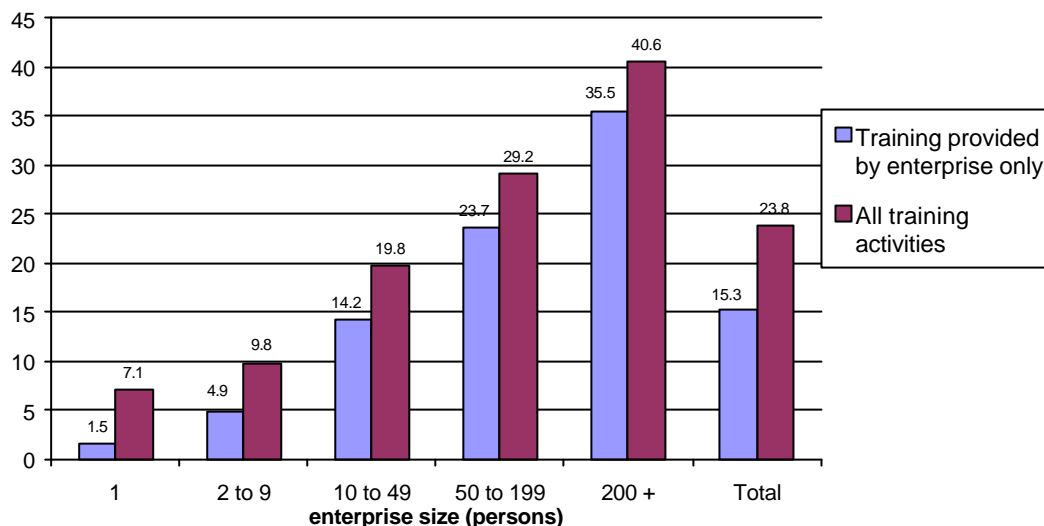
<sup>291</sup> Although the main immediate benefits from professional training go to the individual enterprises and workers involved, but it is widely recognized in economic theory that the benefits of training for the society go beyond the individual benefits ("externalities"). This justifies the use of subsidies out of taxpayers' money to foster training activities.

success, however, the data also show that a considerable share failed to integrate despite having participated in the scheme.<sup>292</sup>

Notwithstanding the good performance of the Chilean training system according to several criteria, there are several important biases and problems:

**Figure 7.3. Professional training by enterprise size, 1998**

(trained persons as share of employed persons, in per cent)



Source: Tabulations based on data from MIDEPLAN (CASEN 1998).

**A bias against small enterprises.** The distribution of trained workers by enterprise size shows a strong bias in favour of big enterprises and against small- and medium-size enterprises. While only 4.9 per cent of the workers in small enterprises with two to nine workers received enterprise-provided professional training in 1998, this share systematically increases with the enterprise size and attains 35.5 per cent in enterprises with 200 and more workers (figure 7.3.). There are several explanations for this bias:

- The organization of the refund for training costs in the form of a tax rebate implies that the refund only takes place once a year. This is a problem especially for small enterprises that lack working capital and have restricted access to credit.<sup>293</sup>
- The relative weakness of intermediate institutions and the low degree of membership of small enterprises in business associations cause information deficiencies. Many small enterprises are simply not sufficiently informed on the benefits they are entitled to when they want to carry out training activities (Fundes Chile / Adimark, 1999).<sup>294</sup>

<sup>292</sup> The record of the Chilean scheme in terms of occupational (re-)integration also lacks behind the schemes in other countries such as South Korea (Haagh, 1999: 461).

<sup>293</sup> With the 1997 reforms of the training system (see 7.2.3.), a new system of direct subsidies to small enterprises from a newly established training fund has been introduced.

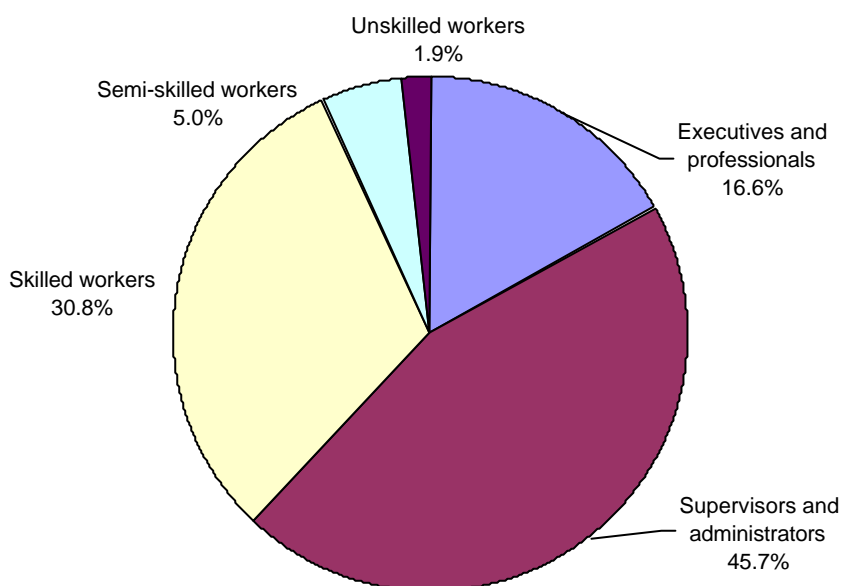
<sup>294</sup> The deficient information in many small enterprises came also up in some of the enterprises interviewed for the sectoral case studies in chapters 5. and 6.

- There are other reasons that are more difficult to correct because they are not only related to the training system, but to the situation of small enterprises in general. The capacity of small enterprises to organize professional training is lower than that in bigger enterprises because their management is often less professional and their resources are scarcer. Moreover, the training on offer is often not deemed appropriate by small enterprises.<sup>295</sup>

The bias against small enterprises is problematic from both the efficiency and the equity point of view. In terms of economic efficiency, labour productivity in small enterprises is generally relatively low and there is scope for important productivity increases with relatively modest investments. In terms of equity, when most workers in small enterprises are excluded from professional training opportunities, they lose one important means to improve their situation in terms of incomes and employment quality.

**Figure 7.4. Distribution of trained workers via the tax rebate scheme by occupation, 1997**

(per cent shares)



Source: SENCE (1998: table 14); own calculations.

**A bias against production workers.** The distribution of trained workers by occupational category suffers a strong bias in favour of top and middle management and against production workers, especially unskilled and semi-skilled workers. As figure 7.4. shows, among all persons trained under the tax rebate scheme in 1997, only 1.9 per cent were unskilled workers and 5.0 per cent semi-skilled workers. Skilled workers accounted

<sup>295</sup> This point is also illustrated by a 1990 SERCOTEC survey cited in Haagh (1999: 444): "[The] survey found a perceptible gap between the number of firms which acknowledged that the workforce required training (43 per cent), and the number which felt able to carry it out (13 per cent). More than 95 per cent of such firms rejected the management courses on offer on the Chilean market as incompatible with their situation."

for 30.8 per cent while the majority was accounted for by supervisors and administrators (45.7 per cent) and executives and professionals (16.6 per cent). The distribution across categories of occupation is largely unchanged since the early 1990s. This bias against production workers is a specific characteristic of the Chilean training system and does not exist in most other Latin American countries (Haagh, 1999: 445, 452).<sup>296</sup> Several explanations can be given for this bias:

- The Chilean training system gives more emphasis to market decisions than to equity considerations, and many enterprises thus choose to train their managers and professionals rather than their production workers.
- As has been seen in the sectoral case studies in chapters 5. and 6., the work organization patterns in Chile do not give a strong role in programming activities to their production workers. Enterprises thus keep the skill requirements for production workers relatively low, so that their need for training may not always be obvious.
- More generally, Chilean enterprises favour a management- and professionals-driven rather than a participatory administrative style. Production workers do not have a role in training decisions.<sup>297</sup>

**A bias against technical training contents.** The distribution of trained workers by training content shows that a total of more than 70 per cent is accounted for by administration (35.5 per cent), services and commerce (15.5 per cent), computing (16.2 per cent) and language courses (4.7 per cent). Technical training contents (industry, mining and technically oriented science courses) account for only 11.7 per cent of all trained persons (figure 7.5.).<sup>298</sup> There are several explanations for the relatively low incidence of technical training contents:

- Most training is carried out by profit-oriented private training corporations. Some training contents, such as English language or computing, can be taught to large groups in a relatively standardized form, making it less costly and potentially more profitable. Technical training contents, by contrast, must often be very specific to the economic

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<sup>296</sup> Data from enterprise surveys in the manufacturing sector give different results, with a higher share of production workers among the trained persons (Mizala/Romaguera, 1993). This difference is probably due to informal training activities at the workplace which are not included in the SENCE statistics. It is however likely that the investment per person in these activities is far lower than in the more formal training courses that are financed via the tax rebate scheme. Moreover, another nationally representative source, the CASEN survey, rather confirms the picture drawn by the SENCE data. According to these data for 1998, professionals were more than seven times more likely to participate in professional training in a 12-months period than unskilled workers, and more than three times more than operators (Tabulations based on data from MIDEPLAN, CASEN 1998).

<sup>297</sup> For the trade union confederation CUT, the low training incidence for unskilled and semi-skilled workers is a reflex of "a management style that distrusts the workers". The CUT also accused enterprises to privilege non-unionized workers in their selection of workers to be trained (CUT, 1996: 2).

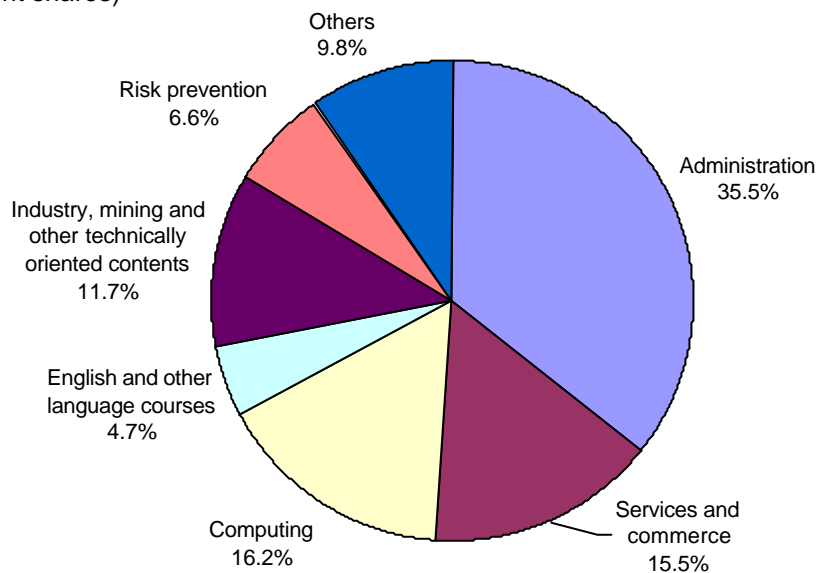
<sup>298</sup> Some previous studies have indicated an even lower share of technical training contents, considering only the share for the training content category "manufacturing" in the SENCE statistics. It is however more appropriate to consider in more detail the different subcategories of the broad category "basic and applied sciences", several of which correspond to technical courses for manufacturing enterprises.

sector, the type of productive process or the type of machinery used. It therefore tends to be less standardized and more cost-intensive.

- Given that technical training contents are generally fairly specific, they would require stronger intermediate institutions at sectoral level that would be able to define training programmes for certain types of activities and facilitate the matching process between training institutions and enterprises. Although the intermediate institutions (OTIR) are very helpful in this regard, they do not exist in all economic sectors and are sometimes too weak.
- Beyond the scope of the training system itself, enterprises emphasize administrative and management strategies rather than productive strategies (see the findings of the sectoral case studies presented in chapters 5. and 6.). It could therefore be argued that the enterprises' own preferences are not in favour of technical training contents.

**Figure 7.5. Distribution of trained workers via the tax rebate scheme by training content, 1997**

(per cent shares)



Source: SENCE (1998: tables 6, 7); own calculations.

