THE ANTECEDENTS AND CATALYSTS OF THE GLOBAL CRISIS TRANSMISSION TO UKRAINE'S ECONOMY AND THE EFFECTIVENESS OF THE DOMESTIC CRISIS-COUNTERING POLICY RESPONSE

Universität Hamburg

Fakultät für Wirtschafts- und Sozialwissenschaften

Dissertation

Zur Erlangung der Würde der Doktorin der Wirtschaftswissenschaften

(gemäß der Promotionsordnung von 1989)

vorgelegt von

Anna-Maria Liebergeld

aus Novosvitlivka

Hamburg, 2018

Vorsitzender des Prüfungsausschusses: Prof. Dr. Ulrich Fritsche

Mitglied des Prüfungsausschusses: Prof. Dr. Wolfgang Maennig

Erstgutachter: Prof. Dr. Arne Heise

Zweitgutachter: Prof. Dr. Karl-Josef Koch

Datum der Disputation: 20.06.2019

"I sympathize [...] *with those who would minimize, rather than with those who would maximize, economic entanglement among nations. Ideas, knowledge, science, hospitality, travel – these are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible, and, above all, let finance be primarily national."*

John Maynard Keynes (1933)

Acknowledgements

Ich widme diese Arbeit meiner tollen Familie, die mich stets unterstützt und bekräftigt hat.

Ein besonderer Dank gilt meiner Mutter für die Kinderbetreuung während meiner Arbeitszeit.

Weiterhin danke ich meinem Mann für die Geduld und Unterstützung, die er mir die letzten Jahre geschenkt hat. Ich danke meinen beiden tollen Söhnen für die Nachsicht viele Stunden auf die Mutter verzichten zu müssen.

Einen großen Dank an Devon für seine Unterstützung während meiner gesamten akademischen Laufbahn.

Ich danke meinem betreuenden Professor Dr. Heise für die tatkräftige und stets produktive Unterstützung bei der Erstellung meiner Arbeit. Einen herzlichen Dank an den Professor Dr. Koch für seine fachliche Begleitung entlang meines hochschulischen Werdegangs.

Table of Contents

Table of Abbreviations III

Table of Diagrams IV

Table of Figures X

Abstract 1

Preface 2

1 Prolegomenon 3

2 Theoretical reflections of the research project in the spirit of Hyman Minsky 9

2.1 Giving a Minskyan account of recurrent financial instability experiences of developing economies 9

2.1.1 Endogenous and exogenous triggers of systemic fragilisation in developing economies 10

2.1.2 Lessons for developing economies within the scope of the Global Financial Crisis 25

2.2 Policy framework for promoting economic and financial stability in developing economies based on Minsky's philosophy 34

2.2.1 Comprehensive and permanent Capital Account Management 35

2.2.2 System of Dynamic Macroprudential Regulations 43

2.2.3 Responsible Big Government and pursuant institutional and policy configurations 51

3 Empirical substantiation of research hypotheses using the example of Ukraine 58

3.1 Ukraine's systemic ascent along the fragility gamut during the period preceding the crisis 58

3.1.1 Exogenous and endogenous determinants of Ukraine's adverse systemic metamorphosis 59

3.1.2 Capturing changes in the levels of Ukraine's fragility with the aid of Financial Fragility Index 100

3.2 Materialisation of financial instabilities within national boundaries and the effectiveness of domestic stabilisation-oriented policy response 109

3.2.1 Transmission of the Global Financial Crisis to Ukraine's economy and ensuing implications 109

3.2.2 Crisis-countering macroeconomic management and its shortcomings 129

3.3 Recommendations in light of the counter-productiveness of reactive policy measures 147

3.3.1 Measures in pursuit of macroeconomic stabilisation in the short term...... 148
3.3.2 Measures targeting the debts resolution in the medium and long term...... 158

4 Inferences and synopsis.. 163

Bibliography.. 176

Appendix 196

Table of Abbreviations

AESU	Academy of Economic Studies of Ukraine
CAM	Capital Account Management
CDB	Community Development Bank
ELR	Employer of Last Resort
EMBI	Emerging Markets Bond Index
FDI	Foreign Direct Investment
FFI	Financial Fragility Index
GDP	Gross Domestic Product
IMF	International Monetary Fund
LEI	Levy Economics Institute
KMU	Cabinet of Ministers of Ukraine
NBU	National Bank of Ukraine
OI	Other Investment
p.a.	Per annum
PI	Portfolio Investment
REPO	Repurchase Agreement
SBA	Stand-By Arrangement
SDR	Special Drawing Right
SSSU	State Statistics Service of Ukraine
UAH	Ukrainian Hryvnia
UNCTAD	United Nations Conference on Trade and Development
US	United States
USD	United States Dollar
WTO	World Trade Organization

Table of Diagrams

Page

Diagram 1: **Commercial and government balances**, 2001-2014, % of GDP 8

Diagram 2: **Export and import volumes**, 1999-2014, USD million 60

Diagram 3: **Export and import dynamics**, 2000-2014, % of previous year 60

Diagram 4: **Commodity composition of exports**, 1999-2014, % of total volumes......... 60

Diagram 5: **Foreign investment flows**, 1999-2014, USD million 62

Diagram 6: **Foreign investment inflows by economic sector**, 1999-2014, USD million... 62

Diagram 7: **Foreign investment inflows by economic sector**, 1999-2014, % of GDP... 62

Diagram 8: **Foreign investment outflows by economic sector**, 1999-2014, USD million... 63

Diagram 9: **Foreign private investment flows by type of flows**, 1999-2014, USD million... 63

Diagram 10: **Foreign private investment outflows by investment category**, 1999-2014, USD million 63

Diagram 11: **Foreign private investment inflows by investment category**, 1999-2014, USD million 64

Diagram 12: **Foreign private other investment inflows by financial instrument**, 1999-2014, USD million 64

Diagram 13: **Foreign private sector loans by economic sector**, 1999-2014, USD million... 64

Diagram 14: **Foreign other investment inflows to banking sector**, 1999-2014, USD million... 65

Diagram 15: **Foreign other investment inflows to real sector**, 1999-2014, USD million... 65

Diagram 16: **Foreign short-term loans by economic sector**, 1999-2014, USD million .. 65

Diagram 17: **Foreign loans to banking sector by maturity**, 1999-2014, USD million ... 66

Diagram 18: **Foreign loans to real sector by maturity**, 1999-2014, USD million 66

Diagram 19: **Direct foreign investment balance**, 1999-2014, USD million..................... 67

Diagram 20: **Direct foreign investment by economic sector**, 2002-2008, USD million... 68

Diagram 21: **Direct foreign investment by economic activities**, 2002-2009, % of total volumes ... 68

Diagram 22: **Portfolio investment balance**, 1999-2014, USD millio ... 69

Diagram 23: **Portfolio investment inflows by economic sector**, 1999-2014, USD million ... 69

Diagram 24: **Private portfolio investment**, 1999-2014, USD million ... 69

Diagram 25: **Portfolio investment inflows by financial instrument**, 1999-2014, USD million ... 70

Diagram 26: **Gross external debt**, 2003-2014, USD million ... 71

Diagram 27: **Gross external debt**, 2003-2014, % of GDP ... 72

Diagram 28: **External debt service payments**, 1999-2014, USD million ... 72

Diagram 29: **External debt service payments**, 1999-2014, % of GDP ... 72

Diagram 30: **Private and public external debt**, 2003-2014, % of gross external debt ... 73

Diagram 31: **Gross external debt by economic sector**, 2003-2014, in % ... 73

Diagram 32: **Private external debt by economic sector**, 2003-2014, in % ... 73

Diagram 33: **Gross external debt by financial instrument**, 2003-2014, in % ... 74

Diagram 34: **Private external debt by financial instrument**, 2003-2014, in % ... 74

Diagram 35: **Public external debt by financial instrument**, 2003-2014, in % ... 74

Diagram 36: **Foreign loans by economic sector**, 2003-2014, in % ... 75

Diagram 37: **Foreign private loans by economic sector**, 2003-2014, in % ... 75

Diagram 38: **Current and financial account balances**, 1999-2014, USD million ... 75

Diagram 39: **Gross external debt by maturity**, 2003-2014, in % ... 76

Diagram 40: **Foreign short-term debt by economic sector**, 2003-2014, in % ... 77

Diagram 41: **Foreign long-term debt by economic sector**, 2003-2014, in % ... 77

Diagram 42: **Gross external debt by currency**, 2003-2014, in % ... 77

Diagram 43: **Investment income payments**, 1999-2014, USD million ... 78

Diagram 44: **Investment income payments**, 1999-2014, % of foreign income ... 78

Diagram 45: **Banking sector external debt by financial instrument**, 2003-2014, USD million ... 79

Diagram 46: **Banking sector external debt by financial instrument,** 2003-2014, in % 79

Diagram 47: **Real sector external debt by financial instrument**, 2003-2014, USD million 80

Diagram 48: **Real sector external debt by financial instrument**, 2003-2014, in % 80

Diagram 49: **Banking sector external debt by maturity**, 2003-2014, in % 80

Diagram 50: **Real sector external debt by maturity**, 2003-2014, in % 81

Diagram 51: **Nominal Gross Domestic Product**, 2000-2014, % of previous year 82

Diagram 52: **GDP structure by final use categories**, 2001-2014, in % 82

Diagram 53: **Banking sector equity**, 2001-2013, % of previous year 83

Diagram 54: **Foreign capital participation in banking sector**, 2003-2014, in % 83

Diagram 55: **Banking sector total liabilities**, 2000-2014, in % 83

Diagram 56: **Banking sector liabilities to non-residents**, 2004-2014, in % 84

Diagram 57: **Banking sector liabilities to non-residents**, 2004-2014, % of previous year 84

Diagram 58: **Banking sector total liquid financial assets**, 2004-2014, % of total liabilities 84

Diagram 59: **Banking sector liquid foreign assets**, 2004-2014, % of liabilities to non-residents 85

Diagram 60: **Domestic credit by currency type**, 1999-2014, % of previous year 86

Diagram 61: **Domestic credit by currency type**, 1999-2014, in % of total 87

Diagram 62: **Domestic credit by maturity**, 1999-2014, in % 87

Diagram 63: **Domestic credit by borrower category**, 1999-2014, in % 87

Diagram 64: **Domestic credit to real sector**, 1999-2014, % of previous year 88

Diagram 65: **Domestic household credit by currency type**, 2000-2014, % of previous year 88

Diagram 66: **Domestic credit dynamics**, 1999-2014, % of GDP 88

Diagram 67: **Domestic corporate credit by currency type**, 2000-2014, % of previous year 89

Diagram 68: **Domestic household credit by currency type**, 1999-2014, in % 89

Diagram 69: **Domestic household credit by credit category**, 2006-2014, in % 89

Diagram 70: **Domestic consumer credit by currency type**, 2006-2014, in % ... 90

Diagram 71: **Domestic household mortgage credit by currency type**, 2006-2014, in % ... 90

Diagram 72: **Domestic corporate credit by currency type**, 1999-2014, in % ... 90

Diagram 73: **Domestic corporate credit by maturity**, 1999-2014, in % ... 91

Diagram 74: **Interest rates on bank credit by currencies**, 2002-2014, period average, % p.a. ... 92

Diagram 75: **Official exchange rate of hryvnia**, 1999-2014, for USD, end of period ... 92

Diagram 76: **Commodity composition of imports**, 1999-2014, in % ... 93

Diagram 77: **Commercial and current account balances**, 1999-2014, USD million ... 93

Diagram 78: **Commercial and current account balances**, 1999-2014, % of GDP ... 93

Diagram 79: **Residential property prices in Kyiv**, 1999-2014, USD thousand ... 94

Diagram 80: **Foreign private capital inflows and foreign reserves**, 1999-2014, USD million ... 96

Diagram 81: **NBU's foreign exchange interventions**, 2001-2010, UAH million ... 96

Diagram 82: **International reserve positions**, 1999-2014, % of gross external debt ... 96

Diagram 83: **NBU's non-cash emission**, 2000-2010, in % ... 97

Diagram 84: **NBU's banking sector interventions**, 2001-2012, UAH million ... 97

Diagram 85: **NBU's banking sector interventions**, 2001-2012, % of GDP ... 97

Diagram 86: **Average calculated ratio of mandatory reserves**, 1999-2008, in % ... 98

Diagram 87: **Interest rates on refinancing by NBU**, 2001-2014, average weighted annual %, period end ... 98

Diagram 88: **Gross external debt relative to GDP**, 1999-2014, in % ... 107

Diagram 89: **Short-term relative to gross external debt**, 1999-2014, in % ... 107

Diagram 90: **External debt service payments relative to foreign income**, 1999-2014, in % ... 108

Diagram 91: **International reserves relative to gross external debt**, 1999-2014, in % ... 108

Diagram 92: **Index of financial fragility of Ukraine**, 1999-2014 ... 108

Diagram 93: **Export revenues**, 2000-2014, % of previous years ... 112

Diagram 94: **Consolidated balance of payments**, 1999-2014, USD million 112

Diagram 95: **Banking sector external liabilities**, 1999-2014, USD million 112

Diagram 96: **Real sector external liabilities**, 1999-2014, USD million......................... 113

Diagram 97: **Net demand for cash foreign currency**, 2000-2009, USD million 115

Diagram 98: **Foreign exchange transactions**, 2004-2009, % of previous year 115

Diagram 99: **Domestic deposits by currency type**, 2000-2014, % of previous year...... 118

Diagram 100: **Domestic deposits by economic sector**, 2000-2014, % of previous year... 119

Diagram 101: **Domestic corporate deposits by currency type**, 2000-2014, % of previous year 119

Diagram 102: **Domestic household deposits by currency type**, 2000-2014, % of previous year 119

Diagram 103: **Domestic deposits by currency type**, 1999-2014, % of total.................... 120

Diagram 104: **Domestic deposits by maturity**, 1999-2014, % of total 120

Diagram 105: **Domestic deposits by economic sector**, 1999-2014, % of total................ 120

Diagram 106: **Interest rates on bank deposits by currencies**, 2001-2014, period average, % p.a. 121

Diagram 107: **Interest rates under interbank credits**, 2001-2014, period average, % p.a. 121

Diagram 108: **Interest rates under interbank deposits**, 2001-2014, period average, % p.a. 121

Diagram 109: **Interbank credit volumes**, 1999-2014, UAH million 122

Diagram 110: **Interbank credit activity dynamics**, 2000-2014, % of previous year 122

Diagram 111: **Industrial output dynamics**, 2002-2014, % of previous year.................... 126

Diagram 112: **Corporate financial performance**, 1999-2014, % of GDP........................ 126

Diagram 113: **Corporate financial balance before tax by economic activity**, 2004-2013, UAH million... 126

Diagram 114: **Total unemployed population**, 2002-2014, % of total employed............. 127

Diagram 115: **Total unemployed population**, 2001-2014, % of previous year 127

Diagram 116: **Total dismissals at enterprises**, 2006-2012, % of previous year 127

Diagram 117: **Population's real disposable income,** 2001-2011, % of previous year 128

Diagram 118: **Non-performing loans**, NBU definition, 2001-2016, % of gross loans 128

Diagram 119: **Non-performing loans**, IMF definition, 2008-2012, % of gross loans....... 128

Diagram 120: **Public external capital inflows**, 1999-2014, USD million......................... 139

Diagram 121: **Balance of NBU's foreign exchange interventions**, 2000-2014, USD million.. 140

Diagram 122: **Private sector loan rollover rates**, 2009-2014, in % 140

Diagram 123: **Government fixed capital formation**, 2001-2014, % of GDP 140

Diagram 124: **Government fixed capital formation**, 2001-2014, % of gross fixed capital formation 141

Table of Figures

Page

Figure 1: **Mandatory reserve ratios**, 2003-2009, in %, end of period 98

Figure 2: **Index of Financial Fragility of Ukraine**, 1999-2014................................ 196

Figure 3: **Business Cycle and Change in Leveraging Convention**.......................... 197

ABSTRACT

The evolution of neoclassical economics as the "monoculture" in the late 1960s with its miscellaneous "myths" – the efficiency of an "invisible hand" within the "self-regulated markets" being the most salient among them – forged the macroeconomic policy choices on the national as well as global level over the last four decades[1]. The era of the perpetuated "laissez-faire" hegemony within the domain of economics, embossed by the constantly recurring financial instabilities, climaxed in 2008 into the extraordinary turmoil of the global touchstone, which bequeathed the far-reaching and long-lasting corollaries stretching down to the present day. The vociferous social commotions against the financial, macro, socioeconomic and environmental limits of "financial capitalism", nascent around the globe in the aftermath of the global financial and economic crisis 2008/2009, portended the verberation of the neoliberal paradigmatic *status quo*, but unfortunately, not its demise. Captured by the juggernaut of "financial globalisation", the less-advanced countries are hitherto tilting at the "debt windmills" and the adamant financial disturbances with serious repercussions for the wellbeing of their nations. Availing itself of the insights provided by the most illustrious opponents to orthodoxy – Keynes and Minsky –, the current research project embodies an endeavour to marshal the national policy agenda of developing countries in a way to expedite the development of their indigenous economies along the lines of economic and financial stability, social equality and fairness, thereby escaping from the neoliberal "pliers". By taking the example of Ukraine, which epitomises "the triumph of ideology over evidence" within the context of the Global Financial Crisis, the current research advocates a number of groundbreaking structural transformations on the national level, in the first instance, suspension of the external sources for financing the domestic capital development in the long term, consistent regulation and monitoring of the internal financial processes, as well as catering for the sustainability of "reliable" financial assets *de rigueur* for the satisfaction of the national capital and socioeconomic concerns.

[1] Wade (2009), Mitchell (2013).

Preface

The turbulences which concussed the global economy in 2008/2009, and echoed again with the developing economies, may be *de novo* explained by the insights of Hyman P. Minsky. The clues regarding the reform agenda being due to the national, as well as international levels in resistance to the nowadays even more frequent financial and economic cataclysms within the respective economies are ergo to be found within the scope of his proposals. The burning ambition of the current research project is to operate as an interface between Minsky's philosophical deliberations and realities prevailing within, as well as around the less-advanced economies. By taking Ukraine as an example, it endeavours to illustrate how they ordinarily become the eternal captives of the international capital latitude and subsequent marionettes in the promotion of extraneous ambitions, if not of the bitter (geo)political altercations. By endorsing the percolation of foreign capital into the national financial structures, the developing economies are then compelled to perpetually stand on the sidelines by their inability to keep their sovereign interests at arms' length from their money lenders, and globally regnant economic and financial elites, whilst steadily walking on a lead of the unsustainable foreign leverage. The policies pursued Ukraine upon the calls of the international financial players over the course of the Global Financial Crisis, manifested its inaptness in eradicating the intrinsic antecedents of the crisis, as well as protecting the national economy from its devastations. The envisaged salvation of the existing financial edifice appeared to be abhorrent to the economy's financial and economic convalescence over the long term as, having merely prolonged the premises underlying the endemic Ponzi financing architecture, it amplified the dimensions of the country's fragility to levels worse than before the crisis, and laid the ground for the next financial cataclysm being not far afield. By having authorised the foreign capital to keep dominating the national economic and financial structures in the crisis aftermath, Ukraine continued to abdicate its responsibility for taking sovereign decision for its society's prosperity, and converted into a permanent hostage of the superpowers' ambitions. As long as the constraints put on Ukraine are firmly controlled by its money lenders, it will hardly be ever possible to act autonomously of their interests. The country has *de facto* lost its sovereignty.

1 Prolegomenon

> *"I accept* [...] *that the aim of economic policy is not narrowly economic. The aim of policy is to assure that the economic prerequisites for sustaining the civil and civilized standards of an open liberal society exist. If amplified uncertainty, extremes of income distribution, and social inequality attenuate the economic underpinnings of democracy, then the market behavior that creates these conditions should be constrained. If it is necessary to give up a bit of market efficiency, or a bit of aggregate income, in order to contain democracy-threatening uncertainty, then so be it."*
>
> Hyman P. Minsky (1996:364)

It is for quite a long time now that neoclassical economic principles have been deployed to manage the "pure" capitalist systems, but this was barely enough. Over the course of the "capitalist globalisation" which transpired during the last five decades, they almost entirely usurped the development economics, having effectuated the regularly trending economic and financial instabilities within the less-advanced states. In pursuit of *laissez-faire* tenets, the realities were disillusioning – the transition "from the struggle against poverty to war against the poor" hallmarked the development course at the international level (Herrera 2006). When the anti-state thesis ultimately triumphed whilst the disintegration of the Soviet State was still progressing, much was on the policy agenda of the neoliberal "shock therapy". The ensuing process of transformation from the "command" to the "free market economies", which previously filled the void within the post-communist space during the 1990s, has left its telltale vestige within the respective states in the form of an "economic coma" (Kregel/Matzner 1992). Over its course, in Ukraine – as in any other newly emerged independent body of the post-Soviet era –, the state considerably shut itself away from the economic processes, except for their monetary aspects. The large-scale privatisation of the public domain, principally through criminal methods, collapse of the country's productive capacity, national income slump, chronic unemployment and hyperinflations became the trademarks of the respective period (Aslund 2005). The sovereign debt bondage and the state default in 1999 constituted the crowning events of the transformational epoch by the *fin de siècle* (Popovych 2015). Nonetheless, most significant was its social fallout, brought about by the state pandemonium: disruption of income flows, yawning social chasm and injustice,

eroding public infrastructure and deteriorating levels of education, medical care and environment, rampant poverty in rural areas, skyrocketing criminality, power games between the ruling oligarch clans, extreme social and economic insecurity, as well as profound anguishes and psychological problems arising from it all. The technical and economic degradation during 1991-1999 not only ushered in the demolishing of all that was hitherto created by the labour of so many generations, but also eminently perverted the endemic social conventions and individual morals, having provided for the genesis of a new type of mentality heavily biased towards the rent-seeking, corruption and money laundering. The most salient corollaries of Ukraine’s transformation process under the neoliberal aegis were writ large in its failure to create a “people’s capitalism” and to develop a “civilised society” (Marangos 2006, Dzarazov 2010).

By now, the fierce economic, social and political instabilities of the 1990s epitomise a bygone, albeit the havoc played by the neoclassical hegemony within the process of Ukraine’s transformation towards a market system is even felt today. The mode of the country’s economic functioning, as well as the national policy agenda in the aftermath of the transformative period have been substantially shaped by its traumatic shocks. It was not until the turn of the century that the country’s principal macroeconomic indicators demonstrated the first ameliorative symptoms. When the domestic economic growth finally recuperated in 2000, having stabilised at the rates between 5 % and 12 % throughout subsequent years, it ushered in a protracted phase of economic stability – so far, the only one during the country’s entire independency period –, which was abruptly terminated by the crisis (NBU 2008b:14). Nevertheless, until 2004, the auspicious growth tendencies could be primarily attributed to external factors. Against the backdrop of the mainly balanced consolidated budgets preoccupied with the inflation suppression, and the domestic production base largely oriented towards the outlandish markets, it is no wonder that the country’s private sector hailed the acceleration of the far-reaching integration into the international economic and financial structures since 2004[2]. For the real economy, given the stability of the exchange rate, it represented the facilities for financing its manifold consumption and investment activities, so long suppressed along their way to the market relations. Considering the volumes of production destined to the domestic markets still lagging far behind the necessary level, the import volumes kept growing parallel to the credit dynamics within the real economic sector. Referring to Keynes’ definition of aggregate demand, Kregel (2011) argued that the net

[2] In advance of the accession to the World Trade Organization, anticipated in 2005, as well as the expeditious integration with the European Union, Ukraine’s government undertook a number of policies towards the liberalisation of the national trade and capital accounts (Aslund 2005).

position of either of three sectors – private, public and external – is determined by that of the two vestigial sectors. In other words, for the aggregate income, the growth trajectory in expenditures of any of the sectors matters due to the interconnection of the balance sheets. Accordingly, if the external balance is marked by a net deficit, or marginal external surplus, and the performance of the public sector is biased by the balanced budget, there is no other way for the private sector other than to operate as a net borrower, if the national income has to be maintained at the same level or grow. This is precisely what marked the dynamics within Ukraine's economy since 2005 (Diagram 1). Within the scope of soaring commercial deficit and exiguous net spending on behalf of the public sector, the continuous adjustment in the private sector's income had to proceed by the progressive encumbering with debts.

In view of Ukraine's long pedigree embossed by the free market ideology, evolution of the country's private methods of financing towards unsustainable practices over the course of the pre-crisis phase has therefore more than financial antecedents, and has a long journey into the past. It is the chronic pent-up domestic demand by the lack of sustainable sources of funding the real economic activities brought about by the "small government" policies incompatible with the social welfare, which lie at the base of the private sector's grasping an opportunity to approach all the above-mentioned problems by the external sources of financing. Western financial imperialism buttressed the metamorphosis in the domestic private leverage conventions away from the "cautious" use of debt since the country's intensive integration into the global financial structures. The maladroit manner of Ukraine's endeavours to revise the brutality of the transformation period since the turn of the century was buried in its ignorance of how to rightly do it. The aspiration of this research project is to demonstrate it, and its peers, with the help of philosophical reflections of the Post Keynesian pioneers and their allies, the appropriate avenue towards expediting the national development in an economically and financially sustainable, as well as socially fair manner, *ipso facto* amending the errors of the past. The foregone conclusion at this juncture is that the *laissez-faire* orthodoxy must be abandoned for good within the macroeconomic policy-making process at the national level, which should ultimately envisage the permanent reconciliation of the domestic public and private interests within the ambit of a new economic order in lieu of the free market model. However, the concrete policy solutions anent compiling an authentic national development agenda for the future should only be configured after it has been made clear what has genuinely brought Ukraine's economy to the precipice in the course of the Global Financial Crisis.

Scrutiny of the antecedents and channels for the transmission of the Global Financial Crisis to Ukraine's economy, along with the effectiveness of its domestic policy response in countering the crisis ramifications, constitutes the gist of the current research project. The following structure and modus operandi are endeavored: the theoretical groundwork of the research lays the basis for the interpretation of the ensuing empirical evidence. Explicitly, it dwells upon the most pivotal Post Keynesian contributions being concerned with the explanation of repetitive financial and economic instabilities within the open liberalised developing economies, from both theoretical and empirical perspectives. Within the scope of the implied contributions, Hyman Minsky's ideas about financial instabilities within the advanced capitalist systems take the centre stage, and are subsequently extended to the case of those less-advanced economies, comprehensively integrated into the global macroeconomic structures and financing their national development from external sources. On a related note, the adverse exogenous and endogenous transformations over the course of the global financial liberalisation are held responsible for the establishment of the eminently speculative and Ponzi financial schemes at the micro, as well as the macro levels of the respective economies, which ultimately facilitated the materialisation of disruptive financial events, either internal or external in origin, within the national boundaries. The occurrences within the context of the Global Financial Crisis constitute the most recent grievous episodes of the appendant instabilities, having brought Minsky's mindset into the focus of attention. Specifically, Minsky's insights within the scope of his Financial Instability Hypothesis proved to be most qualified while elucidating how the process of a protracted metamorphosis of international economic and financial structures towards a fragile stance – since the ascendency of the neoliberal tenets to the economic and political mainstream worldwide – eventuated in the eruption of crisis of the global magnitude, as well as what macroeconomic parameters served as the catalysts of its spillover to the liberalised developing economies. A special emphasis is then laid on the lessons the respective economies should have drawn for themselves out of the complete story. As a last point, the recommendations on the compilation of the national policy agenda for expediting the less-advanced economies' capital development in a financially, economically and socially sustainable manner are provided in due consideration of the proposals submitted by the Post Keynesian academics within the Minskyan boundaries. Despite the fact that no definitive policy solutions are available for good as a result of "destabilising forces" of stability, some generalised guidelines should nevertheless be propagated, and will ultimately have to be accommodated to the national idiosyncracies in each individual case. The "right policy" case should encompass the set of measures focusing

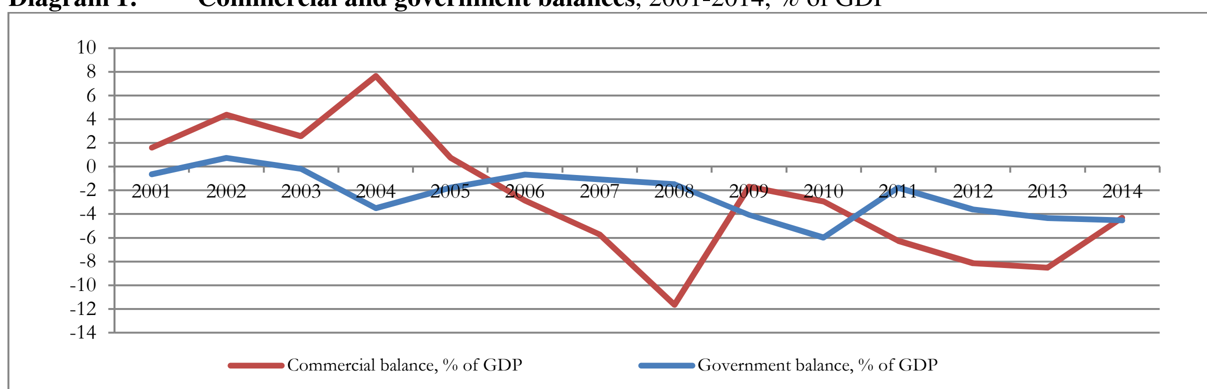
upon the tackling of external and internal challenges to systemic stability on an on-going basis, to wit the comprehensive Capital Account Management, the system of Dynamic Macroprudential Regulations, and the policies in the Responsible Big Government style.

Taking account of Ukraine's case, the following section provides for an empirical corroboration of the research hypotheses constructed within the theoretical framework. The investigated timeframe is conceptually divided into three periods. The first period deals with the economy's experiences prior to the crisis, from 2004 and until the 4th quarter of 2008. The second period covers its experiences throughout the crisis, from the 4th quarter of 2008 until the end of 2009. Finally, the third period covers the years subsequent to the crisis, between 2010 and 2014. The implied time-specific division is rough, with the intertwining constituent time fences, i.e. the passages from one period into another are fluent. Explicitly, it has been argued that the reciprocal action of macroeconomic and financial tendencies on the global and national levels prior to Ukraine's crisis buttressed the rapid growth in financial vulnerability of the country's national economy. On the one hand, the facilitated access of the private economic structures to the international capital markets while financing their investment projects and, on the other hand, the detrimental transformations in the respective leveraging conventions towards the reduced margins of safety accounted for the burgeoning of the speculative and Ponzi financing behaviours on a grand scale within the economy's private domain. The continuously accruing stock of external private liabilities in foreign currencies, concomitant with the *de facto* soaring external deficits, created significant dependencies of the endemic private financing systems on the persistency of the international capital inflows in terms of debt servicing. The economy's transformative dynamics towards the exceedingly fragile financial stance, accomplished in accordance with Minsky's Hypothesis of Financial Instability, underpinned a prolific foundation for the spillover of the externally originated disturbances across the national borders, having thus paved the way for the materialisation of the fully-fledged financial and economic crisis at the national level. The first part of this section investigates the above delineated dynamics in greater detail. An Index of Financial Fragility, covering the period 1999-2014, is subsequently calculated for Ukraine's economy as a financing unit within the international context with the objective of delivering an empirical substantiation of the respective systemic metamorphosis.

The disruptive modifications in the macroeconomic parameters underlying the country's private financial contracts constituted the channels of the Global Financial Crisis transgression to Ukraine's economy. Having substantially impinged upon the financing units' cash inflows and outflows, as well as their defensive position-making opportunities, they

triggered widespread private financial instabilities with correspondent systemic repercussions. The debt deflation process set into operation on the systemic level over the course of the crisis brought about ponderous challenges for the country's national authorities in terms of a prompt stabilisation of the domestic macroeconomy within the scope of traditional monetary methods. By implementing the measures conducive to the imminent recreation of the macroeconomic premises prevailing prior to the crisis, they ultimately decided in favour of retaining the entrenched fragile financial architecture, having merely set up the conditions for another crisis which resurfaced by 2014 but, this time, with much greater impetus. The previously calculated Index of Financial Fragility for Ukraine's economy attested to the rapid recuperation in the growth of its vulnerability dimensions in the years following the crisis. The respective dynamics are particularised within the scope of the second part of the empirical framework. Considering the counter-productiveness of the domestic anti-crisis management with the benefit of hindsight, the aspiration stipulated on a final note is to provide recommendations anent what should in the first instance have been done in order to eschew the subsequent accentuation of the crisis on the systemic level, as well as to forestall its long-term fallout. Given the fact that what has been transpiring on the country's domestic level before, during as well as in the aftermath of the crisis unfolded after an ordinary scenario, such a long time foreboded by the Post Keynesian academia, the respective clues are to be found within the scope of its works. The final part of this section therefore embodies a relevant interface between the pivotal empirical outcomes of the research project and the philosophical insights extrapolated within the introductory chapters. The terminatory section synopsizes and draws inferences from all that has heretofore been said.

Diagram 1: Commercial and government balances, 2001-2014, % of GDP



Source: Own calculations based on data provided in the NBU's Annual Reports and Balance of Payments and External Debt of Ukraine publications for 2002-2014, and the SSSU's Statistical Yearbook of Ukraine publications for the respective years.

2 Theoretical reflections of the research project in the spirit of Hyman Minsky

The following section reviews the most prominent anti-orthodox contributions, which provide theoretical and empirical explanations to frequent financial and debt crises within the developing economies, and submit proposals for their prevention in future. The implied contributions to a large extent avail themselves of Minsky's insights. On a related note, a special emphasis is laid on the lessons the developing economies should have drawn from the global financial and economic crisis. As a last point, the policy framework for promoting economic and financial stability of the respective economies is compiled within the boundaries of Minsky's avant-gardism.

2.1 Giving a Minskyan account of recurrent financial instability experiences of developing economies

The Hyman P. Minsky's ideas about financial instabilities have frequently been utilised as a theoretical groundwork by quite a number of heterodox economists within the scope of their endeavours to give an empirical account of repetitive financial disturbances within open liberalised economies. The following section elaborates on the most pivotal contributions for the current research project. To start with, a brief elucidation of the cornerstones of Minsky's Financial Instability Hypothesis is accomplished. Specifically, the categorisation of financing profiles which determine the stability of the system they are inherent to is expounded. The subsequent application of Minsky's insights in the case of open liberalised developing economies should offer an explanation of their previous abject experiences connected with the way of financing domestic economic progress from external capital resources. On a related note, the global capital latitude is held responsible for the establishment of the eminently speculative and Ponzi financial schemes at the micro, as well as the macro levels of the respective economies which ultimately, buttressed by the derogatory endogenous and exogenous processes, implicated the materialisation of disruptive financial events within the national boundaries. *Ex ante*, it should be pinpointed that, prior to the crisis, Ukraine beset the road along financial fragility and the ensuing materialisation of financial instabilities within the national frontiers over the course of the Global Financial Crisis, as well as the domestic policy armamentarium, ushered in to mitigate the crisis and its residual effects, consummated on the analogy of the gained below insights. The second part deals with the relevancy of Minsky's ideas within the context of Global Financial Crisis, placing special emphasis on the less-advanced countries. It dwells on the pertinent

background processes and the respective lessons which the developing economies should have drawn from the global turmoil. In this connection, the two customary models of economic development prevailed in the contemporary era of globalisation are juxtaposed along with their implications for the stability of individual economies and the international financial architecture in general.

2.1.1 Endogenous and exogenous triggers of systemic fragilisation in developing economies

In his Financial Instability Hypothesis, Minsky (1992, 1986)[3] introduced three types of financing patterns for capital accumulation in a capitalist economy, which assumes the "exchanges of present money for future money", *viz.* the "hedge", "speculative" and "Ponzi finance" options. An economic unit undertaking a capital investment today and financing it by issuing liabilities enters into an agreement to perform future payment commitments which it will realise from the prospective profits generated by operating the assets underlying its capital investment (Minsky 1992:2). Along these lines, each financing activity is based on a specific type of "income-debt relationship". According to Minsky, the hedge mode of financing is the most "stable" as it is predicated on a sound income-debt relationship and is distinctive of a financing unit being able to entirely redeem its debts out of the upcoming income flows. The speculative mode of financing is in contrast less stable as it appertains to a financing unit which is in a position to meet its interest payment commitments, albeit not to amortise the debt principle amount and has, therefore, to "rollover" the debt by incurring a new debt whenever the repayment of the principal is due. In the case of a Ponzi financing unit, its income is sufficient neither to service the interest obligations nor to discharge the principle amount of the debt. This type of financing is mostly unstable as it requires a "defensive position-making" in the form of continuous debt rollovers or the outright asset liquidation at a higher price. The higher the equity capital contribution within the liability structure, the more likely the financing profile is hedged and thus financially robust (ibid.:8). The reverse applies to the Ponzi finance scheme which is exceedingly "fragile". The systemic robustness is then contingent upon the solidity of the individual income-debt relations. A system in which the proportion of speculative and Ponzi finance profiles is most prevalent is eminently fragile (ibid.:7). As a result of the "interconnectedness of balance sheets", the inability of some of the system's participants to perform their financial obligations may rapidly spill over to the rest, thus triggering its collapse. It is definitely beyond question that a

[3] Tymoigne (2006a,b,c) submitted a three-part analysis of the Minskyan work, to which the current research owes most of its inspirations.

unit earmarked by the hedge financing demeanor demands a greater disruption of income receipts or a larger enhancement in the debt-servicing cost in order to transform into the speculative mode. In contrast, a speculative unit tends to be more “sensitive” to the alterations in the financing conditions, i.e. future cash flows, cost of financing, value of underlying assets or liquidity volumes. In the case of an even trivial deflection from the initial circumstances, it will forthwith transform into the Ponzi scheme. Therefore, it is the move along the unit’s sensitivity scale which determines the level of its financial fragility (Tymoigne 2006a:20f.). Accordingly, the first theorem of the instability hypothesis conveys that an economic system rests upon different types of financing regimes, being stable under some and unstable under others. The second theorem underlines the crisis-proneness as an endemic feature of financial markets. It conveys that over the protracted periods of absent disruptive financial events, the financially resilient systems, based to a great extent on the hedge financing profiles, are inclined to transform into a state of financial fragility out of their own inner dynamics (Minsky 1992:7-8). The “systemic fragilisation” is thus an “endogenous process” of a gradual deterioration in the quality of the underlying income-debt relationships over the course of time, which follows from the disposition of economic units, both debtors as well as creditors, to undertake excessively risky activities with low “margins of safety”[4] in times of successful economic performance, rather than a corollary of an “exogenous shock” or improper “government interventions”. Although the externally originated unfavourable events may have baneful effects on the system’s financial stability, they rather constitute the catalysts and not the antecedents of crisis. In other words, the “power to shock” of such events is determined by the purely endogenous systemic processes (Arestis/Glickman 1999:8). During the long-lasting periods of economic stability, the economic units are abuzz about the persistency of future income flows and therefore confident in terms of their ability to meet their payment obligations at any future time. In to the bargain, in anticipation of larger capital gains as a result of augmenting asset prices throughout the economy’s upswing phase, the hedged financing structures have a disposition to unsustainable financing behaviours. It is then primarily due to the financing units’ sanguine expectations, rather than malice prepense, that their risk evaluation is accordingly impaired (Minsky 1986:210). The “destabilising stability” is then a paradox which signifies that the “euphoria” of economic actors in “good times” stimulates them to engage in operations fraught with substantial risks, therefore, considerably amplifying the quality of their leverage and enforcing the “systemic evolution” towards the stance of the uttermost financial fragility (ibid.:213). Minsky argued that the

[4] Kregel (2004a:11) defined the “margin of safety” as an “excess of expected receipts over certain commitments”.

system's internal dynamics are usually amplified by the underlying regulative framework, as well as prevalent macroeconomic policy behaviour. For instance, if an economy with a high content of speculative financing structures is inflationary and the authorities counteract the implied dynamics by restrictive monetary measures, the speculative units will convert into Ponzi units without respite. This is due to the circumstance that an increase in the interest rates would correspondingly amplify the financing cost of the respective investment projects, and hence impinge upon their net present values. When faced with the consequently tumbling asset prices and negative net worth, the indebted financing units will attempt to dispose of the assets underlying their financial agreements with the objective of bringing their current debt obligations to fruition. If taking place *en masse*, this would engender a further impairment of the respective asset values and put the "debt deflation"[5] in train (Minsky 1992:8). In light of the speculative activities being idiosyncratic to the financial business, Minsky recognised the particular contribution of financial intermediaries to the dissemination of crisis premises (Minsky 1986:212). Their "natural innovate drive" towards speculative finance is concealed in their endeavours to overcome the profitability limits imposed by the competitive pressures and the established regulatory framework.