Note: The category "industry, mining and other technically oriented contents" has been calculated by adding industry, mining and the technically oriented courses given under the category "basic and applied sciences" in the original SENCE data. The category "risk prevention" has been calculated by adding the data for "risk prevention and environmental hygiene", "fire prevention" and "first aid".

**Uneven quality of the provided training.** The quality of the training courses does not always live up to expectations. According to internal SENCE studies, in 1996, only about 1,000 of the 3,800 registered training institutions were considered to be of good quality (Herrera/Ruiz-Tagle, 1997: 32). Although this was an improvement compared to previous years, it means that there are still a lot of low-quality training institutions in the market. Moreover, many the training courses in the current training system are too short to

give a sufficient training to the workers. The following factors can explain the uneven quality of training:

- In the Chilean training system, there are no strong monitoring and certification mechanisms. For example, SENCE does not publish the names of those training institutions that are considered "good" or "bad". There is no "ranking" that would facilitate the identification of good providers. Enterprises do not have sufficient information on the quality of training on offer, and this lack of transparency enables low quality training institutions to survive in the market.
- The Chilean training market is extremely fragmented. As mentioned above, there were 3,800 training institutions registered in 1996. In 1997, the most important training institution (*Corporación de Capacitación de la Industria*) accounted for about 5 per cent of all trained workers, and as many as 728 training institutions trained not more than 50 workers each during that year (SENCE, 1998: tables 4, 9). While this fragmentation of the market avoids monopolistic behaviour and ensures competition, this competition does not guarantee high quality when the product is difficult to evaluate prior to purchasing it, as is the case for professional training. On the contrary, an excessively high number of training institutions makes it more difficult for enterprises to obtain information on good providers.
- There are too few intermediate institutions (OTIR). The OTIR actively monitor the quality of training institutions in order to provide their affiliated enterprises with high quality training, and a strengthening of their role could thus diminish the risk for enterprises to purchase substandard training services.

**Institutional issues and weaknesses.** While the strong role for the enterprises themselves in defining training activities and contents ensures that, in principle, training activities are adapted to market needs, it also has some negative sides:

- Enterprises are generally unwilling to invest into training activities of workers who are expected to stay only for a short time in the enterprise. It has indeed been observed that enterprises with higher worker turnover are less likely to train their workers than those with lower turnover (Haagh, 1999: 444).<sup>299</sup> While this behaviour is of course rational from the point of view of the enterprise which loses its investment in training when the trained worker leaves, it is problematic from the social point of view. Especially those workers with a high turnover and unstable employment relationships would benefit from professional training to obtain higher salaries or to obtain a more stable employment relationship in the future.
- Another weak point of the system is the lack of workers' participation in the definition of the training programmes and the selection of the participants. According to a survey among 245 trade union presidents carried out in 1992 (Haagh, 1999), almost two thirds of the unionists in whose enterprise there was some training activity declared that the union "never" had any influence on the selection of those who would benefit from

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<sup>299</sup> This point is strengthened by the data presented in chapter 4. that show that salaried workers with temporary work contracts and those without written work contracts are less likely to participate in professional training activities than the permanent salaried workers with written contract.

training.<sup>300</sup> Prior to the 1997 reform of the training legislation (see subsection 7.2.4.), there was "no legal provision for workers' participation - individually or collectively - in decisions concerning training, either at the firm or at higher levels" (Martínez, 1994: 21).

In sum, the Chilean market-driven training system has been able to trigger an increase of Chilean enterprises' training activities which effectively correspond to perceived needs. The system's main weaknesses have been the uneven quality of the provided training, its lack of workers' participation and its bias against small enterprises, blue collar workers and technical training contents.

#### **7.2.4. Recent reforms of the training system and their link to the business-labour relationship**

The democratic governments in Chile detected some of the system's weaknesses analyzed in the previous subsection. In addition to ensuring the dynamic growth of the system, the government therefore decided to reform the training system. In 1994, it presented a project for a new training law (see Montenegro et al., 1995: 56-59). The position of the social actors with regards to the project and the outcome of the decision process up to the enactment of a new law in 1997 give interesting insights into the scope and the limitations of the Chilean model's learning capacity.

The government's reform project intended to maintain the general characteristics of the system and its main advantages, but introduced several modifications to address its biases and weaknesses:

- In order to increase the workers' participation in the definition of enterprise training strategies, a bipartite training committee would be created in all enterprises with 15 workers and more. This committee would consist of management and workers' representatives. While the workers' representation in the project was not exclusive to unionized workers, a higher representation was given to unionized than to non-unionized workers.<sup>301</sup> The task of the bipartite committee would be the definition of an enterprise training strategy (training contents, number of trained workers and timing). The agreement upon a training strategy in this bipartite committee would entitle the enterprise to a higher tax refund (1.2 per cent of the wage sum) while in the absence of a consensual strategy, the maximum refund would be lowered to 0.8 per cent. This

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<sup>300</sup> 12 per cent declared that they "always" had an influence, while 22 per cent "sometimes" had an influence. These figures have been calculated on the base of the data in Haagh (1999: table A6), excluding those unionists in whose enterprises no training had taken place and those who did not answer.

<sup>301</sup> The three workers' representatives in the bipartite training committee were to be chosen according to the following key: the unionized workers choose all three representatives in enterprises where there the unionization rate is 66 per cent or more; two representatives where the unionization rate is between 33 and 66 per cent, and one representative where the unionization rate is higher than zero but lower than 33 per cent. The remaining workers representatives were to be chosen by the non-unionized workers (Montenegro et al., 1995: 57).



mechanism was designed to give an incentive to consensual outcomes of bipartite negotiations.

- In order to strengthen the social dialogue on the country's training strategy at the national level, a national training council (*Consejo Nacional de Capacitación*) would be created with representatives from government ministries as well as business and labour representatives. The council's role would be to assist the Ministry of Labour in the formulation of the national training strategy.
- In order to avoid the bias in favour of professionals and management and give incentives for the training of low-wage earners, the project would introduce new maximum salary thresholds for tax rebate entitlements. Thus, the refund would be 100 per cent of the incurred training costs for low-wage earners, 50 per cent for medium-wage earners and only 25 per cent for the top-wage earners.
- In order to finance training activities outside the normal tax rebate scheme, a national training fund (*Fondo Nacional de Capacitación*) would be created. Moreover, in order to facilitate training activities by small enterprises in which one per cent of the total wage sum is too little money to finance any significant training activity, the minimum refund sum was to be increased.

In its statement on training policy, the trade union confederation CUT agreed with the proposed changes as a step in the right direction, although it would have preferred more far-reaching reforms. It welcomed explicitly the idea of a national training commission, the bipartite training committees at the enterprise level and the national training fund (CUT, 1996).

By contrast, the position of business was much more critical towards the project. The manufacturing business association SFF issued a statement (Sociedad de Fomento Fabril, 1996b) in which it agreed with the idea to improve the training system and identified some weak spots of the training system (such as the absence of sufficient information and certification mechanisms that enterprises could base their training decisions on). However, it disagreed with the key proposals in the government project<sup>302</sup>:

- The SFF statement was strongly opposed to the creation of bipartite training committees at enterprise level. This participatory device was seen as a departure from the necessary technical criteria in enterprises' training policies. The statement explicitly rejects the idea of a co-determination mechanism. Moreover, the SFF criticized the higher representation of unionized workers compared to their non-unionized colleagues, as an element of discrimination against non-unionized workers.
- With regards to the creation of a national top-level institution of social dialogue on training policies, the SFF paper considers this proposal as unrealistic and inefficient: "Nobody else than the enterprises themselves can decide better on what to train, whom to train and when to train." (Sociedad de Fomento Fabril, 1996b: 7)

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<sup>302</sup> An earlier business statement prepared by several OTIRs with the help of the pro-opposition think tank *Instituto Libertad y Desarrollo* had come to similarly critical conclusions. It argued against the creation of bipartite training councils because "training is not an issue for agreements", but rather a "technical issue" (*Corporación de Capacitación de la Construcción*, 1994: 1).

- The paper does not agree with the decreasing state refund for the training of high-paid workers. In the entrepreneurs' view, there should not be any special preference for low-paid workers in the training system: "The goal of training is higher productivity and not more redistribution." (Sociedad de Fomento Fabril, 1996b: 4)
- The national training fund was criticized as imprecise in its goals and increasing the centralization and bureaucratization of the training system (Sociedad de Fomento Fabril, 1996b: 4).

In order to obtain a majority for the reform project in the Upper House of Parliament (*Senado*), the government coalition had to negotiate with the right-wing opposition that defended the business criticisms against the original project. The negotiations between government and opposition were successful and the outcome was a new training law (*Ley Num. 19,518 Fija Nuevo Estatuto de Capacitación y Empleo, 1997*) that maintained the main elements of the original government project, but modified the mechanism of the bipartite training committees so as to calm business fears:

- The instrument of the bipartite enterprise committees in enterprises with 15 or more workers was maintained. However, the negotiations led to two important modifications. First, unionized and non-unionized workers have the same representation according to their share in the enterprise's work force.<sup>303</sup> Second, the incentive element of a higher tax refund for enterprises with a consensual training strategy was softened. The tax refund will not be lowered in the absence of a consensual training strategy, and the one-fifth increase of the refund in case of consensus does not operate beyond the maximum 1 per cent refund.<sup>304</sup> This makes it easier for enterprises to move ahead without seeking the compromise with the workers' representatives in the bipartite committee.
- The law maintained the idea of a tripartite national training council (*Consejo Nacional de Capacitación*). This council consists of representatives from the Ministry of Labour, the Ministry of Finance, the Ministry of the Economy, the Ministry of Education and CORFO on the government side, as well as four representatives each from the most representative business and labour organizations. The council's task is to assist the Ministry of Labour in the formulation of the national training strategy (*Ley Num. 19,518, Art.9*).
- The progressive decrease of the refund rates according to the worker's salary was maintained, giving an incentive for the privileged training of low-wage workers. The enterprise's own contribution to the training costs for top-income workers was even

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<sup>303</sup> The three workers representatives in the bipartite training committee are chosen according to the following key: The unionized workers choose all three representatives in enterprises where the unionization rate is above 75 per cent; two representatives where the unionization rate is between 50 and 75 per cent, and one representative where the unionization rate is between 25 and 50 per cent. The other representatives are chosen by the non-unionized workers (*Ley Num. 19,518, Art. 17*).

<sup>304</sup> This means for example that, for an activity that entitles the enterprise to a refund of 50 per cent of the incurred cost (training of middle-income workers) without agreement, an enterprise with a bipartite training plan can claim a refund of 60 per cent of the incurred cost (50 per cent plus 20 per cent of that amount = 60 per cent). The total annual refund can however not be higher than 1 per cent of the wage sum.

increased to 85 per cent compared to 75 per cent in the original project (*Ley Num. 19,518*, Art.37).

- The law also maintained the idea of the creation of a national training fund. This fund strengthens the funding of training activities outside the tax rebate scheme (for example special programmes for workers affected by dismissals as a consequence of economic restructuring) and opens the possibility to finance training activities by small enterprises without the need to wait for the annual tax declaration for the refund (*Ley Num. 19,518*, Art.44-70). This is meant to correct the problem of scarce working capital that kept many small enterprises from carrying out training activities. However, a survey among small enterprises carried out after the reform (Fundes Chile / Adimark, 1999) suggests that the lack of working capital is still a problem. Many enterprises do not know the new fund and it might be more practical to allow these enterprises to deduct training expenses from the VAT payments which are made more frequently over the year.

In sum, the compromise maintains most of the key elements of the original project. However, it illustrates once more the strong influence of business on the policy-making process when it comes to the most ideological issue of the relationship between management and workers. The concept of "co-determination" that has proven to be successful in several countries, especially with regards to professional training, is flatly rejected by Chilean business representatives. While the final law maintained the compulsory creation of a bipartite training committee, the negotiations made them acceptable to business because enterprises can easily decide to move ahead without the workers' agreement given that the reward for a consensual training strategy is relatively low. In practice, many enterprises may create these committees on paper without giving them any significant role in the definition of training policies. The trade unions participated in the policy-making process with a supportive statement, but their intervention did in no way change the original project. The trade unions' demand to go beyond the original project was not heard.

While the creation of these bipartite training committees has become compulsory, the incentive to ensure an effective working of these committees is relatively low. The experience with the bipartite commissions for occupational health issues that have existed for more than a decade now is hardly encouraging: According to a 1992 union survey, these commissions functioned in only one third of cases (Haagh, 1999: 451). Mentioning other shortcomings of the reforms, Haagh (1999: 453) draws pessimistic conclusions:

The new reforms left untouched one of the central weaknesses of SENCE, namely that it was neither legally empowered nor politically motivated to undertake a strategic role in regulating the PTCs [private training corporations], or in policies of accreditation and training supply. Nor did the new reforms touch in any way the problem of the absence of institutional linkage in the training system or the lack of a generalised system of the certification of skills.

Despite these justified reservations, it can be said that the 1997 reform of the training legislation was a step in the right direction. It is however uncertain whether the legal modifications were important enough to correct the biases and weaknesses in the Chilean training system. Given that the new law only started to be applied in January 1998, it is still too early for a definitive assessment. SENCE statistics, household surveys and specialized

studies will be necessary to monitor the performance of the system during the next years and introduce further changes as appropriate.

In sum, the Chilean training system is an example for an innovative institutional element of the "Chilean model" that has successfully been reformed under democratic government, although participatory structures are still relatively weak:

- The training system was successful in fostering the training activities by Chilean enterprises according to real enterprise needs. Moreover, the government was successful in introducing a reform to the system in order to correct some biases that had been detected in the functioning of the system. Interestingly, most of the new regulations introduced by law work as market regulations: rather than strengthening compulsory rules, the law establishes financial incentives for the behaviour that the government wanted to encourage.
- However, the training system also illustrates some key weaknesses of the "Chilean model", most notably the priority of efficiency over equity and the weak role of labour in the definition of training contents and in the selection of workers to be trained. Although an important share of the training resources consists of government subsidies (via the tax rebate scheme), the enterprises can decide on their use without even consulting the workers. The discussions on the reform project once more demonstrated business fears of "co-determination". While the mechanism of bipartite training councils at enterprise level, the mechanism designed to enhance workers' participation in the training strategy, was maintained in the final law, the business opposition managed to dilute this instrument to an extent that makes the dialogue between management and labour on training issues a voluntary, rather than compulsory, procedure.

### **7.3. The national system of innovations**

Research and Development (R&D) activities play an important role in a strategy of technological upgrading and towards higher productivity. In this field, public interventions are justified even according to the logic of mainstream economic theory. The main reasons are, first, that the benefits from R&D activities for a country are bigger than the direct benefit for the innovating enterprise and, second, that R&D is inherently risky, that is, the expected outcome cannot be predicted with certainty when the activities are undertaken. These risks may keep individual enterprises from undertaking R&D activities in the absence of adequate public support. Thus, without any state intervention, a country would underinvest in R&D.

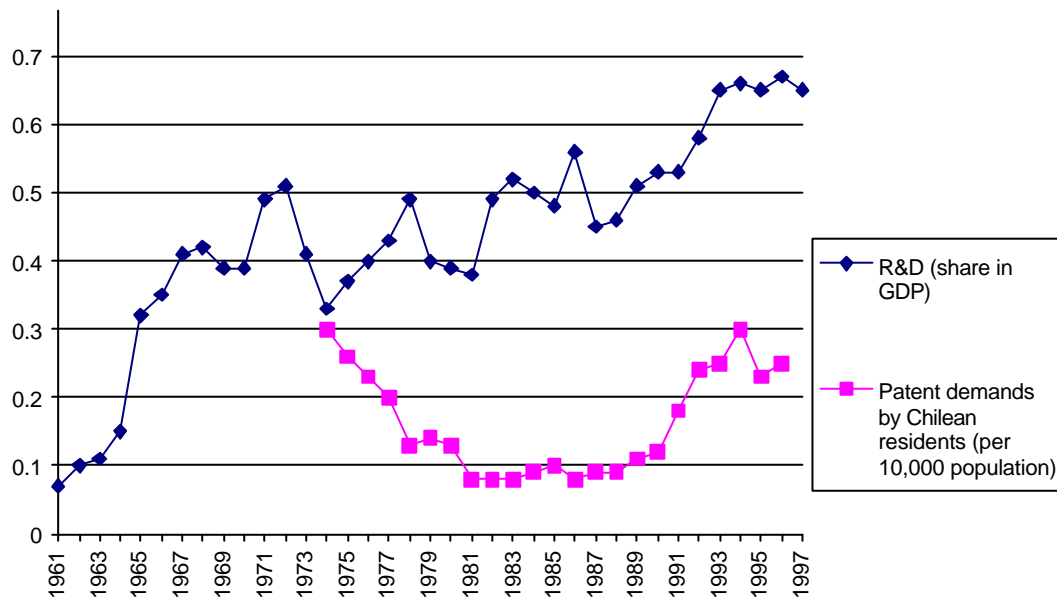
Even though the market provides incentives to upgrade production, individual firms have difficulties in doing so because upgrading in a globalized context often requires marketing, research and quality control efforts of a magnitude that cannot be taken by any firm individually. This may have been different during the early phases of export-oriented growth when high profits enabled individual enterprises, for example in the fruit sector, to carry out important investments in order to catch up with international standards. More recently, however, intensifying competition has tended to reduce profit rates, increasing the need for both pooling individual firms' resources and strengthening the incentives to act collectively

(Jarvis, 1992). Public policies could help build an institutional arrangement jointly with exporters in order to move from the present system, largely based on short-term profitability, to a system based on long-term profitability considerations.

Most Latin American countries have therefore established public scientific and technological institutions in the 1950s and 1960s. Recent evaluations found, however, that most industrial research institutions were facing a number of problems. Most of them are of bureaucratic nature and research programmes are determined on the basis of what the government or individual researchers want and not as a result of a study of what industry needs (Alcorta / Peres, 1998: 859-863). As a result, most research results that are supported with public funds are never used in actual productive activities.

In Chile, too, R&D policy started in the 1950s with the establishment of the *Servicio de Cooperación Técnica* (SERCOTEC) and other public research institutions (Benavente/Crespi, 1998: 118). The strategy of these institutions up to 1973 was to propose a subsidized offer of research and technology in both traditional manufacturing sectors and natural resource intensive sectors like fruit and forestry.

**Figure 7.6. Research activity in Chile, 1961-1997**



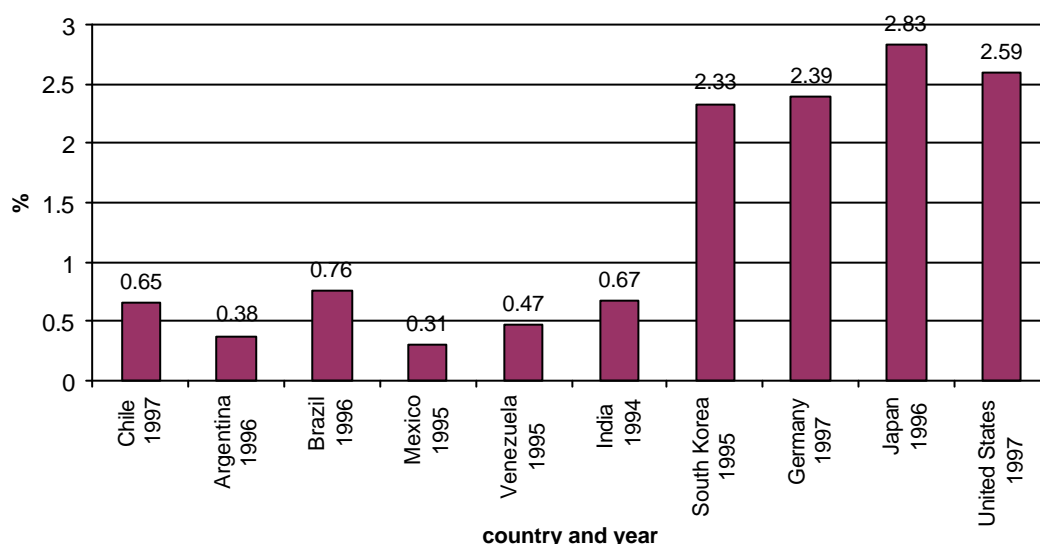
Source: CONICYT (1998).

Between 1973 and 1990, the overall volume of R&D developed less dynamically than during the previous period because the state reduced its activity in research and technology and froze the funding for public universities. Research activities as measured in the number of patents per 10,000 population even declined (figure 7.6.). The most successful experience of this period is probably the semi-public foundation *Fundación Chile*, which has had an important role in developing new export products. The introduction of salmon cultivation for export is largely due to the activities of the foundation, which provided Chilean firms with the necessary know-how (Huss, 1991).

According to neo-liberal ideology, the incentives to productive development should have been given in the form of market-driven demand subsidies and in a sectorally neutral way. However, the Chilean State was not as neutral as its ideological statements would make us believe. Although it did not exercise the role of a developmental state in such a broad way as the East Asian states, it did use a number of sectoral incentives in order to try to accelerate the enterprises' orientation towards natural comparative advantages. For example, while passing ownership of forest land from public ownership to private enterprises, the *Decreto Ley 701* of 1974 established a direct subsidy for reforestation amounting to 75 per cent of the costs, as well as generous tax exemptions (Pitterle, 1997: 8-14).

**Figure 7.7. Research and Development (R&D) spending as a share of GDP, selected countries, latest available year**

(per cent)



Sources: CONICYT (1998); Programa de Innovación Tecnológica (2000).

While R&D policies and productive development during the military government were successful in their support to new natural resource intensive export sectors (such as salmon, fresh fruit and forestry products), no help was provided to assist the declining traditional import substitution sectors (such as the textile industry) in their restructuring (Muñoz, 1996b: 29). Small enterprises did not benefit much from these policies either.

After 1990, the system retained its basically market-driven structure, but was modified in several important ways (Ministerio de Economía, 1997; Perez-Alemán, 1998):

- Additional public resources were made available for R&D activities and new public funds to subsidize R&D projects were set up. As a consequence, the share of R&D activities in GDP increased significantly during the early 1990s (figure 7.6.). According to the most recent available figures, this share was 0.65 per cent in Chile, more than in Argentina (0.38), Mexico (0.31) and Venezuela (0.47), but lower than in Brazil (0.76)

and less than one third the level of developed countries or of a newly industrialized Asian country such as South Korea (2.33) (figure 7.7.).

- A new incentive scheme of Development Projects (*Proyectos de Fomento*, PROFOs) for small and medium enterprises was set up. This scheme works by creating groups of eight to 15 firms of the same economic sector around the objective of developing their competitiveness and productivity. The enterprises can obtain funds to subsidize common activities of productive development up to 70 per cent of their cost. These activities can consist in consulting services, technological journeys to visit exhibitions or technologically advanced foreign enterprises of the same sector. The systems works through intermediate institutions between the government agency CORFO and the enterprises (often business associations) which gather interested enterprises and monitor the progress of the projects.
- Although the programmes remain open to enterprises from all economic sectors, more active information policies are oriented towards sectors in restructuring in order to encourage them to make use of the available instruments. Exceptionally, small amounts are earmarked for a specific sector to encourage its restructuring. This was the case of a recent support programme for the textile and garment industry, which has however not been particularly successful (see chapter 5.).