Although primarily applied to the advanced capitalist economies, quite a number of Post Keynesian contributions based their analysis upon the Minsky's ideas while interpreting the past financial crises within the emerging economies, which had been extensively integrated into the global economic and financial system. The works of Arestis and Glickman (1999) and Kregel (1998, 2004a,b,c) are probably the most valuable on a related note. Arestis and Glickman (ibid.) extended the closed-economy settings of the Minsky's Financial Instability Hypothesis to the case of open liberalised developing economies in the era of "financial globalisation"[6], having argued that the latitude of global capital flows and the comprehensive deregulation of the indigenous financial systems underpinned the frequent occurrence of financial instabilities within the respective economies. Both circumstances had been ushered in by the process of far-reaching "financial liberalisation" facilitated on a world-wide scale by the inherent domestic as well as external processes, *viz* the abolishment of interest rate and credit allocation barriers, and the controls over the capital streams (ibid.:31). The authors highlighted the validity of the Minskyan classification of the income-debt

---

[5] The illustration of a debt deflation process has been first provided by Irving Fisher (1933). Tymoigne and Wray (2014:22) defined debt deflation as "an economic situation that is characterised by a downward spiral of debts and assets prices in which indebted economic units desperately try to pay their debts by selling many assets at once, resulting in a massive drop in asset prices and so increasing the difficulty in obtaining enough funds to pay debts, leading to further distress sales".

[6] Bibow (2008b:7) defined "financial globalisation" as "the integration of national financial systems through rising cross-border financial flows and asset holdings".

relationship into hedge, speculative and Ponzi finance schemes in the case of developing economies as the financing units within the scope of the international financial system. While investigating their patterns of financing the national economic development, they professed that the recourse to external sources of finance on a related note *per se* immediately converts the respective economies into speculative units, regardless of their expected ability to comply with external financial obligations under prevailing conditions. It is their inability to counteract the derogatory alterations in the exogenous parameters of financing, *inter alia* the volatility in the external value of their national currencies, which places them *a priori* into the speculative position. If, in addition, the procurement of external capital resources is accompanied by substantial maturity discrepancies, and the units' respective exposures get aggravated by the interest rate movements, they then become "super speculative" (ibid.:9). Accordingly, the economy's openness to the global financial markets expedites the accumulation of "internationalised financial fragility" on its part, if substantiated by the downgrades in the "domestic financial conservativism" (ibid.:10). By "extend[ing] opportunities for 'making on the carry'" and thus "broaden[ing] the routes by which units, including the state itself, can shift from hedged to speculative and Ponzi conditions", the openness ushers in the behaviours of the resident economic structures towards the unsustainable financing practices (ibid.:12). Explicitly, the fragilisation of an open economy *vis-à-vis* the rest of the world proceeds in accordance with the following scenario (ibid.:9). Assuming a rapidly growing economy contains predominantly hedged financing structures, the prospects of ascending profitability would then instigate the domestic economic structures to relegate their risk threshold and resort to venturesome investing activities auguring the substantial financial gains. In case the economy's capital account is open, the upbeat moods of the domestic investors might coincide with the "profit-seeking" endeavours of international capital providers, especially when considerable interest rate differentials exist for short-term financing. If the liquid capital resources are available at low interest rates on the international financial markets, the local credit institutions would be encouraged to expand their external borrowing activities in commensurate dimensions, for the purpose of financing their domestic investment operations. Foreign capital inflows in ample volumes would effectuate the appreciative pressures on the national currency and cause the exchange rate to enhance, unless the authorities decide to counteract the implied tendencies with domestic monetary and exchange rate instruments, for instance, by introducing a currency peg to the US dollar. In consequence, the authorities would find themselves coerced to sterilise the excess liquidity by intervening on the domestic foreign exchange market and accumulating foreign currency

reserves. The latter would usually be interpreted as an evidence of the economy's financial strength on behalf of the foreign investors. If the intensity of foreign capital inflows lingers for quite a while, correspondingly abetting the national authorities' endeavours to preserve the exchange rate stability, the thriving optimistic expectations and growing confidence of resident economic structures' would instigate them towards greater encumbrance in foreign currencies. The domestic asset prices would expose the ascending trajectory and the currency arbitrage would prosper.

The level of the economy's fragilisation is then contingent on the content of speculative and Ponzi financing schemes within its structures, and ultimately determines the degree of its susceptibility to the disruptive economic and financial events, their intensity and duration. The latter may be either internally-induced with ramifications for the country's external circumstances, or externally-induced with domestic impacts, or constitute an interplay of both (ibid.:10). More precisely, if the majority of endemic financing profiles is hedged, i.e. the asset-liability structures within their balance sheets are adjusted and a positive net present value of their investment projects is expected, such an economy type is considered to be relatively stable. In case of a disruptive event, the deviation from the initial financing premises would have to be stupendous for the respective profiles to shift into the speculative and subsequently Ponzi mode. In contrast, if the content of speculative and Ponzi financing profiles within the resident economic structures is vast, in all probability the economy is going to be adversely affected by the internally or externally induced disturbances, and their ramifications are most likely to be fierce and tenacious. If most of the economy's financing structures are characterised by considerable balance sheet exposures and greater refinancing risks, then even a minor impairment of the erstwhile financing conditions would induce the respective profiles to shift down to the Ponzi positions. In a nutshell, it is thus the extent of the financing unit's sensitivity to the alterations in the initial terms and conditions underlying its financial commitments which determines the level of its financial fragility. The former is in turn contingent upon the scope of the balance sheet disproportions of the unit in question, and thus the degree of its reliance on defensive position-making operations. Considering the financial system as a whole, it is the respective proportion of financially fragile units within its structures which ultimately determines the degree of its fragilisation and thus the stability of the entire macroeconomy.

If the fragilisation enlarges the economy's "potential" to be either affected by an endogenous disruption or fraught with a contagion effect from exterior occurrences, then an increase in the domestic costs of capital goods might constitute an internal conduit of crisis,

whereas the deterioration in the external value of the domestic currency might serve as a transmission channel for the adverse external dynamics into the economy (ibid.:10f.). An increase in the internal or external cost of financing relative to the cash inflows, would immediately downgrade the speculative positions to the Ponzi mode. The commensurate reversals in the net present values of the corresponding investment projects would make their refinancing onerous, thus pushing the respective financing units on the verge of bankruptcy. In case the economy is by and large underpinned by fragile financing schemes, then large-scale defaults on existing financial commitments would bring forth substantive impairments for the financial health of even originally hedged structures. The *en masse* flight towards liquidity and consequently towards foreign currencies – conditioned by the residents' anticipations of further worsening in the national currency value – would constitute the usual corollaries on a related note. On the one hand, it is the financing units' endeavours to "make positions" by liquidating the assets underlying their financing contracts denominated in foreign currencies and, on the other hand, the speculators attempts to divest their holdings of domestic assets, whose values are pejorative, which would effectuate the intensification of the downward pressures on the domestic asset prices in crisis times. An ensuing malicious interplay between the above-mentioned dynamics would echo back to the resident balance sheet positions and the individual financial instabilities would eventually expand to the macro level within the scope of a debt deflation process. If in reaction to the implied occurrences the state decides to assume responsibility for the private debts accumulated *vis-à-vis* the outer world in the foreign currencies, and bails the respective financing structures out of its foreign exchange reserves, it basically itself converts into a Ponzi financing unit within the international financial system, as a result of the imposed on it constraints in terms of foreign currency procurement (ibid.:11). Within the open-economy context, the state's ability in appeasing the situation by the implied measures is then doubtful. The actions prerequisite to reinforce the exchange rate customarily would perforce run counter to those necessary to stabilise the indigenous balance sheets. Specifically, to thwart the flight from the national currency, the state would become coerced to abstain from expanding liquidity to domestic economy, and would augment the interest rates in order to encourage the inward streams of foreign capital in support of the exchange rate. This would merely exacerbate the financial burden of the domestic private balance sheets (ibid.:12). Summarising, although the genuine processes behind the systemic financial instability are intrinsically endogenous, in a globalised environment, they are facilitated by the exogenous factors. In the case of an economy, which is widely integrated into the international economic and financial

community, the systemic fragilisation would be expedited by both the domestic as well as international dynamics. It is their interplay which drives the implied economy from the robust into the fragile financial stage. Gradual de-regulative modifications in the domestic financial environment would activate the cross-border capital movement, which then "produces an upward step-change in the intensity of the domestic drive towards financial innovation, as it sweeps away the rules and conventions which previously governed the way banks related to one another and their customers" (ibid.:11-12). Within the buoyant economic framework, the illusion about the persistency of auspicious macroeconomic trends spreads the "aura of safety" among economic participants, which – becoming effusively optimistic – ultimately weaken their perception of risk within the scope of their borrowing and lending activities. The ensuing financial weakening of the system then enhances the potential of the exogenous parameters, *inter alia* the inflows of external financial resources and the international investors' sentiments, to exert negative impacts on the domestic processes, thus evaporating the credibility of the economy's financial strength.

Arestis and Glickmann provided an empirical substantiation to their arguments by having applied the extended Minskyan analytical framework to account for the financial crisis in South East Asia in 1997 (ibid.:14ff.). They claimed that fragilisation of the Asian economies and the materialisation of financial instabilities within the national frontiers had been accomplished after the above delineated scenario, albeit with some divergences. The most impressive example was Thailand, where the phase of financial liberalisation just preceded the eruptive events which nearly brought the economy down. The Thailand's collapse ultimately spilled over to the adjoining countries which had by then also succeeded in administering the far-reaching liberalisation of their national capital account. The profit-seeking aspirations of the deregulated indigenous structures coalesced with those of the overseas investors who, instigated by the meteoric growth and high interest rates within Asian economies, transferred their wealth holdings to the implied countries. The resultant foreign capital avalanche abetted the collective involvement of the resident private structures in the speculative lending-borrowing operations. Both vernacular credit institutions and enterprises promptly advanced their borrowing activities on the international financial markets. Incurring debts abroad predominantly on short terms, the former appropriated the borrowed foreign currency funds within the domestic capital markets, having consequently engendered local credit booms and substantial foreign currency exposures within the real sectors' balance sheets. The flow of credit funds was eminently streamed to the speculative operations which assumed the ever-growing collateral values, in particular those within the domestic property

markets. Such a kind of improvident lending and borrowing activities yielded an investment environment hallmarked by exhilarated anticipations of soaring capital gains. Overall, during the period since the liberalisation of national capital accounts and until the onset of the crisis, the five economies most severely affected by the crisis shared the following commonalities: the rapidly advancing external financing inflows into the private sector, escalation in the level of private foreign debt with short maturities relative to the domestic foreign currency reserves, a remarkable growth of bank credit to the resident economic sectors in foreign currencies and the upward-sloping domestic asset prices. The implied dynamics signified the evolution of Asian economies along the fragility lines congruous to the "classical" Minskyan pattern. By the eve of the crisis, the economies in questions were profoundly fraught with exceedingly speculative financing structures.

When the crisis emerged, the intensity of its impact on the East Asian economies appeared to be differential, commensurate with the divergences in the prevailing domestic regulatory environment and the pertinent national policy reaction (ibid.:19ff.). Nevertheless, in all of them, the crisis accomplished itself in the afore-predicted manner: the deteriorations in the inbound flows of foreign exchange, domestic asset prices, interest rates and currency values served as the crisis catalysts, and were to a large extent aggravated by the exasperated vernacular expectational atmosphere. When the international capital lenders' dysphoria engendered the reversals of external private debt flows, the national currencies endured material depreciation. Together with the correspondent spectacular upward movement of interest rates on the indigenous capital markets and precipitated stock and property prices, they became instrumental in the immediate propagation of the crisis on the national levels, as well as its ensuing spread across the entire region. The pursuant collapse of the constituent Ponzi edifices raised even more uncertainties and despair. Large-scale withdrawals of foreign capital funds out of the eminently distressed Asian economies followed in a flight to safety. Unleashed by the internal and external series of reactions, debt deflation got under way within the national boundaries. Generally, Arestis and Glickman (ibid.:21) concluded that the crisis repercussions were somewhat attenuated in the case of countries where the "regulatory barriers" to financial orthodoxy were sterner.

By scrutinising the implications of financial liberalisation for the national policies in counteracting the crisis, Arestis and Glickman (ibid.:28ff.) made recourse to Minsky's insights about the stabilising virtue of the "big government" and "big bank" within the closed-economy settings. Accordingly, during the period of economic slowdown, a Big Government – characterised by copious public expenditures and tax programs – would always be in a

position to undergird the profit flow to the real economy's structures, and the vigorous "lender of last resort" operations of a Big Bank would be effective in throttling the debt deflation process, if accompanied by the oversight of the banks' balance sheets. However, taking account of the open liberalised economies, the authors asserted that no equivalent stabilising mechanisms would exist, and the corresponding experiences of the East Asian economies attested to that fact. The domestic policy reactions of the five investigated countries to the crisis were repugnant to the concerns of their national economies, and rather accentuated the financial stampede on the national as well as regional level. To prevent the systemic disruptions, the national authorities injected to the morbid banking sectors a vast amount of liquid foreign capital resources, which they borrowed officially from the international organisations, to a great extent from the International Monetary Fund (IMF). Having drawn on further steps towards greater economic openness, financial and labour market deregulation and privatisation of the public domain, the provided financial assistance nevertheless failed to insulate the afflicted economies from the subsequent financial disaster and only aggravated the situation. The authors concluded that as long as the framework conditions established on a world-wide scale remained in force, the measures enjoining the far-reaching constraints on global financial movements would embody for the less-advanced economies a single expedient out of the above-stated awkward predicament, as even the "[s]ound supervision and other conventional prudential measures may help to alleviate fragility but can never eliminate it" (ibid.:31). The experiences of China and India on that score were considered meaningful.

Kregel (2004a,b,c), as well, went far beyond the realm of capitalist systems whilst analysing the sustainable patterns of financing the domestic capital accumulation. Having set the Minsky's hypothesis into an international context, he associated the international capital flows to developing economies with their recurring financial crises. Kregel contended that the character of financing profiles, introduced by Minsky for business entities undertaking investment activities within the context of a closed economy, would have a general application, and could thus be followed while identifying the robustness of an open liberalised sovereign system as a financing unit within the international financial framework (2004c:575). According to the author, a typical Minskyan firm which performs an "income-generating" investment and finances it with borrowed capital, faces the subsequent cash outflows in the form of debt service payments. The realisation of the respective payments is then contingent upon the "flows of income" prospectively generated out of this investment. The implied transactions are reflected in the commensurate positions on the asset and liability

sides of the firm's balance sheet. This is an ideal situation distinctive of a hedged, or a "risk-free" borrower, who is well in the position to comply with its financial obligations entirely out of the expected income flows, activated by the implied capital investment. Into the bargain, this type of a borrower commands "capital buffers" to the amount sufficient to cover the unforeseen income hiatus or abrupt hikes in financing costs at any future time. Similar to the firm's case, the external financing should endow a sovereign entity with resources necessary to build up its domestic productive base, which in times to come would initiate the persistent inflow of funds in the form of export revenues, and provide for the full redemption of its international debts accrued in the past (2004a:9). Nevertheless, the intricacy in terms of the funds flows on the asset and liability sides of the balance sheet is concealed in the degree of their volatility, which consequently constitutes an element of uncertainty for a unit undergoing the capital investment by externally raised financial resources. In Kregel's view, the firm's repayment profiles in the form of interest, dividend or principal are more or less "known", especially in the case of contracts based upon the fixed interest rate, and therefore more or less assessable. In contrast, the flows of income are less reliable as they are exposed to "market or systemic factors outside the direct control of the firm" (ibid.:10). In the sovereign borrower's case, both cash inflows and outflows are unsettled as they rest upon the dynamics susceptible to changes at frequent intervals (ibid.). This is exactly what makes the developing economies financing their domestic economic activities by external capital *a priori* speculative. The speculative type of a borrower may occasionally face income disruptions at some intervals in future, consequently getting into the situation where debt servicing out of income is not realisable and the capital buffers appear to be inadequate to cover the adverse modifications in the financing terms. Nevertheless, over the entire course of the investment project, the borrowing unit is able to square its debts in full, so that an overall positive net present value of the project is anticipated (ibid.). If the borrowed funds are invested in activities other than income-generating facilities and therefore assume a continuous debt rollover in order to remain solvent, such a financing scheme is designated as Ponzi. In the sovereign unit's case, this situation is in place, for instance, when the foreign capital inflows are invested not in the construction of the foreign income producing infrastructure, but in the consumption of imported goods or speculative transactions within the domestic economic domains, *inter alia* financial and property markets. A Ponzi unit is then subjected to a permanent need of "convincing the lenders" of its ability to perform service payments out of progressive borrowing, rather than in the general viability of the project, since its net present value is negative (ibid.:11). In case of an unexpected internally or

externally-induced change in financing conditions, the passage from the hedge to Ponzi position would be at all hazards longer than from speculative to Ponzi financing due to the overall larger safety cushion (ibid.).

Concentrating further on developing economies, Kregel delineated the process of their evolution along the lines of financial fragility in the following way. In light of the deficient domestic productive capacity, a developing country necessitates investment commodities in order to expedite the national economy's advancement. If the country may decide to satisfy its investment needs by raising funds on exterior markets, then – similar to the case of a Minskyan business entity which is hedged – the external capital resources are to be utilised in such a way as to expand the country's existing productive capacity and to generate greater prospective income revenues. This would allow the country in question to extinguish its debt obligations to the outer world at some point of time in future. However, the *de facto* past experiences of less-advanced economies did not reflect these proceedings. In most instances, the borrowed funds were appropriated either to enhance consumption of outlandish commodities or towards speculative non-productive activities offering outstanding capital gains, rather than for investment expenditures conductive to an increase in the net foreign exchange revenues. As a corollary, along with the negative current account balances, the buoyancy of foreign capital inflows encouraged the intrinsically speculative and Ponzi financing schemes to take root on a large scale within the respective economies. Highly fragile financial systems were brought into being at the national level. Kregel argued that a development strategy which is based upon the net imports implicitly assumes external borrowing as a source of financing, since to be able to procure consumption and investment commodities on the external goods markets the country has to run into debts on the international financial markets. The accumulated stock of debts induces the outflows of cash on their servicing, hence putting at the later junction an additional strain on the country's current account in the form of gradually assurgent capital factor services. In order to comply with its maturing international liabilities in the future, either the country will prospectively have to generate current account surpluses in substantial amounts to accommodate both imports as well as enlarging factor payments, or the capital inflows will have to augment abreast the advancing current account deficit (ibid.:18). In the former case, the flow of export revenues to the sovereign unit might be secured by building up the "real" capital, albeit not without further ado (2004c). The greater the current account share of the factor service balance – this is the case when the proportion of external debt relative to the country's GDP and the rate of interest on its foreign obligations are at a high level –, the larger the trade

surplus should be in order to drive the current account into surplus (ibid.582). The proceeds out of export activities must therefore enlarge at a rate not below the rate of interest on unsettled debts. The further intricacy on a related note is that in order to build up "real" capital, the foreign funds must be invested in projects enhancing the productivity of domestic output on the international commodity markets. Withal, it must be ensured "that the new investments do not have an excessively high import content, or that they meet requirements for export potential, or that they include domestic production or technology linkages that will increase domestic capacity to earn foreign exchange through export" (ibid.:581). According to Kregel, the "unilateral" trade liberalisation usually imposed on the industrially less-advanced economies "destroys "real" capital since it does not allow domestic producers the time to invest in restructuring programs that would allow them to improve productivity to compete with international producers" (ibid.:581). If the current account balances remain negative or grow, they can only be maintained if balanced by the incessant inflow of external funds to the commensurate amounts, i.e. by building up the "financial" capital (ibid.). The predicament at this juncture lies in the circumstance that the unfailingly growing volumes of borrowed funds persistently amplify the debt burden which then *ceteris paribus* would require further increases in the volumes of inbound external funds to cover the rising financing needs. In this case, the country perfectly qualifies for a Ponzi pyramid which, in order to remain in force, calls for an incessant expansion of borrowing operations on the exterior capital markets. At this juncture, it consequently comes down to the country's accomplishment in convincing the money lenders of its ability to comply with the debt payments due in the short term[7]. The degree of the international lenders' trustfulness is usually reflected in the international "risk premium" on the country's foreign currency denominated liabilities. The greater the degree of the lenders' confidence in the country's ability of continuing borrowing on the international capital markets, the lower is the respective risk premium (ibid:582). The risk premium may in the short term be abated by implementing measures targeting at the generation of primary budget surpluses, build-up of foreign reserve assets, or reduction of the economy's import content (2004a:20). However, Kregel admonished that these kind of policies have further implications for the accumulation of "real" capital in the long term, thereby coercing the sovereign unit into "an eternal battle to exorcise the curse of a Ponzi financial profile that it cannot win" (2004c:585). Looking retrospectively at the experiences within the domestic and global context, Kregel ascertained that Ponzi finance schemes are sooner or later going to implode as the above-mentioned conditions can hardly ever be perpetuated. If the current

[7] Kregel argued that the Ponzi scheme must not convince the providers of funds of its ability to acquit the debt in full by the end of the project, but just of its short-term ability to pay (Kregel 2004c:581).

account deficit will ultimately accrue to an unsustainable dimension, the capital inflows will in all probability plummet as the lenders become doubtful about the borrower's capacity to honour the debts. Accordingly, unless the method of financing the domestic capital accumulation by externally raised financial resources does not come along with a commensurate increase in foreign exchange revenues, which would provide for servicing and repayment of the international debt, external financing would not embody a "sustainable development strategy". Kregel synopsized that in order to "escape from the trap of a Ponzi financing profile and the necessity of building "financial capital" at the expense of building "real" capital, their borrowing must be determined by their "real" capabilities, by their ability to pay in terms of the net present value of their prospective current account earnings, in terms of their credibility and commitment to build real capital, rather than in terms of their commitment to meet debt burdens by killing the firstborn or applying leeches to the economy in the form of primary surpluses and high interest rates" (ibid.:588).

Kregel argued that, early in the aftermath of the Second World War, foreign borrowing represented a sound rudiment for the long-term development strategy of the less-advanced economies, since it was based upon the attainable terms and conditions, to wit external capital resources were appropriated mainly to the public sector in the form of official borrowing – except for the short-term trade credits – and at low interest rates (2004a:12). When the private foreign capital flows came to dominate the development aid at negative interest rates since the beginning of 1970s, this strategy still remained viable. However, after the international financing conditions had witnessed the interest rates augmentations and the US dollar appreciation by the end of the respective decade, the frequent financial instabilities became the manifestations of the systemic Ponzi failures in the developing world (ibid.:21). In his earlier work, Kregel (1998) elucidated the East Asian financial crisis from the classical Minskyan perspective, having held the reinforcing each other internal and external dynamics accountable (ibid.:10). According to the author, the general stability of the indigenous currencies effectuated transformations in the leverage attitudes of both lenders and borrowers towards the degraded margins of safety at both domestic and international levels as, over the course of this period, they became confident about the endurance of the propitious circumstances. The longer the stability of the Asian exchange rates, the more willing were the international investors to provide capital to the implied economies at the considerably eroded safety cushions, and the greater were their volumes of accumulated official foreign exchange reserves. Being reckoned as the elevated margins of safety, the latter, in turn, reinforced the international investors' confidence in the general stability of the respective exchange rates.

On the other hand, the domestic acquirers of capital more eagerly embraced an opportunity of financing their internal investment projects by going deeply into debt on the international capital markets. As a corollary, the high weight of speculative financing structures entrenched on a large scale within the East Asian economies. The author delineated the implied interplay of external and internal dynamics at some length in the following way. The financial liberalisation, advancing on a global scale, rendered financial speculation possible by permitting the financing structures to avail themselves of substantial interest and exchange rate differentials between the capital markets. Borrowing funds on a short term basis in the financial markets with low interest rates, in particular from the United States and Japan, and reinvesting them into the domestic markets with materially higher interest rates, the eminently speculative banking and corporate schemes, which exhibited both significant maturity and currency distortions within their balance sheets, established across the East Asian region. The periods of strong capital inflows into the concerned economies allowed their national authorities to easily maintain the regimes of the fixed to the Dollar exchange rates. On a national level, this circumstance created an environment hallmarked by a mounting reliance of the vernacular real economic structures on the stability of national currencies and effectuated the prospering of the highly venturesome moods. The resident banking units allocated the externally borrowed funds on the domestic capital markets, primarily in the form of foreign currency denominated loans, which were to a large extent streamed to the speculative investment activities on the domestic property and financial markets. At the same time, the appreciative tendencies of the respective national currencies were paralleled by the deteriorating competitiveness of their national production *vis-à-vis* Japan and other non-dollar markets and, aggravated by China's precedence within the most labour-intensive and high technology markets, negatively affected the foreign balances of most of the Asian countries over the course of the 1990s (ibid.:9).

The gradual and extensive fragilisation of Asian economies laid the ground for the ultimate transmission of the adverse exogenous events across their national borders through the interest and exchange rates channels, which inevitably betook themselves to an upward interplay with the gloomy expectations of the resident and international economic participants. When the crisis sparked off in individual countries, the indigenous speculative structures immediately converted into to the Ponzi financing positions, while the latter imploded. As a result of substantial financial interlacing on a regional level, the widespread financial instabilities at the micro level engendered a knock-on effect on the residual systemic constituents and appeared to be tantamount to the regional financial instability. The reactive

policy measures on the national as well as international levels only contributed to the further aggravation of crisis (ibid.11). When in anticipation of an imminent reversal in the historically low interest rates on the Japanese financial markets, the Japanese investors commenced to withdraw their previous short-term investments from Asian markets back to Japan, the ensuing reversal of the foreign capital flow brought forth sinister repercussions for the value of Asian currencies. In the first instance, the national authorities of the afflicted economies attempted to counteract these derogatory developments by substantially expanding their foreign exchange markets interventions. However, after the official international reserve buffers turned out to be inadequate to withstand the lingering outflow of foreign capital, as well as to throttle aggressive speculative attacks on the national currencies, decoupling from the Dollar appeared to be the sole denouement. By these means, the authorities intended to refrain from interest rate increases for fear that monetary tightening would impinge upon the domestic demand. As a corollary, the consequential precipice of the respective exchange rate rapidly eliminated the remaining trivial margins of safety for the domestic borrows, and a number of banking and corporate failures followed. The flight from the Asian currencies, induced by the mass panic, was instantaneously reflected in the skyrocketing domestic interest rates, which only exacerbated the effects of disastrous exchange rate dynamics for the balance sheets of the indebted domestic banks and enterprises. In pursuit of opportunities to reduce the foreign currency exposure, they "ma[d]e positions by selling out positions", exchanging with all speed the funds for foreign currency. In light of the onward exchange rate impairments and plummeting asset values, the fully-fledged debt deflation assaulted all the countries under the scrutiny, as prophesized by Minsky (ibid.:12).

The conditionality of the financial assistance appropriated for the beleaguered Asian economies on behalf of the IMF stipulated the ameliorations in the national balance of payments positions as the sole remedy against the crisis. The realisation of this assignment postulated the fiscal and monetary sternness targeting at the repression of price inflation which was expected to arise from the growing import prices and domestic demand for outlandish consumption commodities due to the expanded liquidity within the framework of government activities on banks' bailout (ibid.:13). This type of policies should have allowed the national authorities of the respective economies to re-establish the confidence of international investors into their financial health along with inflows of short-term capital, thus stabilising the domestic currencies, as well as to curtail the domestic import expenditures. In lieu, the repercussions of the domestic policy austerity turned out to be quite disillusioning for the indigenous real economic structures. Given the external and domestic demand precipice,

the corporate income receipts plummeted. Simultaneously, the ballooning cost of financing on the domestic financial markets failed to replace the withdrawals of short-term foreign capital out of the business sectors. The material devaluation of Asian currencies resulted in the soaring debt service payments and import costs, thus having determined the mounting cash outflows from the local companies. As a corollary, much of the respective corporate debt was in fact in default and reflected itself in the banks' balance sheets (ibid.:13). Kregel argued that even in case of the countries which on the international level stipulated a rollover of their debt, nothing had diminished a high content of the *de facto* insolvent commercial units. At the end of the day, their inevitable default was menacing to reverberate to the banking system which rather respited the financial disaster at some future time (ibid.:16). All countries which complied with the IMF's claims subjected their economies to the subsequent prolonged and severe recessions. From Kregel's viewpoint, what was instead required in a debt deflation crisis was an instantaneous upholding of the balance sheets of the encumbered business units, thereby stabilising the asset prices. This would have assumed a number of measures favourably acting upon the respective asset and liability positions. The positive effects on the former could have been attained by supporting the domestic demand being at the base of the flow of corporate funds. The latter could have been achieved by alleviating the units' payment obligations through lowering their cost of financing, or debt standstills. Simultaneously, "debt rescheduling" along sustainable lines should have been envisaged – an assignment feasible only as long as the majority of units remained within the scope of speculative finance. Basically, the authorities should have made every effort to safeguard the national productive capacity which would have then rendered possible the generation of foreign exchange revenues and international debt redemption in the time to come (ibid.:12).

2.1.2 Lessons for developing economies within the scope of the Global Financial Crisis

The Global Financial Crisis has a long history and its antecedents can be traced a long way back to the protracted transformation of the global financial and macroeconomic structures towards the "finance-dominated" form of capitalism which Minsky had designated the "money manager capitalism"[8] (Wray 2009c). This is however a contemporary form of capitalism which has emerged as a result of the neoclassical economics having gained the ideological ascendancy around the world since the early 1980s. The transformation under the

[8] There is a plethora of terms and definitions in the Post Keynesian literature when referring to this form of capitalism, *viz*. "casino capitalism", "financial capitalism", or "finance-dominated capitalism", etc. The Minsky's term of the "money manager capitalism" has probably been the most prominent among all.

neoliberal aegis throughout the last almost forty years accounted for the accumulation of long-term "structural asymmetries" and effectuated the establishment of highly fragile financial systems at the local as well as the global levels, with all participants having made their different contribution to the implied dynamics. These long-standing dynamics laid the foundations for the global financial disaster experienced in 2007 which has *per se* to be interpreted anew as a "systemic crisis", or the "failure" of the current form of "finance capitalism". Minsky argued that capitalism manifested itself in miscellaneous forms some of which being periodically fragile and others relatively resilient (Minsky 1993, 1991). The most "successful" form of capitalism, known as "managerial capitalism", "paternalistic capitalism", "big government (interventionist) capitalism", or the "managerial welfare state", emerged in the aftermath of the Great Depression which marked the collapse of the "small-government, *laissez-faire* capitalism" of the United States by 1933 (Minsky 1991:10). The new model of capitalism, institutionalised in the form of Roosevelt's New Deal immediately thereafter, pioneered the "golden years of capitalism" which extended over the post-war period and until the early 1970s[9]. The reconstruction of Europe and East Asia from the devastations of the Second World War backed up the stability of economic growth in the respective economies. In the United States, during the "managerial era" of the 1950s and 60s, the Big Government – eminently interventionist in character – resorted to economic reforms within the scope of "direct job creation" and social security which, paralleled by the strengthening of the labor unions, stimulated augmentation of the level of both employment and wages. The vigorous utilisation of countercyclical macroeconomic measures by the state provided for the economic regulation in the form of a fair balance between the two principal goals, to wit inflation restriction and counteraction of the real sector downturns (Minsky 1993; Wray 2011). It was not least due to these labour-biased reforms, tending towards an increase in population's income and diminution of inequality, that the vigorous consumption demand appeared to be a compelling force of the US growth, until the early 1970s (Bresser-Pereira 2010; Wray 2011). Nevertheless, given the trauma of the Great Depression, the most eminent reformative achievement was the financial sector's downsizing and its subjection to the satisfaction of the real economic concerns. The Glass-Steagall "functional compartmentalisation" which divided the financial institutions into commercial, investment banking, savings and insurance units – with each of them operative in separate domains, for example, agriculture, housing and trade – catered for the *de facto* separation of banking and finance business (Minsky 1993; Kregel 2010a). Accordingly, the two principal functions of a financial system, to wit ensuring a

[9] Minsky and Whalen designated the respective period as "a historical and practical best" of capitalism (1996-97:167).

secure system of transactions and providing the short-term finance for the business activities, were designated for the insured deposit banks. By contrast, the residual (non-bank) financial institutions were allowed to specialise in the long-term funding of risky capital investment, and were uninsured (Kregel 2007, 2010a). Generally, the period from 1933 and until the end of World War II, was marked by a "cautious use of debt" with the state being the economy's major creditor. During the respective period, the corporate and household sectors unzealously encumbered themselves with debts, having rather exposed an essential net asset position in the form of government debt and bank deposits (Minsky/Whalen 1996-97:157). Kregel (2007:4) contended that, working on his Financial Instability Hypothesis throughout the whole period when the New Deal regulations were in force, Minsky was well aware of the fact that the "potential" for the systemic "financial weakening" could hardly be eliminated by financial regulations, as it epitomises a systemic immanence resulting from the internal market processes. Nevertheless, according to the author, Minsky believed that regulation is able to confine the roots by which fragility would pass over to financial instability, at least not of the magnitudes experienced during the Great Depression – and this precisely was the virtue of the New Deal arrangements during the postwar period. The strict regulation of financial markets, accompanied by the Big Government and Big Bank activities directed towards the stabilisation of the flow of funds to the real economic structures, promoted "financial tranquility" until 1966 with only some minor crises afterwards, having rather taken a placid course (ibid.:14, Minsky 1993:7).

Since the early 1970s, the crises became progressive, their implications more arduous and persistent (Wray 2011:8). What happened to the once robust financial architecture within the industrially advanced states was its evolution towards the new and more fragile form. In the early 1980s, the neoliberal ideology gained a broad acceptance in terms of its capacity to better tackle the problem of economic stagflation which got under way within the respective economies from the mid-1970s[10], having succeeded in asserting itself as an economic and political "mainstream" within them. Throughout the tenures of Reagan and Thatcher, a large-scale institutional restructuring towards greater reliance on the market's self-regulation was put into effect, which consequently marked the demise of the welfare state type of capitalism, being so far distinctive of quite a number of economies. Have being primarily concerned with

[10] After a long period of high rates of economic expansion, solid wages and rising profits, the industrialised economies experienced the falling of aggregate demand and growth rates. As in the United Sates case, the era of the postwar economic boom of Japan and the industrially advanced Europe – being remarkable throughout the 1950s and 1960s – was terminated by the First Oil Crisis in 1973. The incipient stagflation heralded the end of the "miraculous growth" in a number of economies, Japan and Germany being most salient examples on a related note (Bello 2013).

the US economy, Minsky himself interpreted the implied dynamics as "the aging of the 1933-36 Roosevelt reformation of capitalism and the futility of attempting to reform that now-aged capitalism by returning to the failed model of the pre-1930's era" (Minsky 1991:10). He argued that, despite the existing regulative system evolved in response to the Great Crash, the financial companies and other economic entities succeeded in adjusting their course of actions in such a way as "to best exploit the changing financial environment" – not least, the technological changes stimulated the transformations in the financial behaviours, having offered the investing units new opportunities for profit gains (Minsky 1993:6). Over the course of the first two decades after the war, a fairly long period of relative financial stability eclipsed the traumatic experiences of the Great Depression. Economic participants became less cautious in their use of debt, having downgraded their margins of safety. The "profit-seeking" financial institutions were prepared to expose their activities to greater risks and started to innovate in their endeavours to "evade or avoid the limits" imposed on them by the existing institutional structure (ibid.). The "creative" financial behaviour buttressed the emergence of a number of risky financial instruments such as "loans securitisation", and various off-balance-sheet operations. The non-prolific government deficits generated in the wake of financing the US military and consumption expenditures, accompanied by erosion of the revenue system and the impairments in the real wages and employment, distinguished the Reagan-Bush period which Minsky contemplated as "a second failure of the laissez-faire model" (ibid.:8-9). However, the major reformations took place within the financial sector. The wave of policies dismantling the regulations and institutions[11] buttressed the ascendancy of finance to the "dominant position" within economics. In the academic literature, this phenomenon generally became known as the "financialisation"[12]. A new intermediate layer emerged within financial structures in the form of "money-managing" institutions such as pension and mutual investment funds, insurance companies, and banks' trusts, whose share within the total financial assets persistently grew against the traditional commercial banking units' share. Having taken financial control over the industrial capital within the scope of managing the corporate equity and debt securities, once being in the individual investor's hands, the above-mentioned institutions looked around for opportunities to "maximise" the investment values and aggrandise the fund holders' capital gains in the shortest possible time.

[11] *Vide* Kregel (2007, 2010a). The financial deregulation in Europe proceeded at a generally slower pace than in the United States and was definitely accomplished in most of the countries only during the late 1980s and early 1990s (Pérez-Caldentey/Vernengo 2012).

[12] For a more detailed analysis *vide* van Treeck et al. (2007), Palley (2008, 2009a), van Treeck (2009), Hein and Truger (2010), Blecker (2013), Whalen (2017).

Their engagement in exceedingly speculative activities progressively contributed to the growth in the country's systemic fragility (Minsky/Whalen 1996-97:158-59).

Unfortunately, it remains outside the scope of this research to deliberate further on the United States' structural metamorphosis towards the level of utter financial fragility[13]. Nevertheless, this kind of dynamics within the master player of the international economic and financial community claimed "global significance" which was anticipated by Minsky in due course (Whalen 2017:5). Although the money manager form of capitalism originated within the US national frontiers, the process of financial globalisation expedited on behalf of the country provided for its instantaneous traverse outside the indigenous economy. The widespread liberalisation and deregulation of financial markets across the globe throughout the 1980s and 90s buttressed the more recently accelerated orbit of international capital resources, having aided and abetted the worldwide reach of the finance's hegemony over the real economic structures. Facilitated by the technological progress, these long-term trends within the international macroeconomic environment underpinned the progressive accumulation of "global structural asymmetries" and brought about substantial risks to the stability of the international financial system, as well as all of its participants, *inter alia* the less-advanced states. In the upshot, with the objective of extrapolating the lessons which the extensively integrated into this construct developing economies have to draw from the above-mentioned dynamics, one has at this juncture to dwell awhile. The emergence of a new form of finance capitalism in the United States heralded in the full panoply of institutional innovations within the financial industry which provided for its substantial expansion in the subsequent number of years in such a way as to substitute for the country's faltering real economic performance during the era of the Reagan-Busch administration. The implied dynamics then gave a new impetus to economic growth, not however in the form of government spending for the creation of productive facilities and real resources, but in the form of the private sector's spending which, in light of the suspended income and profit flows, was primarily financed by debt. Additional institutional transfigurations over the course of the 1990s, accompanied by the innovative behaviour of the venturesome financial units operating within the lax regulative framework, fostered the access of domestic business and physical entities to the credit lines, and biased their encumbrance patterns away from prudence[14] (Wray 2009c, Palley 2009a). In view of the symbiosis between the negative fiscal

[13] A more extended survey on that issue has been provided by Minsky (1993), Minsky and Whalen (1996-97), Whalen (2002), as well as more recent contributions of Wray (2009a,c, 2011, 2012), Nersisyan and Wray (2010), Kregel (2007, 2010a), Whalen (2017).

[14] The population's greater reliance on debt while financing its consumption and investment transactions was encouraged by the substantial labour market deregulations and fall in the labour unions' power, the downsizing

and trade balance, vigorous private consumption almost entirely fuelled the country's economic expansion throughout the 1990s, with the exception of the "New Economy boom"[15] at the end of the decade. The period of 2000-2006 was hallmarked by skyrocketing consumption expenditures which in fact accounted for 85% of the country's GDP growth, whereas the respective share of private investment expenditures – except for residential construction – constituted only 8% (van Treeck/Hein/Dünhaupt 2007:29). Given the very poor domestic productive performance within the framework of a liberalised trade account, the US consumers evermore resorted to the outlandish commodities[16]. In consequence, the acceleration in the growth of the country's private sector leverage was paralleled by the current account deficit of the soaring levels. For almost three decades, the United States absorbed most of the global demand, having remained the "consumer and spender of last resort" until the outbreak of the Global Financial Crisis[17].

The longevity of these internal structural dynamics within the United States postulated continuous capital imports in the long term, which were ultimately satisfied on behalf of the countries exhibiting the solid surplus positions in their national current accounts. Along with the advanced capitalist states distinguished by their sluggish internal demand, in particular Germany and Japan, the latter embraced the "late industrialised" East Asian economies which, as a result of accrued massive export surpluses, turned into the net capital exporters by the turn of the century. In the second half of the 1990s, after a series of consecutive financial crises within the developing world[18], the implied emerging economies deflected from the model of the capital-imports-stimulated development, so far pursued. Looking for the means to avoid suffering a relapse into the financial turbulences, they advanced the export-based growth strategy, simultaneously "cheating" at the collective rules of the game institutionalised

---

of the wage and social standards, as well as incrementing unemployment, stagnating income growth and inequality rising over time, *vide* Onaran (2009).

[15] The technological boom towards the end of the century embodied a shift of the United States from the manufacturing-based to the service-based economy which was driven by an explosive growth of innovations within the information technology, telecommunications and venture capital spheres. The introduction of new technologies ushered in the stock market boom and the "dot.com bubble", which exploded in 2001 (van Treeck et al. 2007, Whalen 2002).

[16] Palley (2009a) pointed at the gradual "erosion" of the US domestic productive capacity" and the soaring trade imbalances as a corollary of the "flawed character of U.S. engagement with the global economy". According to the author, the "outsourcing" of the US manufacturing base offshore and the ensuing "leakage of jobs" over the course of the "corporate globalisation", accompanied by the "new investment leakage", primarily in the form of the FDI flows to China, provided for the "leakage of spending on imports". Palley conceived this phenomenon as the "triple hemorrhage" from the US economy (ibid.:13f.).