The performance of the R&D system during the 1990s has been quite satisfactory. R&D activities have intensified. The projects subsidized from public funds have generated a considerable number of patents (Labarca, 1997: 93). A detailed evaluation of the Development Projects PROFOs suggests that the participating enterprises have indeed introduced certain organizational changes and increased their sales and salaries more dynamically than a control group of enterprises which did not participate in the programme. Moreover, the fiscal cost involved in financing the subsidies is more than compensated by the additional fiscal revenues for the state from higher VAT and income tax (Benavente et al., 1997). The approach of fostering the cooperation between enterprises is especially remarkable in a country where the relations between enterprises are often characterized by excessive rivalry (see chapters 5. and 6.).

Despite these positive results, the R&D institutions in Chile still suffer from severe problems (Benavente/Crespi, 1998: 139; ILO, 1998a: 277-279). The institutional development is still fragile and there are problematic overlaps between the functions of the different funds and institutions. Despite substantive efforts, the information on available programmes (a necessary condition for the efficient functioning of any market-driven system) is still not sufficiently spread among the enterprises. The services for the manufacturing sector are still insufficient to effectively foster its technological upgrading on a broad basis. This is all the more important as the scientific and technological capacities are a relatively weak spot in the competitive profile of the country.<sup>305</sup>

Moreover, the consulting services contracted under the PROFO programmes were oriented more towards administration, organization and marketing than towards productive

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<sup>305</sup> As one indication it can be taken that Chile ranked 18<sup>th</sup> in the 1996 World Competitive Report according to its overall performance, but only 38<sup>th</sup> according to its scientific and technological capacities (Ministerio de Economía, 1997: 9).

technologies as such. The capacity of small and medium enterprises to develop new products and processes remained weak (Benavente et al., 1997: 92; Muñoz, 1996b: 53). It is thus uncertain to what extent the incentive schemes can encourage small and medium-size enterprises to adopt advanced production technologies and to face competitive challenges with higher productivity.<sup>306</sup>

In sum, the institutional framework for R&D activities performs reasonably well, especially in the Latin American context where many countries' technological and research institutions suffer from excessive bureaucratization and insufficient response to real market demands. The Chilean system maintained its strong market-driven elements that have been introduced under the military government, but at the same time developed a stronger emphasis on the manufacturing sector and on small and medium-size enterprises, neglected during the dictatorship. The Chilean system does not seem to be successful, however, in fostering a stronger emphasis on productive technologies and product development among small and medium enterprises, an area where the sectoral case studies in chapters 5. and 6. revealed important deficiencies.

#### **7.4. Summary**

The economic, social and political restructuring during the military dictatorship in Chile has caused a historical shift in the balance of power between business and labour in favour of business. The institutional framework has strengthened market and individualistic regulations at the expense of voice regulations. The two democratic governments under Patricio Aylwin (1990-1994) and Eduardo Frei (1994-2000) have attempted to re-establish the balance between the different social actors and between the different types of regulation.

In these re-balancing attempts the government had to cope with the veto power of the right-wing opposition in the Upper House of Parliament and several other institutions, and the strong position that the neo-liberal ideology has reached in Chilean society. Even the higher-ranking managers in the public administration often believe in the inherent superiority of market mechanisms and think that these mechanisms can in principle be applied to all areas of society (Messner, 1997: 61).

In the area of labour institutions, the reforms to the labour legislation of the 1990s that the government negotiated with business representatives and the parliamentary opposition, have proven insufficient to redress the imbalance between labour and business and to strengthen voice regulation mechanisms. The rates of unionization and collective bargaining have been declining since 1993 after initial increases during the transition period. They are low by international comparison and compared to the period prior to the 1973 military coup in Chile. Government efforts for a second labour reform have so far remained unsuccessful due to the resistance of business and opposition.

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<sup>306</sup> A study on enterprise strategies in Chile, Jamaica, Mexico and Venezuela (Macario, 1995 as cited in Alcorta/Peres, 1998: 868) suggest that "firms in these countries when confronted with a critical situation are likely to react by emphasizing commercial and financial solutions, not technological ones".



In the training and R&D systems, demand-driven institutions have been introduced and work reasonably well. More specifically, these systems have successfully attacked the problems of excessive bureaucratization and misalignment between the offer and demand that plague this kind of institutions in many other Latin American countries. However, the outreach of these systems to the more backward enterprises is very limited. Moreover, the training system is biased against production workers, small enterprises and technical training contents and gives little scope for workers' participation. Recent reforms of the training system have addressed these biases by changing the incentive structure (lower refunds for the training of high-wage workers, increased refunds for small enterprises and enterprises with a bipartite agreement on training policies). It seems however unlikely that the recent reform will strengthen voice regulation in a significant way without more general changes in the labour legislation and labour relations.

Moreover, despite the incentives for productivity-enhancing strategies, the flexible labour legislation to some extent encourages enterprises to adapt employment and salary levels rather than increasing productivity.

The study of the institutional framework in which Chilean enterprises operate has helped to explain a number of the findings from the sectoral case studies in chapters 5. and 6.:

- The incidence of professional training has increased, but the training system is biased towards management staff and professionals rather than production workers. This bias is reflected in the failure of most visited enterprises to upgrade the tasks of their production workers in a comprehensive manner.
- The labour legislation makes it relatively easy to dismiss workers and is permissive with regards to fixed-term contracts and other modalities of non-standard employment. This has encouraged enterprises to emphasize strategies of numerical flexibility with the consequent problems of employment quality.
- The deficiencies in the employment quality of non-standard workers are aggravated by the fact that very few are affiliated to a trade union and most are by law excluded from collective bargaining.
- Innovations and participatory approaches are shared with the managers, professionals and technicians, but not with the average production worker (or service worker for that matter). This is directly linked to the broader institutional context (shift of power balance from labour to capital) and the specific labour institutions (collective bargaining excludes innovations in order to leave the entrepreneur's capacity to run the enterprise unrestricted).
- More specifically, the Chilean labour legislation explicitly excludes issues that involve the employer's capacity to manage the enterprise from collective bargaining. Moreover, except minor exceptions, it does not make provisions for participatory mechanisms within the enterprise. The unilateral management control of enterprises is eagerly defended by organized business against changes that the government plans to introduce. This anti-participatory bias is reflected in the authoritarian management practices and absence of participatory mechanisms in most of the visited enterprises.
- The institutions to foster Research and Development (R&D) activities performs reasonably well by Latin American standards. In particular, it is remarkable that the

Development Projects (PROFOs) for small- and medium-size enterprises encourage the creation of enterprise groups where resources are pooled to access knowledge on markets, management practices and technologies. In the sectoral case studies, several enterprises had successfully participated in such programmes, while others had failed to overcome the excessive rivalries that often exist between Chilean enterprises. An increased coverage of these programmes might be useful to attain a "critical mass" of enterprises that would provide demonstration effects on the benefits of cooperation to other enterprises as well.

- More generally, the institutional reforms under the "Chilean model" have already been successful in stimulating competition as an engine behind the dynamism of private entrepreneurial activities. Competition can however become counter-productive when it leads to excessive rivalry and mistrust between enterprises. Despite the already mentioned innovative approach of the PROFOs, much remains to be done to foster cooperation as a complement to competition and encourage enterprises to work together on certain issues in order to create synergies and access resources.

## 8. Conclusions

*Hoy los chilenos somos dos veces más ricos que en 1990, pero estoy seguro de que no somos el doble más felices.*

Sebastián Piñera, interview in Capital, January 1998, p.35

This concluding chapter firstly provides a brief summary of some of the major findings of the study (8.1.). It then links the national- and enterprise-level evidence and argues that the virtual exclusion of labour from the policy-making process and the unilateral managerial control at enterprise level are important factors in understanding the Chilean model. For the future of Chile's socio-economic development, the correction of these imbalances is one of the major challenges (8.2.).

### 8.1. Inside the model: summary of the empirical evidence

The Chilean model has been much praised for its record of uninterrupted economic growth between the mid-1980s and 1998. Even though income distribution remains extremely skewed, the share of the population living below the poverty line has been halved between 1987 and 1998.

The manufacturing sector which suffered disproportionately during the restructuring process and the two major recessions between 1973 and 1983, has been able to expand strongly from 1984 onwards, including in its growth the hardest-hit traditional import-competing industries such as metalworking and the textile and garment industry.

However, at least up to the end of military government, the Chilean model was not a model with regards to its manufacturing productivity, leaving enormous challenges for the 1990s if the manufacturing sector was to continue its expansion under changed macroeconomic (exchange rate) and political (democratization) conditions. Even according to the most up-to-date comparative data of the mid-1990s, the average labour productivity of Chilean manufacturing enterprises is not higher than is the case in some of the Latin American neighbouring countries with far more chaotic and erratic economic policies. This shows that there is no automatic link between a stable macro-economic setting and higher manufacturing productivity.

The field research presented in chapters 5. and 6. focused on enterprise strategies of innovation and flexibility in the metalworking industry and in the textile and garment industries in response to increasing competitive challenges in both the domestic and export markets. The research covered individual enterprises as well as relations between them (provider relationships).

**Table 8.1. Types of innovations in Chile: enterprise strategies, institutional factors and consequences for employment quality**

Type of innovation	Areas of strategies at enterprise level	Institutional factors		Impact on employment quality
		Specific	General	
Product innovation	<ul style="list-style-type: none"> <li>Product innovations, often based on reverse engineering (defensive and imitative innovation strategies)</li> <li>Licensing agreements in order to benefit from trade marks' image (garment industry) and access to more advanced product technologies (metalworking industry)</li> </ul>	<ul style="list-style-type: none"> <li>Patent and intellectual property legislation comparatively advanced</li> <li>Market structure and size which may inhibit the development of some product innovations</li> </ul>	<ul style="list-style-type: none"> <li>Stable macroeconomic and institutional framework</li> <li>Strong dominance of business over labour at the national level; no national or sectoral agreements on technology</li> <li>Unilateral control of management in most enterprises; weak mechanisms of consultation between workers and management at enterprise level</li> <li>Relatively developed educational system (especially in the Latin American context), but strong private-public sector gap</li> </ul>	<ul style="list-style-type: none"> <li>No consistent trend of upgrading that would sustain a shift towards higher employment quality</li> </ul>
Innovation in technology and productive processes	<ul style="list-style-type: none"> <li>New machinery and equipment, stronger innovative tendency in metalworking industry</li> <li>Completely new layout of productive plants only in limited number of cases, otherwise "bottlenecks" approach</li> <li>Enterprise R&amp;D relatively scarce</li> </ul>	<ul style="list-style-type: none"> <li>Individual access to new technologies and to information from outside the country good, but lack of technological centres and databases that would facilitate the access for smaller enterprises</li> <li>Flat tariff rates not biased for or against imports of capital goods relative to other imports</li> </ul>	<ul style="list-style-type: none"> <li>Market-oriented research system, relatively weak by international comparison</li> <li>Distrust inhibiting exchange of information between enterprises; some public programs seeking to encourage strategic alliances</li> <li>No specific policies dealing with potential social consequences of innovations; no statutory regulation concerning the introduction of new technologies</li> </ul>	<ul style="list-style-type: none"> <li>Skill upgrading largely limited to management and professional workers; no clear tendency for production workers</li> </ul>
Innovation in the organization of production	<ul style="list-style-type: none"> <li>Frequent innovations in quality control and control of stocks</li> <li>Frequent innovations and active use of systems of subcontracting, buying and selling</li> </ul>	<ul style="list-style-type: none"> <li>No legal restrictions on subcontracting and no tax penalization (VAT instead of turnover tax)</li> </ul>	<ul style="list-style-type: none"> <li>Relatively good access to information from other countries</li> <li>Strong wage disparities between skilled and unskilled labour</li> <li>Open trade policy with flat import tariff rates</li> <li>Innovative behaviour of other enterprises in the same sector or in</li> </ul>	<ul style="list-style-type: none"> <li>Widespread use of subcontracting, sometimes at the expense of employment quality</li> <li>Modifications in quality control often causing a broadening (but generally no upskilling) of production workers' tasks</li> </ul>

(table 8.1. continued)

Type of innovation	Areas of strategies at enterprise level	Institutional factors		Impact on employment quality
		Specific	General	
Innovation in work organization	<ul style="list-style-type: none"> <li>• Broadening rather than enriching of production workers' tasks</li> <li>• Work intensification</li> <li>• Innovations in internal structure of enterprise, but rarely participatory approach towards production workers</li> </ul>	<ul style="list-style-type: none"> <li>• Legislation excluding many non-wage issues from collective bargaining</li> <li>• Legislation requiring job description in work contract, but this can be very general</li> <li>• Social values inhibiting participatory approach towards production workers</li> </ul>	other sectors with strong linkages.	<ul style="list-style-type: none"> <li>• Tendency towards increased workload and stress</li> <li>• No consistent tendency towards increasing interest of work and work-related autonomy</li> </ul>
Innovation in human resource management	<ul style="list-style-type: none"> <li>• Changing payment systems, generally containing a variable element, not necessarily based on individual production</li> <li>• Generally increased professional training activities, but several limitations</li> </ul>	<ul style="list-style-type: none"> <li>• Legislation on wage-setting giving sufficient scope for various mechanisms</li> <li>• Relatively rigid legislation on working hours, but exceptions possible upon administrative authorization (frequent in mining)</li> <li>• Expanding training system, albeit biased against technical training contents and against production workers. Recent broadening of participation of trade unions and workers representatives, but still relatively limited</li> </ul>		<ul style="list-style-type: none"> <li>• Deficiencies in income security</li> <li>• Long working hours, in some sectors frequent work at night or on holidays</li> <li>• Consistent personal and career development still largely limited to management and professional workers</li> </ul>

Source: Own elaboration based on results presented in previous chapters.

While metalworking enterprises in Chile have been relatively successful in addressing the competitive challenges, the textile and garment industries have experienced a strong decline in their production since the early 1990s. The results show that it is too simple to maintain an image of the Chilean economy according to which economic growth is simply the result of low wages and exploitation without any productivity increases. Many Chilean enterprises, even in the crisis-ridden textile and garment industries, do innovate. Table 8.1. summarizes the main results of the study on Chilean enterprises' innovation strategies, their links to the institutional framework and to employment quality.

Innovation strategies were found to be more consistent and systematic in the metalworking industry than in the textile and garment industry. In the textile and garment industry, cost reduction strategies with meagre productivity results are dominant. Some textile enterprises have introduced complete new plant layouts, but the dominant approach is to address bottlenecks, that is, to progressively eliminate the weakest points that limit the enterprises' productivity. The metalworking sector has innovated more systematically and was able to obtain positive productivity results. An important area of innovations is quality control, and high quality requirements are recognized by most enterprises as a key factor for augmenting their competitiveness. Innovations also include changes in work organization practices, but it is not very common that the tasks of production workers are upgraded or that production workers have a stronger participation in shaping the enterprise. In this sense, the Chilean model remains a model in which participation and modernity do not involve blue collar workers.

In terms of product innovation, most Chilean enterprises in the manufacturing sectors under study are defensive or imitative, rather than offensive, innovators. They follow the international state-of-the-art at some distance (copying international fashion tendencies in the textile and garment industry, reverse engineering in the metalworking industry).

This mode of integration of Chilean enterprises into the globalizing economy, together with the liberal trade regime, requires a constant adjustment to market fluctuations and shifting relative prices. While many enterprises use responsive flexibility strategies to face this requirement, the study has found some cases of enterprises which actively grasp the opportunities arising from globalization via strategies of regional integration with the neighbouring Mercosur countries.

Table 8.2. provides a summary of the findings with regards to flexibility strategies and their links to the institutional framework and to employment quality. Enterprise flexibility strategies focus mainly on the commercial and administrative dimensions of that concept: a changing mix of own production, domestically subcontracted production and imports; the use of external flexibility (variations in the number of workers); flexibility in the quantity of hours worked and flexibility of wages in the form of individual or collective incentive systems. In the productive sphere, however, flexibility is scarce: functional flexibility and the capacity to develop and adapt new products and processes are hampered by high turnover rates and lack of confidence between workers and management.

**Table 8.2. Types of flexibility in Chile: strategies, institutional factors and consequences for employment quality**

Type of flexibility	Strategy at enterprise level	Institutional factors	Impact on employment quality
Numerical flexibility (variation in the number and composition of workers)	<ul style="list-style-type: none"> <li>• Frequent use of fixed-term contracts</li> <li>• Strong seasonal and conjunctural fluctuations of employment levels in several enterprises</li> <li>• Replacing labour contracts by commercial contracts</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation permits the use of fixed-term contracts with few limitations, no legal restrictions on subcontracting</li> <li>• Dismissals of workers with indefinite work contracts are possible at any time upon payment of severance pay</li> <li>• Enterprise-centred collective bargaining and legal regulations keep temporary workers outside bargaining mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>• Low job security and high labour turnover</li> <li>• Temporary workers suffer deficiencies in various other dimensions of employment quality</li> <li>• Workers' bargaining position is weak</li> </ul>
Wage flexibility	<ul style="list-style-type: none"> <li>• Strong link of wages to workers' productivity, and, in most cases, to the enterprise's performance</li> <li>• Decentralized wage-setting mechanisms and performance-based incentive systems</li> </ul>	<ul style="list-style-type: none"> <li>• Decentralized wage-setting mechanisms at the enterprise level</li> <li>• Historical decline of minimum wages relative to average wages, but increase over the last few years</li> </ul>	<ul style="list-style-type: none"> <li>• Low income security</li> <li>• High income disparities within the enterprise (losers and winners)</li> <li>• Higher take-home pay at the expense of intensified work</li> </ul>
Internal flexibility in the amount of labour used	<ul style="list-style-type: none"> <li>• Frequent use of variable shift work and overtime work systems</li> </ul>	<ul style="list-style-type: none"> <li>• Legal restrictions on night work, compulsory rest periods and maximum working hours exist, but can be avoided via administrative authorizations</li> <li>• No strong resistance of workers against flexible working hours and work on weekend or during the night</li> </ul>	<ul style="list-style-type: none"> <li>• Higher likelihood of work at inconvenient times, with consequences on health and family life</li> <li>• Potential of combining paid work with other activities (domestic work or other) for some groups of workers</li> </ul>
Functional flexibility	<ul style="list-style-type: none"> <li>• Training initiatives in view of "multi-skilled workers"</li> <li>• More general job assignments, removal of obstacles for internal redeployment, in some cases lower number of job categories</li> <li>• In some enterprises explicit rotation strategy between posts</li> </ul>	<ul style="list-style-type: none"> <li>• Labour legislation only requires general job description in work contract</li> <li>• Traditional resistance of workers against multiple job assignments was broken after the military coup</li> </ul>	<ul style="list-style-type: none"> <li>• More stress due to more responsibility and diminution of dead times</li> <li>• Uneven changes of individual bargaining positions as some workers become easier to replace while others maintain or acquire key responsibilities</li> </ul>
Flexibility in the amount, type and quality of output	<ul style="list-style-type: none"> <li>• Subcontracting (outsourcing) of parts of the production process and services; home work (especially in the garment industry)</li> </ul>	<ul style="list-style-type: none"> <li>• Turnover tax has been replaced by VAT (making subcontracting more attractive)</li> <li>• Legal restrictions on subcontracting have been removed</li> </ul>	<p>For workers in core enterprise:</p> <ul style="list-style-type: none"> <li>• Weakened bargaining position in the face of the threat of further externalization</li> </ul> <p>For workers in subcontracted enterprises:</p> <ul style="list-style-type: none"> <li>• General tendency of lower wages and social benefits in subcontracted enterprises</li> </ul>
Flexibility as the capacity to develop and adopt new products and processes	<ul style="list-style-type: none"> <li>• Upgrading research and engineering capacities, albeit aimed at narrowing the gap with regards to international leaders, rather than becoming leader</li> </ul>	<ul style="list-style-type: none"> <li>• The training and innovation systems are being modernized and upgraded, but important limitations subsist</li> </ul>	<ul style="list-style-type: none"> <li>• Potential positive consequences do not materialize. Most enterprises continue to compete through cost as they are not able to cover niche markets</li> </ul>

Source: Own elaboration based on results presented in previous chapters.

In this way, the technical rigidity of production is compensated by a high degree of flexibility in the use of the labour force, the constitution of productive chains with multiple subcontracted enterprises and the combination of productive and commercial activities. Subcontracting chains are pervasive in both sectors under study, as well as in many other sectors of the Chilean economy. A major difference between the configuration of chains in the case study sectors is that in the textile and garment sector, commercial enterprises (mainly retail chains called *multitiendas* in Chile) have become a key actor in the setting up of subcontracting chains. This corresponds to what Gereffi (1995) calls a "buyer-driven chain". In the metalworking industry, the manufacturing enterprises themselves are the key players in the configuration of subcontracting chains, giving rise to "producer-driven chains". The results of the fieldwork show that the driving actor of chains in the metalworking sector can be a powerful linkage for learning processes in the provider enterprises, even though the attitude of the manufacturers is not coherent in this regard.

Chile may run into a trap where a pattern of high numerical flexibility and considerable job insecurity becomes ever more crucial to compete in domestic and international markets for products and market segments in which prices are the key competitive factor, while at the same time the innovative forces and the more virtuous forms of flexibility are too weak for enterprises to move more strongly into sectors and market segments with higher technological requirements.

Although Chilean enterprises have attempted to adapt to new challenges, short-term flexibility strategies are still the main tendency. These strategies have proven to be an obstacle for the improvement of the employment quality in Chile. For example, between 1990 and 1996, when the Chilean economy was booming, the share of workers without written work contract in the total salaried work force increased rather than decreased. Between 1996 and 1998, when the first consequences on the labour market of the recent economic crisis were already apparent, this share continued to increase.<sup>1</sup> This suggests that the tendency towards an "informalization" of dependent employment relations in Chile may be largely independent of the economic conjuncture and that it has become a structural feature of the Chilean economy. Workers without written work contract are not only much less protected than workers with written work contract, they also suffer from lower salaries and worse employment quality as measured by other dimensions (social security coverage, access to professional training and membership in trade unions). This is even the case when the data are corrected for differences in the educational level of the different categories of workers.

Available data suggest that while real earnings of Chilean workers have increased substantially during the 1990s, little progress has been made with regards to other dimensions of employment quality, and in some aspects, employment quality even seems to have worsened. Employment quality is thus a problem in Chile and should be monitored carefully. Comparable data to assess the employment quality in Chile relative to other Latin American countries is very scarce; the available quantitative indicators suggest that Chile is not necessarily worse in this respect than other Latin American countries. The fact remains however that the Chilean record in

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<sup>1</sup> The CASEN surveys are carried out in November of each year. In November 1998, the recession had already started and the unemployment rate had increased (MIDEPLAN, 1999b).



employment quality does not match the positive performance with regards to employment levels and real incomes.

One of the guiding ideas in this study (developed in chapter 2.) is that production regimes have an impact on enterprise strategies in general, and on innovation and flexibility strategies in particular. The relative stability in the institutional framework and of the macroeconomic setting are in themselves a positive factor for innovations. Demand-driven institutions in a number of innovation-relevant areas (training systems, subsidies for R&D projects) are further positive aspects although their outreach to the more backward enterprises is very limited. A major weakness in the Chilean production regime is the lack of trust between enterprises. This is an obstacle when it comes to establishing relations between enterprises for joint activities in the areas of access to infrastructure product development and information.

The Chilean state has become "smaller" compared to the ISI period (as measured in its share in the production of goods and services and in its share in total employment), but this does not mean that it has become "weaker". In several crucial areas, such as the fiscal and macroeconomic management of the Chilean economy, it has rather become "stronger". While the economy is largely governed through market regulation, the state's role has been crucial both in introducing these market regulations and in ensuring the working of markets. The effectiveness of the Chilean state compares indeed favourably with the state in other Latin American countries (Eßer, 1998). However, the state has been less successful in introducing strong mechanisms of voice regulation, due both to the government's technocratic orientation and to the opposition's (and businesses') capacity to block legal initiatives in this regard.