[17] Due to the deflationary macroeconomic policy stance targeting at the elimination of persistent stagflation in most of the industrialised European countries and Japan during the 1990s, the US economy remained the "locomotive of the global demand" for quite a long spell, *vide* van Treeck et al. (2007), van Treeck (2009), Hein and Truger (2009, 2010), Blecker (1998, 2013), Palley (2009a), Hudson (2010), Bibow (2008b, 2010), Bello (2013).

[18] The Tequila Crisis in 1994, the East Asian Crisis in 1997, the Russian default in 1998, the Brazilian Crisis in 1999, the Turkish crisis in 2000, the Argentine Crisis in 2000 and the Brazilian Crises in 2000.

within the WTO framework. A number of protectionist measures and exchange rate manipulations buttressed their “mercantilist” endeavours, having allowed the countries to accumulate substantial foreign currency reserves as buffers against the capital flight which were predominantly reinvested on the US financial market. Over the course of the period from the beginning of the 2000s up to the crisis, the demand for the US financial assets was particularly rigorous, having the appreciated Dollar as a corollary. Since the end of 2000 until mid-2004, domestic interest rates were kept down with the objective to eschew the economy’s movement into the post-bubble-bust recession. The provision of finance for the country’s private sector in the form of debt, which should have stimulated the aggregate demand and enhanced employment, resulted in domestic asset price inflation. The ensuing “housing bubble”, which substituted the “dot.com bubble” after it burst in 2001, lingered until 2007. Not surprisingly thus that the burst of the real estate bubble and the subsequent collapse of the US property and subprime mortgage markets by that time heralded the start of the financial calamity of global dimensions.

The America’s internal structural metamorphosis may well be explained with the help of Minsky’s ideas on the natural instability predisposition of capitalist economic systems on the strength of the endogenous mechanisms urging their financial weakening with the passage of time. The economy’s debt pyramiding over the years, encouraged by the speculative endeavours of those economic players operating within the loose regulatory framework, and reinforced by the flawed domestic macroeconomic policies, challenged the country’s systemic sustainability over the long term. Nevertheless, for some, the insights of Minsky may *prima facie* seem to be stretched to their limits while attempting to claim the relevance within the scope of the Global Financial Crisis[19]. To remove the doubts, the global financial system must be *per se* regarded as a closed construct within which the economic agents, represented by the national governments, international organisations, transnational corporations, local business and financial institutions, as well as households, innovate and speculate on the basis of their expectations with the objective of deriving the highest possible benefits, and hence driving the entire construct upwards along the fragility spiral. The prevailing regulative and macroeconomic policy settings on both the micro as well as macro levels are accountable for the disparities in the parameters by which the economic agents orientate their financing patterns and thus constitute the fundament which forms these very expectations. The differentials in the rates of interest and exchange, the prices – asset or factor prices –, the taxes etc. then give occasion to speculative behaviors and are exploited by financing units

[19] Palley (2009a:12) considered the financial crisis not as a “pure” Minsky crisis, but as a crisis of the neoliberal growth model ushered in since the early 1980s.

within the scope of their vested interests. Referring to a financial system as the "linkage" between the present, past and future, Minsky (1991) indicated the intertwining of the balance sheets and cash flows between the economic participants. Following this, the funds-borrowing units enter into the "commitments to future payments" towards the funds-lending units, which are recorded on the liability side of their balance sheets. These commitments are then "owned" on behalf of the latter in the form of "legal claims to particular future incomes or cash flows", and are simultaneously reflected in the commensurate positions on the asset side of the investing units' balance sheets. The ability of the former to comply with the commitments incurred within the scope of an "exchange of money-now for money-later" is then contingent upon their ability to generate future cash flows – income or profit – out of the regular economic activity, to wit out of employment or "operating the physical capital stock" respectively (ibid.:2-3). Just as at the individual level, within the global context, the debt-financed spending behaviour in excess of the national income on behalf of one party necessitates a "saving-generating" counterpart. The ability of the former to acquit in future the debts accumulated on a related note then depends on its prospective accomplishment in acquiring the external earnings in the form of export proceeds. This assumes a productive utilisation of borrowed funds on behalf of the country, such as investments into the creation of "real" capital which will ultimately provide for its opportunities to earn in excess of its spending, at some future time (Kregel 2004c). Accordingly, for the global financial edifice to remain stable, the "demand-generating deficit countries" must soon convert into net exporters. *Vice versa*, the resources-lending "surplus countries" must endorse the net import positions in order to redirect the net foreign demand towards the former[20], "if the profit flows of those who owe [them] money are to sustain the financial assets [they] now [own]"[21]. For the readjustment of global demand at this juncture, policy coordination at the international level is called for[22]. Nevertheless, if the cooperative efforts on a related note fail for whatever reasons – be it as a result of the "mercantilist" endeavours or "defensive" tactics against financial disturbances on behalf of the system's sovereign participants, or rather the private players' attempts to exploit the differential terms and conditions and to "maximise" their profits, or a combination of these factors –, the global financial architecture then becomes "akin to a house

---

[20] Until the global meltdown, the United States constituted the most salient exemplar of the imports-absorbing deficit countries, enlarged by the United Kingdom, Ireland and the "peripheral" European countries such as Spain and Greece. Quite a number of the Latin American and the post-Soviet states followed the same pattern. Germany, Japan, China and the other industrialised states of the East Asian region epitomised the most notable examples on the other side.

[21] Minsky (1991:10), having referred to Japan.

[22] This is *per se* irreconcilable with the postulates of the "pure" form of the *laissez-faire* capitalism, the reliance on the self-regulatory virtue of market mechanisms.

of cards". Precisely these dynamics backgrounded the Global Financial Crisis[23]. The structural asymmetries accumulated over the course of time on the national as well as worldwide level pushed not only the individual financial systems, but also the international financial architecture towards the highly fragile state with the commensurate risks to each of the system's constituents, which in turn made their own contribution to the systemic fragilisation. Specifically, the asymmetric interdependencies between the borrowing deficit and lending surplus nations, buttressed by the indigenous macroeconomic policy objectives which predicated on the flawed ideological postulates and reflected in the respective balance of payments positions, allowed the high levels of potentially explosive financial power to be aggregated on the micro as well as macro levels which ultimately detonated in 2007.

The recent financial meltdown manifested that no winners were ever possible on the worldwide scale. Even though the export surplus countries, the *prima facie* gainers, appeared to initially "decouple" from the crisis or to quickly "regenerate" in its aftermath due to their substantial reserve buffers, their remarkable economic ascendency could hardly become sustainable on the grounds of the balance sheets nexus and the circumstance that the finance and export-stimulated growth models usually represent the two sides of the same coin. When some of the borrowing deficit countries, which constituted the place of destination for the export commodities of the capital-lending surplus countries, experienced financial instabilities, the income flows of the latter were gravely affected by the debt deflationary dynamics within the former and the reduced demand on the global level. The implied repercussions were especially strong in markets where the economic, monetary and financial integration was eminent, *inter alia* in the Euro zone, which ultimately plunged into a recession (Botta 2014, Hein 2012). During the Euro Crisis in 2010, they partially had to come up for the collapse of the Ponzi-dwelled financing schemes within the scope of "haircut" measures. The structural imbalances and the proclivity to financial instabilities, contained in the contemporary form of the money manager capitalism will on every occasion cause all the participants of the system to hemorrhage, if the existing construct remains unchallenged. The message to be delivered for the open liberalised developing countries at this juncture is that, on the strength of complex economic and financial interlacements established on the international scale, whatever mode of economic development they opt for, finance or exports-driven, it could not be immaculately advanced isolated from the behaviour of other teammates and quite unequivocally involves distinct risks. If the individual comportment of one or more parties spurs the fragilisation of global financial structures so that the financial instability of

[23] For a more detailed survey on a related note *vide* Bibow (2013, 2012, 2008b), Pérez-Caldentey/Vernengo (2012), Blecker (2013).

the international dimension becomes inevitable, the crisis will sooner or later reverberate to the constituent economies, irrespective of whether they take the net creditor or net borrower positions to the rest of the world. As Minsky purported, the liabilities of one party simultaneously embody the assets of the other, so that borrowers' problems will definitely translate into the debtors' problems. It is therefore for the above-stated reasons that neither of the going hand in hand within the conventional wisdom growth models brings in its wake a solid rudiment for the financially stable economic advancement at both national as well as international levels. Facing this fact, the configuration of new paradigms of economic progression becomes imperative and must come along with the profound macroeconomic readjustments on the international scale. Given the fact that a collaborative effort at the international level is prerequisite in this regard, this remains a highly challenging mission for the contemporary economists which is placed well beyond the scope of this thesis[24]. For developing countries at this juncture one is assertive: unless there is no amendment in the policy *status quo* on a global scale and the mainstream dogmas continue by and large to dominate the economic and political domains so that no international means are available to thwart the wide-ranging instabilities, all the more it is necessary to extrapolate the premises which back up the financial resilience and the sustainability of economic growth in developing economies. The following section targets the achievement of some progress in the accomplishment of this assignment.

2.2 Policy framework for promoting economic and financial stability in developing economies based on Minsky's philosophy

Within the liberalised, and integrated into the global economic and financial environment structures, the national policy makers in the developing economies have for too long been chasing after the timely anticipation of the proximate crisis, as well as the means to buffer against it. Now, the time has come to concentrate on the crisis prophylaxis and the promotion of stable financial systems designed to work for the benefit of the national economies – and this should constitute the principal responsibility of the state. Specifically, the creation of a non-inflationary full employment strategy with the objective of enhancing the national "capital development"[25] and public wellbeing in a sustainable, financially robust and socially equal manner should attain the top priority within the national macroeconomic policy agenda, henceforth superseding economic growth as a thus far policy pivot. In this

[24] Some propositions have already been made in the Post Keynesian light, *vide* Kregel (2015, 2009a).

[25] In the broad terms, Minsky referred to "capital development" as investment "go[ing] beyond privately owned capital equipment and to include technology, human capital, and public infrastructure" (Mazzucato/Wray 2015:2).

context, it is of paramount importance to ensure the state's "right" policy strategy and instruments choice, as they might also constitute a source of systemic fragilisation and originate financial instabilities. Despite the fact that no ultimate solutions for good are available as a result of destabilising forces of stability, some generalised guidelines should nevertheless be proclaimed, and will ultimately have to be brought into line with the idiosyncratic circumstances in each individual case[26]. The accomplishment of the above-specified primary goals is contingent upon the national policies' effectiveness in addressing exogenous and endogenous systemic risks on a continuous basis, as well as making provisions for the economy's capital accumulation in the financially resilient vein. This would involve a set of measures. Comprehensive and "permanent capital account management" should tackle the external triggers of systemic fragilisation associated with the external sources for financing national development. To deactivate the intrinsic triggers of financial fragility, as conceived and conceptualised by Minsky, a system of "dynamic macroprudential regulations" should be introduced, aiming at the on-going regulation and monitoring of the prevailing financial processes. Finally, far-reaching domestic transformations on the institutional as well as policy level must be enforced in conformity with the national objectives. Explicitly, the "full employment guarantee" and the provision of "safe" financial assets to the real economy should constitute the core of the fiscal policies. Promotion of financial stability and validation of the government fiscal activities should remain the unique objectives of the comprehensive financial policies. The immanence of the private sector tendencies towards systemic financial weakening makes indispensable the introduction of auxiliary measures in the form of wage and price policies. It is thus the synergy of measures that determines the success of the entire development project, and this is going to be addressed in the following.

2.2.1 Comprehensive and permanent Capital Account Management

The previous chapters substantiated the "natural" proclivity of the contemporary form of financial capitalism for financial instabilities. Although the "managed money" was generated within the borders of advanced capitalist nations, the process of financial globalisation prompted on their part allowed for its distribution around the world. Having made the external capital an attractive source of financing domestic growth, they ultimately

---

[26] Following Minsky, the systems undergoing a period of protracted stability might end up with an increase in the financial fragility level due to the endogenous forces immanent in it. Tymoigne (2006b:18) claimed that "[t]here may even be situations for which the financial weakening pattern will not emerge if the government has the right policy strategy: employer of last resort policy, income policy, functional finance view, and *continuous* innovative regulations and management of the financial markets and financial matters. There are, however, always tensions in the private sector that push toward financial weakening. In addition, as stated earlier, policies may also be a source of financial weakening and inflation. There are not final solutions".

encouraged the developing countries to participate in this process. The access to international financial markets was conditioned by the comprehensive structural realignment towards economic and financial openness and deregulation, downsizing of the public sector, as well as minimisation of the state's functions. This was successfully accomplished by a number of the developing economies. The worldwide implementation of Washington Consensus throughout the 1990s[27] ushered in the large-scale integration of individual financial markets into the global financial architecture which, manifested in the liberalisation of the national capital accounts and the foreign banks' involvement in the indigenous banking domains, entailed serious implications for the national economic "policy space"[28]. The state's power to steer the internal processes within the framework of its fiscal, wage, industrial and financial policies is contingent upon the degree of the country's openness and the stringency of its exchange rate regime, and is invalidated if the degree of the latter is exceedingly high. Specifically, any change in the domestic policy stance and instruments with the objective of meeting the real sector's requirements would engender the differentials in macroeconomic parameters across the countries which would ultimately be reflected in the international capital flows dynamics (Kregel 2008). Within the open and liberalised context, there is an incessant pro-cyclical interplay between both internal and external processes. On the one hand, the domestic macroeconomic parameters instigate the inclination of speculative economic units to avail themselves of the prevailing differentials to their vested interest. On the other hand, the changes in the external macroeconomic parameters spill over to the domestic economy via certain transmission channels. The ensuing volatility of international capital flows underlies the exchange rate fluctuations. The state's policy-making is then usually subordinated to the mitigation of negative impacts of the exchange rate fluctuations on the domestic macroeconomic parameters by "insuring" against the debt crises through the foreign reserve accumulation. Nevertheless, the empirical evidence shows that the success of the respective policies is highly ambiguous. In principle, as soon as an economy becomes integrated into the international financial and economic system, it is no longer hedged for the simple reason that it becomes highly sensitive to the volatility of the parameters, being out of the state's control (Arestis/Glickmann 1999). In times of international market disruptions, when the country's financial stability becomes contingent upon its ability to continue performing the outstanding external obligations out of its reserves, the latter is usually aggravated by the pessimistic anticipations of the foreign and domestic economic participants which result in the flight of

[27] The early wave of financial liberalisation Washington Consensus had already begun in the early 1970s with Columbia, Uruguay, and Venezuela appertaining to the respective pioneers (Arestis 2004-05).
[28] *Vide* Bibow (2011, 2010), Palley (2009b), Kregel (2008), Ghosh (2005).

foreign capital. Within the scope of the liberalised national capital account, even if the financing positions of the state remain hedged in the sense that the public external debt is trivial and the state possesses more than sufficient foreign currency reserves relative to its debt, it would immediately convert into a speculative unit if it had pledged itself to maintain the external value of the national monetary unit at the fixed level. In the following, it should be considered in greater detail how the processes of global economic and financial liberalisation compel the national authorities to abdicate their privilege of policy-making independent of terms and conditions dictated by the international environment.

When a country opens its borders to international capital, unless there is a large "wasteful" accumulation of foreign exchange reserves, capital inflows produce the positive "net resource flows" to the domestic private sector in the form of imports of consumption and capital goods which are then reflected in the current account's deficit position. The speculative booms and asset price bubbles, such as those on the real estate and stock market, constitute the usual corollaries of the implied dynamics as in most cases capital resources are invested in the financially lucrative non-tradable sector. The ensuing capital outflows associated with foreign debt servicing will then be accompanied by the augmenting current account deficit, unless the negative goods account balance is reduced commensurately to the respective payment outflows on the capital factor services account (Kregel 2004a:18). When the magnitude of the negative current account becomes minacious and foreign investors anticipate the looming payment defaults, the capital inflows will be arrested – there may definitely be other triggers of their reversion –, which will immediately result in the exchange rates deterioration and real sector's instabilities. The national policy then becomes dependent on the acquisition of the foreign exchange necessary to allow the domestic financing units to perform their foreign obligations and eschews the implementation of any measures which would provoke further detrimental movements in capital flows and the national currency value. By implication, the deflationary impact on the real economic activity, unemployment and "income erosion" as the fallout of the above-mentioned dynamics will create a considerable challenge for the real sector's balance sheets, which will immediately be transferred to the banking system. The success of the domestic "stabilisation policies" on behalf of the state will consequently depend upon its ability to generate streams of pecuniary resources to the real economy, whenever it generates the debit positions within the scope of the employment-targeting spending and the lender of last resort activities in preventing debt deflation[29]. This, in turn, is subjected to the state's degree of "monetary sovereignty"

[29] *Vide* Mitchel (2013), Kregel (2010b), Tymoigne (2006a), Mitchell/Wray (2004).

manifested in its ability to perform as a "net supplier" of the "high powered money" within the scope of a flexible exchange rate regime[30]. In case of a "monetarily sovereign" government, which is assumed when it operates within its own non-convertible currency and abstains from taking over the private sector debts denominated in external currencies within the scope of bailout measures, the categorisation of hedge, speculative and Ponzi financing profiles does not apply. It is at any time in a position to comply with its obligations by anew creating money and thus always hedged. The monetarily sovereign government is never subjected to any "constraints" in terms of financing its activities. Specifically, if government spends by issuing national-currency-denominated securities in a floating exchange rate system, then no liquidity bottlenecks of the currency that the government fails to issue would ever be possible and its default is therefore *a priori* foreclosed. This line of reasoning is based upon the Lerner's concept of "functional finance" which considers that public financing is quite different from private financing (Lerner 1947)[31]. According to Lerner, the state embodies the sole "creator of money" which is then "spent" on public activities in limitless quantities without any compulsion to levy taxes or borrow from the private sector to that end. Therefore, the money intended for domestic use must first and foremost be "issued" and "allocated" by the government to the private sector within the scope of its spending operations before it can be spent, saved or used to comply with the existing tax and financial obligations by the latter. When government spends, it "credits" the private bank deposit accounts and thus money is "originated". In contrast, by levying taxes, it "debits" the deposit accounts and thus "destroys" the money. As the implied transactions are reflected in the respective changes in the bank reserve balance positions, a "budget deficit" then comes along with the excess of the bank's credit positions over the debit positions and the ensuing increase in reserves (Wray 2007a:21ff.).The government borrows with the objective of reducing the bank reserves and draining the excess liquidity from the system effectuated by the deficit spending, and not in order to finance its expenditures. The debt instruments issued for these purposes represent an "interest-bearing" alternative to the "non-interest-bearing" liability, being debited from the bank accounts in the form of the excess high powered money, which helps the central bank to attain its monetary target anchored in its overnight interest rate (ibid.:22-23). In a nutshell, a sovereign body operating within its own non-convertible currency regime never faces any financial constraints within the scope of its deficit spending and is thus autonomous in terms of its policy-making. Accordingly, in times of crisis, the monetarily sovereign government may perform its "fiscal responsibilities" without fears of an "unsustainable" government debt.

[30] *Vide* Lerner (1947), Mitchell (2013), Tymoigne (2010a), Kregel (2008), Wray (2007a), Forstater (1999).
[31] *Vide* also Mitchell (2013), Kregel (2010b), Wray (2007a), Kaboub (2007), Forstater (1999).

Raising the liquidity and net worth of the private sector, the government deficit-financed expenditures have a direct ameliorative effect on the private sector's balance sheets (Kregel 2010b).

By contrast, the non-sovereign governments – to the same extent as individuals and business entities – are at all times committed to borrow whenever they aspire to enhance their net expenditure operations beyond the budgetary boundaries, as they only "use", but not "create" the currency. In case the government incurs debts by ejecting the foreign-exchange-denominated securities or accepts the private sector's obligations contracted in foreign currencies within the framework of its borrowing activities on the international financial markets, the scenario would reverse. As no direct control over the valuta supply could ever be ensured, the state would immediately gradate to the position of a speculative financing unit with its position-making risk proportionally enhancing to the scope of guarantees, implicitly or explicitly made in respect of the domestic currency convertibility. In case of suspension of the foreign exchange inflows, the monetary non-sovereign government may easily convert into a Ponzi unit which then becomes subjected to the continuous refinancing operations on the external financial markets. The latter are in turn contingent upon the international lenders' willingness to continue with lending. In order to allay the creditors' fears about the systemic default, the state must demonstrate its short-term ability to reconstitute external borrowing and therefore endorse the deflationary macroeconomic measures in the foreign investors' interests (Kregel 2004c:581, Ghosh 2005:12ff.). The pledges made at this juncture encompass interest rate increases and positive primary balances[32]. On the strength of the far-reaching balance sheets entanglements, the budget surpluses bring along significant implications for the financial health of the private sector[33]. Synopsizing, together with the restricted issue of foreign-currency-denominated debt on behalf of the public sector, the autonomous policy-making on the national level assumes the abrogation of the private sector's ability to raise the funds on the international financial markets which is conditioned by the degree of the country's economic and financial liberalisation. The more outright is the liberalisation of national accounts, the larger the extent of undermining of the margins of the state's policy maneuver and thus, its bias towards the deflationary macroeconomic stance. In order to forestall the changes made in the domestic policy agenda for the benefit of vernacular economic structures and "public welfare" would engender considerable differentials in

[32] Neoclassical adherents contemplate that deficit-financed spending on the part of the state is inflationary and thus colliding with financial interests due to its detrimental effect on real value of financial assets.
[33] *Vide* Minsky (1991), Mitchell (2013), Kregel (2010b).

economic parameters such as interest and exchange rates[34], the flows of international capital must be controlled. As long as no reformations prerequisite for safeguarding the *de facto* sovereignty of the less-advanced economies are collectively envisaged within the international context, the capital account management appears to be a *sine qua non* in this regard.

A principal argument by the proponents of capital market liberalisation against the capital controls is their moderating effect on domestic growth, as they deprive the developing countries of resources necessary to promote the capital development of their national economies. However, the empirical evidence suggests that the inbound transfers of foreign funds do not automatically facilitate the capital formation in the respective economies, and the buildup or reconstruction of the indigenous production sector lags behind on many occasions. The utilisation of funds usually takes place in the non-productive non-tradable sectors, for imports consumption or military expenditures and, in some cases, for consolidation of oligopolistic structures or even authoritarian regimes. Kregel (2004a) argued that as long as foreign investment flows are "disconnected" from the productive net foreign income engendering projects, irrespective of whether they are used for domestic consumption or infrastructure expenditures, the country is predestinated to follow the Ponzi way of financing "and becomes hostage to international financial markets" (ibid.:20). Moreover, on the evidence of the abundancy of structural problems being especially fierce within the developing environment, even if these flows succeed in fostering the economy's capital accumulation and stimulating domestic output, they may not necessarily usher in an increase in national development and public wellbeing. On a related note, the core intricacy emerges out of the awry equalisation of development to growth, merely expressed in terms of numbers (Tymoigne 2010b). The issue of asymmetric distribution of income would remain a matter of social concern. The emerging economies expanding continuously during the last three decades failed to eliminate their chronic deficiencies in the form of persistent unemployment, social inequality and poverty. The patterns of economic growth based upon speculation and debt are extremely unstable and their socio economic fallout cataclysmic, and thus not worth risking. It is therefore advisable to embrace a smoother, but more balanced economic ascendancy along the lines of financial stability, full employment, equality and social justice.

---

[34] These provide an opportunity to be exploited by the speculative economic agents. By inducing fluctuations in the terms and conditions accountable for the domestic financial resilience, they may run counter to the initial policy endeavours sought by the authorities.

The cross-border streams of international private capital must be permanently assailed within the framework of a "comprehensive" Capital Account Management (CAM)[35]. This should encompass those foreign exchange and capital account regulations focusing on the discouragement of its speculative and destabilising types, eminently conductive to the "ill-done" domestic capital development, subversion of the national policy autonomy, as well as genesis of structural asymmetries and financial fragilities. By implication, the inbound flows constitute the pivot of the CAM as they *a priori* foreclose the elevation of financial fragility risks during periods of strong economic expansion. The regulations relating to the outbound flows, introduced in the majority of cases to remediate the implications of the already eventuated financial disturbances, come usually much too late in the day and their effectiveness remains often dubious. Instead of impeding capital flight or mitigating its speed, the aggrieving investors' expectations might exacerbate the situation by inducing mass panic. The methods of regulating and directing the inward-streaming private foreign capital are numerous and target the interference in its volumes, structure and allocation. The "capital management techniques" should be "unique", i.e. individually tailored to each specific case. Given the idiosyncrasy of the domestic socio and real economic concerns of developing economies, the overarching "fit-to-all" formula is at this juncture misguided (Epstein et al. 2004). In order to accommodate the ever-changing macroeconomic circumstances on both the national and global levels, their application should be "flexible" (ibid.). Among all three existing types of international private capital, the debt-creating flows in the form of portfolio investment and foreign bank lending are mostly susceptible to speculation, exhibit the pro-cyclical tendencies and should therefore be discouraged. Their destabilising effect lies in the circumstance that, being mostly liquid, they are streamed to the risky high-yields-offering short-term investment projects and reverse immediately at the first sign of looming financial instabilities. The domestic private sector participants must principally be deprived of the opportunities of financing their local investment operations by foreign finance, except for those engaged in export activities. This will assume a strict control over their accessibility to the international financial markets as well as over the overseas investors' entrance to the domestic financial markets. Targeting first and foremost the long-term investment projects, the foreign direct investment (FDI) constitutes the least fluid, and thus the least risky type of foreign investment. Nevertheless, to exploit its full potential, the FDI should be deliberately

[35] The Post Keynesian contributions on a related note are numerous, *vide* Gallagher (2012, 2011), Coelho/Gallagher (2010), Bibow (2011, 2010, 2008a,b), Palley (2009b), Epstein (2009a, b), Priewe (2008), Ferrari-Filho/de Paula (2008-09), Ocampo/Palma (2008), Ocampo et al. (2008), Epstein et al. (2004), Chang/Grabel (2004), Grabel (2003a,b; 2002), Palma (2000).

managed in line with the objectives specified within the framework of the national development plan and, thus, “selective” (Chang/Grabel 2004). This will be contingent upon the developing economies’ bargaining power *vis-à-vis* international investors, the transnational corporations in particular, which is attributable to a number of factors, *inter alia* the size of the domestic economy and individual markets, its geographical position and natural endowments, the respective structural characteristics, the labour skills, etc. (ibid.:283f.). The stronger the bargaining power, the greater is the ability of the host economy to stipulate the FDI terms and conditions for its own good. Generally, only those FDI projects should be authorised which raise the level of the recipient economy’s capital equipment and technology, business skills and expertise prerequisite for the establishment or modernisation of the national productive base, which would eventually allow it to generate the future foreign income flows and to advance the level of domestic employment. The project implementation should be subjected to close surveillance over the prices and type of technology transfers, the repatriation volumes of the FDI generated earnings, the firm’s market share in order to prevent abuse of its monopoly power, etc. The foreign direct investment in the national economically strategical domains should be precluded (ibid.:139).

Capital controls are not new and the experiences of quite a number of Latin American and the “late-industrialised” Asian economies on that front turned out to be quite successful. The capital management techniques falling within the scope of “direct” capital flows and exchange rate regulations are manifold and may be differentiated into the “price-based” and “quantity-based” instruments (Epstein et al. 2004:6). The unremunerated reserve requirements, additional charges or taxes on the particular forms of capital investment or foreign exchange operations fall under the first category. The second category entails quantitative entrenchments in the form of restrictions, quotas, licensing or outright prohibition of certain types of capital and foreign exchange transactions. The “financial prudential regulations” are related to such instruments which first and foremost tend to impede the accumulation of financial fragility from within by means of regulating the domestic financial sector, having rather an “indirect” impact on the international private investment flows. For instance, the regulations relating to maturity mismatches, derivative contracts, or offshore operations[36] of the resident financial institutions fall within the scope of domestic prudential

[36] Due to their highly obscure nature, the offshore operations must be entirely interdicted. Avdjiev et al. (2014) highlighted that, over the past few years, the access of non-financial corporations within the developing economies to foreign finance increased predominantly through the off-shore issuance of debt instruments. The foreign affiliates of local enterprises abetted the transfer of externally borrowed funds to resident units via three channels, *viz.* the direct lending between the branches within one corporate unit (the intra-company flow), crediting of unrelated corporate entities (the inter-company flow), or creation of a cross-border bank deposit (the

regulations[37]. To achieve the maximum effect, capital controls are usually deployed complementarily and their close intertwining makes the drawing of an unambiguous demarcation line between different sets of management techniques a less feasible assignment. For example, the policies targeting the elimination of structural mismatches as part of the regulatory framework within the domestic financial architecture would simultaneously impact the composition of the inbound foreign capital. It is therefore an interplay of versatile instruments which intensifies the effectiveness of each separate instrument, and thus the route to the success of the entire enterprise of financial control (ibid.).

2.2.2 System of Dynamic Macroprudential Regulations

Minsky (1991) considered the capitalist financial systems as a framework for financing investment and capital assets positions in which financial agreements are concluded with the objective of exchanging the "money-now" for claims on the "money-later" in the form of future incomes or profit flows. According to Minsky, as the commitments to specific future payments are made in the past, long before the funds are realised, the financial system would thus ensure the "linkages through time", the centre stage within which is occupied by the banks[38] (ibid.:3). The latter constitute "[t]he simplest intermediary owner of the liabilities used to finance positions in capital assets" and "interpose their guarantees between the operators of capital assets and the owners of bank liabilities" (ibid.:13). In the meantime, the banks' liabilities "became the means of payments, became the money of the economy" (ibid.). Similar to all economic units of a capitalist economy, banks are the profit-seeking entities and thus possess a natural tendency towards speculation (Minsky 1992:6). There are some implications coming out of Minsky's view of financial systems which make their regulation and supervision a fundamental prerequisite for the systemic resilience. First, the state of financial fragility is especially common to the banking business. The traditional view ascribes this fact to the banks' "intermediation function" between lenders (the money saving units) and investors (the money borrowing units), which assumes the "maturity transformation" of financial assets from the short to the long term, with the former giving preference to short-term liquid assets and the latter to long-term fixed interest liabilities. As the banks' financing

---

deposit flow). The authors alleged, the respective financial flows would be attributable to speculation and capital gains rather than real necessities, and thus constitute an issue of concern.

[37] Epstein (2009a, b) outlined the generic capital management toolkit at the disposal of developing economies and their related experiences. Taxes on capital exit, particular stock or exchange market transactions, or capital gains, etc. constitute the plausible examples of the price-based management techniques. Restrictions on the convertibility of currency, mandatory approvals for specific types of capital or exchange market transactions for each individual case, etc. fall under the quantity-based category.

[38] By referring to banks, Minsky considered "all intermediaries in finance" (Minsky 1992:6).

profiles are for the most part distinguished by duration mismatches, they are compelled to build permanently upon the refinancing operations, becoming sensitive to adverse changes in refinancing conditions and hence exposed to the risk of default (Kregel 2007:5). However, Kregel emphasised Minsky's perception of financial fragility going well beyond the typical maturity mismatching, arguing that it rather embodies an inevitable circumstance attendant on the "successfully operating" capitalistic economic orders. At this juncture, the linkage would lie in the weakening of the "liquidity preferences" and the commensurate deteriorations in the safety cushions of financing economic structures within the scope of the maturity transformation process (ibid.:6). Although all economic participants exhibit the inherent inclination to excessive risk-taking over the course of economic expansion – borrowers endorsing the exorbitant accumulation of debt relative to their regular incomes, and lenders engaging in the profuse loan originating activities under the downgraded criteria for the debtor's financial standing –, it is rather the transformation of banking practices towards unsustainable patterns within the scope of "liquidity creation" process that underlies the genesis of systemic financial fragility[39]. Accordingly, the acceleration in bank resources induces the banks to substitute the excess liquidity with financial assets, partly originated by other financial units with the help of innovative instruments, and partly by expanding their crediting operations. The latter taking place under the lax lending standards engenders the downward shift in the quality of generated debts. If the taking of fragile financial positions, instigated by "economic optimism", becomes remote from singular instances, the implied metamorphosis of indigenous financial structures paves the way for the systemic evolution towards fragility. In the event of deceleration in the growth rate of bank resources paralleled by the slowdown in banks' lending activity, the ensuing fall in asset prices and debt deflation at the macro level becomes inevitable. The bottom line at this juncture is that Minsky contemplated banks as "highly leveraged" and "intrinsically speculative" units on the strength of the fact that they first appropriate the funds within the scope of their lending or investing operations, and then look for the opportunities to acquire pecuniary resources to finance positions (Tymoigne 2006a:9). In his view, the "profit-maximising" banking units will at all hazards attempt to satisfy the enhanced demand for bank finance on the part of the real sector. Into the bargain, they cultivate the speculative and unsustainable financing and funding

[39] Following Mazzucato and Wray (2015:54), "banks "create money" by lending their own IOUs to borrowers. Extending loans creates deposits. It is best, Minsky argued, to view the business of banking as "accepting" the liabilities of borrowers and making payments for them by crediting the accounts of the recipients of spending. This is a "liquidity creation" business, engaged in by all types of financial institutions. However, the ultimate liquidity provider is the government, usually through its central bank. We can think of all other liquidity creation as "leveraging" that ultimate liquidity — high powered money."

practices by the others (ibid.:12f.). The rapid supply of financing on behalf of the banks releases inflationary pressures, thus setting free the "animal spirits" of economic agents, all agog with expectations of remarkable capital gains out of meteorically ascending asset prices (Yanamandra 2014:5). In this context, the verdict arising from the Minsky's insight on the endogenous dynamics of capitalist financial systems towards the state of fragility is their regulation and oversight on an ongoing basis. By throttling speculation at its core – at the bank level –, regulation should buttress the deceleration in the progressivity of financial fragility "from within of the system" (Kregel 2014).

Second, some difficulties arise on the economy's "expectation side", while attempting to tackle uncertainty contained in the expectations of financing agents, thus making them less volatile. It is the "time dimension" inherent in the capitalist financial systems, which renders impossible the taming and masterminding of units' expectations *à propos* their realisation. Minsky (1991) alleged that "[t]he performance in the present may or may not validate the past commitments. These inter-temporal and contingent natures of the financial relations of a capitalist economy are the essential reasons why capitalist economies are not likely to behave in a nice equilibrium-seeking manner, and why interventions into markets are often necessary" (ibid.:12). As financing projects are undertaken in an uncertain environment, where it is unclear whether expectations in respect of their viability will come to fulfillment, there is a systemic propensity to become susceptible to financial crisis in the course of time. According to Tymoigne (2006a), at any point of time, the "financial conventions" among economic players exist "as to the safety of various types of assets and methods of financing and funding" (ibid.:4)[40]. The financing units' expectations of the project's long term profitability are then predicated upon prevailing conventions about the "acceptable" and "desirable" level of leverage (ibid.). The causality at this point goes from the financial norms to the state of expectations, and ultimately to the "normal" margins of safety (ibid.:5). The dynamics on the economy's expectation side reflected in the adverse transformations of "leveraging conventions" over the periods of economic expansion buttress the systemic conversion along the fragility lines (ibid.:6, Figure 3). In this regard, regulating and supervising the financing structures plays a crucial role in promoting the financially stable environment. By "guiding" the financing and funding practices – particularly those of financial institutions –, regulations forge the indigenous financial conventions towards the acceptance of the sound balance-sheet and cash-flow configurations, thus stabilising and shaping the financing units' expectations in such a way as to promote systemic robustness. At

[40] Tymoigne (ibid.) in part cites Minsky.

this juncture, it must be highlighted that regulations are only effective when implemented prior to deteriorations in financial solidity and materialisation of financial distress. If the latter is the case, then the authorities' regulative power is confined to abatement of crisis ramifications by "validat[ing] existing innovations and financial practices" within the framework of a "stabilisation policy", and thus far from the function of systemic guidance (ibid.:43). Given the extremely high content of uncertainty in the economic and political atmosphere within the developing countries, this imbroglio is especially aggravated in their regard. On account of the utter volatility of expectations, immanent in the erratic environment distinctive of developing systems, the financial fragility in the respective economies is almost chronic so that the regulative stringency in financial terms becomes of the first magnitude.

A corollary arising from the Minsky's insight on the susceptibility of expanding economic systems to financial instabilities is that the implied dynamics cannot be counteracted by means of controlling the process of liquidity creation at the banking level with the help of traditional monetary instruments available to the central bank, such as interest rates, as well as capital and liquidity requirements[41]. Coming up with nouveau financial instruments within the scope of their innovative ingeniousness, the banking units' genuine cacoethes to overcome the liquidity bottlenecks and raise profit opportunities renders the implied instruments inoperative. For this very reason, fragility can never be entirely liquidated, not even by regulation (Kregel 2007). In Kregel's view, regulation may even become a source of financial weakening, as economic agents endeavour its circumvention in a dexterous fashion (ibid.:4). Nevertheless, Kregel argued that regulation may be conducive to "prevent fragility from producing instability" by decelerating the rate of fragility growth to the levels responsible for the materialisation of financial crisis and by closing its transmission channels. Explicitly, it may disallow "the excessive growth of liquid resources could produce asset quality deterioration by preventing banks from lending against real estate, financial securities, and other noncommercial assets and by preventing fraud in the creation and trading of investment assets" (ibid.:13-14). To contain the systemic evolution towards the state of uttermost financial fragility, the authorities must consequently address the triggers of financial fragility and the catalysts of its transformation to instability by means of continuous

[41] *Vide* Yanamandra (2014), Kregel (2007), Tymoigne (2009b, 2005). Tymoigne (2009b) regarded the interest rates instrument as "a rather ineffective tool because of its passivity, cumulative effects, and *ex post* response to the problem" (ibid.:3). According to him, "[t]he interest rate is an *ex post* tool because once decisions have been implemented and affect the economic system (via inflation, employment, speculation, or any other ways) those decisions are irreversible and have to be financed and funded. It is cumulative because higher interest rates may promote borrowing when agents are indebted. In addition, constant fluctuations in policy rates create financial disruptions through their effect on debt burden and on asset prices, and also through the disincentive for financial institutions to hold fixed-income claims" (ibid.:247). Tymoigne (2009a) insisted that "[p]yramid Ponzi processes cannot be risk-managed or buffered against" (ibid.:abstract).

regulation and surveillance over the financial processes. Notwithstanding the permanent nature of regulative measures, in the sense that they should go beyond the "smoothing of business cycles", they must be "dynamic" (Kregel 2014). In order to capture betimes the inauspicious transformations within the financial system and to keep abreast of the innovative financial devices, the regulatory mechanisms must be frequently reassessed and submitted to appropriate modifications. Furthermore, regulations must guard against the financial institutions becoming "too big to fail", as the institution's size and concentration entails some implications for systemic stability (Tymoigne 2009a). First, "large" and "diversified" institutions can hardly be subjected to regulation and oversight. Second, in light of the profound financial interlacement brought about by the oligopolistic structure of financial markets, there is a high risk of contagion if one of the few market players undergoes financial turbulences (ibid.:20). Third, being at the core of the payments system, banks enjoy – in addition to the privilege of refinancing – the privilege of being rescued by monetary authorities in case of insolvency. The more ponderous the systemic implications of the failure of the banking unit in question, the greater would be the extent of the government's engagement within the bailout framework. On that account, it is the fundamental conviction of banking units that fraudulent practices would by all means pay off which underpins their assiduous involvement in exceedingly high risk-taking activities – the crux of the moral hazard behaviour. If the size of an institution jeopardises the stability of the entire financial edifice in the case of its eventual collapse, it must then be esteemed as "systemically dangerous" and by implication "too big to save" (Wray 2011:18). Its commensurate downsizing should minimise the risk of contagion and the moral hazard potential. Regulation should underpin the financial institutions' structural division with the objective of enforcing a kind of cash-flow, maturity and liquidity "matching" within the respective asset-liabilities structures, and attenuate the competition within the financial domain (Kregel 2007)[42].