While some of the institutional factors are the same for all economic sectors (see chapter 7.), there are also sector-specific factors that may obstruct or facilitate enterprises' efforts to adapt to growing competition.<sup>2</sup> It is noteworthy that the metalworking sector, with a relatively successful performance over the last decade, has a much stronger business association than is the case in the textile and garment industry that is experiencing a strong crisis.<sup>3</sup>

In sum, the textile and garment sector is certainly closer to a "low road" strategy than to a "high road" strategy. Although several big enterprises have successfully increased their productivity levels to compete in international markets, the general tendency has rather been a cost reduction strategy with meagre productivity results. The metalworking sector presents a more mixed picture with a number of elements that seem to belong to a "high road" strategy. The "high road" strategy, however, is not applied in a coherent form, and problems of job insecurity and institutional weaknesses can also be found in this sector. While the previous chapters of this study

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<sup>2</sup> See Hollingsworth, Schmitter and Streeck (1994: 8) on "the importance of sectors as sites of political economy".

<sup>3</sup> However, this observation is by no means sufficient to "prove" the case of a causal relationship from a stronger sectoral institutional setting towards a better sectoral performance. It could even be argued that causality may as well run the other way round – that is, the better performance permitted metalworking enterprises to develop stronger links among themselves and develop stronger cooperation through the sectoral business association than was the case in the textile and garment industry.

have already mentioned the link between the configuration of strategic groups in the Chilean society and the strategies and internal organization of Chilean enterprises, this link deserves some closer examination. The next section of this chapter will thus bring together the evidence from both levels in order to develop the idea that the labour - business link is the crucial element to understand the limitations of the current Chilean development path.

## **8.2. New challenges: learning and the critical link between business and labour**

In assessing the strategies of Chilean enterprises, this study has tried to avoid the pitfalls of both the uncritical defence of the Chilean model based on macro-level considerations and the important but one-sided criticism of exploitative labour practices on the other. It has identified the progress in the use of innovation strategies as well as the stumbling blocks for further progress and the negative impact of some enterprise strategies on workers' employment quality.

Recent history in Chile has shifted the power balance in favour of business. The trade union movement has been weakened. In policy discussions with government, business representatives are heard and their points of view are taken into account (chapter 7; Silva, E., 1997). The dialogue is facilitated by the continued presence of technocrats with strong pro-market views in key government posts. Organized labour, by contrast, is either absent in these discussions or occupies a very subordinate position with few possibilities to affect the policy outcome.

Several recent studies have emphasized the importance of constructive government - business relations for successful economic development (Evans, 1995; Maxfield/Schneider, 1997). In Chile, the relationship between a technically skilled government sector and business associations has been one of the explanations for the economic success from 1984 onwards (Silva, E., 1996, 1997). In such a conceptual framework, the relationship between labour and government or between labour and business appears to be less crucial for economic development. Eduardo Silva (1997) explicitly recognizes the imbalance in favour of business at the expense of labour as a shortcoming of the Chilean model with negative social consequences, but the consequences of the exclusion of workers can be understood in more depth when enterprise-level evidence is taken into account.

This study has attempted to shed some light on the consequences of the virtual exclusion of labour from the policy-making process for the relationship between management and workers within enterprises and for enterprise strategies. When the analysis from the enterprise-level studies is linked to the recent political history of Chile and the current configuration of strategic groups, it can be concluded that some of the major stumbling blocks are related to the unsettled relationship between business and labour.

While several policy initiatives have been taken to correct this imbalance and to strengthen the position of labour vis-à-vis business, these initiatives have largely failed to produce results. The increase in trade union density and the coverage of collective bargaining that could be observed during the transition years from the

military dictatorship to democracy (up to 1991) have been reversed during more recent years (1992-1998).

The following points may summarize the unbalanced relationship between business and labour:

- Given the limited coverage of collective bargaining and the weakness of trade unions, individualistic market regulation is the predominant mechanism of wage setting.
- Any initiative towards a stronger participation of labour within the enterprise conflicts with the current ideological setting and legislation that values the unrestricted exercise of property rights for entrepreneurs. Although most managers would of course welcome that workers identify themselves with the enterprise's goals, they are not ready to accept any limitation of unilateral managerial control. In such a context, even those enterprises that are willing to give some scope to participatory mechanisms are confronted with the mistrust between labour and business at the enterprise level.
- The consequences of this dominance of unilateral managerial control are reflected in the patterns of work organization. While new technologies allow under some circumstances to give production workers some control over programming and monitoring tasks, this enrichment of work can hardly be found in Chilean enterprises where the separation between conception and programming on the one hand, and production work on the other, remains extremely rigid.

The dismantling of trade union resistance after the military coup permitted enterprises to act more flexibly – especially with regards to numerical (temporary workers, easier dismissals) and functional flexibility (no more resistance to redeploying workers). This enabled enterprises to introduce taylorist work organization practices more fully than had previously been the case. The consequences have been some productivity increases without much (hard) technological innovation, and deterioration of workers' employment quality.<sup>4</sup>

Weak trade unions and an exclusive control by management over the enterprise are however not enabling factors for enterprises that attempt to move beyond taylorist work practices towards modern management concepts that are recommended in the contemporary business literature. Employee involvement and the identification of the worker with the enterprise's strategic goals can hardly be expected in individual enterprises in isolation from the power relations between business and labour in the society at large. While the management techniques as such may be applied in different social contexts, their impact on workers' cooperative behaviour will inevitably vary according to the production regime.

Paradoxically, because enterprises can do almost everything, they cannot do what would be needed in order to advance to a new development stage: convince workers that enterprises and workers have common interests and that therefore workers should share their internal knowledge with management to make the production process more efficient. A move towards more complex production processes would

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<sup>4</sup> As has been discussed in chapter 4., these initial productivity gains have been reversed during the 1982/83 crisis and the following growth period based on low labour costs.

indeed require modern work organization practices that increase the mutual dependency of management and workers, and thus weaken the unilateral predominance of management.

The degree of conflict or cooperation between management and workers and the interests of workers that make them act in one way or another are not given a priori or once-and-for-all; as Burawoy (1979b: 236) points out, they are defined by the labour process itself. This argument does not aim at explaining the diverging interests between business and labour away. Rather, the argument is that a less rigid insistence on unilateral management control would permit an arrangement that could serve both labour and business interests better than the present scheme.

Studies such as the ones carried out by the "*Régulation*" school (Boyer, 1986) show that even very successful systems of economic and social development at one point end up in exhaustion if they are not adapted. The need for adapting the system may stem from changes in the economic context (e.g., increasing globalization and shifts in world markets). Often, however, the need for adaptation also arises from the very success of the system. It follows from this argument that a good pattern of socio-economic development cannot be a once-and-for-all solution. The fact that Chile was successful from the point of view of economic growth for a relatively long period after 1983 does not guarantee future success.

Unfortunately, in Chile and elsewhere the belief that a liberalized economy with minimum state intervention is the definitive solution that will continue to be successful (as long as the state keeps out of the game), is still widespread. This discourse does not recognize the crucial role of the state and social actors for the country's capacity to meet the challenges of globalization. What is really needed is a constant learning process that permits institutions as well as political and economic actors to take potential risks of the current strategy into account in order to carry out the necessary modifications.

As Eßer (1998) argues, the learning capacity of Latin American societies is hampered by the predominant economic and power structures as well as by their excessive heterogeneity. Considering the Chilean case, it would however be too easy to interpret the current phase of development as one of stagnation or blind reliance on the current system of development. On the contrary, institutions and actors have already detected some of the shortcomings analyzed in this study and they are taking action in order to correct them. The following examples, described in more detail in the previous chapters, may illustrate this:

- Enterprise M1 has recognized the crucial importance of a strong network of high-quality providers for its own strategy. Instead of just relying on market incentives for providers to upgrade their production process, the enterprise has initiated a provider development program that counted with the public support of the technical cooperation service SERCOTEC.
- Several of the most important enterprises in Chile have recognized that the absence of open industrial disputes and strikes is not enough for a labour relations climate conducive to higher motivation and the active participation of production workers in the enterprise strategy. They have thus signed "strategic alliances" between management and trade unions. These strategic alliances give trade

unions a stronger say, or at least right of consultation, in a number of fields that are considered exclusive management prerogatives in most Chilean enterprises.

- At the institutional level, shortcomings in policies have been detected and corrected. For example, the training system was reformed in 1997 in order to include a higher share of workers from small enterprises in training activities and to foster a dialogue between management and workers on the content of enterprises' training strategies.

All these initiatives have brought improvements compared to the previous situation. They demonstrate the learning capacity of enterprises and institutions in Chile that permits them to correct detected shortcomings. However, the same examples also show the limitations in these learning processes:

- The program of provider development that M1 and its providers carried out was hampered by internal contradictions within enterprise M1. While on the one hand, the enterprise assisted the subcontractors in the upgrading of their quality control procedures, at the same time parallel providers for the same components were chosen so as to reduce M1's dependence on any one provider. This however reduces economies of scale in the provider enterprises and makes it more difficult for them to comply with the price requirements.
- Strategic alliances between management and trade unions have been undermined by strong conflicts over planned dismissals during the recession year 1999 because the enterprises did not stick to the consultation process that had been agreed upon.
- Unlike the training system that was reformed in 1997, the labour law reforms planned by the government have not been supported by a majority in the Senate over several years between 1994 and 1999 as they ran into opposition from business and right-wing senators.

Thus, while many actors and institutions have an innovative attitude, their learning capacity is limited by an excessive emphasis on competition (rather than cooperation) and the exclusion of labour. Indeed, one of the dangers with voluntary arrangements that stem exclusively from the insight of individual actors (rather than from institutional obligations) is that "short-term economic contingencies typically create temptations for employers to defect from long-term beneficial arrangements, if only temporarily until a present crisis has been resolved" (Streeck, 1997: 200). For this reason, "[...] a society, when it leaves market-rational actors the freedom to act as they see fit, fails to utilize optimally its productive potential, and ends up performing less well than it might" (Streeck, 1997: 199). By contrast, institutional constraints can open up as yet unknown opportunities by making learning unavoidable.

Following an idea presented by Sabel (1994), learning may best be organized by linking it to the monitoring of agreements by the different parties involved. Although Sabel mainly refers to relationships between enterprises, this idea can be broadened to include workers and trade unions. Enhancing their capacity to monitor agreements between business and labour, both within enterprises and at the level of sectoral or national institutions, may enhance the learning capacity of the system and keep it from running into a trap of stagnating productivity where competitiveness would

essentially depend on curbing wage increases and strategies that are detrimental for employment quality.

The challenge for the integration of labour both at institutional and enterprise level lies not only with the government and the enterprises who will have to open up spaces for a more active role of labour. It is also a challenge for the labour movement itself. Beyond the restrictions of an unfavourable institutional framework, there are some internal reasons explaining in part its weaknesses. The trade union movement lacks internal unity and is technically weak. It lacks skilled leaders and advisers who could play a more active role in technical negotiations.

While Chilean economic actors and institutions do have a learning capacity, the power relationship between them makes them prone to biases in the perception of problems and in the proposed solutions. The predominance of business in these relationships allows enterprises to go the more convenient way in the short run, but as mentioned above, these unconstrained strategies are not necessarily the best ones from a longer-term perspective. Given that the imbalance between business and labour is partly due to the deliberate state action which weakened the trade union movement under the military dictatorship, the government has the challenge of redressing this imbalance and creating a "level playing field" for effective mechanisms of voice regulation.

Based on these considerations, several important policy challenges for Chile can be identified. Social actors and institutions will have to address these challenges if socio-economic development is to move towards more competitive enterprises, enhanced technological capacities and better employment quality for Chilean workers:

- Ensure a stronger participation of labour in the Chilean policy-making process. This is a major challenge for government, trade unions and business representatives alike. The government needs to recognize trade unions as an independent force rather than considering it a transmission vehicle for government's and political parties' politics. Trade union leaders need to invest in their own technical skills and in advisers so as to be able to enter into meaningful negotiations on technical issues with government and business. Finally, business representatives need to broaden their mind about new institutional arrangements which may be radically different from the inherited structures of the military dictatorship.
- Increase workers' participation in the organization of the production process and innovations. Enterprise councils have proven to be an efficient mechanism that favours both enterprise performance and workers' welfare in many countries. Given the aversion of Chilean businessmen to "co-determination", the spread of information on these success stories could be useful in order to foster the acceptance of such mechanisms in Chile.
- Improve the employment quality for workers, especially in non-standard employment relationships. In order to avoid the low employment quality of non-standard employment compared to standard employment, some minimum regulations for this type of employment relationship is needed. Given the

weakness of traditional enforcement mechanisms for this kind of workers, innovative approaches involving both the state (labour inspection) and social actors (self-control and voluntary initiatives) are needed in this regard.

- Broaden training opportunities to include more production workers and improve the quality of training. Government policies can help with special incentives that make it more attractive for small enterprises to participate in training activities and measures to strengthen the intermediary institutions (OTIR) in the Chilean training system and to develop appropriate certification mechanisms.

The 1998/1999 recession in Chile is likely to have been only a momentary interruption of economic growth. It has nevertheless illustrated the vulnerability of the Chilean economy to external fluctuations and shown that Chile, like any other country, is not immune to economic recessions. Voluntary initiatives to grant workers a higher degree of participation have proven fragile face to the negative impact of the crisis. It can be hoped that the crisis will trigger more openness for the idea of striking a new deal between business and labour.

## **Annex 1. Research methods and sources of statistical information**

This annex provides information on the research methodology chosen for this study, the reasons for the choices that have been made, and on the different sources of information used throughout the study. It adds some more detail to the brief information on methods and data sources given at the end of chapter 1. and at the beginning of the two sectoral case studies in chapters 5. and 6.

### **A. Methods for enterprise visits and interviews**

In social science surveys, the trade-off between the statistical representativity and the detail of the collected data is a common problem.

If statistical representativity had been the highest priority, the enterprise sample should have been based on an administrative enterprise register or on the INE industrial survey (*Encuesta Nacional Industrial Anual*). Then, the survey could have been sent out as a mail survey, with a written or telephonic reminder in order to increase the response rate. Such a survey would have had some advantages because it would have facilitated the generalization of the results for the whole manufacturing sector. However, there are important disadvantages to such an approach:

- Experiences from questionnaire surveys on innovation show that the use of modern technologies and management techniques is often higher according to the questionnaire results than what is confirmed by direct observation or more detailed interviews (Lope, 1996: 25). When results of a mail survey are not checked against the information of more detailed interview material or own observation, it is difficult to correct for such response biases.
- It is disputable if questionnaire surveys with more or less closed questions are an adequate research tool to understand enterprise strategies in the field of innovations and flexibility. The complexity of these strategies may not be captured adequately due to the inherent limitations of the questionnaire method.

On the other end of the range of possible research tools, a case study approach could have chosen a very limited number of enterprises, but with the most detailed information possible through a range of methods, such as interviews with several managers, interviews with production workers, participant observation etc. Indeed, such an approach has proven very fertile to explain phenomena inside the enterprise that remain normally hidden. Some of the classics of industrial sociology (Burawoy, 1979a; Linhart, 1978) are based on participant observation in only one enterprise. For the goals of this study, however, such an approach would have involved serious inconveniences:

- A study based on one or very few cases would have been very difficult to generalize to the industrial subsector, and even less to the manufacturing sector as a whole.



- Such an approach depends on a very high degree of cooperation from the sample enterprise(s). While some enterprises might have been ready to authorize a permanent presence of an external researcher over a long time span, there is an obvious selection bias in that the most innovative enterprises and those with the best employment quality indicators are the most likely to agree to such an approach, while less progressive enterprises would probably not agree.

On the basis of these considerations, an intermediate research method was designed in order to minimize the problems of both "pure" approaches:

- I carried out all interviews personally in the sample enterprise, rather than through a mail survey.
- I used a semi-structured questionnaire rather than a closed questionnaire.
- I used additional ad-hoc questions when interesting points came up during the interviews, in order to obtain more in-depth information. This often involved additional interviews with several employees of the enterprise and in many cases, more than one visit for one enterprise (see annex 2).
- I visited the productive facilities of the sample enterprises so as to have at least some element of first-hand observation that enabled me to insist when inconsistencies with interview information appeared and to ask additional questions based on the direct observation.
- Enterprises were selected in each of the industrial subsectors to cover enterprises of varying sizes. In several cases, enterprises along the same production chain were chosen so as to reconstruct subcontracting arrangements and to include the aspect of relationships between enterprises.

Some enterprises, especially small ones or those with backward technology or deficient employment quality, may be reluctant to accept the participation in enterprise studies. The Chilean labour inspection provided invaluable help and enabled me to cover this enterprise segment.<sup>1</sup> Enterprises were randomly chosen (i) from the labour inspection's data base, or (ii) among the enterprises located in the Patronato district in Santiago, where a high number of small textile and garment enterprises are concentrated. The labour inspector and I then approached the selected enterprises without prior warning. Given the presence of a labour inspector, the enterprise did not have the option to refuse our visit. Once the first contact was made, we explained that our visit was not due to any complaint, but rather that the labour inspection was assisting me in a study on enterprise innovation and flexibility strategies. Obviously, the enterprises had no legal obligation to answer questions that were not directly related to the legal issues according to the labour code. Surprisingly, most enterprises were very cooperative and readily gave the requested information.

The enterprise visits in the textile and garment industry took place mainly during 1996, with some visits in late 1995 and early 1997. In the metalworking industry, the bulk of the field work took place in 1997, with some visits in late 1996 and early

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<sup>1</sup> Daniel Ferrada, Director of the *Inspección del Trabajo* Santiago Norte, was very helpful in programming these enterprise visits and Sergio Espinosa not only visited lots of enterprises with me, he also shared his insider knowledge as a labour inspector with me.

1998 (see annex 2). The survey period for which enterprises were asked to report innovations were the three years prior to the first visit.

In sum, the chosen methodology permitted a relatively detailed insight into the issues of innovation and flexibility strategies. Although the sample is not representative in a statistical sense, it does cover different size groups and aimed at avoiding the bias in favour of innovative enterprises that can often be found in similar studies. Despite the limitations in sample size, as all enterprises face different segments of the same market and the same institutional context, it is likely that the research was able to identify patterns of enterprise strategies that are fairly representative for the chosen industrial subsectors as a whole.

## **B. Statistical data from representative surveys**

In order to place the information gathered in the enterprise visits in their broader context, it was necessary to work with more representative statistical sources on the employment situation in general and on employment quality in particular. The ideal solution would of course be to have an employment series that is consistent over time and that includes all necessary disaggregations to be used throughout the study. Unfortunately, the reality is different, and various sources and procedures have to be used to obtain reasonably reliable and complete information.

### **B.1. The consolidated employment series**

Although Chile has relatively good employment data compared to other middle-income countries, there is no single consistent employment series from the 1960s to the 1990s. The INE started its periodic labour force surveys in 1966, but the surveys were not carried out during the years 1971 to 1974. Moreover, even for those years where data from the survey exist, these are not always comparable for long-term series because the sampling frame changes over time as new census results become available. This problem is especially relevant when it comes to assess the long-term labour productivity performance of the Chilean economy. Series breaks and inconsistencies distort the year-on-year variations in the employment level and would inevitably lead to distorted productivity figures.

To minimize this problem, a consolidated annual employment series has been compiled for this study from different sources:

- From 1996 onwards: Data are from the national employment survey (*Encuesta Nacional del Empleo*) carried out by the INE.
- 1986 to 1995: Data are from the INE national employment survey, adjusted by the INE for consistency with the new series from 1996 onwards. The last update of the sampling frame of national employment took place in 1996 on the basis of the results of the 1992 population census. Fortunately, in that opportunity the INE during one trimester used the old and the new sampling frame parallelly. This permitted an adjustment of the previous series from 1986 to 1995 for coherence with the new series (INE, 1997).

- 1970 to 1985: Data are from Jadresic (1986). For this period, there was no national survey that had been carried during all the years of the period. Jadresic calculated a consistent series based on several sources (INE survey, Universidad de Chile survey and population censuses).<sup>2</sup>
- 1960 to 1969: Data are based on Coeymans/Mundlak (1993), adjusted by this author for consistency with the Jadresic series. Coeymans and Mundlak calculated a coherent series for 1960 to 1982. Due to the overlap between the Coeymans/Mundlak and the Jadresic series, it was possible to "link" the two series in order to avoid an inconsistent employment variation between 1969 and 1970. For this procedure, I simply took the 1970 figure from Jadresic and calculated backwards from the 1970 level using the year-on-year variations from the Coeymans/Mundlak series.
- 1940 to 1959: Data are based on census data for the years 1940, 1952 and 1960, interpolated for the other years by Behrens/Kaufmann (1992: 156-158) and adjusted by this author for consistency with the figures for later years.

Based on this series for total employment, a series for salaried employment (including domestic service workers) was estimated for 1960 to 1998 based on the shares in total employment given by the INE (Encuesta Nacional del Empleo), Contreras (1994) and ODEPLAN (1971a).<sup>3</sup>

Annex table 1 presents the resulting consolidated employment series (total employment, salaried employment and manufacturing employment).

Unfortunately, the consolidated series does not include details on other issues dealt with in this study, such as the employment composition by occupational category and sex or the share of public sector employment. For these other issues, data from various sources have thus been selected on a case-by-case basis. Although this undoubtedly includes a source of error in some of the long-term comparisons, most of these data on employment *composition* should in principle be less vulnerable to consistency problems than the variations in employment *levels* needed for the productivity calculations.

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<sup>2</sup> Unfortunately, the INE did not calculate an adjusted series when it changed the sampling frame from 1985 to 1986, and Jadresic's data end in 1985. This means that there is no check the employment variation between 1985 and 1986, and an inconsistency may therefore remain in the consolidated series.

<sup>3</sup> The (otherwise more consistent) series by Jadresic (1986) and Coeymans/Mundlak (1993) do not contain data on the composition of employment by employment categories, making it necessary to use other sources for this estimate.