Tymoigne (2009a) argued that to become most effective, regulations must be "highly proactive in risk management", thus anticipating the establishment of structures building up in fragility magnitudes. To that end, he recommended that financial regulation and monitoring should be concerned less with institutions and functions, but more with patterns of financing pursued by the investing structures, and thus the "detection" and "termination" of Ponzi pyramid processes and fraud in a timely manner (ibid.:21f.). Recollecting Minsky's ideas, financial fragility is not a phenomenon produced by an external shock, market deficiencies or

[42] Kregel (2007) emphasised that the functional segmentation of financial institutions pursued by the New Deal legislation in conformity with the maturity and risk degree of the handled assets promoted in actual fact the adjusted maturity structures.

misguided state interventionism, but an intrinsic component of the systems undergoing the protracted phase of economic stability. On the strength of optimistic expectations of economic participants, speculation becomes especially compelling. At the systemic level, if fragility becomes a frequent event, debt deflation is menacing. In case the crisis catalysts are activated, the economic system with predominantly speculative and Ponzi financing structures transfers without respite into the state of financial instability. Whenever the lenders acknowledge the borrowers' imminent insolvency, they resolve upon abandoning lending. Position-making opportunities are sought by the borrowers who dispose of their assets in order to acquire liquidity with the objective to pay off the debts. Proceeding on a large scale, the implied dynamics trigger a downward spiral of assets value, which only exacerbates the debtors' financial difficulties. In the event of the widespread realisation of negative net present values, the balance sheet intertwining provides for the debtors' problems being spilled over to the lenders' financial health and an ensuing fully-fledged financial crisis. When most financial positions shift to the Ponzi mode, there is less scope left for policies to resist the crisis. As long as the deterioration is from hedge to speculative finance, it is possible to revert back, thus forestalling the realisation of extended insolvency cases. According to Tymoigne (2010a:27), insolvency and crisis "is not a signal of fragility, but a consequence of fragility". Thus, to reckon early enough with the progressivity of financial weakening, continuous financial scrutiny becomes indispensable – and this is what constitutes the core of an "evolutionary approach"[43]. For Tymoigne, the permanent surveillance of the dynamics of financing patterns would allow to capture their "evolution" towards unsustainability early enough before financial instabilities materialise. This assignment cannot be accomplished by the *ex post* regulation, but rather by measuring the deterioration in the quality – and not the quantity – of leverage (ibid.:8).

Deliberating on a related note Tymoigne argued that the unsound financial profiles entrench themselves long before the crisis occurrence, in times of economic flourishing, soaring profits, assurgent net worth, stable interest rates and low delinquencies. The challenge is then to reveal the accumulation of fragility at an early stage, before defensive position-making has become common. In that regard, the tendencies of growing profitability, capital equity, or falling default rates constitute quite inappropriate reflectors of the financial positions' solidity. By the time these dynamics reverse, one is intrinsically confronted with the crisis, rather than fragility (ibid.). The fragile position-taking builds upon expectations of the imminent position-making transactions in the performance of pending financial

[43] Tymoigne (2014, 2012, 2011a, b, 2010a, b, 2009a).

obligations. This being writ large in the sustained refinancing operations and asset liquidation at a higher price assumes the growing net worth, i.e. the debts to assets ratio. While trying to capture the adverse transformations in the financial behaviour, the orientation on the unit's net worth is therefore relevant, however, not within the scope of identification of financial strength, but of fragility progressivity, precisely on the grounds of lying at its base expectations of the upcoming surge in asset prices (ibid.:18-19). Tymoigne claimed that, in the recent past, soaring collateral prices and net worth used to "justify" an increase in the level of investing units' indebtedness, having become responsible for the far and wide ingraining of the Ponzi financing schemes (ibid.:19-20). As the exuberantly growing collateral values provide enticements towards unsustainable financing operations, Tymoigne prompted to abandon the method of the collateral-based assessment of financial robustness. According to him, the net income and profit streams out of the "principle" economic and business activities, as well as the amount of monetary assets, constitute the sole sources for debt redemption, and not the capital gains[44]. Definitely, the income-based financing also entails some risks of payment delinquencies, for instance, in the event of the unit's future revenues falling short of its expectations during some investment periods, or there is an unforeseen boost in the operational or financing costs. In this instance, refinancing will sometimes be required in order to continue servicing the debts and to remain solvent. However, what is quintessential at this juncture is that by the end of the project's life cycle, the positive net present value is expected to be realised (ibid.:42). It therefore becomes of paramount importance to specify the parameters indicative of financial weakness. Following Minsky's advice, Tymoigne recommended concentrating upon the analysis of the balance sheet positions, the cash flows, the underlying assets and their price developments, as well as the approaches behind the underwriting and borrowing procedures. Accordingly, the scrutiny of variables bearing upon the financing unit's budgetary constraint, such as the flux and reflux of pecuniary resources, the volumes of liquid financial assets and cash reserves, the debt burden and refinancing pressures, would disclose more about its financial health (ibid.:16). Specifically, the growing debt-to-income ratio does not necessarily portend the elevation of fragility level without further ado. If, at the same time, the debt maturity prolongs, the *de facto* debt burden as a matter of fact diminishes. By contrast, the augmenting debt burden, rising refinancing operations, growing asset-based lending and asset prices, and falling amount of liquid assets relative to liabilities – in case more of these factors coincide – signalise the unfolding Ponzi

[44] Within the process of loan origination, the collateral values should only be used as a benchmark for determining the amount which is to be guaranteed for the credit granting institution in case of loan defaults (Tymoigne 2010a:42).

pyramid processes (ibid.). In a nutshell, the appropriate conceptualisation of financial fragility on behalf of the regulators buttresses the accurate compilation of indicators informative of the evolving financial fragility, thus enabling them to confine the unsustainable methods of financing on the micro as well as macro levels in a timely manner (Tymoigne 2012:7)[45].

Synthesising all that was said, the precise measurement of "macroprudential risks" within the framework of the evolutionary approach might constitute a quite serviceable instrument in promoting systemic financial stability, as it targets at the crisis anticipation rather than its prediction[46]. On that score, a number of structural reformations become indispensable. Above all, the monetary policy should henceforth be replaced by the wide-ranging financial framework aiming at promotion of systemic financial stability, with the central bank playing a leading role in the advancement of this objective in a variety of ways[47]. First, by enacting the guiding financial principles, the central bank should "guide" the private financial behaviours towards robust and "socially responsible" practices (Tymoigne 2005:29ff.). Being by their nature profit-maximising and inclined towards speculation, the private economic participants are unable to realise and adequately assess the extraneous perils arising for the national economy and society from their behaviours. Second, the central bank should cater for the stability of interest rates by permanently holding them at or close to zero percent. Frequent interest rate adjustments would otherwise constitute the source of uncertain expectations connected with the volatility of cash flows and position-making opportunities, thus impinging upon the soundness of the private balance sheets positions. Third, the central bank should identify and eliminate the systemic hazards in due time. To that end, the central bank should develop mechanisms which would allow it to continuously monitor the prevailing financing practices and recognise those which are systemically precarious. In this context, the cash flows and balance sheets positions, rather than capital requirements and reserves, should be subjected to the central bank's critical scrutiny. The respectively unsustainable practices should be checked by appropriate regulative measures. These should on every occasion be dynamically modified in order to counter the innovative financial

[45] Tymoigne (2010a) argued that the variances in the levels of fragility can be captured on the individual, sectoral or macroeconomic level. Whereas some economic spheres might be financially robust, the advancement of the others might predicate on the Ponzi financing processes, thus posing substantial systemic risks. The precise localisation of the incipient fragility would enable the regulators to immediately tackle the problem at its core (ibid.:17f.).

[46] Tymoigne (2012:7) insisted that "the point of detecting financial fragility is not to detect financial crises or economic recessions, but rather to intervene proactively to prevent crises from occurring, or at least limit their significance". According to Tymoigne, "significant economic and financial crises do not just happen; there is a long process during which the economic and financial system becomes more fragile". With this end in mind, one "should focus on the growth of financial fragility during periods of economic stability" and "intervene before problems accumulate to the point that debt deflation becomes likely" (ibid.).

[47] *Vide* Tymoigne (2011b, 2009a,b, 2006a, 2005).

virtuosity. The regulations' proper enforcement should be habitually verified by the central bank. Fourth, the central bank should join the government on its way towards the "socialisation of investment" by flexibly allocating the credit resources among the sector. Fifth, the central bank should restrict competition in the financial industry and guard against the institutions becoming "too big to fail". Sixth, the central bank should effectively deal with the balance sheet restructuring and resolution of insolvency cases, at the same time eschewing any kind of direct or indirect private bailouts. Seventh, the central bank should facilitate hedge financing by fostering the fixed rate financial contracts with predictable, nevertheless, at short notice downwards adjustable income and capital outflows, whenever the temporary liquidity bottlenecks arise for the viable financing structures. Furthermore, the central bank can encourage the creation of sound financial instruments, such as those avouching the compatibility of cash inflows and outflows within the financing units' balance sheets, by making the respective financial institutions eligible for low-cost refinancing. The bottom line at this point is that such a kind of "dynamic approach to central banking", would allow the central monetary authority to "be more involved in financial matters, both as a guide (to influence the conventions and so expectations of private agents) and as a reformer (to promote the emergence of institutions that promote financial stability)" (Tymoigne 2005:32). Failing that, "a central bank is condemned to be a follower in the game of letting gains be privatised and losses socially sustained via economic disruptions leading to inflation, unemployment, and a prolonged recession" (ibid.:27-28). Finally, financial policies should be integrated into a broad policy framework buttressing the achievement of a permanent stable full employment, as all three – financial stability, price stability and full employment – are "complementary". Following Minsky, financial stability is an indispensable prerequisite of a stable non-inflationary full employment. Conversely, full employment and price stability are promotive of a robust financial environment (ibid.:17ff.). Let us dwell upon this point in the following.

2.2.3 Responsible Big Government and pursuant institutional and policy configurations

The chronic capital and socioeconomic deficiencies of developing states make finance indispensable for their rectification. However, the frequency of past financial and debt crises within their national borders evinced that the sources of finance appeared to be unsustainable and ushered into an exorbitant external indebtedness on their part. Within the scope of advancing the development of respective economies in a sustainable and financially stable manner, reformations and regulations within the indigenous financial architecture concomitant with managing the national capital and financial accounts constitute an essential,

however not *per se* a sufficient condition. To that end, finance should be made serviceable to the urgent capital and socioeconomic requirements of the domestic economies. Minsky was aware that economic expansion driven by private spending – either in the form of investment, consumption, or both – is financially fragile and inflationary (Wray 2018:9). It is fragile because it is to a certain extent financed by debt, which tend to proliferate over the course of the period of flourishing economic activity. It is inflationary because the excessiveness of investment in the non-productive and highly speculative sectors, most notably the real estate, financial and stock markets, and the subsequently soaring wages and asset prices within the implied sectors are not accompanied by a commensurate increase in the employment and productivity levels within the commodity-producing sectors, such as industry and agriculture. Within the free market environment, if growing, investment generally does not effectuate an increase of the "concrete stock of production means", or "strengthening of the capital goods sector" (Chakravarty 1987:3). It is thus of paramount importance to create a framework conducive to the establishment of financing structures, which would cater for the realisation of national capital and socioeconomic necessities in a stable and non-inflationary environment and promote economic security. This would require a "responsible big government" – including the "big bank" –, a "proactive" and "initiative" form of the state, which would "guide" its national development along the lines of economic and financial stability, equality and social justice by "motivating" the private sector to accomplish its investment and consumption expenditures in a hedge financing way, as well as providing for the "socialisation of investment"[48]. There are a couple of remarks hereof. First, government interventions should carry a "pre-emptive" and "guiding" virtue. The conventional theory criticises the government interference into the economic process by simultaneously justifying it, when it comes down to the "market failures" and crisis. However, there is no reason to assume the *ex post* intervention by the state is more legitimate than one targeting the forestalling of the "upward" and "downward instabilities"[49]. The high costs of crisis in the form of mass unemployment, inflation, large-scale insolvencies and social anguishes render the preclusion of crisis materialisation vital. The precautionary government intervention to that end should thus be associated more with encouraging the financing behaviours towards sustainability, rather than penalising them for the speculative and Ponzi nature in the

[48] The term "socialisation of investment" traces its roots to Keynes' General Theory (1936), where "[it] was largely used to refer to public investment that would simultaneously create jobs and also increase the capacity of the economy to improve living standards" (Mazzucato/Wray 2015:35).

[49] Tymoigne (2006a) differentiated between "upward" and "downward instability", having argued the former being the cause of the latter, following Minsky (1969, 1980). He associated the former with advancing inflation on the grounds of mounting production costs as well as economic units' upbeat anticipations of progressive prices, and the latter with the debt deflation process (ibid.:36-37).

aftermath of the crisis. Second, government interventions should be conducted on an on-going basis and generate structural macroeconomic modifications, rather than economic system's adjustment over the course of the business cycles with the aid of the "fine-tuning", or "pump-priming" mechanisms[50]. The habitual misinterpretation and misapplication of the "genuine" Keynesian ideas in the mainstream fashion in the past, generated such a kind of "macroeconomic steering" geared towards the aggregate demand stimulus during economic downturns, and its depression during the economy's upturn phases, which entailed stagflation, fragility and income inequality as its "pitfalls" (Wray 2018, Tymoigne 2008)[51]. Arrangements, undertaken within the scope of this approach, were temporary, incoherent and discretionary, and comprised miscellaneous conventional fiscal and monetary tools. In times of depressed aggregate demand, for instance, such instruments as "indirect" and "unproductive" spending, tax incentives, government contracts with guaranteed profits, transfer payments, and the "downward manipulation" of financial variables in the form of interest and required reserves rates were at choice. The agency of such adjustment policies was "reactive" and thus akin to a "passive government" (Tymoigne 2008:35). When it comes to the less-advanced economies, slackening demand is however less of an issue. The chronic structural shortcomings within the developing systems, writ large in financial instabilities, tenacious unemployment and inflation, unfair distribution of incomes and poverty, make futile such an aggregate demand management. Within the scope of firmly established rules and structures, some portion of "human discretion" is notwithstanding acceptable during implementation of the policy (ibid.:9-10). Third, government intervention should be "functional" in the sense that it should concentrate on the attainment of domestic capital and socioeconomic goals, rather than "balanced budget" or other numerical guidelines – an insight, which one owes to Hyman Minsky and Abba Lerner at the early stages of his academic research (Wray 2018). In the upshot, the state's principal responsibility should not be the exercise of absolute control, but a "decentralised planning" within the framework of a synergy with the private enterprise (Tymoigne 2008).

If the national policies assignment is clearly defined – the government's actions must make the grade to intrinsic macro and socioeconomic concerns –, then some deliberations *à*

[50] *Vide* Wray (2007a,b; 2018), Mazzucato/Wray (2015), Tymoigne (2008, 2006a), Kregel (2010b).

[51] Wray (2018:30) synopsized that "[a]ccording to Minsky, this "Keynesian" approach would have to resort to a "stop-go" policy that would stimulate investment and thus growth until inflation picked up, then would use policy to slow growth to fight inflation. Hence, although unemployment would fall in the boom, it would return in the slump. Meanwhile, financial fragility would grow on trend and repeated financial crises would stress the system. If government intervened to ameliorate a crisis, that would simply encourage even more risk taking. In other words, such a policy strategy would be biased toward the promotion of inflation as well as financial instability".

propos the precise policy choice, as well as its institutional allotment are due at this juncture. Minsky proposed to set one's sight on full employment and financial stability as the fundamental prerequisites of the "successfully operating" market systems, which cannot be automatically avouched within an environment, where the "freedom to innovate and to finance is the rule" (Tymoigne 2006a:45). The profound reform package targeting the macroeconomic restructuring within developing economies towards these two principal goals should incorporate a set of financial, fiscal and other auxiliary policies, which would operate in favour of both the economy's supply and demand side dynamics. Specifically, the attainment of a stable non-inflationary full employment should claim the primacy of the fiscal policies. Government spending to that end should be "targeted", i.e. biased towards the employer of last resort and investment allocating activities. Promotion of financial stability should constitute the core of the encompassing financial policies being on the central monetary authority's hand. Into the bargain, wage, income and price policies should be complementarily integrated into the overarching macroeconomic framework and executed on behalf of other institutions established to support the realization of the implied priority objectives (Wray 2018, Tymoigne 2008).

Targeted public investment into employment-generating projects achieves a number of "stabilising" effects on the economy's financial, real and expectational sides through the enhancement in employment, consolidation of income and profit flows, real resources creation, alleviation of inflationary pressures and strengthening of economic security. The targeted government spending activity caters for the socialisation of investment, which implies the provision of finance for most of the economy's capital and consumption goods production, as well as allocation of investment resources towards those economic spheres, where the major socioeconomic deficits arise (Mazzucato/Wray 2015, Tymoigne 2008). Furthermore, targeted public expenditures "validate" the private sector's decisions and prevent the weakening of its financial positions (Kregel 2010b). Whenever the private sector is intending to increase its savings against its expenditures on consumption or investment goods, government has to be "prodigal", if the present level of the economy's output and employment is to be maintained (ibid.). By "debiting" its positions, i.e. utilising the funds, a prodigal government affords opportunities for the private agents to build up their "credits", i.e. sources of funds, in a sustainable way and to avoid encumbrance. Generating the flow of "safe" funds to the private sector's accounts, government "guides" private financing behaviours along sustainability lines, in this way creating terms and conditions facilitative to systemic resilience. It is also within the scope of government's "fiscal responsibility" to

"coordinate and offset the incompatible combination of firms' and households' intentions". If, for instance, households are tending to "save too much", the public deficit should then be commensurate to "the shortfall between households' desires to save and firms' expectations of profits", thus "allow[ing] each individual to achieve his desired objective" (ibid.:13). Government deficits with the objective of attaining full employment have significant beneficial effects on the private sector's cash flows and balance sheets positions through the "bottom-up approach" (Tcherneva 2011:19). The sustainability of income streams to the population within the scope of the public "employment guarantee" programs, reinforces the population's purchasing power as a driving force of its expenditures on goods produced by local firms – control over the national trade and capital accounts is preconditioned in this regard [52] –, and accordingly business revenues. Finally, the additional stabilising effect of the employer of last resort operations lies in the enhancement of economic security, associated with the attenuated uncertainty, social equality, higher living standards and other "social multipliers" (Forstater 1999:1f.).

Both Minsky and Lerner were aware that fiscal responsibility is distinctive of a government controlling the "direction" as well as the "stance" of its fiscal operations, to wit "its spending and taxing, its borrowing and repayment of loans, its issue of new money and its withdrawal of money" (Forstater 1999:2). If they are targeted rather than general, there is consequently no need to bother about inflation or chronic and soaring trade deficits as their fallout (Wray 2018). Government deficits with the objective of full employment guarantee, involving policies for allocating investment towards the accumulation of capital over the long term, expedite an increase in the economy's productive capacity. As Forstater (1999:7) accurately expressed by drawing the "lessons" from the Lerner's functional finance approach, "[w]hen there is unemployment, jobs and money, not resources and goods, are scarce". Government deficits as a result of military expenditures, transfer payments, high debt-servicing costs, subsidies or tax incentives are "unproductive" and entail considerable inflationary risks on the strength of being decoupled from the creation of real resource. Tymoigne (2008:17) professed that as a result of the "potential moral hazard, by providing a safety net the government may achieve short-term stability at the expense of long-term instability". Nevertheless, the business sector incentives given by the state in the form of abated taxes and "wage costs sharing" may still be endorsed if accompanied by the new

[52] Wray (2007a) accentuated that "if ELR raises income and aggregate demand, then government should use traditional methods of protecting its currency and trade balance, as necessary. No government should use poverty and unemployment for these purposes" (ibid.:38). To that end, he recommended the deployment of traditional methods such as imports and capital controls.

employment positions generating activities (Wray 2007a:7-8). Lerner (1943:354) alleged that "[g]overnment should adjust its rates of expenditure and taxation such that total spending in the economy is neither more nor less than that which is sufficient to purchase the full employment level of output at current prices. If this means there is a deficit, greater borrowing, "printing money," etc., then these things in themselves are neither good nor bad, they are simply the means to the desired ends of full employment and price stability". Following this, until the economy has not reached or approached its full capacity level, government deficits and inflation embody no impendence. That not being the case, government should become frugal and accordingly move its fiscal balance toward a surplus, if the progression of inflation and financial instabilities are to be fended off. Accordingly, the elevated for this purpose taxes on behalf of the government must not be considered as the means of financing the mounting public expenditures and necessary to preclude the default on public contractual obligations, but of withdrawing pecuniary resources from the economy with the objective of containing inflationary tendencies. The gradient public sector debt, which is not "validated" by corresponding revenues, would involve an increase in the long-term interest rates so as to "compensate" the bond holders for the "inflation tax", and thus "create a vicious cycle of bigger deficits, more inflation, and then higher interest rates" (Wray 2018:26)[53]. In some cases, the government spending may still set the inflationary wheels in motion, even when the economy has not reached its full capacity. Against this background, control over the growth of incomes – wages and profits – epitomises *a sine qua non*. Specifically, constraints on the growth of wages and prices should be imposed within the "advanced" sectors, where the respective inflationary trends loom ahead (Wray 2018:35, Tymoigne 2008:20f.).

Considering all arguments delineated above, the development of human capital constituted for Minsky an integral part of the domestic capital formation. To expedite domestic capital and employment growth in a financially resilient manner, financial structures should be created, which would cater for the provision of finance for long-term investment projects which would serve the public purposes, *inter alia* the development of indigenous infrastructure, infant industries, environment and other domains of social priority. For the purposes of mobilising resources for the respective projects, Minsky et al. (1993) proposed to establish a "nationwide system of community development banks (CDBs)". These should be

[53] *Vide* Wray's (2018, 2009b, 2007a) interpretation of Lerner's and Minsky's insights within the functional finance approach. Wray (2018) underlined that Minsky spoke out in favour of some scope to be left for a countercyclical policy swing. Accordingly, the public debt should grow to a level, where it is still possible for the government to meet the need of withdrawing money from circulation during the private-spending-driven boom cycles, and without fearing the materialisation of financial instabilities.

in the form of decentralised bank holding companies in the hands of the "public-private partnership", and warrant at the local level the direct access of individuals as well as small and medium entrepreneurship to lines of credit and other financial services at a bearable cost. CDBs are generally in a better position to gain an overall perspective of the vernacular economic situation due to their access to the enquiries and reports of the local population and business entities. Provision of finance should be linked to specific economic activities, such as those geared to the stabilisation, restructuring or upgrading of the existent employment and production levels, and accommodating the indigenous capital and socioeconomic concerns. On a related note, all types of investment projects in the manufacturing, agricultural, environmental or other socially agreeable activities would be eligible. Lending and refinancing should be advanced on the basis of perspective cash flows underlying the project viability, rather than collateral value, and under the disclosure and strict supervision of the beneficiary's balance sheets. The structure of funding should be brought into better alignment with the project duration. Following Minsky et al. (ibid.), the government-owned Federal Bank for Community Development Banks should be created with the objective of carrying out the funding, regulation and supervision of the CDBs.

Recapitulating all delineated earlier, continuous government interventionism targeting the full employment promotes financial stability due to its stabilising effect on the income and profit streams to the private sector, thus diminishing the latter's need for borrowing. Nevertheless, it does not prove a recipe for it. Remembering Minsky, as the sector's liquidity augments, irrespective of whether conditioned by the copious private or public investment, the intrinsic private speculative endeavours would induce systemic fragilisation. When the moods become sanguine, economic units materially reduce their preference for liquidity. For reasons of "destabilizing stability", the central bank must continuously be on its guard against the systemic jeopardies, intervene in due time and remain flexible in its instrument choice. To reiterate without going into great detail, financial stability should occupy the centre stage within the central bank's financial policies, while other objectives, such as full employment, price stability and income distribution, should be left for other institutions[54]. Much has already been said on a related note in the preliminary chapters and won't be further amplified at this point. At long last, some additional structural changes should be in place in view of advancing systemic financial resilience. If government is to maintain its prerogative of a sovereign decision maker – a fundamental prerequisite for the advancement of the national capital and socioeconomic development by sustainable means –, it must ultimately exert

[54] *Vide* Tymoigne (2009a, b, 2008, 2005).

control over the major income-generating industries, as well as other pivotal economic domains, *inter alia* the financial, export and energy sectors.

3 Empirical substantiation of research hypotheses using the example of Ukraine

By taking Ukraine as an example, the following section provides for an empirical substantiation of the research hypotheses constructed earlier in this work. Above all, it attests that the growth in the country's level of financial fragility accomplished in accordance with Minsky's statements made within the context of his Hypothesis of Financial Instability, and was triggered by the reciprocal action of endogenous and exogenous processes. These transformative dynamics facilitated the spillover of externally originated disturbances to the country's domestic economy, having thus paved the way for the materialisation of the fully-fledged financial and economic crisis within the national borders. The widespread private sector's financial instabilities created significant difficulties for the domestic policy-makers in pursuit of macroeconomic stabilisation in the short term, which found themselves constrained to revert to the traditional methods with a view to an imminent recreation of the Ponzi system's premises. Their profound consequences are investigated further within the scope of this section. An Index of Financial Fragility has been created to give methodological evidence to the implied assertions. On a final note, recommendations are provided to what should have instead been done in order to circumvent the systemic character of the crisis, and to prospectively bring the economy back to the sustainable mode.

3.1 Ukraine's systemic ascent along the fragility gamut during the period preceding the crisis

Over the course of the period between 2004 and the 4th quarter of 2008, the economic and financial dynamics prevailing both at the global as well as domestic levels accounted for a consistent increase in the levels of financial fragility on the part of Ukraine's economy. Since the advancement of the country's integration into the international macroeconomic environment, the external occurrences could hardly bypass the domestic economy, and their spillover effects continuously amplified ever since. The ongoing progressiveness of the international trade and capital transactions within the respective timeframe eventuated in a pro-cyclical interplay between the endogenous and exogenous economic and financial processes. Both contributed to the creation of considerable dependencies on the incessant streaming of external financing and expedited the formation of ponderous structural

maladjustments on the individual as well as systemic levels, conducive to the Ponzi financing-wise transformation of the domestic economy. The implied developments are traced below in greater detail. An Index of Financial Fragility, covering the period 1999-2014, has subsequently been calculated for Ukraine's economy to substantiate the respective metamorphosing processes.

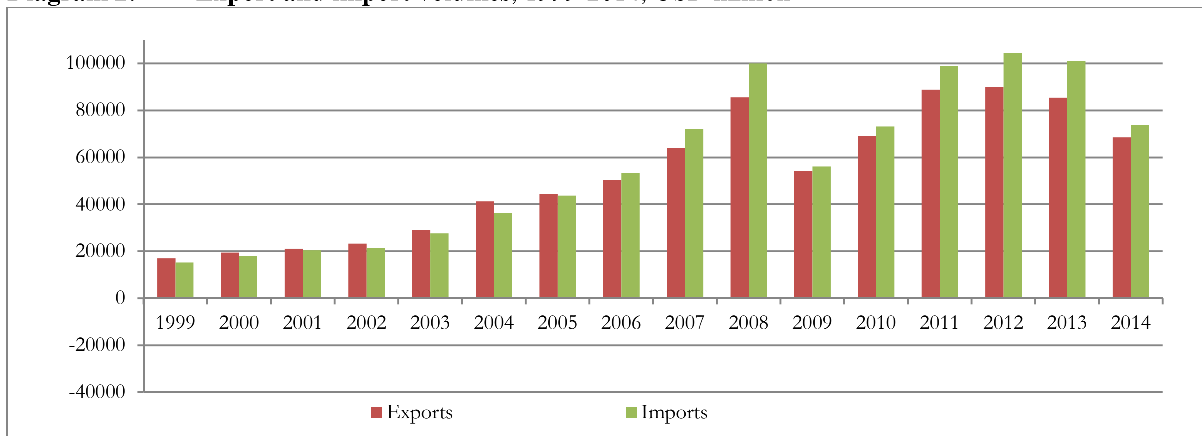
3.1.1 Exogenous and endogenous determinants of Ukraine's adverse systemic metamorphosis

The period from 2004 and until the crisis marked Ukraine's most vigorous economic expansion since its transformation. The transition of the international environment into the upswing stage and global demand proliferation appeared at the first glance to have considerable beneficial effects on the domestic economy. Since the turn of the century, the country channeled its attention on the revitalisation of the indigenous export sector, and the situation on the international export markets turned out to be fairly auspicious for the Ukrainian exporters for quite a while. The favourable international prices for metallurgical products[55], which constituted the country's major export commodities, as well as the stable demand for the machine-building products on behalf of the CIS countries accounted for a steady rise in Ukraine's export proceeds during the period preceding the crisis (Diagram 2, Diagram 3). Within the commodity composition of exports, they accounted together for over 50% of the country's total exports. By 2007, this figure approached the 60% mark (Diagram 4). The continuous augmentations in the export gains could primarily be attributed to ever growing export prices rather than volumes. For instance, the rates of price growth of ferrous metal products in 2007 approached 130% on the average, while their growth in volume terms hardly passed beyond 2% (NBU 2007a:3). During some years in fact, the growth rate of the exports' volume component was even negative, and the high prices on the world ferrous markets entirely contributed to the increased export proceeds of the implied commodity group (NBU 2005a:36).

---

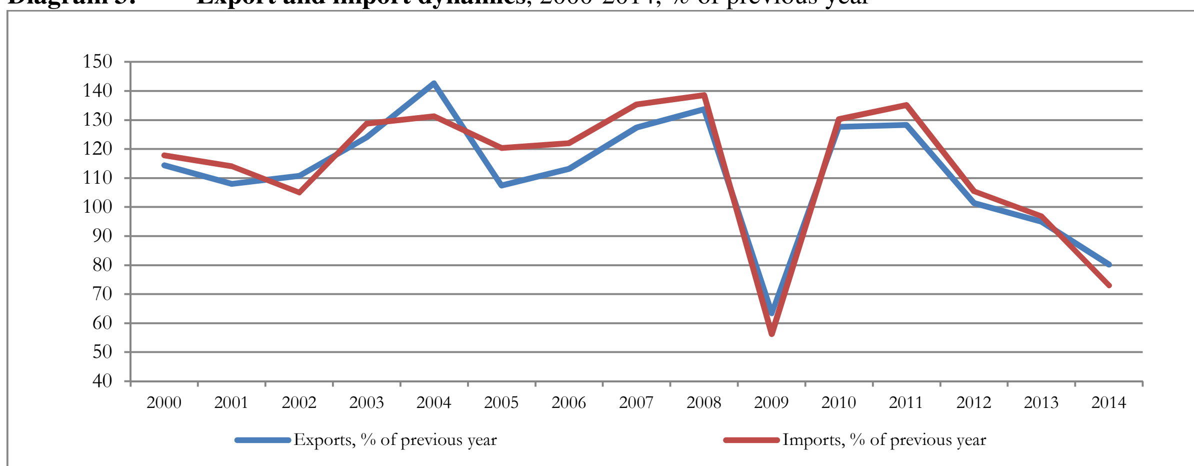
[55] For the international commodity price developments *vide* UNCTAD (2008).

Diagram 2: Export and import volumes, 1999-2014, USD million



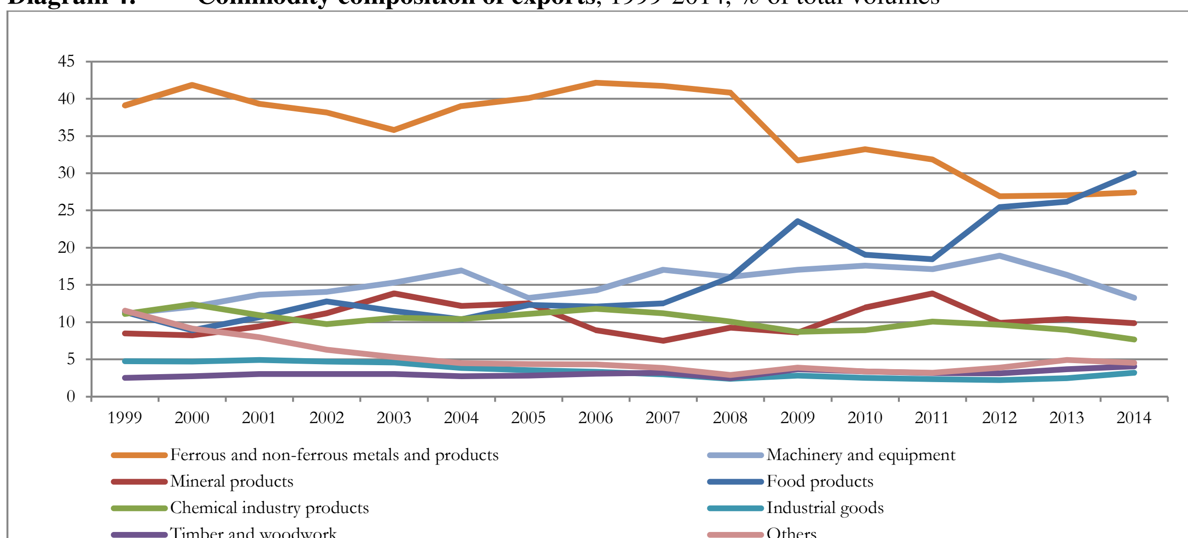
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 3: Export and import dynamics, 2000-2014, % of previous year



Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 4: Commodity composition of exports, 1999-2014, % of total volumes

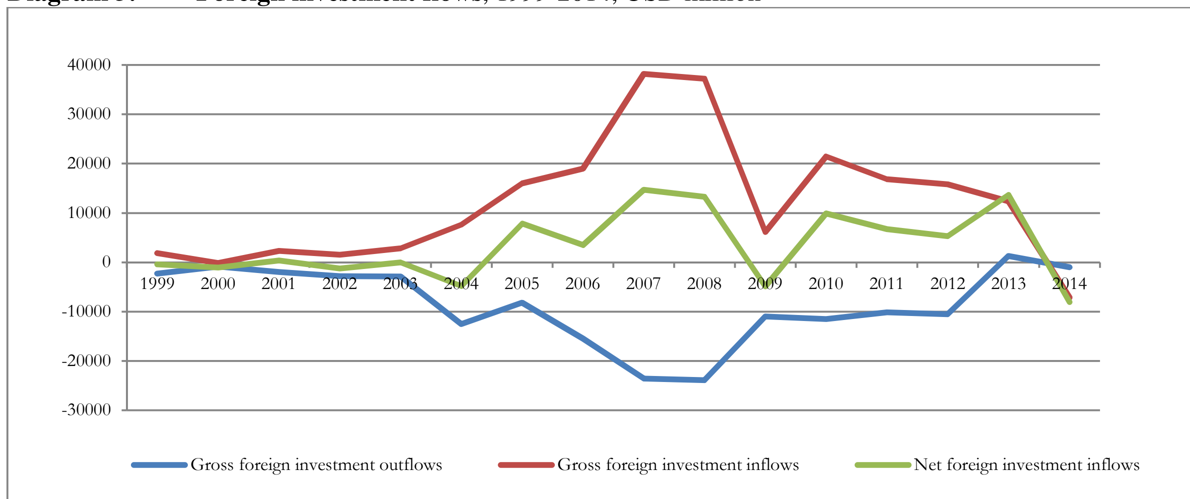


Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Until 2003, the capital streams between Ukraine and the rest of the world remained frugal. The country's countenancing greater financial openness ever since then accounted for a buoyancy of the international capital transgressiveness across the national borders (Diagram 5)[56]. During the period between 2003 and 2007, the volumes of foreign investment in Ukraine increased by 13 times and of investment abroad by 8 times. Until the crisis, both investment types remained almost entirely private in nature (Diagram 6, Diagram 7, Diagram 8). Between 2005 and 2008, the inward volumes exceeded the outbound volumes so that a generally positive foreign private investment balance was recorded (Diagram 9). Prior to the crisis, the intensification in the outflows of liquid foreign assets in the currency form abroad was most notable among all the types of outgoing private investment (Diagram 10). In 2007, the growth of foreign currency cash outside of the banks accounted for 60% of the total private capital resources invested abroad. Considering the inflows of cross-border private capital into Ukraine, their surge was predominantly attributed to the vigorous other investment, whose respective share persistently increased to 70% by 2008 (Diagram 11). Within the implied investment category, the inflows of loans significantly exceeded the inflows of other financial instruments. In some years, their share within the total surpassed the 90% mark (Diagram 12). In 2006-2007, the banking sector absorbed most of the foreign loans invested into Ukraine's private sector (Diagram 13). Foreign loans almost entirely accounted for the growth of other investment within the implied sector (Diagram 14). The total increase in their volumes between 2004 and 2007 equaled 45 times. Within the real sector equally, external loans made up most of the foreign other investment into the sector until 2008 (Diagram 15). In 2006-2007, the banking sector claimed for itself over 90% of the total loans with short-term maturities (Diagram 16). Generally, loans provided to the banks on a short-term basis prevailed until 2007. In 2006, their share accounted for 60% of the sector's total loans (Diagram 17). In contrast, foreign loans invested into the non-banking sector remained primarily long-term throughout the whole period (Diagram 18).

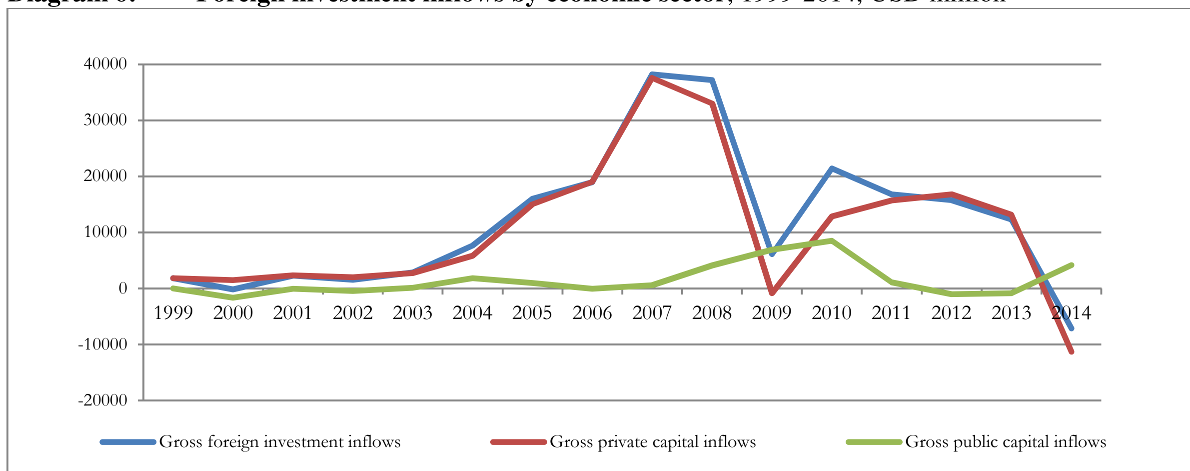
[56] Gross investment inflows imply the net incurrence of foreign liabilities. Gross investment outflows imply the net acquisition of foreign assets. Net investment inflows, or investment balance, constitute the difference between gross capital inflows outflows.

Diagram 5: Foreign investment flows, 1999-2014, USD million



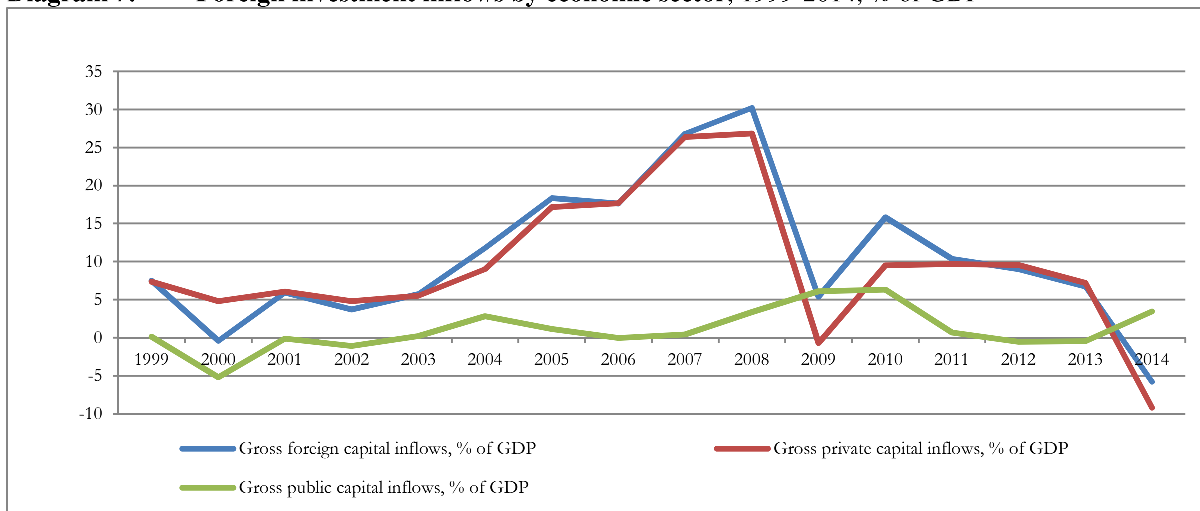
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 6: Foreign investment inflows by economic sector, 1999-2014, USD million



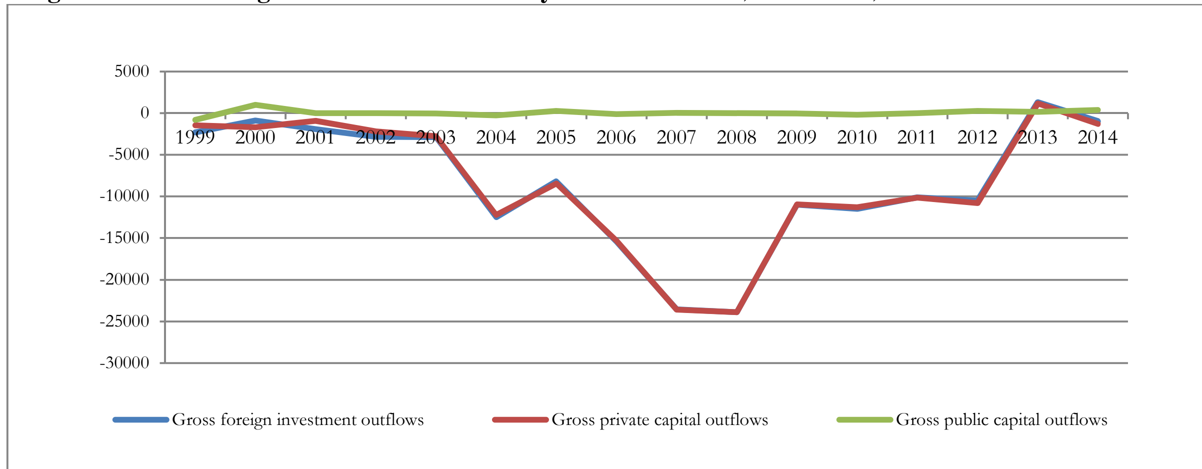
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 7: Foreign investment inflows by economic sector, 1999-2014, % of GDP



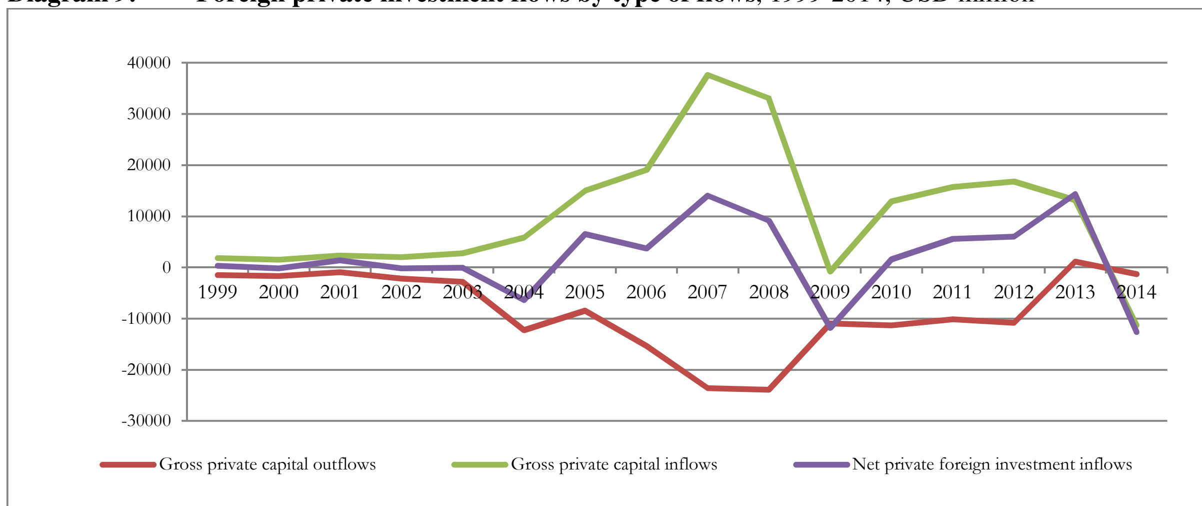
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 8: Foreign investment outflows by economic sector, 1999-2014, USD million



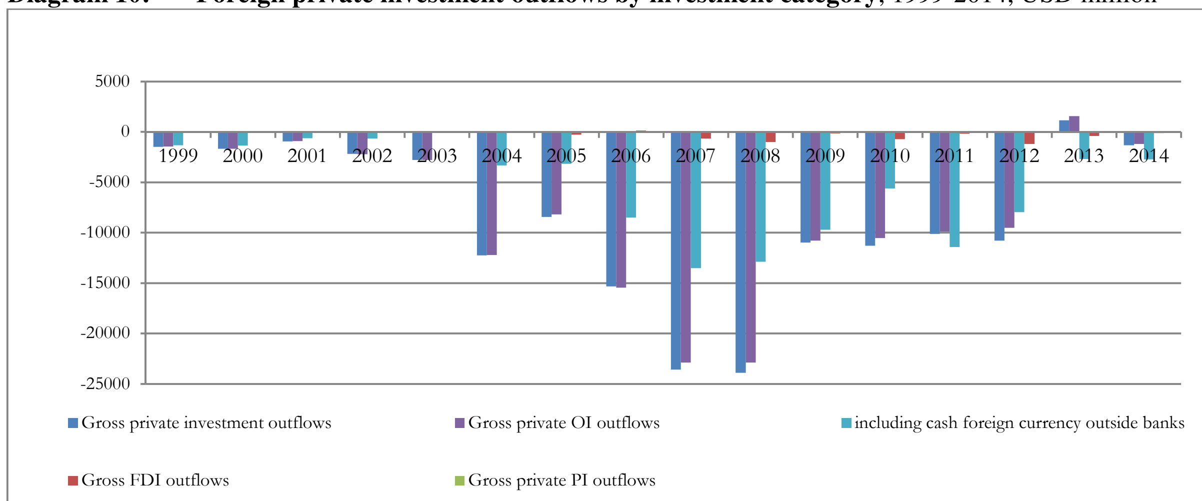
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 9: Foreign private investment flows by type of flows, 1999-2014, USD million



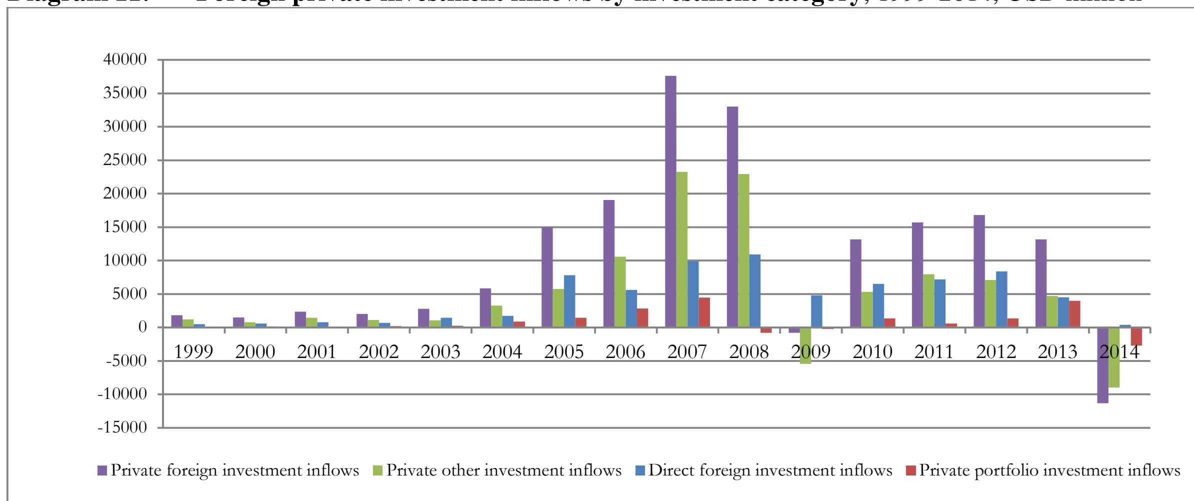
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 10: Foreign private investment outflows by investment category, 1999-2014, USD million



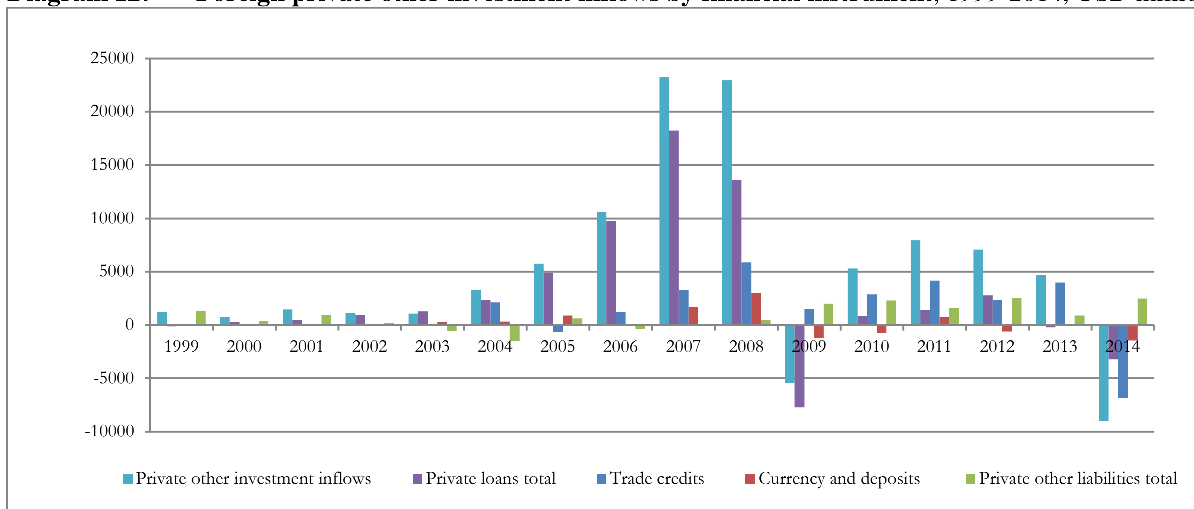
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 11: Foreign private investment inflows by investment category, 1999-2014, USD million



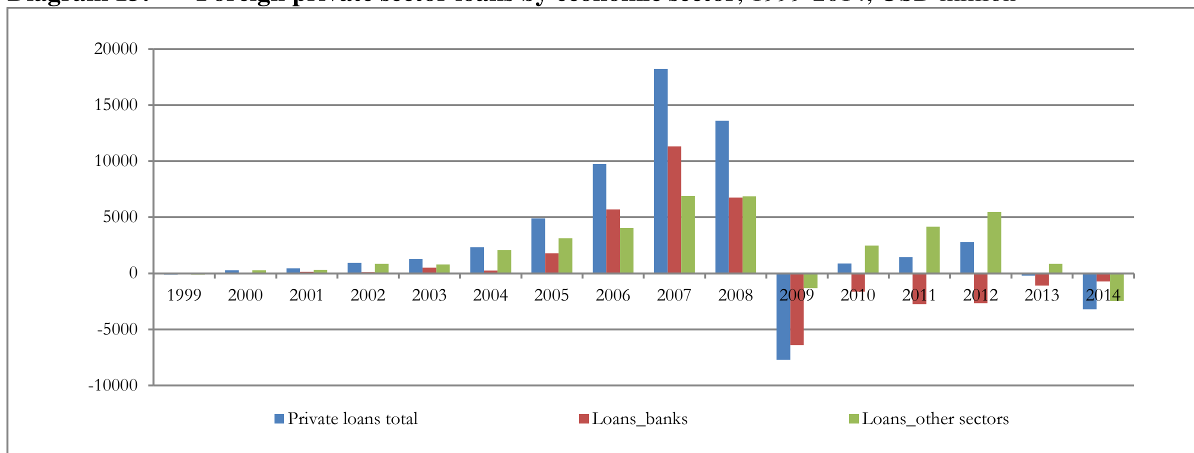
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 12: Foreign private other investment inflows by financial instrument, 1999-2014, USD million



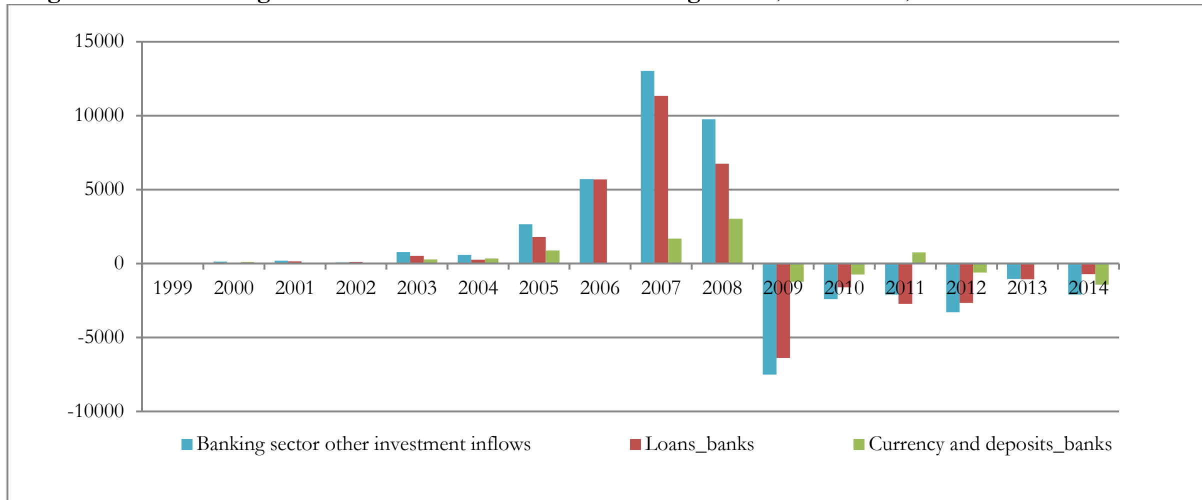
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 13: Foreign private sector loans by economic sector, 1999-2014, USD million



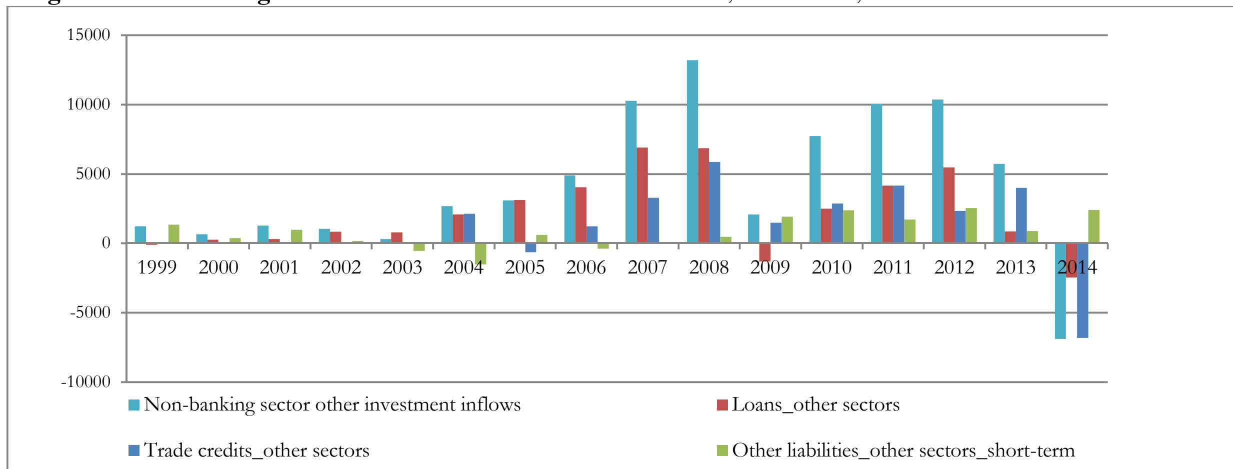
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 14: Foreign other investment inflows to banking sector, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 15: Foreign other investment inflows to real sector, 1999-2014, USD million

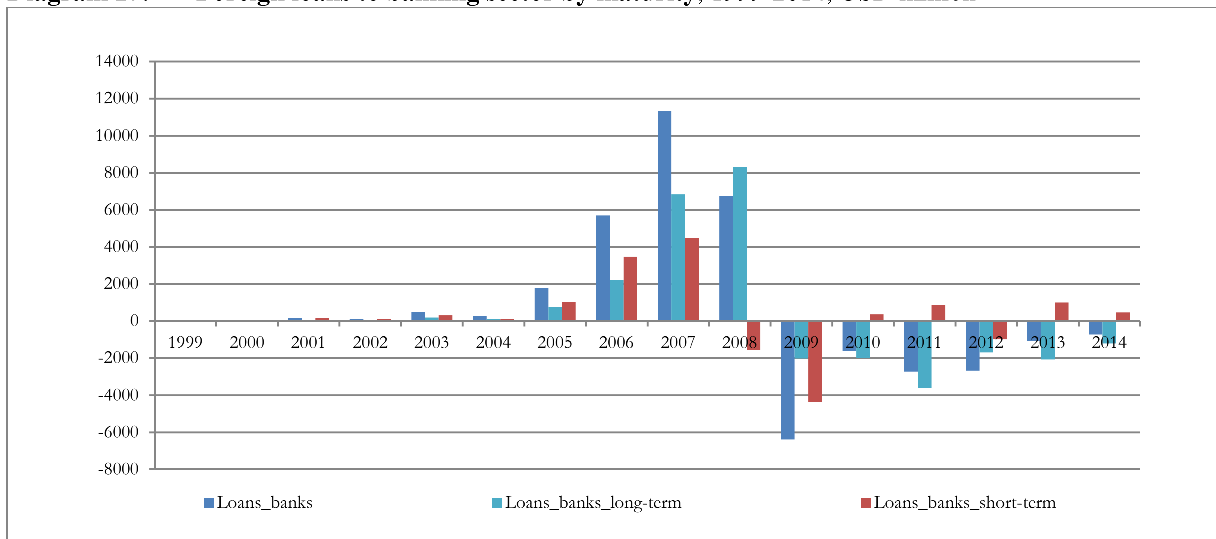


Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 16: Foreign short-term loans by economic sector, 1999-2014, USD million

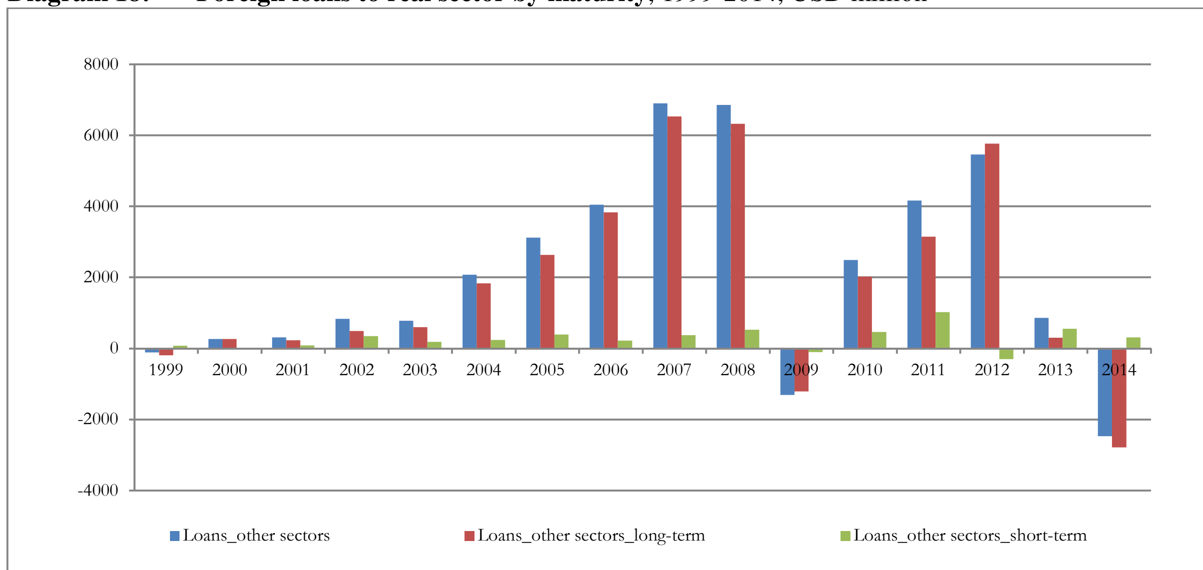
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 17: Foreign loans to banking sector by maturity, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 18: Foreign loans to real sector by maturity, 1999-2014, USD million

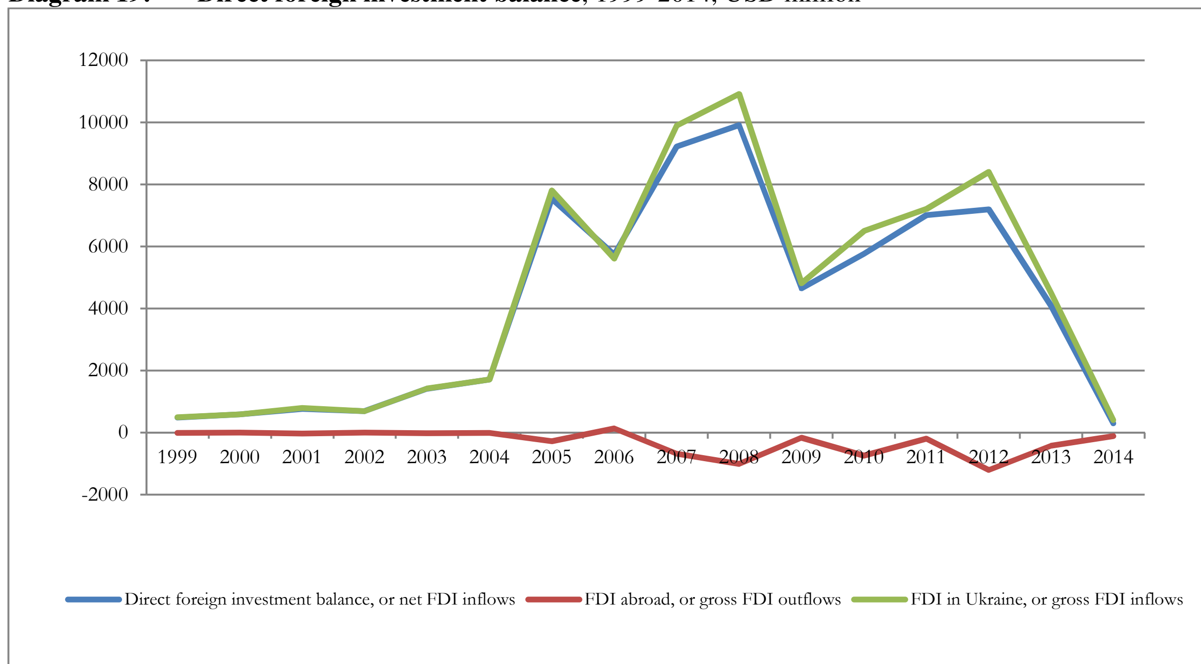


Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Between 2004 and 2008, the direct foreign investment in Ukraine intensified, albeit not without fluctuations. During the respective period, its volumes increased by over 6 times, allowing a positive FDI balance to be established (Diagram 19). Nevertheless, between 2005 and 2007, the FDI share within the total foreign private investment into the country contracted by almost a half. Some segments of domestic economy enjoyed a particularly vigorous interest on the part of external investors. The largest volumes of foreign direct investment were registered within the financial and real estate sectors. On the eve of the crisis, their aggregated share accounted for over 50% of the total FDI in Ukraine (Diagram 20, Diagram 21). Despite the incipient crisis, the financial sector's contribution to the net FDI increase in

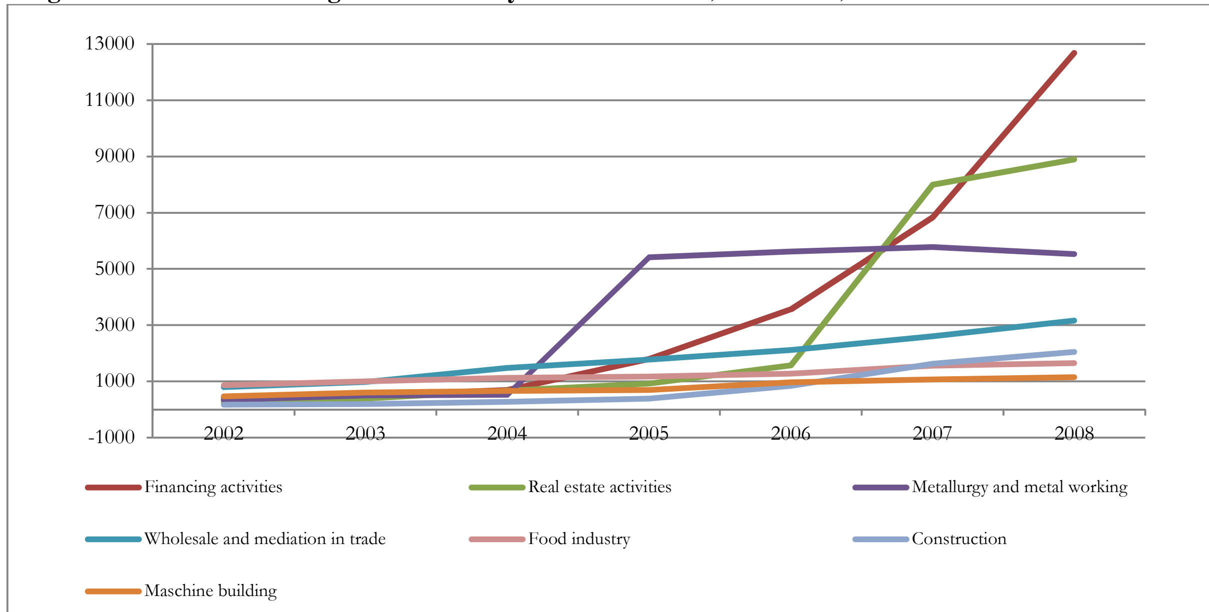
2008 came to ca. 70% (NBU 2008a:35). Especially strong was the demand for acquisition of Ukrainian banks on the part of the foreign investors from the European Union and Russia. The FDI share of real estate activities surged from 7% to 23% between 2006 and 2007. The FDI share of other sectors was constantly downward sloping or stagnating. Despite the surge in the FDI volumes accumulated within the metallurgical sector between 2004 and 2005, their share within the total reduced by 2.5 times by 2008. Among the investors, Cyprus claimed the most significant portion of the total FDI streamed into Ukraine with 30%, followed by Germany and Austria with 15% and 10% respectively (NBU 2008a:36). Despite the steady expansion of private portfolio investment flows during the period preceding the crisis, their volumes remained insignificant compared with the other two investment categories (Diagram 11, Diagram 22). Their share within the country's total foreign private liabilities hardly exceeded 10 % on the eve of the crisis. Nevertheless, Ukraine's private sector claimed a share of ca. 80% within the total foreign portfolio investment into the country (Diagram 23). Most of the related foreign debt streams were directed to the indigenous banking sector, whose respective share augmented from 30% to 80% between 2004 and 2007 (Diagram 24). Among financial instruments, bonds and other long-term debt securities prevailed throughout the whole period (Diagram 25).

Diagram 19: Direct foreign investment balance, 1999-2014, USD million



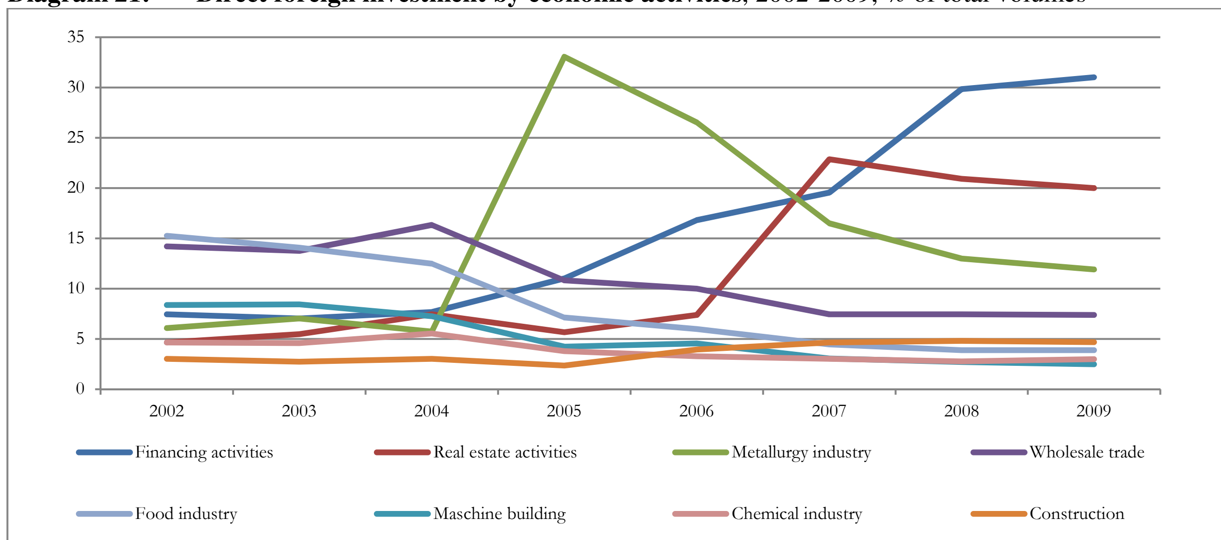
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 20: Direct foreign investment by economic sector, 2002-2008, USD million



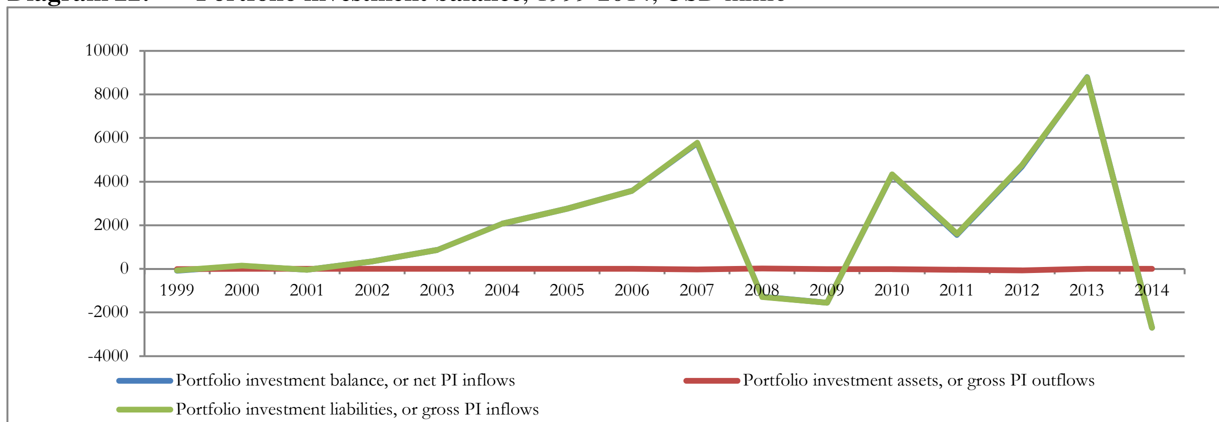
Source: NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 21: Direct foreign investment by economic activities, 2002-2009, % of total volumes



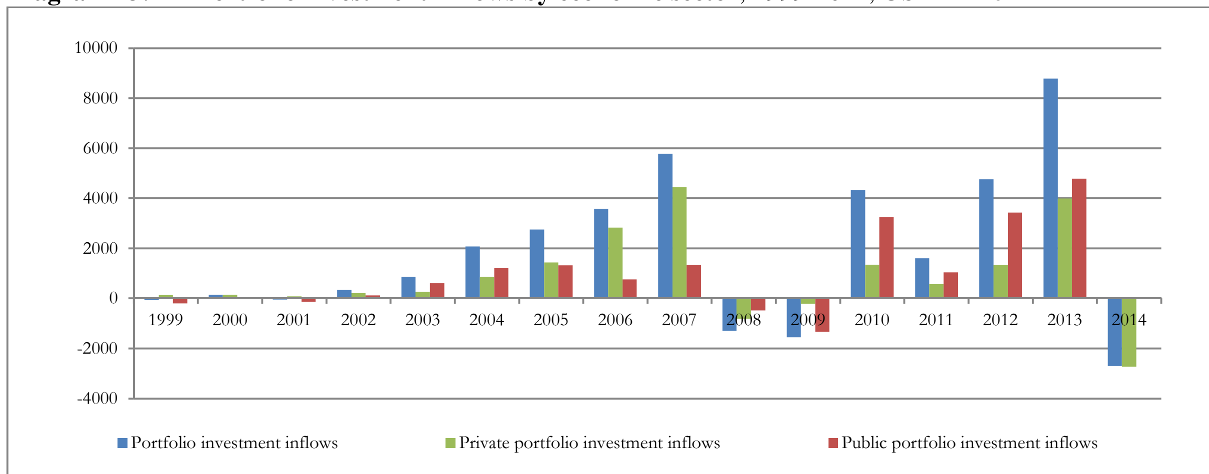
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 22: Portfolio investment balance, 1999-2014, USD millio



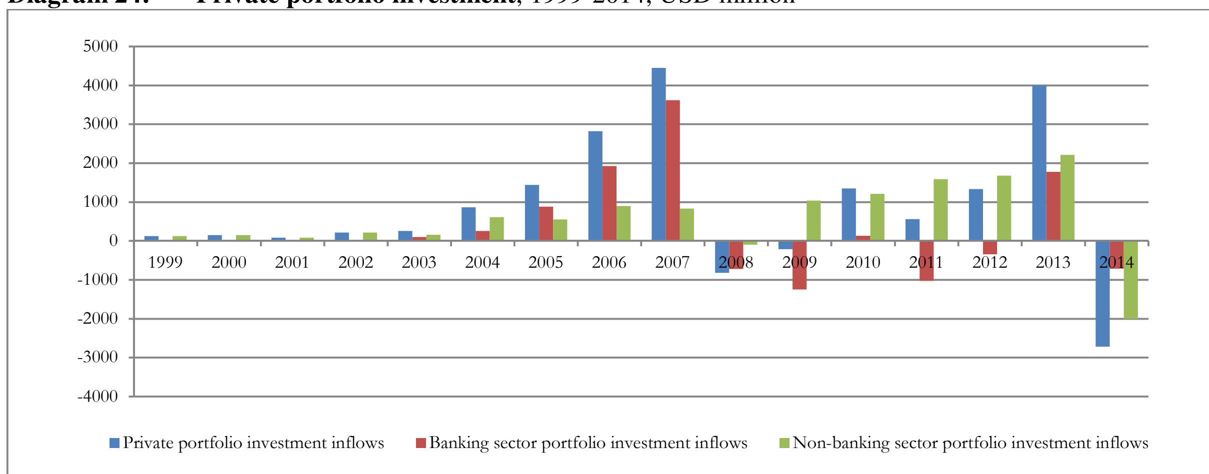
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 23: Portfolio investment inflows by economic sector, 1999-2014, USD million



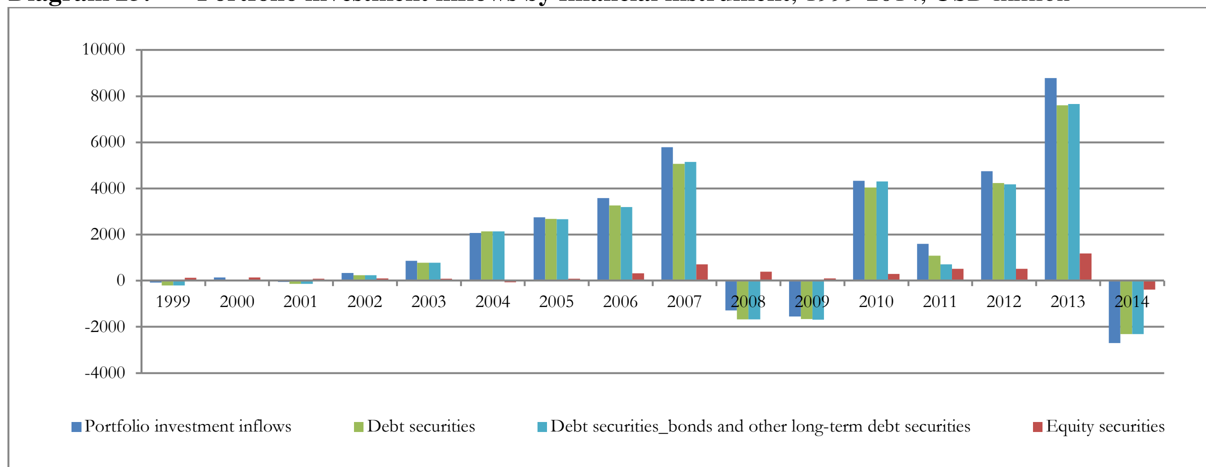
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 24: Private portfolio investment, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 25: Portfolio investment inflows by financial instrument, 1999-2014, USD million

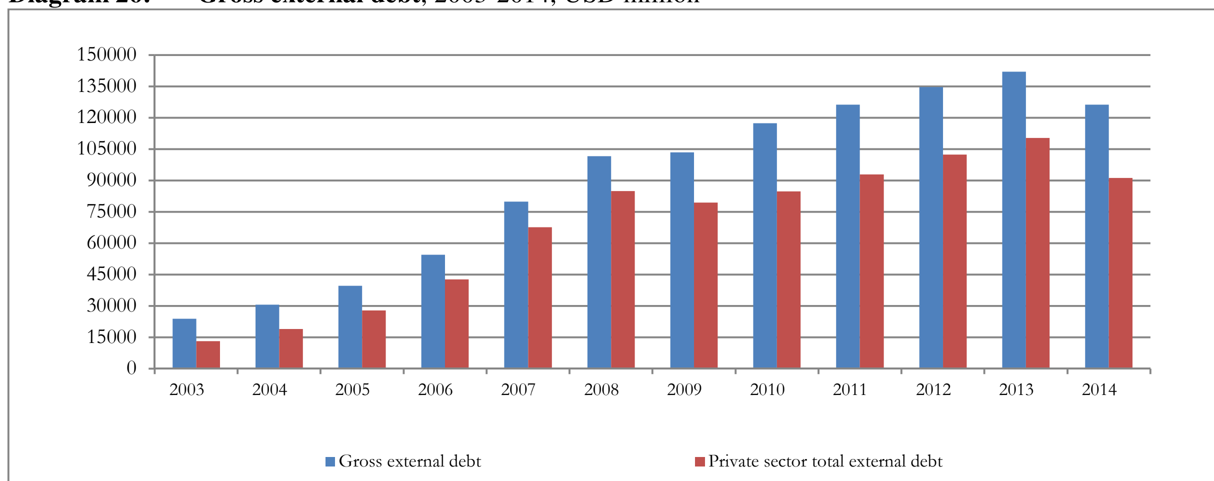


Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Rapid advancement of the national capital account openness towards the international private flows since 2003 buttressed Ukraine's conversion into a net borrower on the international capital markets in the subsequent years. Starting from 2005 and until the crisis, Ukraine enjoyed a positive balance of capital and financial accounts, whose dynamics reproduced in a mirror image the balance of the country's current account (Diagram 38). Over the course of the implied period, the stock of the country's outstanding foreign obligations was persistently rising, most of it accumulated within the private domain. The last three years prior to the crisis saw an almost doubled increase in the volumes of the country's gross external debt, which climbed to ca. 85% of the country's GDP by 2008 (Diagram 26, Diagram 27). The total volumes of external debt servicing were steadily rising, and attained 15 % of GDP by the end of the respective period (Diagram 28, Diagram 29). By 2008, the private sector's external indebtedness augmented to 70% of the GDP, having exposed a 6 times increase since the capital account opening. Its proportion within the country's total debt increased *vis-à-vis* the public sector from 55% to 85% over the entire period (Diagram 30). A substantial part of the gross external debt was accumulated by Ukraine's real sector, which at no time throughout the corresponding period went down below 40% (Diagram 31). Nevertheless, over the course of the pre-crisis period, the sector's share within the country's total private debt exposed a steady decline against that of the banking sector. Both ended up in a standoff on the brink of the crisis (Diagram 32). Overall, there was a 4 times increase in the sector's external indebtedness during the implied timeframe, whereas that of the banking sector surged by over 20 times. The composition of the gross external debt by financial instrument showed that Ukraine obtained loans in substantial amounts, which grew by over 13 times between 2003 and 2007 (Diagram 33). The private sector's share of total loans

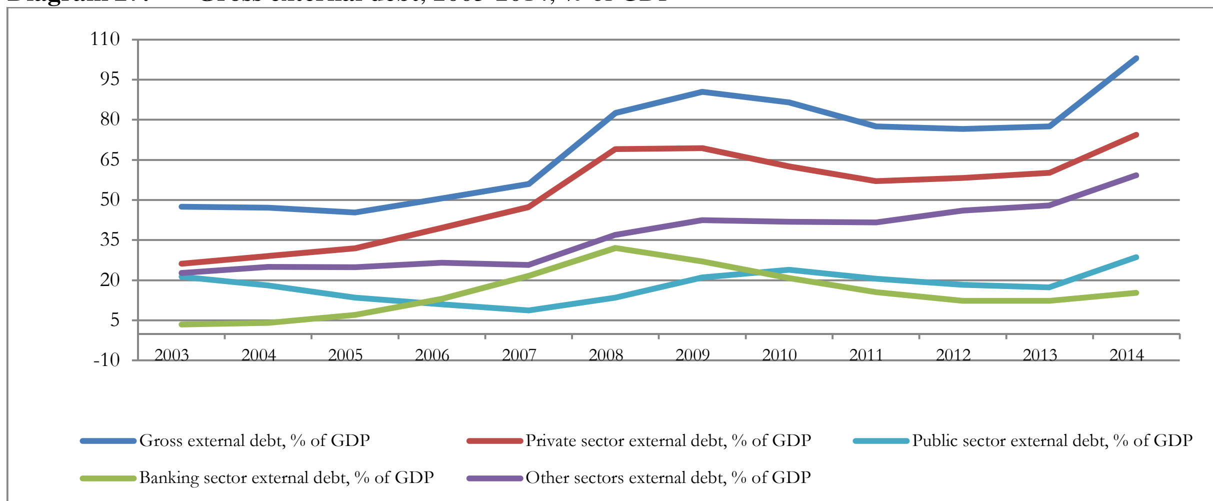
accommodated by the foreign sector to the national economy was persistently augmenting against the public sector, having soared to 90% by the end of the respective period (Diagram 36). The respective shares of the domestic banking and real sectors gradually moved in the opposite directions. While the former exposed the upward tendency, the latter was slowly decreasing, and both stabilised on a par by the eve of the crisis (Diagram 37). The contribution of other financial instruments to the total foreign debt generated by the country was less remarkable as it hardly surpassed the 20% mark in any of the cases. Throughout the corresponding timeframe, the proportion of debt securities experienced only a minor increase from ca. 15% to 20%. In fact, the share of trade credits decreased from ca. 20% to 10% respectively. The composition of the private sector's external debt was analogical. The share of foreign loans within the sector's total progressively advanced against other debt instruments, having reached 65% by 2008 (Diagram 34). Within the scope of the public sector, the loans' share dropped down between 2003 and 2007 from 70% to 40% *vis-à-vis* that of the debt securities (Diagram 35).