**Annex table 1. Employment in Chile, consolidated series, 1960-1999**

	Total employment (thousands of persons)	Salaried employment (thousands of persons)	Share of salaried employment in total employment (in %)	Manufacturing employment (thousands of persons)	Share of manufacturing employment in total employment (in %)
1940	1823,5	n.a.	n.a.	n.a.	n.a.
1941	1848,1	n.a.	n.a.	n.a.	n.a.
1942	1872,6	n.a.	n.a.	n.a.	n.a.
1943	1897,1	n.a.	n.a.	n.a.	n.a.
1944	1921,7	n.a.	n.a.	n.a.	n.a.
1945	1946,2	n.a.	n.a.	n.a.	n.a.
1946	1971,7	n.a.	n.a.	n.a.	n.a.
1947	1996,3	n.a.	n.a.	n.a.	n.a.
1948	2021,8	n.a.	n.a.	n.a.	n.a.
1949	2046,4	n.a.	n.a.	n.a.	n.a.
1950	2070,9	n.a.	n.a.	n.a.	n.a.
1951	2096,4	n.a.	n.a.	n.a.	n.a.
1952	2122,0	n.a.	n.a.	n.a.	n.a.
1953	2143,5	n.a.	n.a.	n.a.	n.a.
1954	2163,9	n.a.	n.a.	n.a.	n.a.
1955	2184,3	n.a.	n.a.	n.a.	n.a.
1956	2203,8	n.a.	n.a.	n.a.	n.a.
1957	2223,2	n.a.	n.a.	n.a.	n.a.
1958	2242,6	n.a.	n.a.	n.a.	n.a.
1959	2260,0	n.a.	n.a.	n.a.	n.a.
1960	2278,4	1706,2	74,9	368,6	16,2
1961	2298,1	1709,0	74,4	390,5	17,0
1962	2341,3	1725,5	73,7	397,5	17,0
1963	2392,5	1746,6	73,0	408,4	17,1
1964	2446,5	1778,5	72,7	418,4	17,1
1965	2504,6	1803,1	72,0	441,3	17,6
1966	2553,7	1821,6	71,3	457,2	17,9
1967	2634,4	1843,5	70,0	469,2	17,8
1968	2664,8	1832,3	68,8	476,2	17,9
1969	2677,6	1846,1	68,9	480,1	17,9
1970	2719,9	1947,0	71,6	490,1	18,0
1971	2808,2	1978,8	70,5	502,2	17,9
1972	2836,0	1973,6	69,6	543,8	19,2
1973	2784,3	1927,0	69,2	554,9	19,9
1974	2780,3	1912,8	68,8	540,9	19,5
1975	2618,9	1791,3	68,4	492,7	18,8
1976	2732,4	1858,7	68,0	477,9	17,5
1977	2891,5	1957,5	67,7	483,3	16,7
1978	3013,1	2021,4	67,1	492,5	16,3
1979	3066,7	2048,7	66,8	489,6	16,0
1980	3226,3	2196,8	68,1	492,6	15,3
1981	3366,2	2289,7	68,0	484,3	14,4
1982	3050,2	2099,2	68,8	394,0	12,9
1983	3223,1	2260,7	70,1	377,6	11,7
1984	3367,5	2286,3	67,9	431,5	12,8
1985	3546,4	2498,2	70,4	457,3	12,9
1986	3752,3	2637,9	70,3	505,0	13,5
1987	3895,6	2701,1	69,3	572,4	14,7
1988	4123,4	2827,2	68,6	641,4	15,6
1989	4352,3	2976,3	68,4	719,5	16,5
1990	4450,0	3054,8	68,6	736,6	16,6
1991	4518,0	3118,0	69,0	751,6	16,6
1992	4723,8	3258,5	69,0	792,1	16,8
1993	4992,3	3462,4	69,4	840,9	16,8
1994	5036,2	3473,6	69,0	835,8	16,6
1995	5095,3	3544,0	69,6	834,8	16,4
1996	5182,1	3684,1	71,1	844,9	16,3
1997	5281,3	3742,2	70,9	859,7	16,3
1998	5374,8	3792,1	70,6	843,5	15,7
1999	5255,1	3655,0	69,6	746,9	14,2

Sources: INE (various years): Encuesta Nacional del Empleo; INE (1997); Jadresic (1986); Coeymans/Mundlak (1993); ODEPLAN (1971a); Behrens/Kaufmann (1992); ILO; own calculations.

Notes: Figures are estimated annual averages. See text for details on sources and adjustment procedures.

## B.2. Statistical data on employment quality

The INE employment survey is extremely useful for the analysis of the employment and unemployment situated in Chile. It is carried out periodically every month and the quality of the statistical information is relatively high. Unfortunately, the survey does not contain much information on employment quality. There are no questions on the work contract, the permanent or temporary character of the employment relationship or professional training.

There is, however, another household survey that can help in this respect. MIDEPLAN carried out the CASEN survey (*Caracterización Socio-Económica Nacional*) seven times between 1985 and 1998 (1985, 1987, 1990, 1992, 1994, 1996, 1998). The 1998 edition of the CASEN covered more than 180,000 individuals. The CASEN is the most-used national source for data on poverty and income distribution in Chile with consistent information since 1987. Several questions related to the quality of employment have progressively been included into the questionnaire:

- Earnings.<sup>4</sup>
- Existence of written work contract (since 1990).
- Permanent vs. temporary employment relationship (since 1994).
- Coverage of the social security system.
- Affiliation to a trade union (only 1994).
- Participation in professional training.
- Working hours.

In addition to the published reports based on the CASEN data, I had access the microdata of the surveys from 1990 onwards. This made it possible to generate own tabulations, using freely all available variables.<sup>5</sup> These own tabulations of CASEN microdata are referred to as "Tabulations based on data from MIDEPLAN (CASEN)".

Finally, the UNDP and the *Centro de Estudios Públicos* (CEP) carried out a survey on human security in 1997. Two questions of the survey address the perception individuals have on their job security and on the difficulty to find new appropriate employment in case of losing their present one. Data from this survey were also available as microdata and permitted the tabulation of tables on job security by education and by income.

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<sup>4</sup> In order to correct for income under-declaration, income data are adjusted for consistency with the Central Bank's national accounts.

<sup>5</sup> Despite the large sample of this survey, tabulations for subsamples such as the metalworking industry should be understood as estimates rather than precise measurements.

## **Annex 2. List of enterprise visits and interviews**

### **A. Enterprise visits and interviews**

#### **A.1. Sample enterprises**

- T1 12 December 1995, 21 November 1996, telephone interview October 1999
- T2 13 December 1995, 3 January 1996
- T3 21 March 1996
- T4 28 March 1996
- T5 28 November 1995, 15 December 1995, 19 December 1995, 31 May 1996, 25 May 1996
- T6 24 November 1995, 4 December 1995, 16 December 1995, 2 January 1996, 15 March 1996
- T7 9 May 1996, 10 May 1996
- T8 23 June 1997
- G1 28 March 96, 28 January 97, telephone interview October 1999
- G2 22 November 1995, 28 November 1995, 9 October 1996
- G3 21 November 1995, 5 December 1995, 29 May 1996, 27 February 1997
- G4 9 May 1996, 10 May 1996
- G5 10 May 1996
- G6 11 March 1996
- G7 10 October 1996
- G8 10 October 1996
- G9 10 October 1996
- G10 10 October 1996
- G11 10 October 1996
- G12 16 October 1996
- G13 11 March 1997, 9 April 1997, 28 May 1997
- G14 1 February 1997, 3 February 1997
- G15 5 June 1997, 19 June 1997, 25 June 1997
- G16 1 July 1997, 17 July 1997
- G17 3 July 1997
- M1 28 November 1997, 22 December 1997, 13 February 1998; Central de Servicios Técnicos, 6 January 1998
- M2 1 April 1997, 3 April 1997, 28 January 1998
- M3 8 January 1998
- M4 6 January 1998
- M5 6 January 1998
- M6 4 April 1997, 14 April 1997

M7 8 April 1997  
M8 21 March 1996  
M9 21 March 1996  
P1 16 April 1997  
MArg FRIMETAL, 22 January 1998, 23 January 1998

## **A.2. Other interviews with enterprises and workers**

Department store 1, 22 April 1997, 29 April 1997  
Department store 2, 30 May 1997  
Department store 3, telephone interview 1997  
Female garment workers, Santiago, 24 October 1995  
Garment entrepreneur, Santiago, 21 November 1995

## **B. Key informants, researchers and academics**

Laís Abramo, ILPES, Santiago (repeated contacts 1995-1998)  
Rafael Agacino, PET, Santiago (repeated contacts 1995-1997)  
ASIMET, Santiago (repeated email contacts and data 1999)  
Carlos Astudillo, Gerente de Estudios, ASIMET, Santiago (29 November 1995)  
Liborio Bustos, ASIMET, Santiago (1 December 1995)  
Salvador Castro, Presidente, Consejo Ejecutivo, CONSFETEMA y FENTEMA, Santiago (3 January 1996)  
Centro de Estudios de la Mujer, Santiago: Ximena Díaz, Julia Medel, Norah Schlaen, Sonia Yáñez (repeated contacts 1995-1997)  
Enrique Ceppi, Secretario General, Instituto Textil de Chile (23 January 1997)  
Carlos Chavez, Profesor, Universidad de Concepción, Facultad de Ciencias Económicas y Administrativas, Concepción (24 April 1995)  
Patricia Coñoman, President, CONTEXTIL, Santiago (17 December 1995, 11 March 1997, 18 June 1997)  
Comedor Acogedor de la Mujer Trabajadora: Feliza Garay, one legal adviser, several female garment workers, Santiago (24 October 1995, 16 October 1996)  
Álvaro Díaz, Ministerio de Economía, Programa de Innovación Tecnológica, Secretario Ejecutivo, Santiago (6 September 1995)  
Marco Dini, CORFO, Gerencia de Desarrollo Estratégico, Santiago (2 May 1996)  
Magdalena Echeverría, Dirección del Trabajo, Depto. de Fiscalización, Santiago (repeated contacts 1996-1998)  
Sergio Espinosa, Fiscalizador, Inspección del Trabajo de Santiago Norte, Santiago (repeated contacts and enterprise visits 1996-1997)  
Pamela Farías, Oficina de Asistencia Técnica, Dirección del Trabajo, Santiago (24 October 1996)

Federación Nacional de Sindicatos Textiles de la Confección, Comercio, Servicios y Ramos Conexos (FENSITECO) (1997)

Daniel Ferrada, Director, Inspección del Trabajo de Santiago Norte, Santiago (30 January 1996, 13 March 1996, 3 April 1997)

Patricio Frías, Programa de Economía del Trabajo, Santiago (4 October 1995)

Julio Madrid Fuentes, CONTEVECH, Santiago (21 November 1995)

Leda Gitahy, University of Campinas UNICAMP (Brazil) (repeated contacts 1997-1998)

Hector Goldfarb, Gerente de Estudios, Centro de Productividad Industrial, Santiago (29 November 1995)

Daniel Hasler, Inspección del Trabajo de Santiago Norte, Santiago (18 December 1995, 9 May 1996)

Helia Henríquez, Departamento de Estudios, Dirección del Trabajo, Santiago (repeated contacts, 1996-1998)

Gonzalo Herrera, Programa de Economía del Trabajo / Ministerio de Economía, Santiago (18 October 1995, 14 June 1996, 25 June 1996)

Wolfgang Hillebrand, German Development Institute, Berlin (30 June 1995)

Fernando Kaiser, Santiago (12 April 1996)

Jorge Katz, ECLAC, División de Desarrollo Productivo, Santiago (repeated contacts, 1995-1998)

Carla Macario, ECLAC, División de Desarrollo Productivo y Empresarial, Santiago (28 December 1995)

Claudio Maggi, CORFO, Santiago (20 November 1995)

Nicolas Majluf, Departamento de Ingeniería de Sistemas, Universidad Católica (17 April 1997)

Alberto Martínez, INE, Departamento de Estudios y Coordinación, Santiago (20 November 1995)

Dirk Messner, Institut für Frieden und Entwicklung, Duisburg, Santiago (7 August 1995)

Jörg Meyer-Stahmer, German Development Institute, Berlin (30 June 1995)

MIDEPLAN: Sylvia Venegas, Boris Chacón, Santiago (3 July 1996)

Cecilia Montero, CIEPLAN, Santiago (repeated contacts 1996-1998)

OXFAM: Mary Sue Smiaroski, Marlen Mondaca, Santiago (7 November 1996)

Hector Oyarzun, Gerente, Bolsa de Subcontratación Industrial de Santiago, SERCOTEC (29 April 1997)

Hector Ramos, Santiago (repeated contacts, 1997-1998)

Darío Rodríguez, Instituto de Sociología, Universidad Católica, Santiago (16 October 1995)

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Juan Carlos Scapini, Ministerio de Economía, Santiago (7 November 1995, 9 November 1995, 29 March 1996, 22 November 1996)

Imme Scholz, German Development Institute, Berlin (30 June 1995)

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Miguel Soto, President, CONSTRAMET, Santiago (17 November 1995)

Barbara Stallings, ECLAC, Santiago (repeated contacts, 1995)



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Universidad de Concepción, Carrera de Sociología, Concepción: Jorge Rojas, Eduardo Aquevedo, Uber Alberti (repeated contacts, 1994 and 1995)

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