Diagram 26: Gross external debt, 2003-2014, USD million



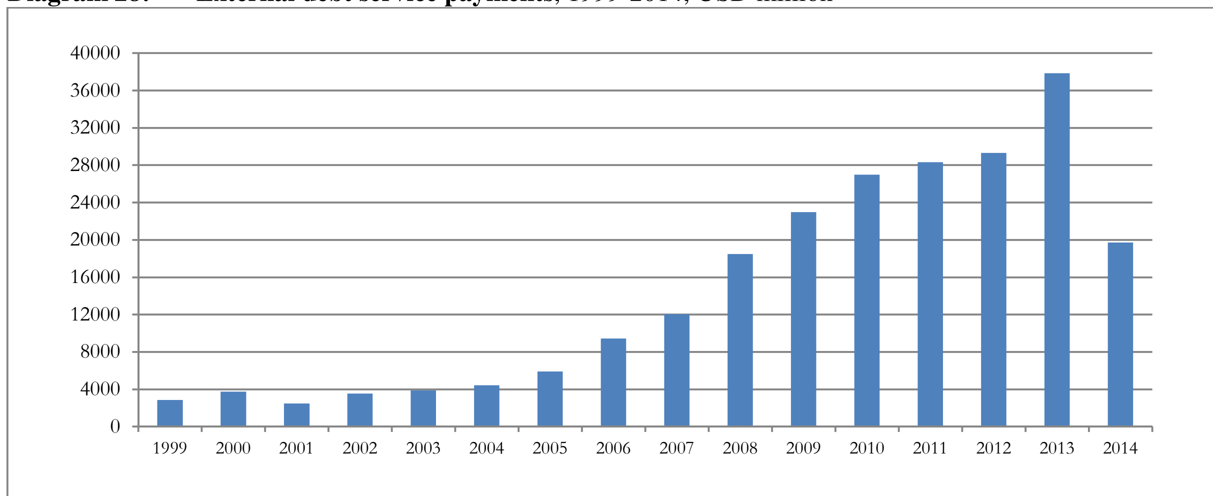
Source: NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 27: **Gross external debt**, 2003-2014, % of GDP



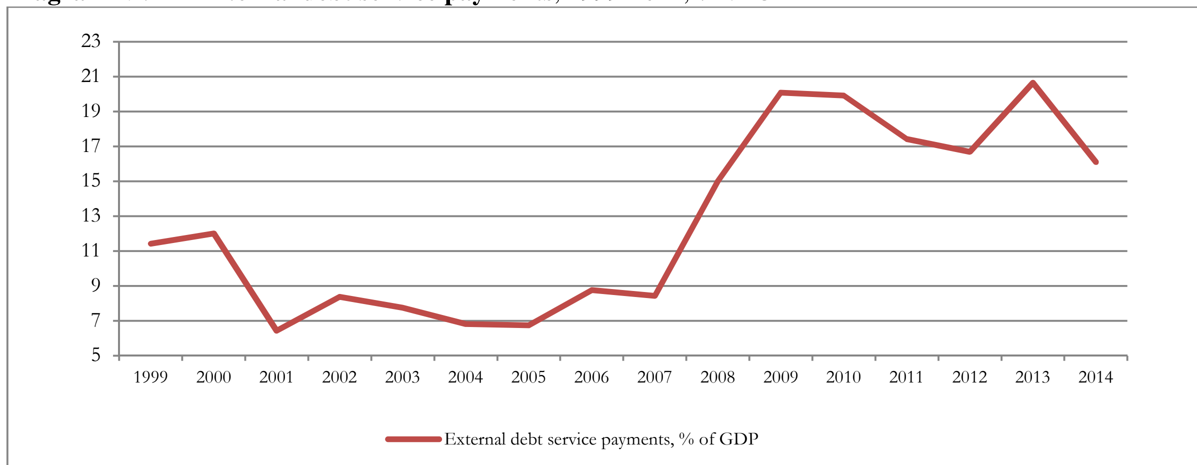
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 28: **External debt service payments**, 1999-2014, USD million



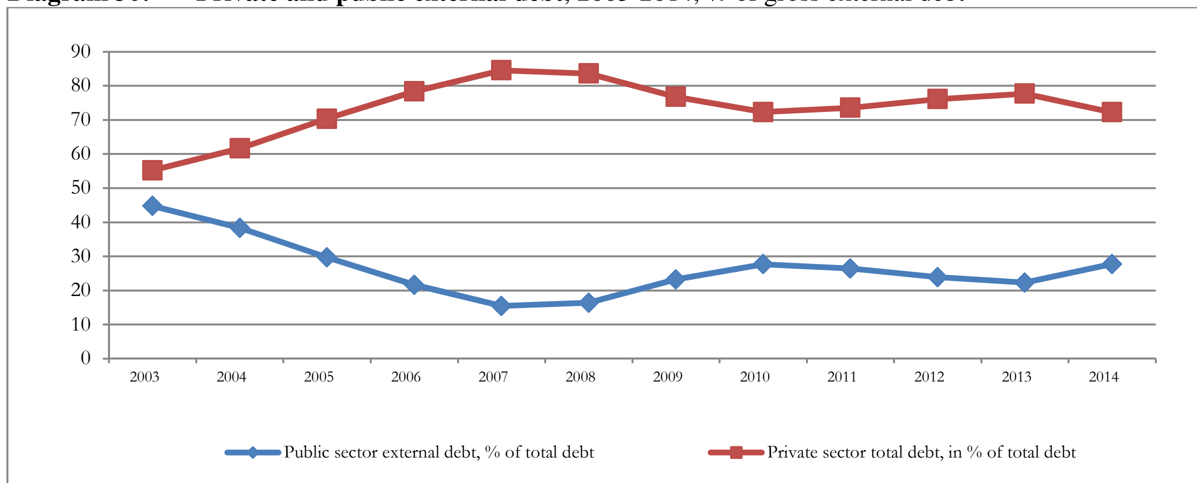
Source: World Bank World Development Indicators, online database, https://datacatalog.worldbank.org/dataset/world-development-indicators, May 2019.

Diagram 29: **External debt service payments**, 1999-2014, % of GDP



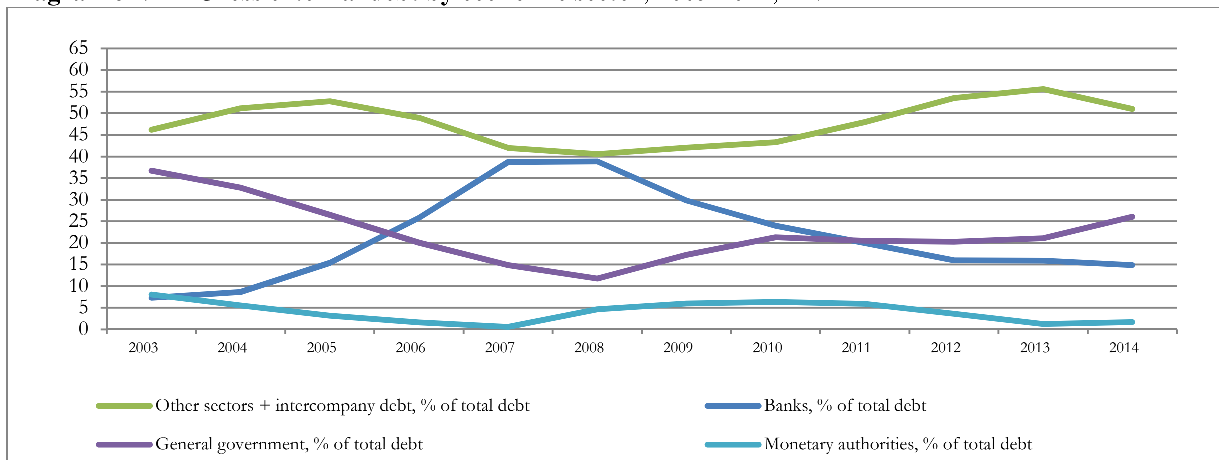
Source: Own calculations based on data provided in World Bank World Development Indicators, online database, https://datacatalog.worldbank.org/dataset/world-development-indicators, May 2019.

Diagram 30: Private and public external debt, 2003-2014, % of gross external debt



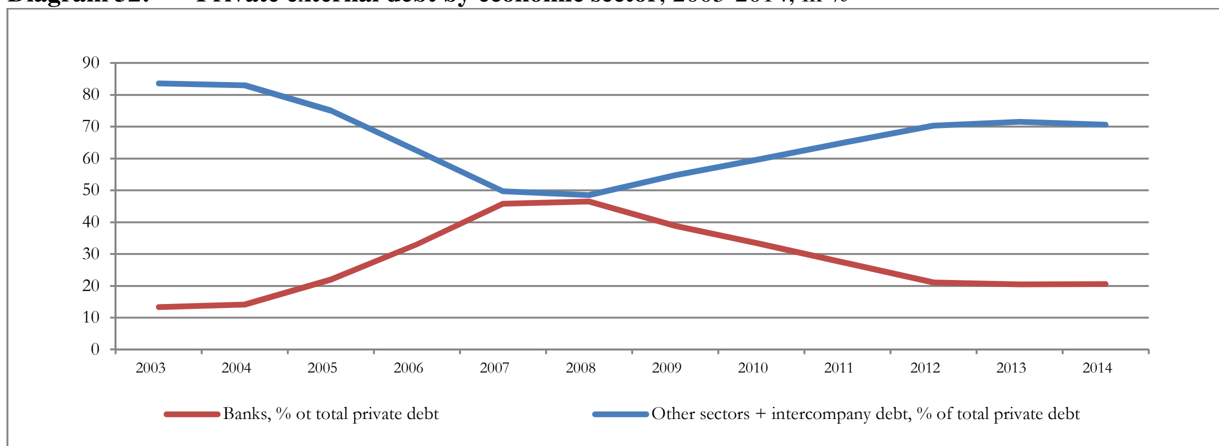
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 31: Gross external debt by economic sector, 2003-2014, in %



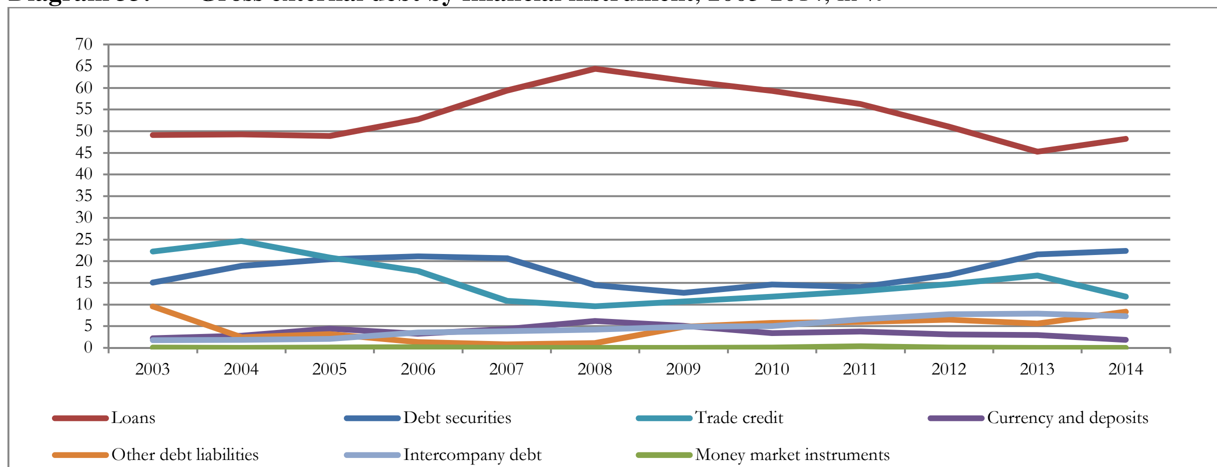
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 32: Private external debt by economic sector, 2003-2014, in %



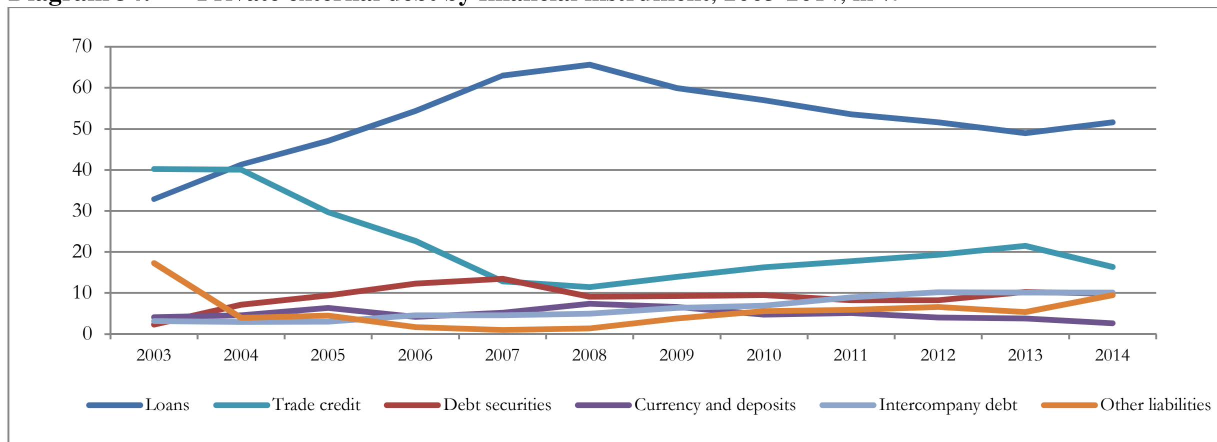
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 33: Gross external debt by financial instrument, 2003-2014, in %



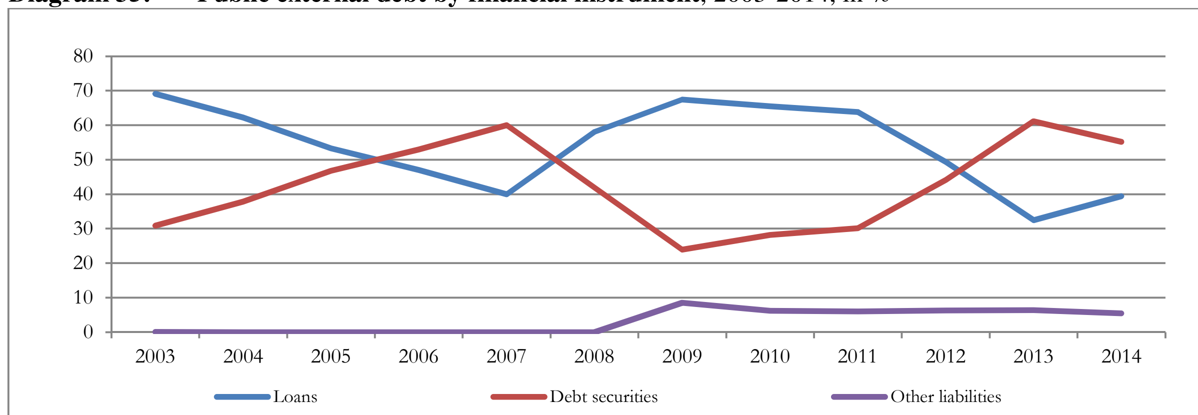
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 34: Private external debt by financial instrument, 2003-2014, in %



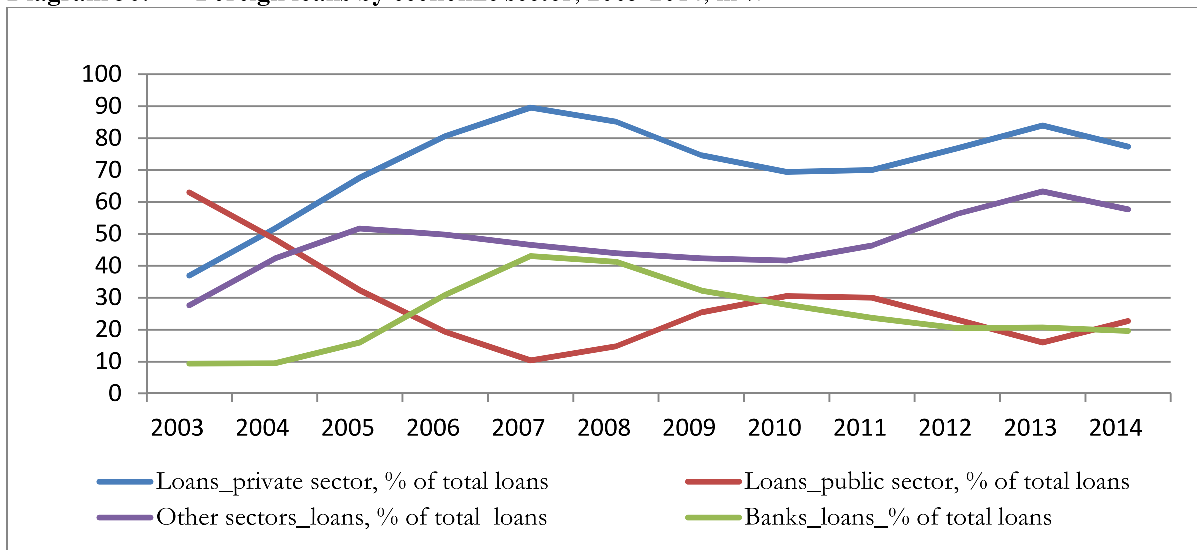
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 35: Public external debt by financial instrument, 2003-2014, in %



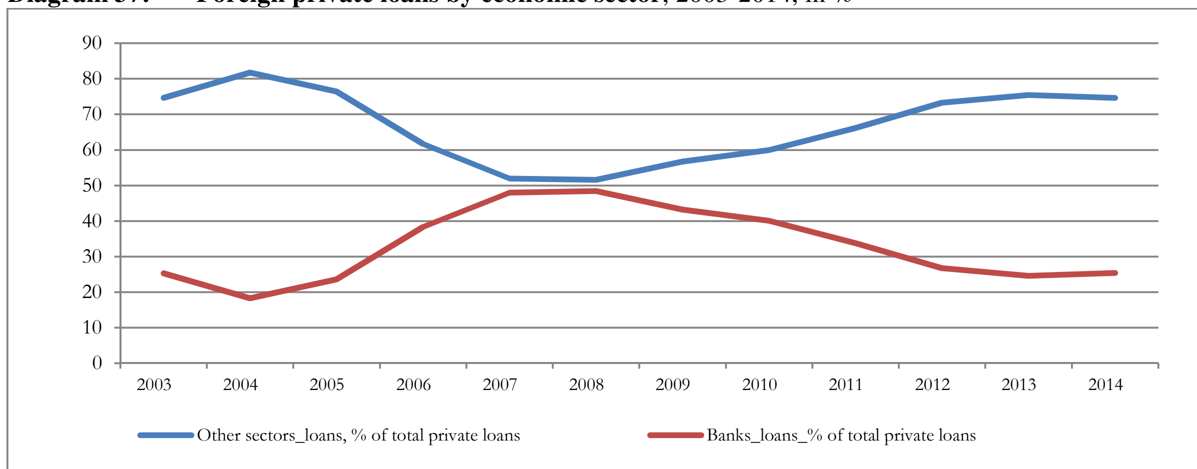
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 36: Foreign loans by economic sector, 2003-2014, in %



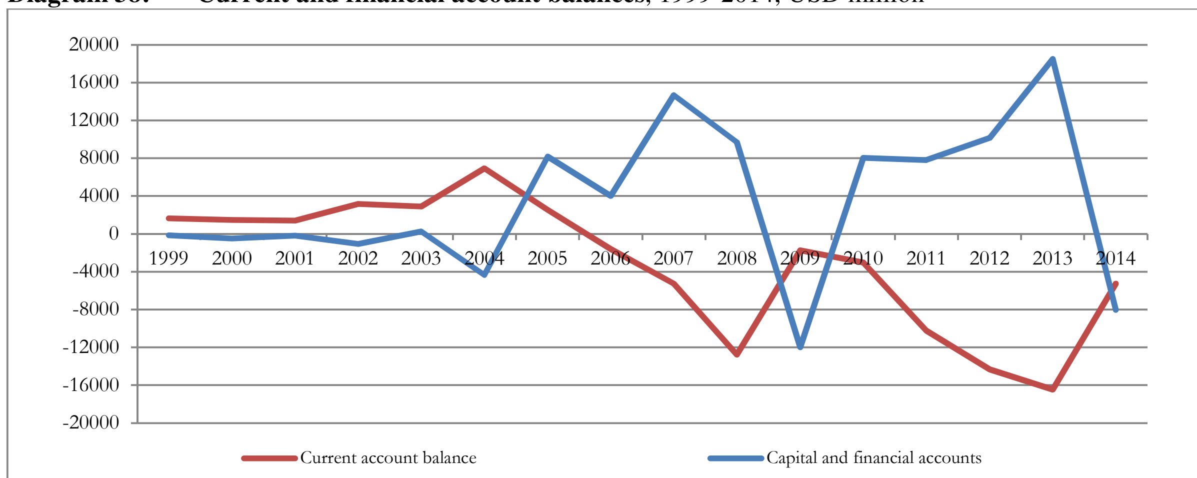
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 37: Foreign private loans by economic sector, 2003-2014, in %



Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

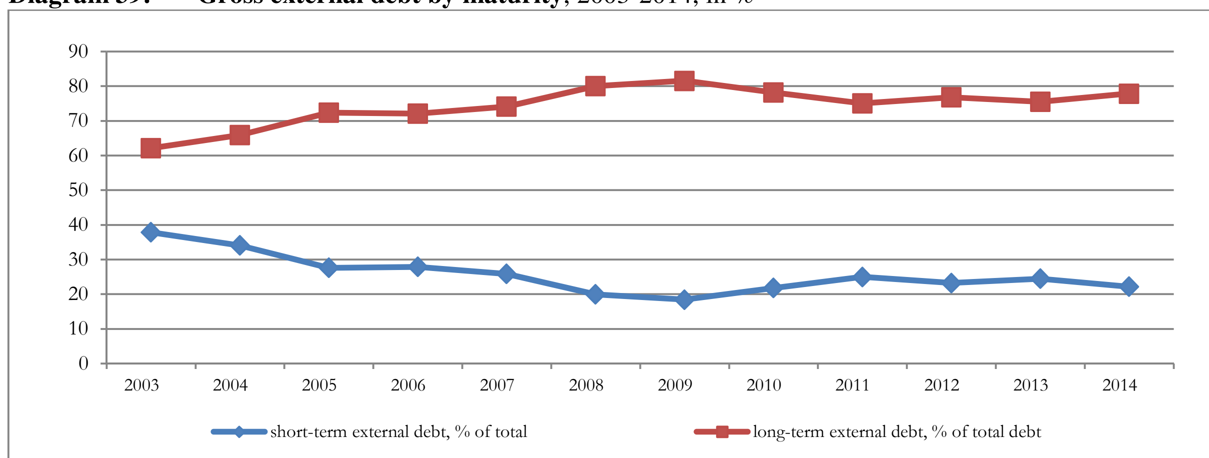
Diagram 38: Current and financial account balances, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

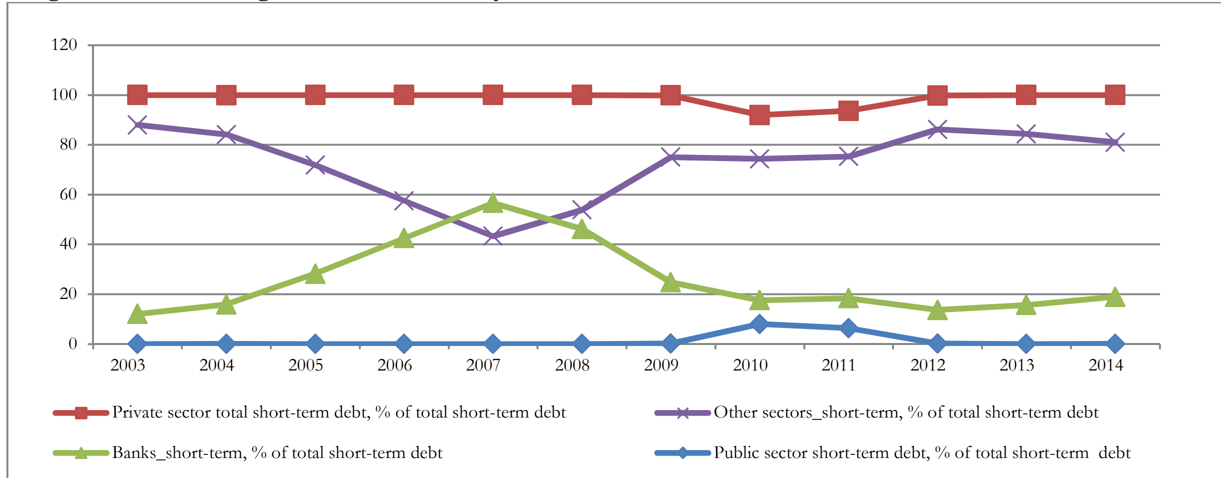
The breakdown of gross external debt by maturity demonstrated that the tendencies towards the long-term indebtedness prevailed throughout the pre-crisis period, with its share sloping upwards until the global turbulences reached the country (Diagram 39). All of Ukraine's external debt on the short-term basis was accumulated within the country's private sector (Diagram 40). The banking sector's stake within it continuously augmented against that of the real sector, having drawn level by 2007. Considering the long-term debt dynamics, the share of the country's private sector was steadily growing and stabilised at 80% by the period end (Diagram 41). The proportion of the banking sector within the total long-term debt of Ukraine exposed an upward trend and ascended to ca. 40% in 2008. The currency structure of the country's gross external debt showed that almost all of it was accumulated in foreign currencies, to 80% in the US Dollar (Diagram 42). There was an ongoing rise in the investment income payments over the period 2004-2008, including both the disbursements of dividends on direct investments as well as interest expenses on debt instruments (Diagram 43). In relation to the totally earned foreign income, they quintupled (Diagram 44).

Diagram 39: Gross external debt by maturity, 2003-2014, in %



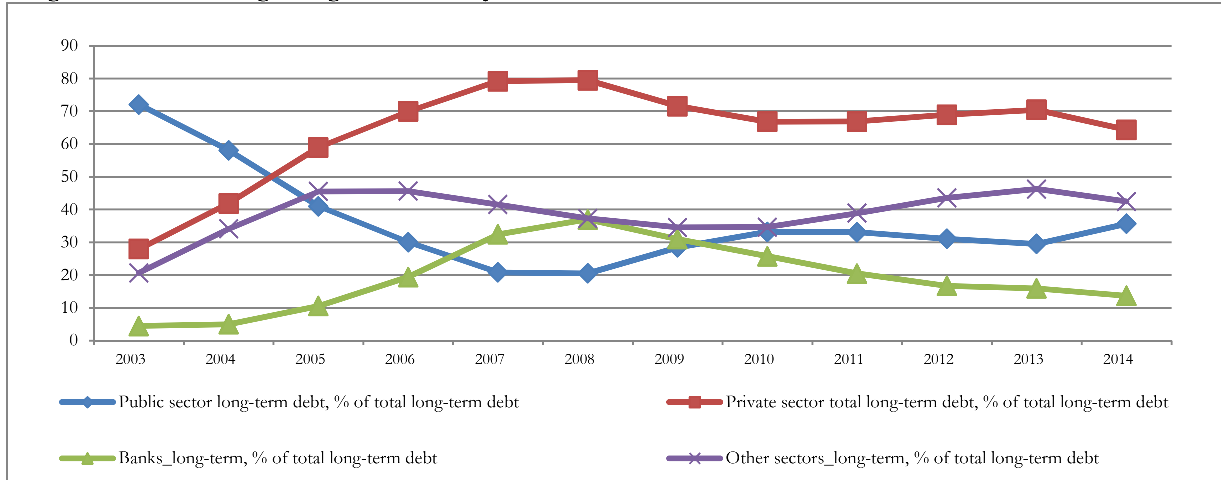
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 40: Foreign short-term debt by economic sector, 2003-2014, in %



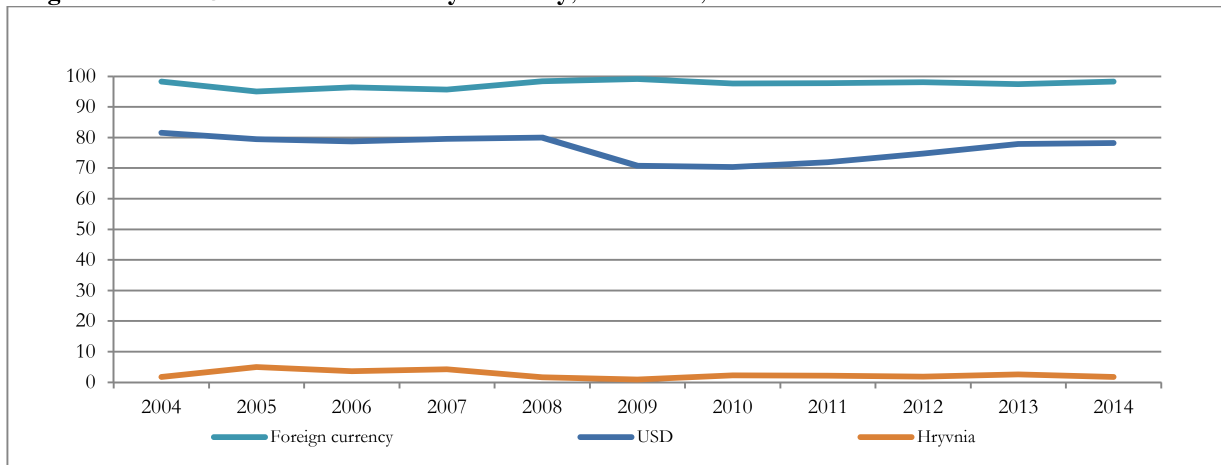
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 41: Foreign long-term debt by economic sector, 2003-2014, in %



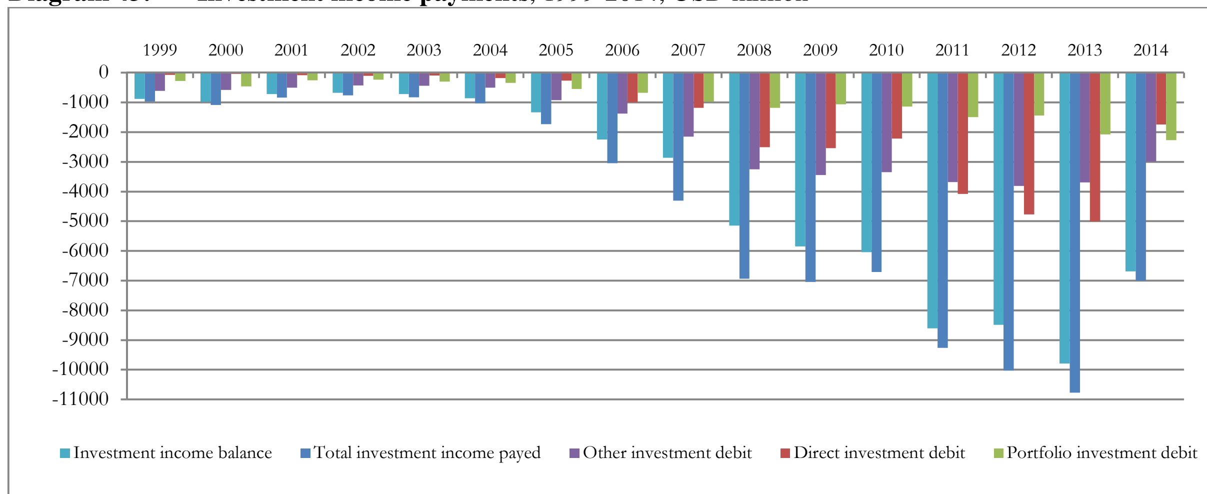
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 42: Gross external debt by currency, 2003-2014, in %



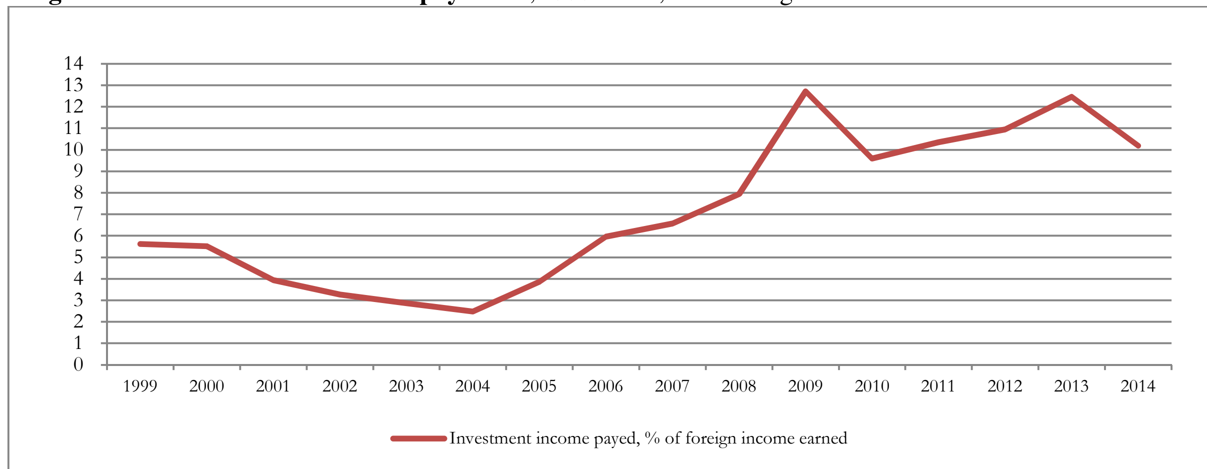
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 43: Investment income payments, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 44: Investment income payments, 1999-2014, % of foreign income

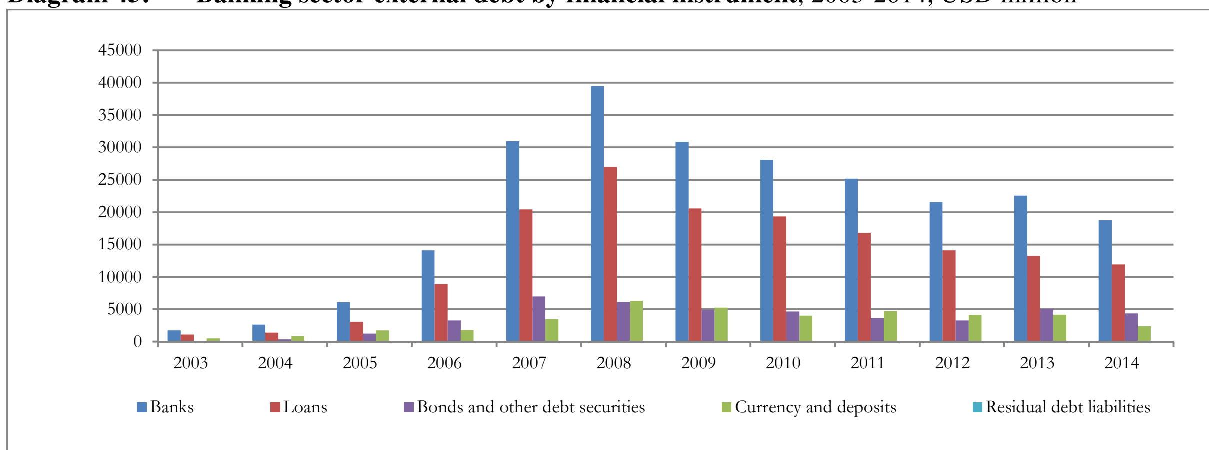


Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

The detailed consideration of the banking sector revealed that most of the volumes of the sector's foreign debt were accumulated between 2006 and 2008, predominantly in the form of loans followed by debt securities and most liquid foreign resources (Diagram 45, Diagram 46). Since the capital account opening, the loan's share within the sector's total external debt never descended below 50%, having almost attained the 70% mark by 2008. The debt securities' share likewise exposed a continuous rise from ca. 5% to over 20%, whereas that of the foreign currencies and deposits declined from 30% to ca. 10% ever since. Ukraine's real sector as well vigorously drew the foreign credits (Diagram 47, Diagram 48). Their share within the sector's total ascended from 30% to 70% over the course of the analysed timeframe, whereas that of the trade credits was steadily decreasing from 50% to

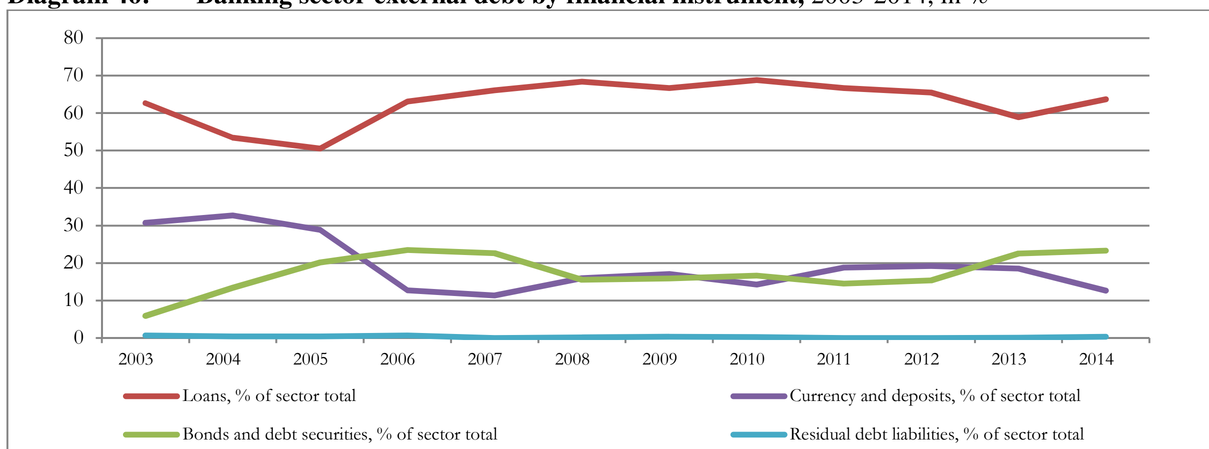
20% respectively. Both sectors experienced a sustainable reduction in the short-term indebtedness, down to 20%-25% by 2008 (Diagram 49, Diagram 50).

Diagram 45: Banking sector external debt by financial instrument, 2003-2014, USD million



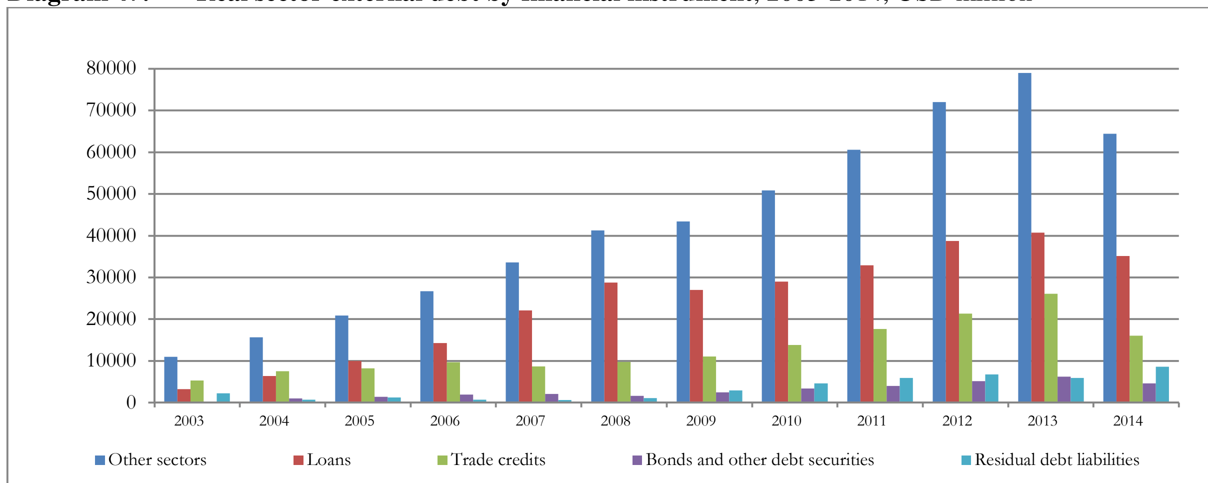
Source: NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 46: Banking sector external debt by financial instrument, 2003-2014, in %



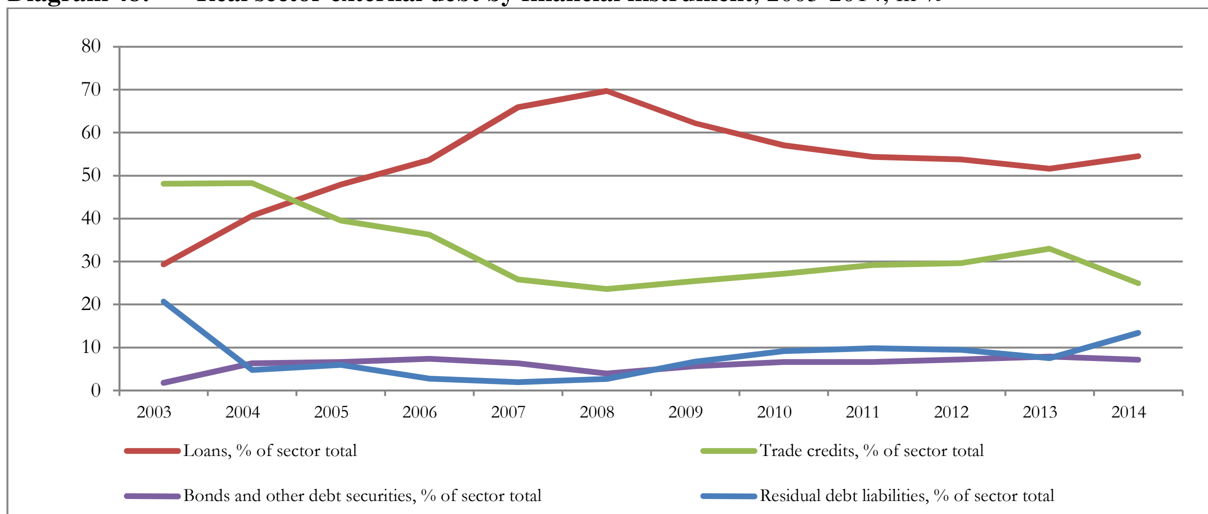
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 47: Real sector external debt by financial instrument, 2003-2014, USD million



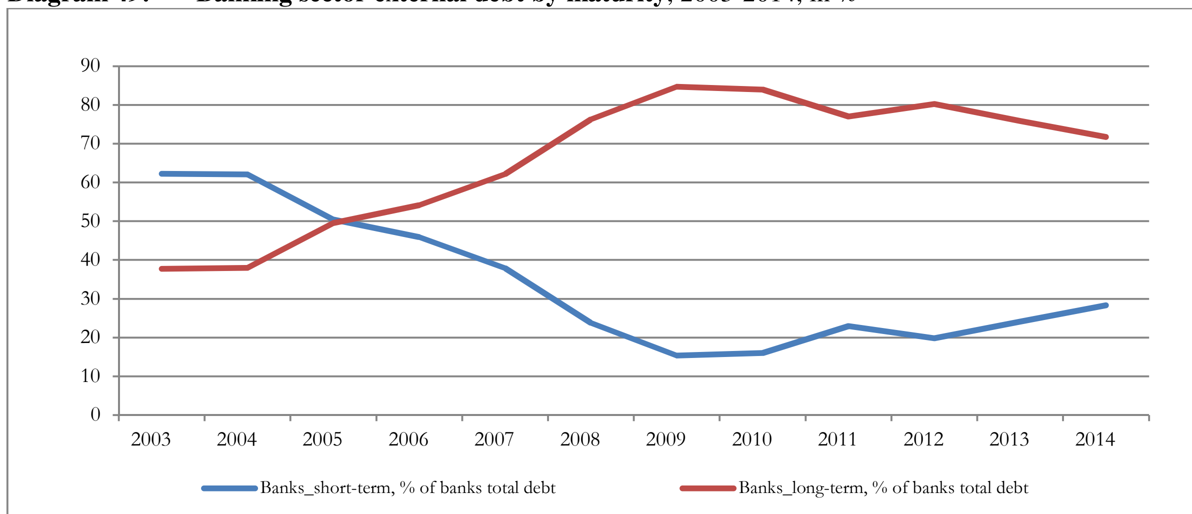
Source: NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 48: Real sector external debt by financial instrument, 2003-2014, in %



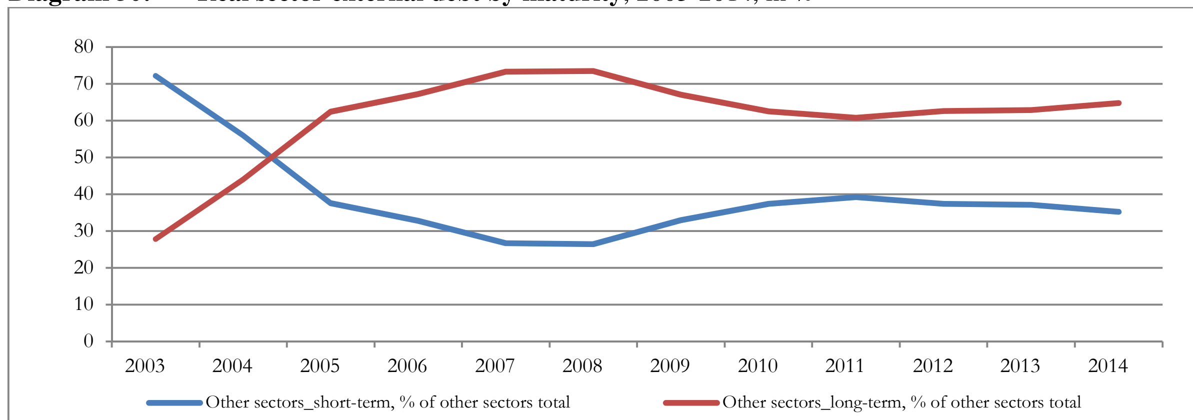
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 49: Banking sector external debt by maturity, 2003-2014, in %



Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Diagram 50: Real sector external debt by maturity, 2003-2014, in %



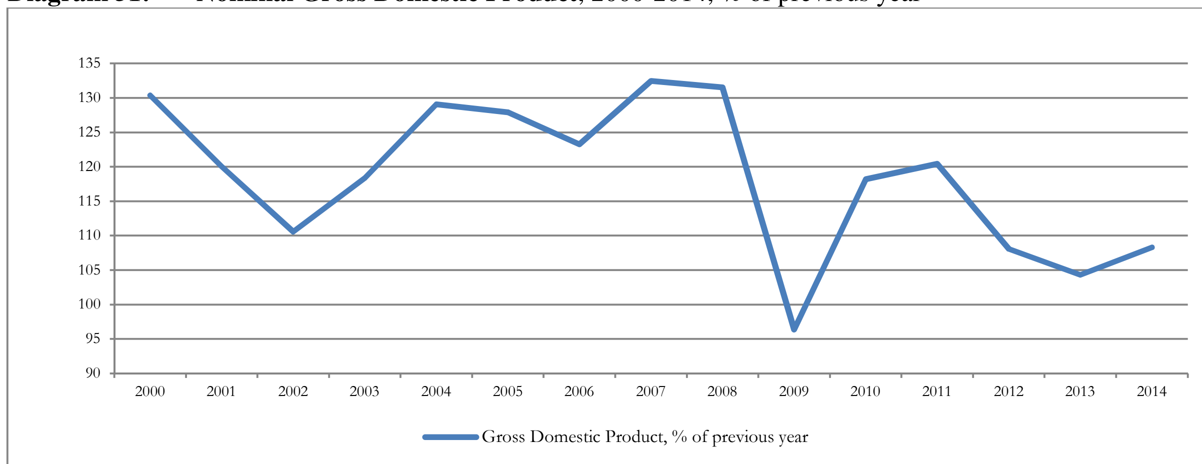
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for the respective years.

Over the course of the period preceding the crisis, Ukraine's economy experienced a formidable growth, the major contribution to which was made by the individual consumption expenditures stimulated by the extension of foreign currency loans to the household sector (Diagram 51, Diagram 52). The respective dynamics were buttressed by a spectacular expansion of the domestic banking sector and its facilitated access to the international capital markets during the pre-crisis years. Between 2003 and 2008, the growth of the banks' authorised capital was at an exceedingly high level (Diagram 53). Since the liberalisation of the domestic banking sector, only two of all the established institutions remained state-owned[57]. In contrast, the presence of foreign-owned units advanced at a tearing pace. During the implied period, the number of banks with foreign capital more than doubled from 19 to 53 units, and those with 100% foreign capital from 7 to 17 units, having amounted to almost 30% of all operating banks (Diagram 54). The foreign capital participation within the registered authorised capital of operating banks enlarged from 10% to ca. 40%. The ten biggest units within the country's banking system, which claimed for themselves half of the market share, were to 50% in foreign hand (IMF 2008:9). The accrual of the banking sector's liabilities between 2004 and 2008 was remarkable, having reached 80% of GDP by the end of the period (Diagram 55). Within the implied years, the liabilities to non-residents increased by over 20 times and their growth rates generally surpassed the 200% mark (Diagram 57). Both their proportion relative to GDP as well as their share within the sectors' total augmented from 5% to 30% in the former and from 10% to 35% in the latter case (Diagram 56). At the same time, the amount of banking sector's total claims in the form of liquid financial assets gradually diminished in relation to its liabilities, having by 2008 reduced to less than 10%

[57] *Vide* the respective annual reports of the NBU.

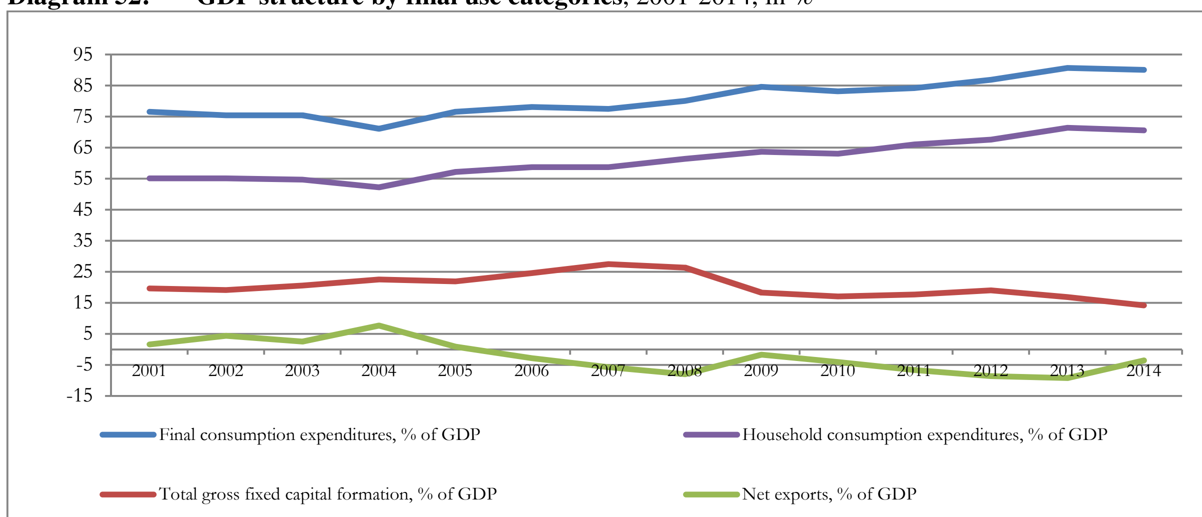
(Diagram 58). The proportion of its claims on non-residents in the form of foreign currency and deposits relative to its liabilities to non-residents reduced from 90% to 15% respectively (Diagram 59).

Diagram 51: Nominal Gross Domestic Product, 2000-2014, % of previous year



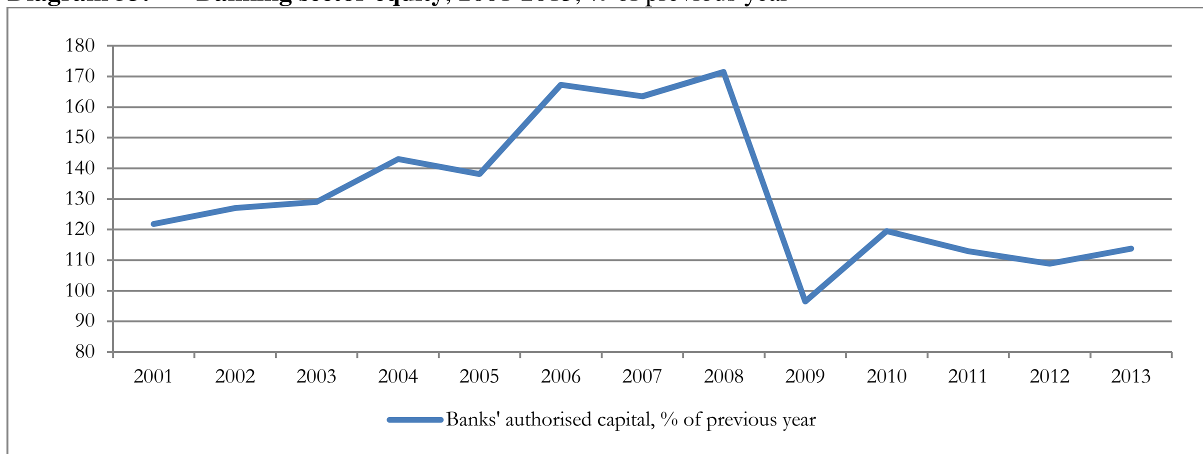
Source: Own calculations based on data provided in the SSSU's National Accounts of Ukraine publications for 2009-2014 years.

Diagram 52: GDP structure by final use categories, 2001-2014, in %



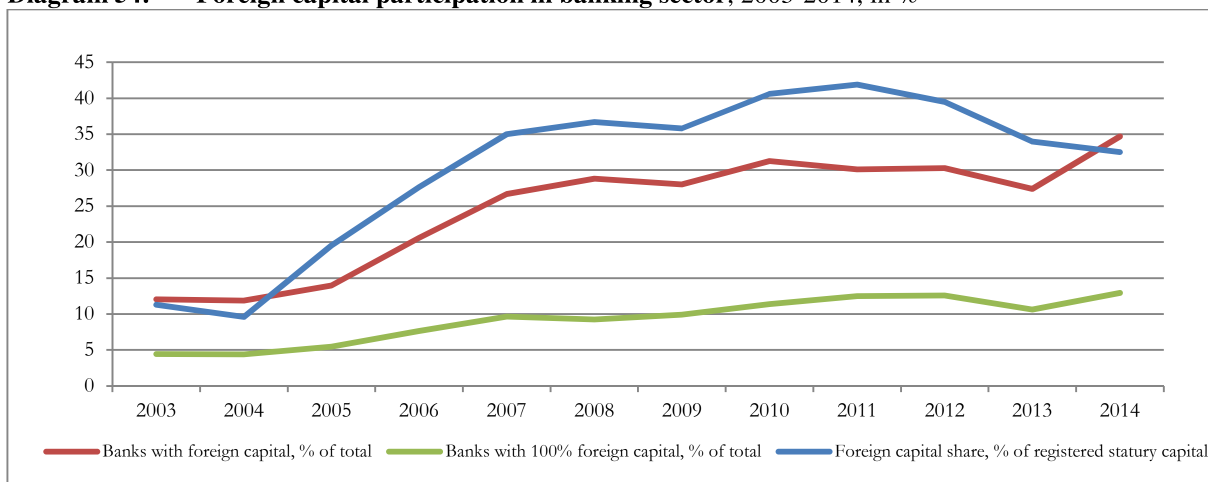
Source: Own calculations based on data provided in the SSSU's National Accounts of Ukraine publications for 2009-2014 years.

Diagram 53: Banking sector equity, 2001-2013, % of previous year



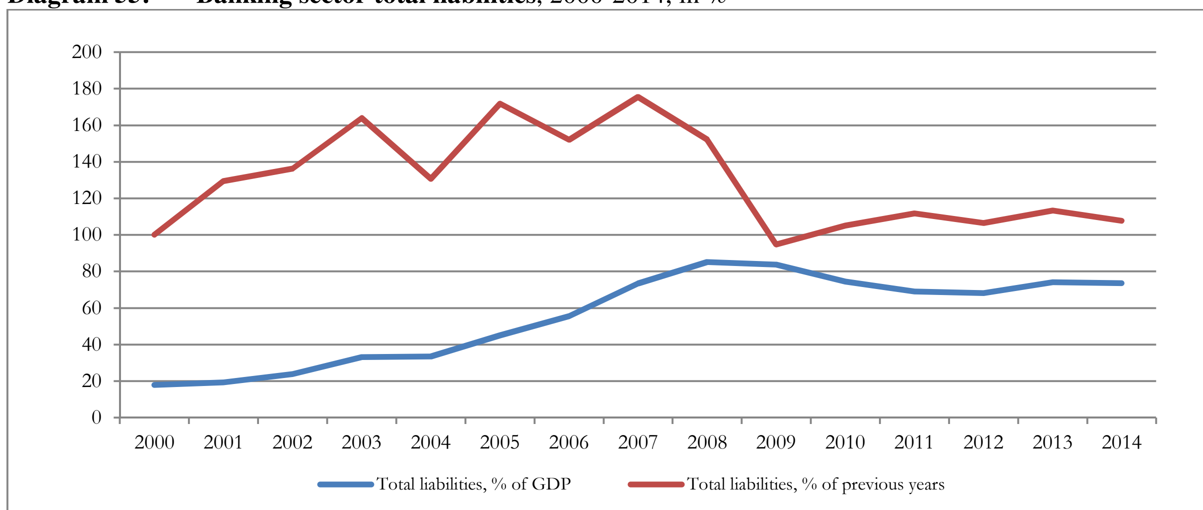
Source: Own calculations based on data provided in the NBU's Annual Reports for the respective years.

Diagram 54: Foreign capital participation in banking sector, 2003-2014, in %



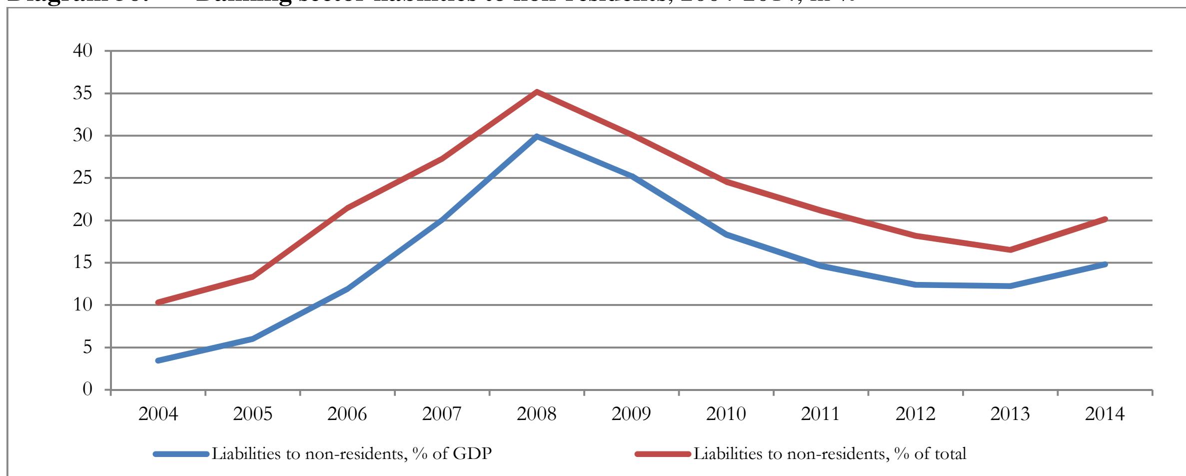
Source: Own calculations based on data provided in the NBU's Annual Reports for the respective years.

Diagram 55: Banking sector total liabilities, 2000-2014, in %



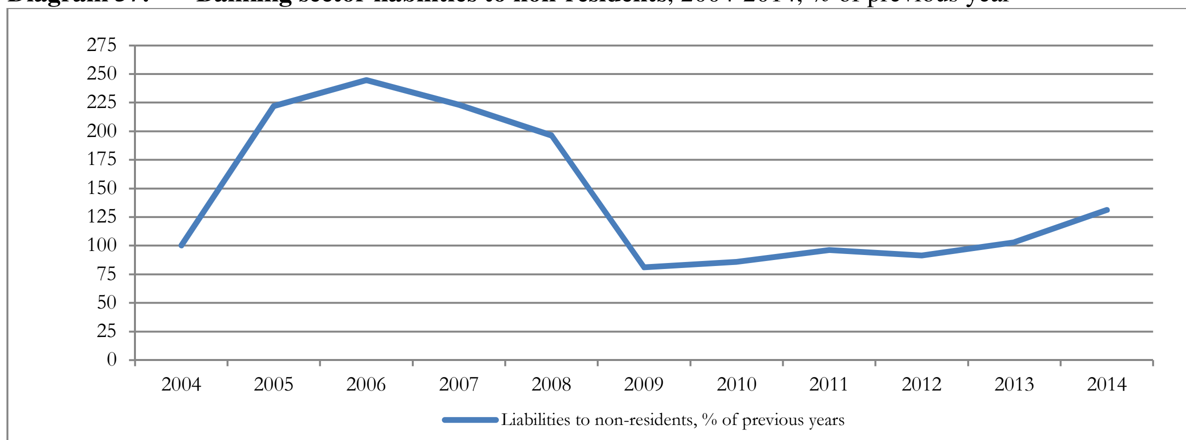
Source: Own calculations based on data provided in the NBU's Annual Reports and Bulletins for 2002-2014 years.

Diagram 56: Banking sector liabilities to non-residents, 2004-2014, in %



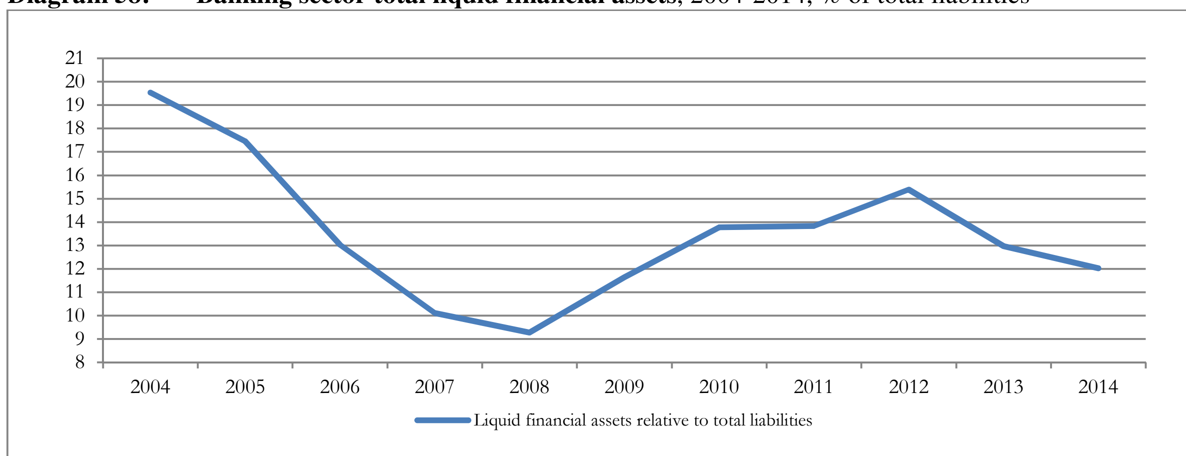
Source: Own calculations based on data provided in the NBU's Annual Reports and Bulletins for the respective years.

Diagram 57: Banking sector liabilities to non-residents, 2004-2014, % of previous year



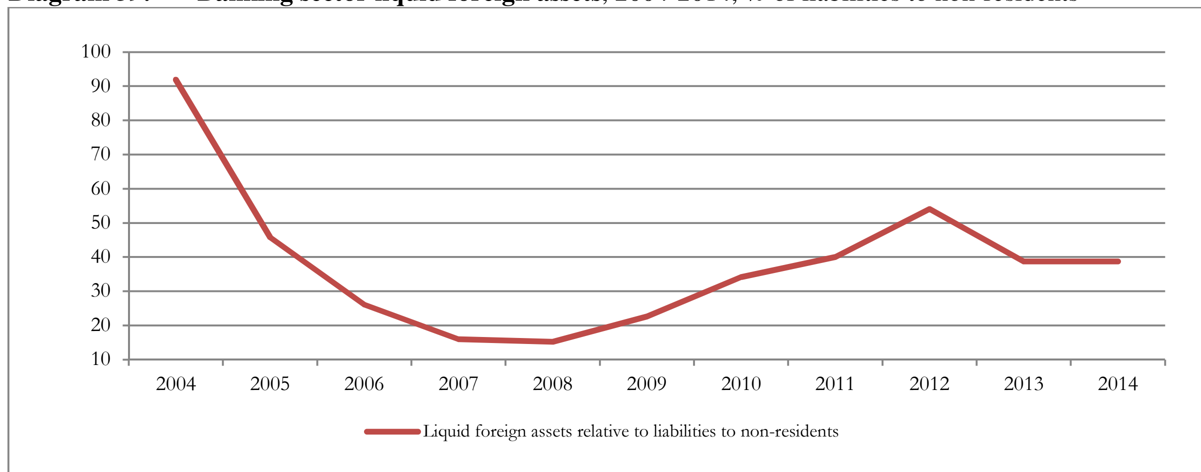
Source: Own calculations based on data provided in the NBU's Annual Reports and Bulletins for the respective years.

Diagram 58: Banking sector total liquid financial assets, 2004-2014, % of total liabilities



Source: Own calculations based on data provided in the NBU's Annual Reports and Bulletins for the respective years.

Diagram 59: Banking sector liquid foreign assets, 2004-2014, % of liabilities to non-residents

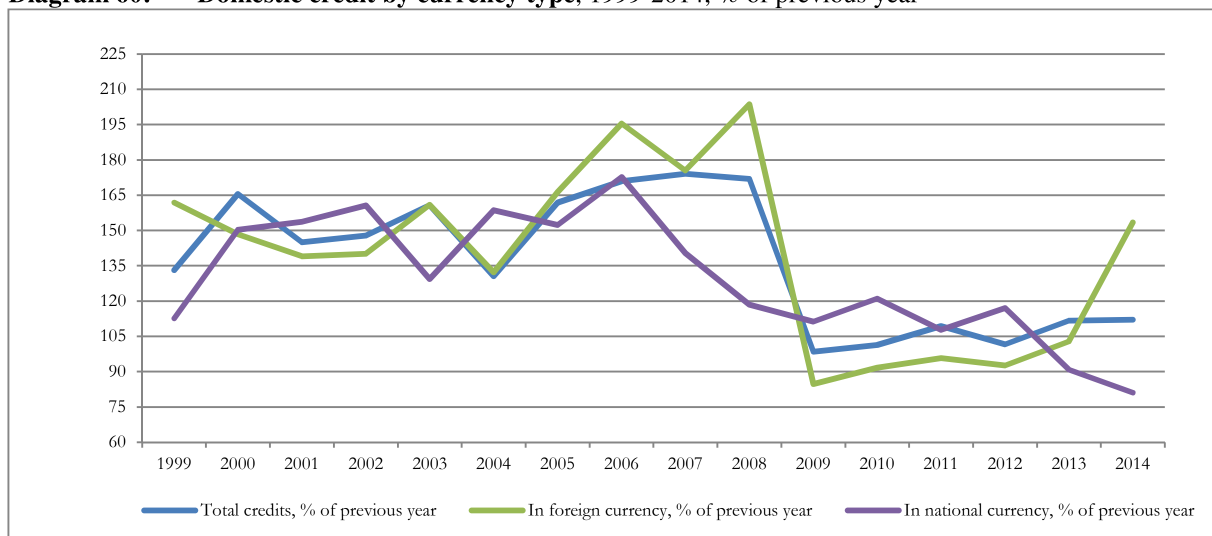


Source: Own calculations based on data provided in the NBU's Annual Reports and Bulletins for the respective years.

The unregulated accession of local banks to external capital markets via their overseas affiliates allowed them to substantially expand their operations in foreign currencies on the domestic financial market during the period prior to the crisis. Between 2004 and 2008, an increase in the total amount of credits accommodated within the resident economic sectors in proportion to GDP was appreciable, to wit from 25% to almost 80% (Diagram 66). The annual rate of credit growth was exceedingly high, especially in the last few years preceding the crisis (Diagram 60). Between 2005 and 2008, the growth rate of credits granted in foreign currencies considerably exceeded the rate of those provided in hryvnia. Within the banks' total credit portfolio, the proportion of the former continuously advanced and approached 60% on the eve of the crisis (Diagram 61). Generally, the upward tendency towards medium- and long-term crediting prevailed throughout the whole period. This was attributable to the rising need of financing for the consumer durables and property. The share of loans provided for a term of up to 1 year descended by 2008, having nevertheless remained substantial, to wit 30% (Diagram 62). The categorisation of domestic credit by the borrower type demonstrated the upward dynamics in the households leverage *vis-à-vis* non-financial corporations. The share of credit extended to the implied sector doubled between 2004 and 2008 from 20% to 40% (Diagram 63). Its growth rates by far exceeded the rates of credit growth within the enterprise sector (Diagram 64). Nevertheless, in proportion to GDP, both sectors substantially expanded their borrowing activities within the domestic banking system (Diagram 66). Over the course of the pre-crisis period, the retail credits accommodated in foreign currencies grew at a higher rate than those provided in hryvnia (Diagram 65). Their share within the household sector's total exposed a steady increase, having exceeded 70% by 2008 (Diagram 68).

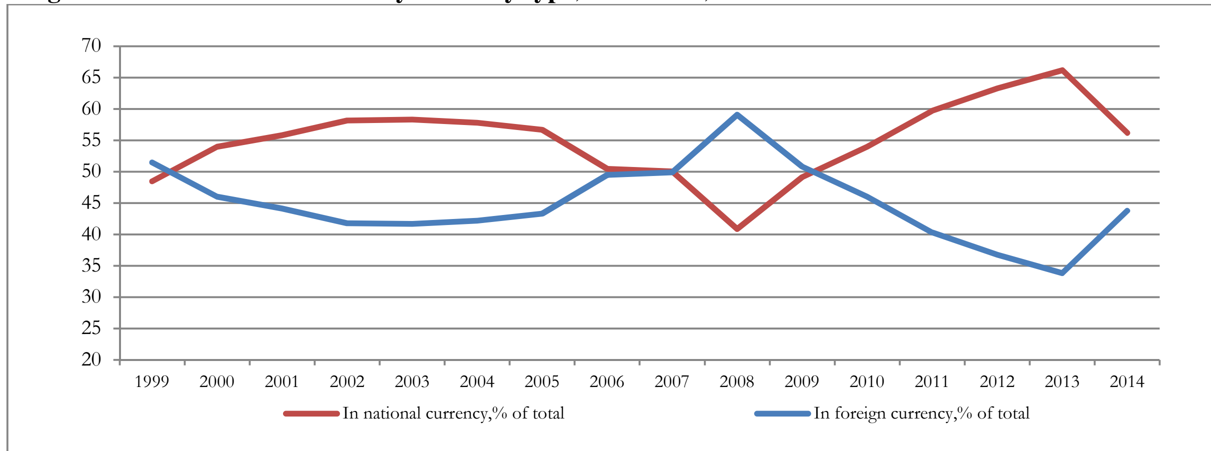
Between 2006 and 2009, the share of mortgage loans provided to the household sector doubled, and accounted for 55% of the sector's total credit (Diagram 69). Loans for commercial real estate purposes increased from ca. 25% to 40% *vis-à-vis* consumer loans over the same period. Loans in foreign currencies considerably preponderated within both categories (Diagram 70, Diagram 71). Over 60% of consumer loans granted in 2008 were denominated in foreign currencies. In case of the mortgage loans, this figure ballooned to 85%. The growth rates of corporate loans in foreign currencies were the highest over the years 2006-2008 (Diagram 67). Between 2005 and 2008, the indebtedness of Ukrainian enterprises under the foreign currency loans augmented from 40% to 50% within the sector's total (Diagram 72). According to the sectoral distribution, over 70% of the sector's total loans were concentrated in the metallurgy industry, construction, as well as trade and consumer businesses (IMF 2008:9). The sector's borrowing on short-terms abided at considerable level throughout the pre-crisis period. The share of loans provided to Ukrainian enterprises with maturity up to one year equaled 40% (Diagram 73).

Diagram 60: Domestic credit by currency type, 1999-2014, % of previous year



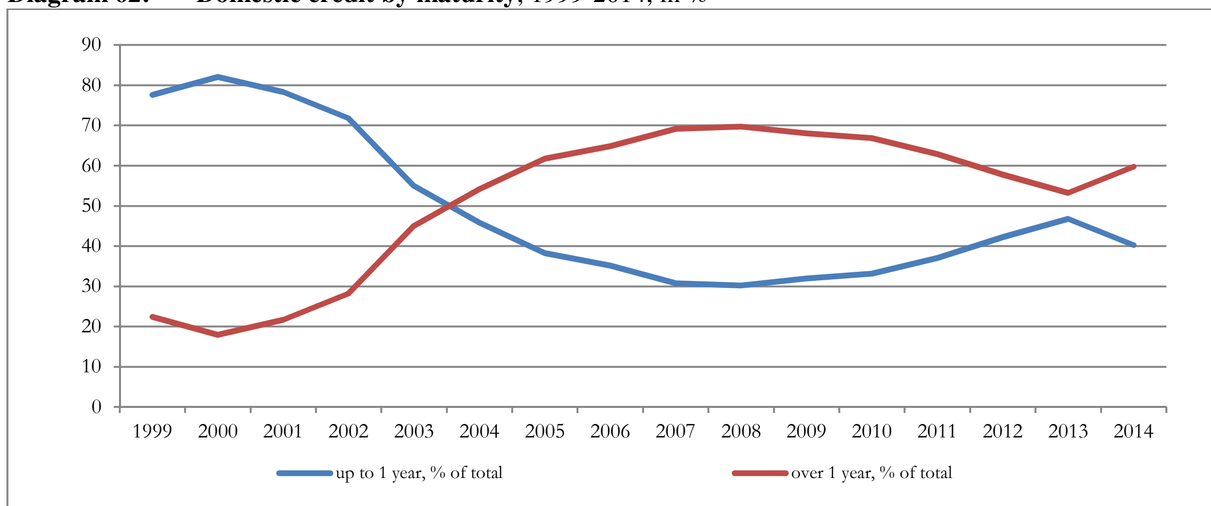
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 61: Domestic credit by currency type, 1999-2014, in % of total



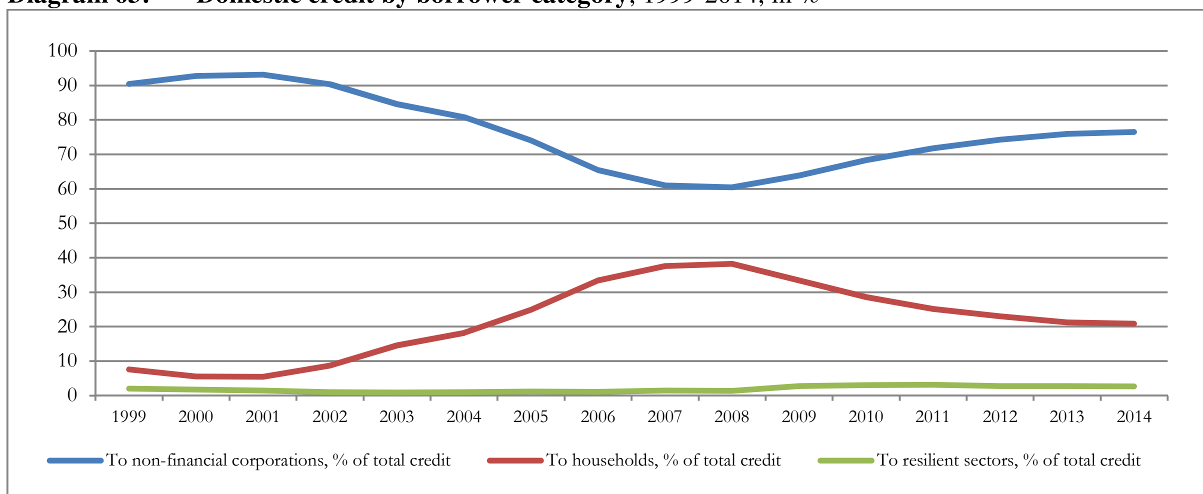
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 62: Domestic credit by maturity, 1999-2014, in %



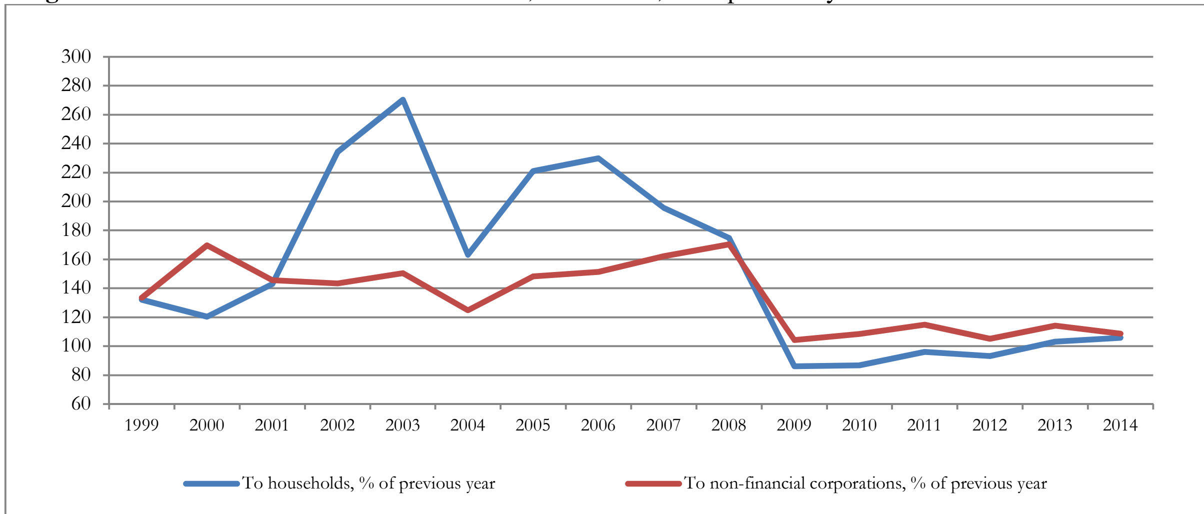
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 63: Domestic credit by borrower category, 1999-2014, in %



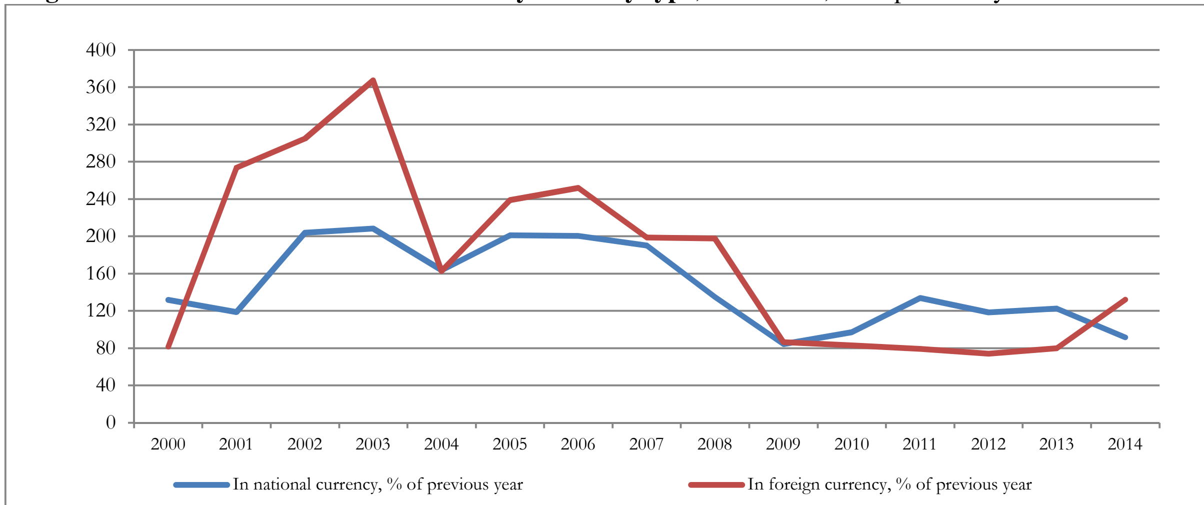
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 64: Domestic credit to real sector, 1999-2014, % of previous year



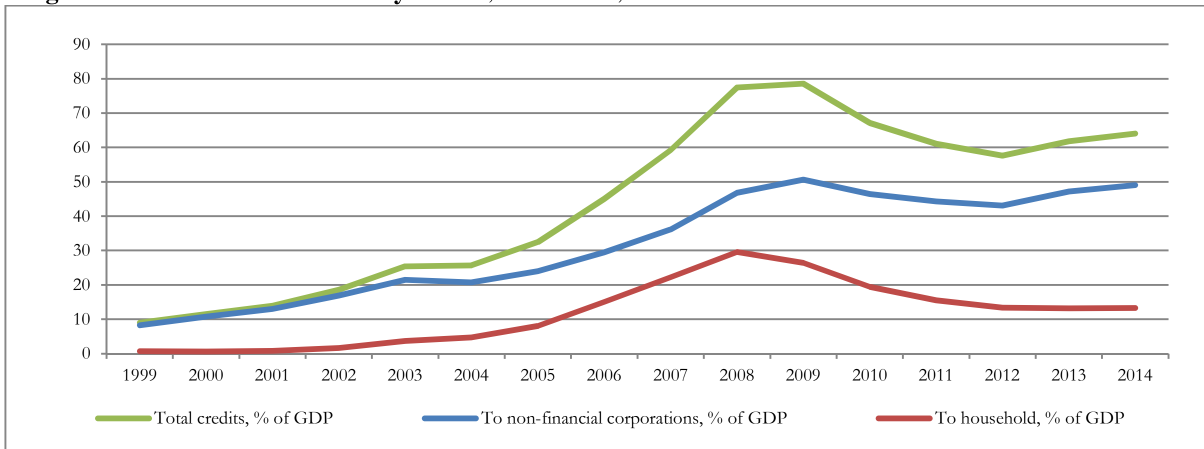
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 65: Domestic household credit by currency type, 2000-2014, % of previous year



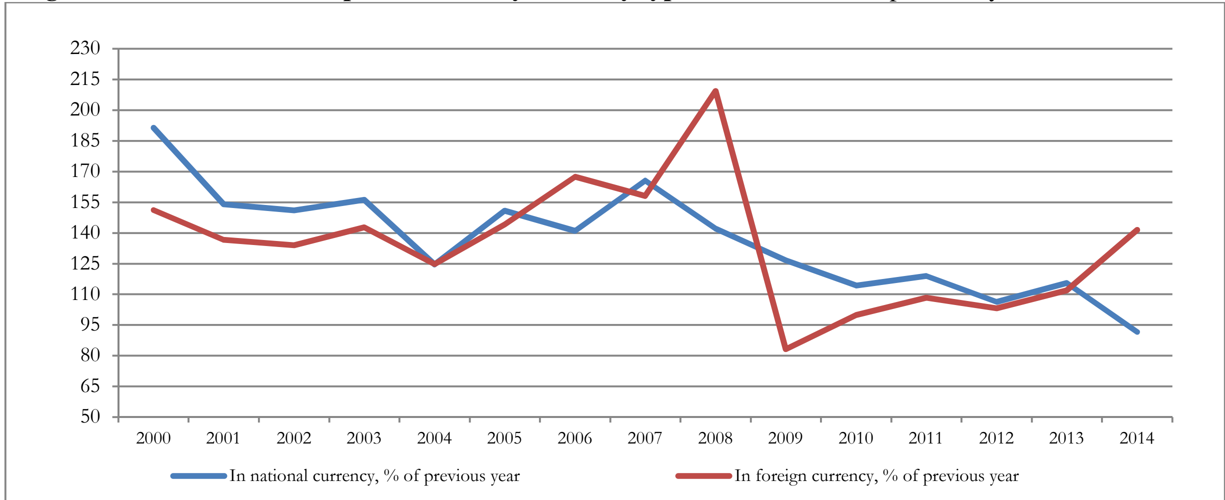
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 66: Domestic credit dynamics, 1999-2014, % of GDP



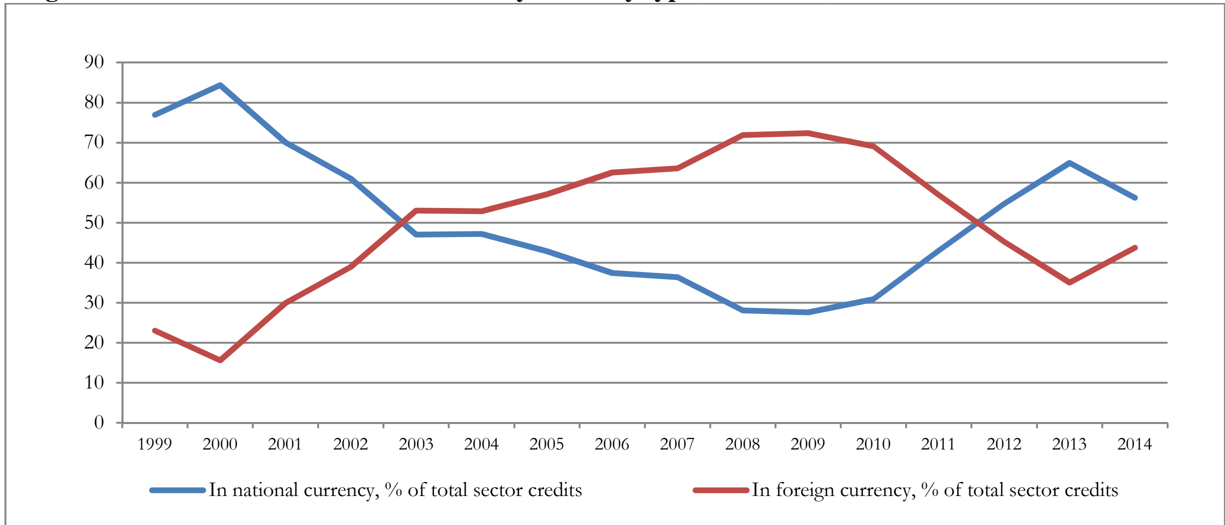
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 67: Domestic corporate credit by currency type, 2000-2014, % of previous year



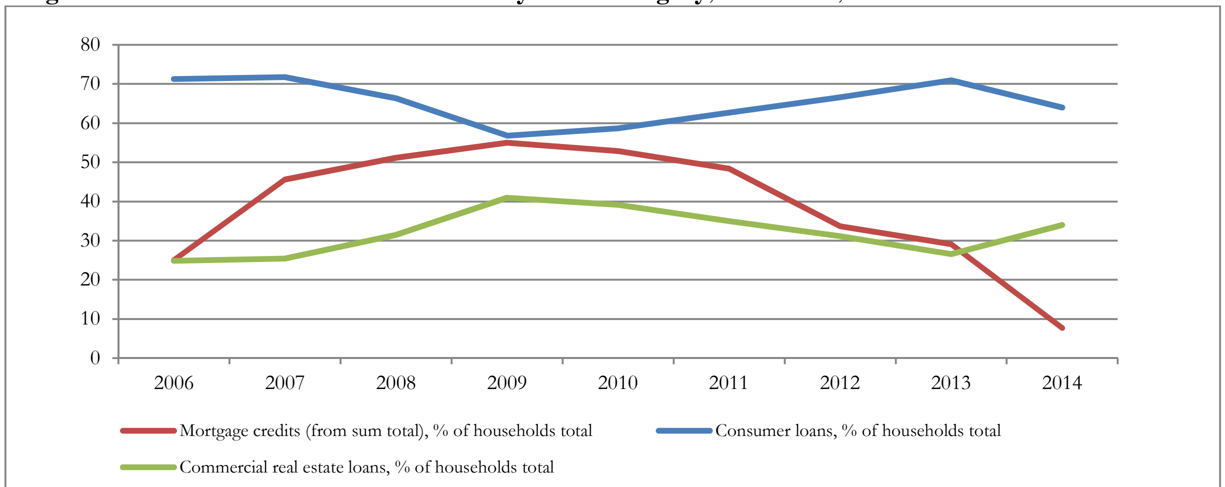
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 68: Domestic household credit by currency type, 1999-2014, in %



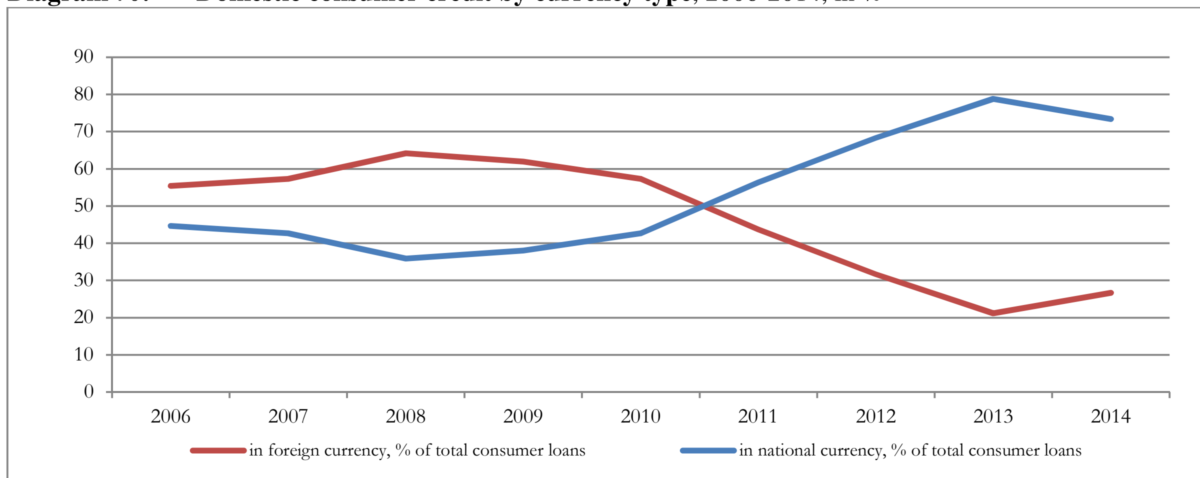
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 69: Domestic household credit by credit category, 2006-2014, in %



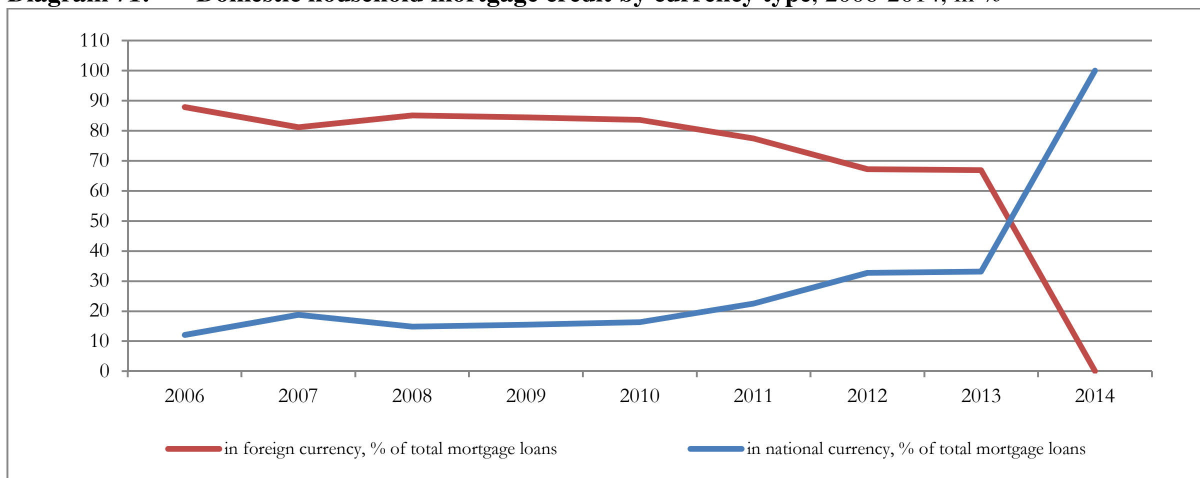
Source: Own calculations based on data provided in the NBU's Bulletins for the respective years.

Diagram 70: Domestic consumer credit by currency type, 2006-2014, in %



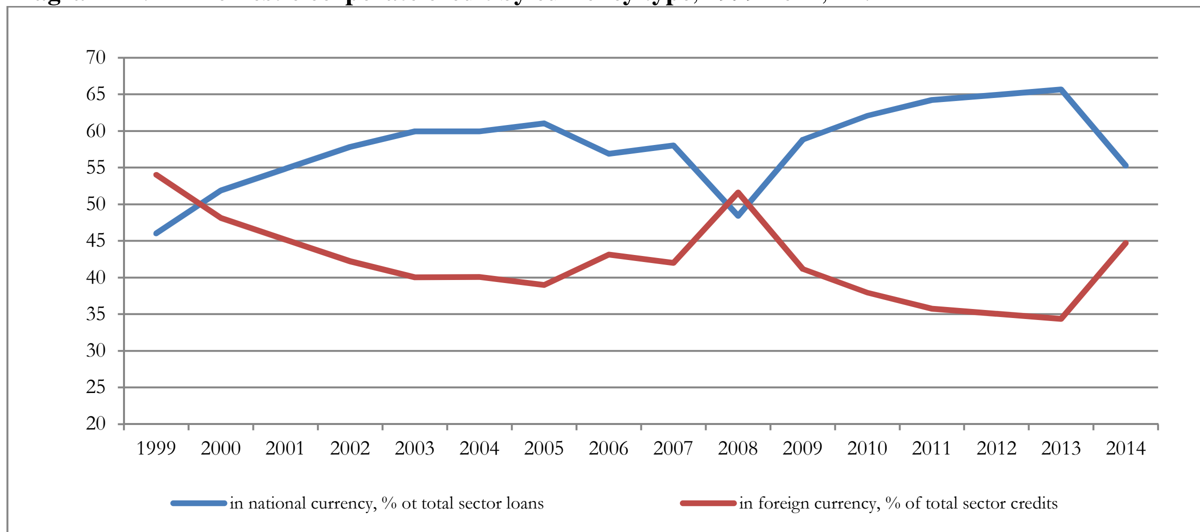
Source: Own calculations based on data provided in the NBU's Bulletins for the respective years.

Diagram 71: Domestic household mortgage credit by currency type, 2006-2014, in %



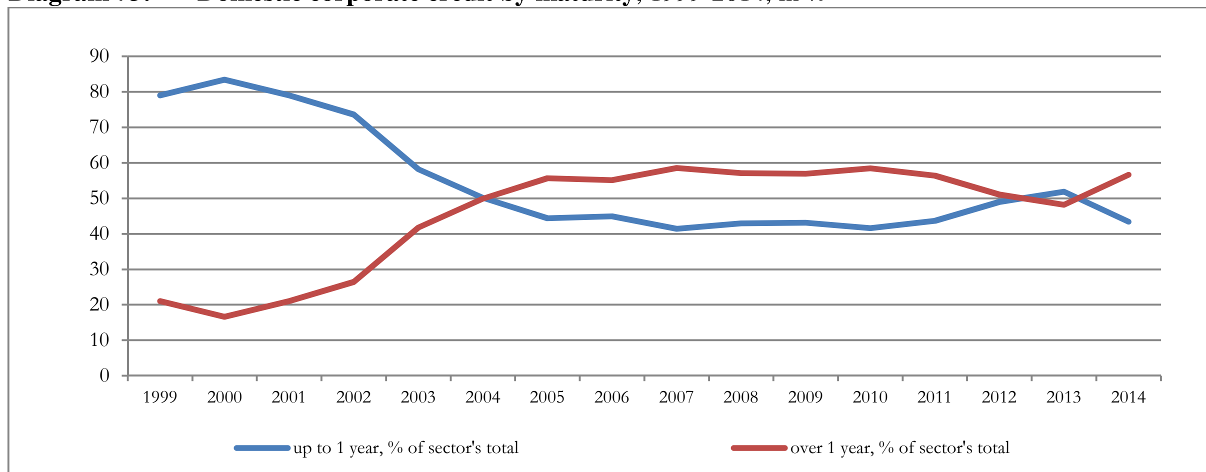
Source: Own calculations based on data provided in the NBU's Bulletins for the respective years.

Diagram 72: Domestic corporate credit by currency type, 1999-2014, in %



Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 73: Domestic corporate credit by maturity, 1999-2014, in %

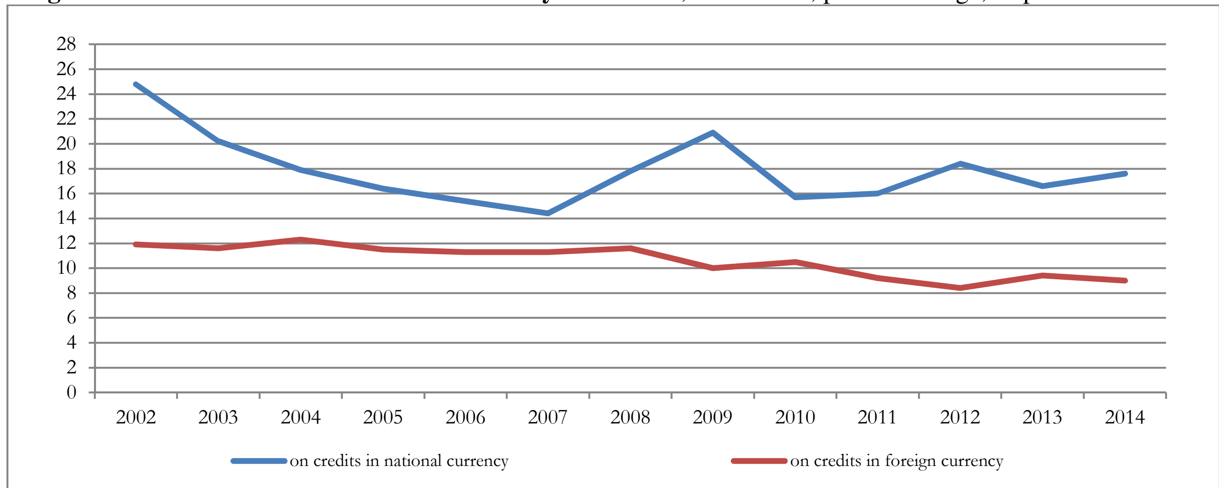


Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Over the course of the pre-crisis period, Ukraine maintained a fixed exchange rate regime. The buoyancy of foreign capital inflows came along with considerable appreciation pressures on hryvnia which allowed the national monetary authority to easily peg it to the US Dollar (Diagram 75). The derogatory dynamics of the dollar value on the international markets during the upswing phase of the global economy buttressed the expansion of banking credits to the resident economic units in foreign currencies, whose interest rates were generally lower than for credits accommodated in hryvnia (Diagram 74). Reckoning on the stability of the fully convertible national currency, Ukrainian residents and business entities without permanent routine income in foreign currencies were encouraged to take positions in valuta, having thus aggregated substantial levels of exposure to the changes in the value of hryvnia within their balance sheets. The expansion of credit to Ukraine's real economic sector in the phase prior to the crisis was on the one hand paralleled by the progressivity of the commodity imports expenditures of the country. Within the import commodity structure, the imports of consumer durable goods in the form of machinery and equipment enjoyed a steady growth ever since, and by 2007 accounted for one-third of the total imports (Diagram 76). Generally, the growth rates of commodity imports for consumption purposes in 2008 surpassed the rates of those for production and intermediate consumption purposes, and constituted 160% and 130% in respective cases (NBU 2008a:6). Since 2006, the import expenses exceeded the export revenues, having contributed to the establishment of the negative commercial and current account balances, which came up to ca. 10% of GDP (Diagram 77, Diagram 78). On the other hand, the asset prices within the domestic property market rocketed upwards. Between 2004 and 2008, the average flat price per square meter in Kiev jumped by ca. 4 times and attained its spot height on the eve of the crisis (Diagram

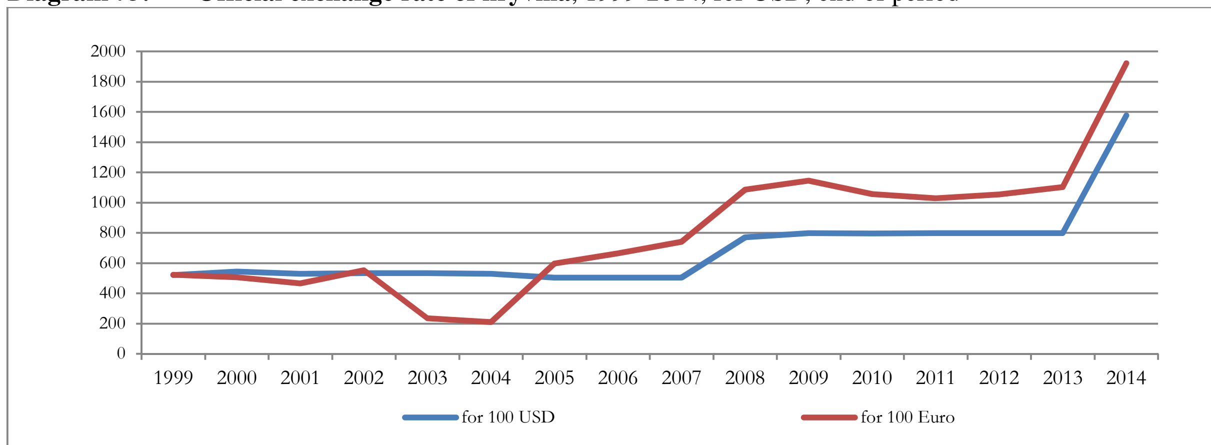
79)[58]. During the phase preceding the crisis, Ukraine's economy experienced both the consumption and real estate bubbles.

Diagram 74: Interest rates on bank credit by currencies, 2002-2014, period average, % p.a.



Source: NBU's Bulletins for the respective years.

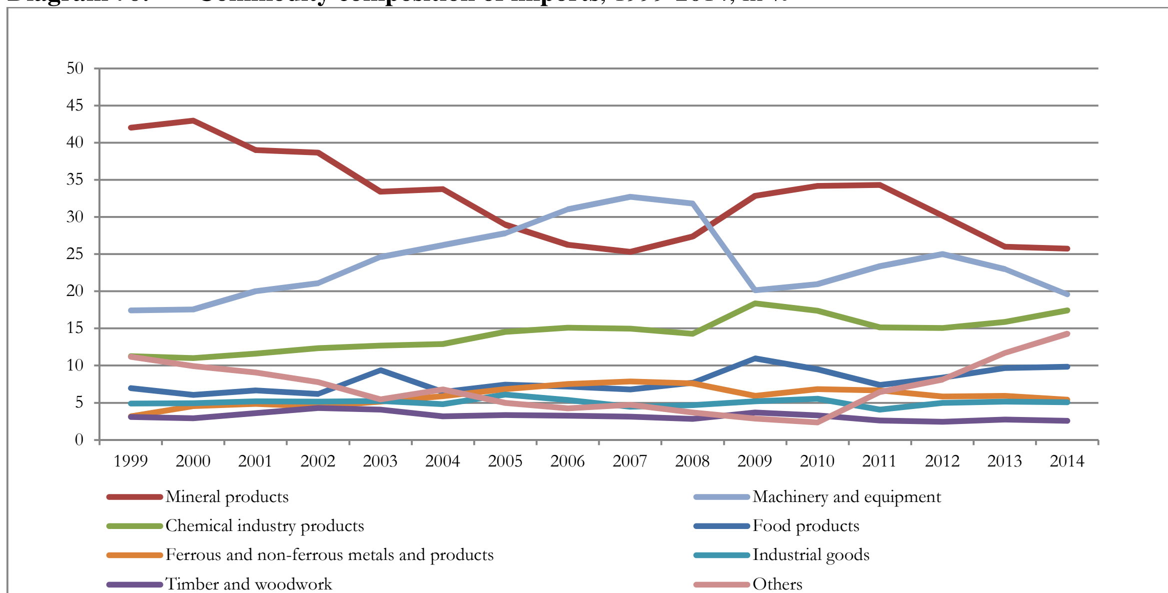
Diagram 75: Official exchange rate of hryvnia, 1999-2014, for USD, end of period



Source: NBU's Bulletins for 2002-2014 years.

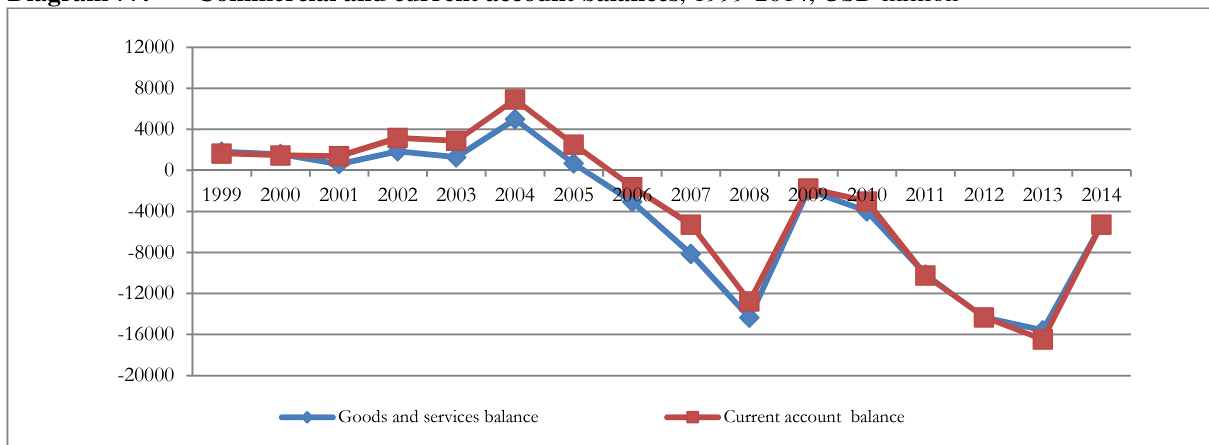
[58] The diagram has been constructed based on the statistics provided by the Real Estate Agency "Blagovist", https://blagovist.ua/, November 2014.

Diagram 76: Commodity composition of imports, 1999-2014, in %



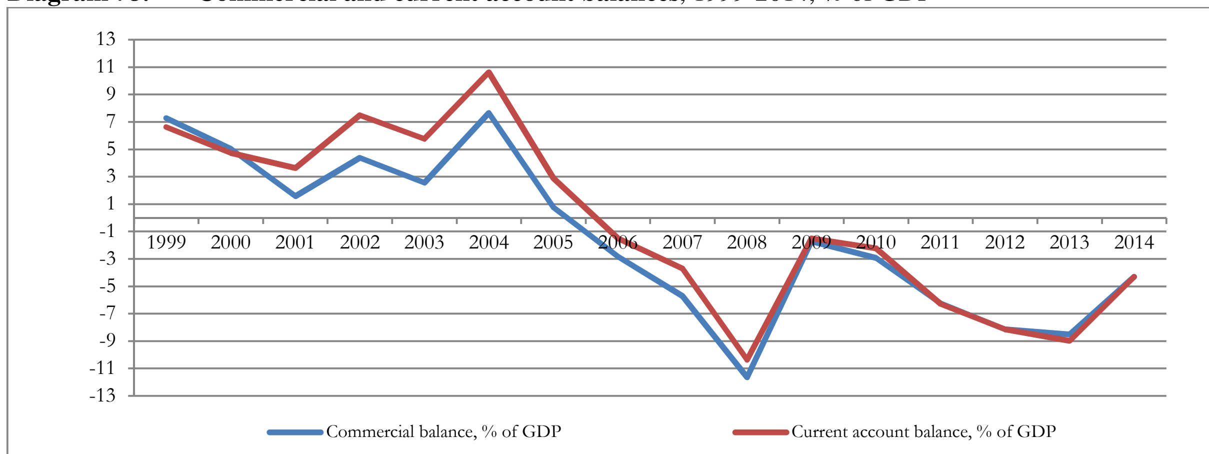
Source: Own calculations based on data provided in the NBU's Balance of Payments and External debt of Ukraine publications for 2002-2014 years.

Diagram 77: Commercial and current account balances, 1999-2014, USD million



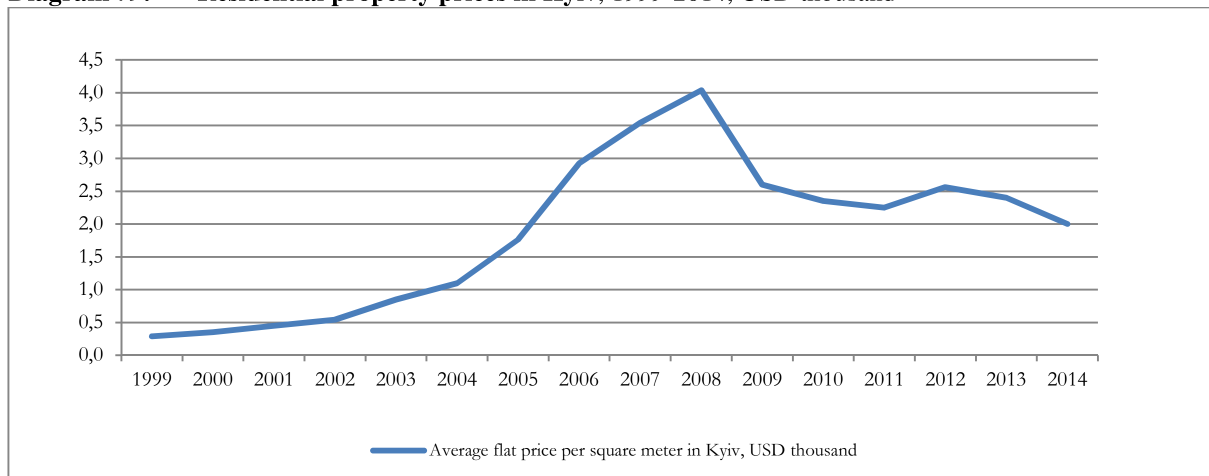
Source: NBU's Balance of Payments and External debt of Ukraine publications for 2002-2014 years.

Diagram 78: Commercial and current account balances, 1999-2014, % of GDP



Source: Own calculations based on data provided in the NBU's Balance of Payments and External debt of Ukraine publications for 2002-2014 years.

Diagram 79: Residential property prices in Kyiv, 1999-2014, USD thousand



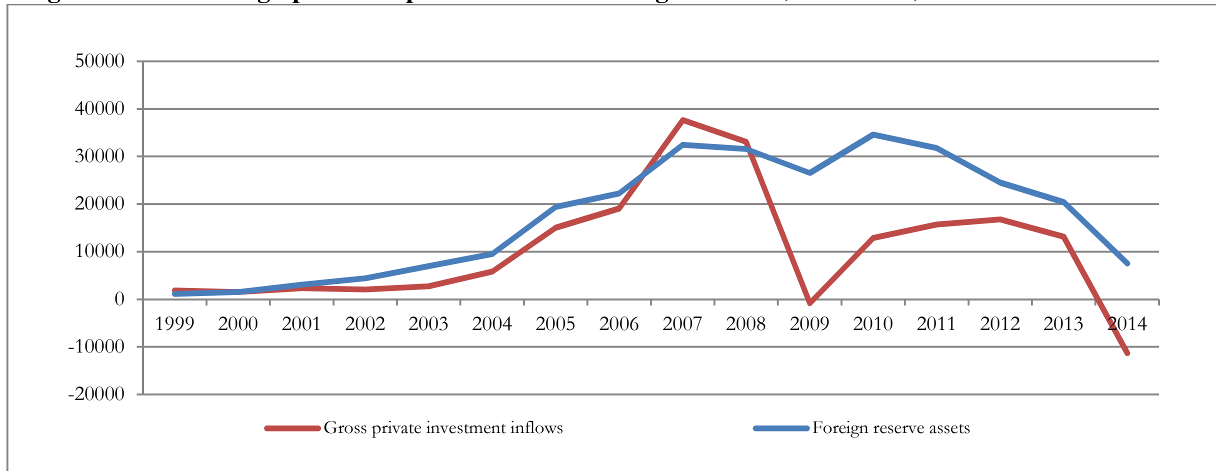
Source: Blagovist Real Estate Agency, online database, https://blagovist.ua/.

The intensification of trans-border private capital inflows since 2004 and until August 2008 accounted for a predominantly stable excess of the foreign currency supply on Ukraine's interbank foreign exchange market[59]. The net foreign currency supply in 2007 reached the total of USD 11 billion (NBU 2007b:58). Within the framework of a fixed exchange rate regime, such dynamics compelled the national central monetary authority to withstand the appreciative dynamics of hryvnia by acutely buying up the surplus foreign exchange and enlarging its international reserves positions (Diagram 80). During the implied period, the purchases of foreign exchange on behalf of the NBU substantially surpassed its sales, except for 2006, which was hallmarked by the domestic political crisis (Diagram 81). Compared with the reserves borrowed on the international capital markets, the domestic foreign currency purchases of the NBU constituted the primary source of growth of its foreign reserve assets. Within the implied timeframe, they augmented by over 5 times, having reached their largest position of over USD 38 billion on the eve of the crisis (NBU 2008a:54). The highest growth rates were registered in 2005 and 2007, *viz.* ca. 200% and 150% respectively. Despite the *prima facie* advantageous trends, the international reserves were continuously dwindling in proportion to the country's external debt since 2005 (Diagram 82). Within the structure of the NBU's non-cash emission, the purchases of foreign currency on the interbank market during the period between 2003 and 2007 represented the principal channel for the issue of funds. Their share within the total funds put into circulation by these means, augmented from 35% to 95% respectively (Diagram 83). Abiding by the monetary guidelines focusing upon the

[59] *Vide* the NBU's annual reports for the respective period. Within the scope of foreign currency operations on both the cash as well as non-cash segments of Ukraine's foreign exchange market, the US Dollar remained the principal currency (NBU 2008b:55).

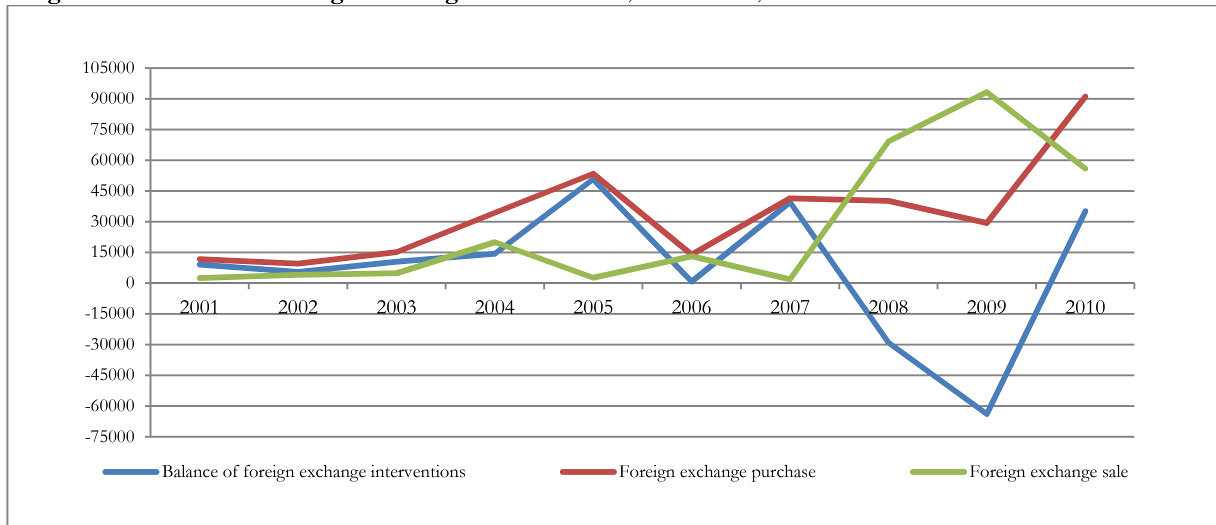
containment of inflation pressures, Ukraine's central monetary authority aimed at quantitative restriction of its monetary offer connected with the ample foreign exchange purchases on the domestic market. Given the quite precarious money and credit tendencies in 2007, the NBU amplified its operations on the withdrawal of excessive hryvnia liquidity from the indigenous banking system. To this end, it resorted to such instruments as the placement of deposit certificates and conclusion of deposit agreements with the banks, as well as reverse REPO operations. The volumes of funds attracted through the respective deposit transactions notably exceeded the volumes attracted through the open market transactions. The total volume of mobilisation operations in 2007 amounted to UAH 110 billion, or 15% of GDP, and was 16 times more than in the preceding year (Diagram 84, Diagram 85). Within the scope of liquidity regulation on the domestic money and credit markets, the monetary instruments at the NBU's general disposal encompassed the variations of the rates of interest and mandatory reserves, as well as deposit, refinancing, open market and foreign exchange operations. Over the course of the pre-crisis period, the central monetary authority continuously reduced the ratios of required reserves to be held by the domestic deposit-taking corporations with the objective of expanding the banks' resources base and thus the scope of their credit operations to the economy's real sector (Diagram 86, Figure 1). The funds deposited by the resident economic units in foreign currency were subjected to higher reserve requirements than those placed in hryvnia. At the same time, however, the banks' liabilities to nonresident credit and financial institutions were entirely exempted from the provisions until the end of 2007 (NBU 2007b:48). Since 2004, there was a generally downward trend in the interest rates on different refinancing mechanisms by the NBU (Diagram 87). This accounted for a steady reduction in the cost of both the interbank credits as well as bank credits granted to the domestic economy in hryvnia during the pre-crisis years (Diagram 74, Diagram 107).

Diagram 80: Foreign private capital inflows and foreign reserves, 1999-2014, USD million



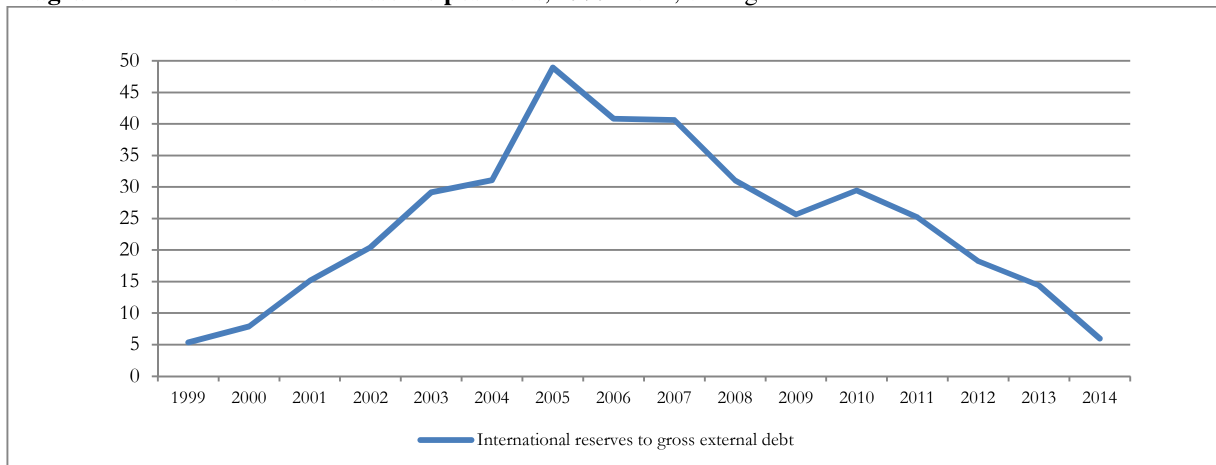
Source: NBU's Balance of Payments and External debt of Ukraine publications for 2002-2014 years.

Diagram 81: NBU's foreign exchange interventions, 2001-2010, UAH million



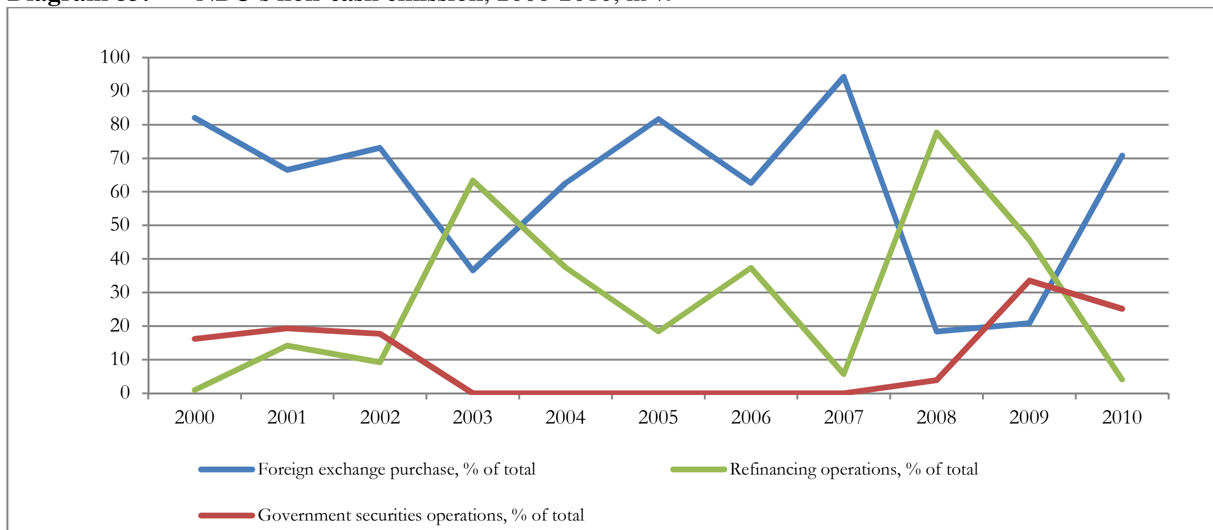
Source: NBU's Annual Reports for the respective years.

Diagram 82: International reserve positions, 1999-2014, % of gross external debt



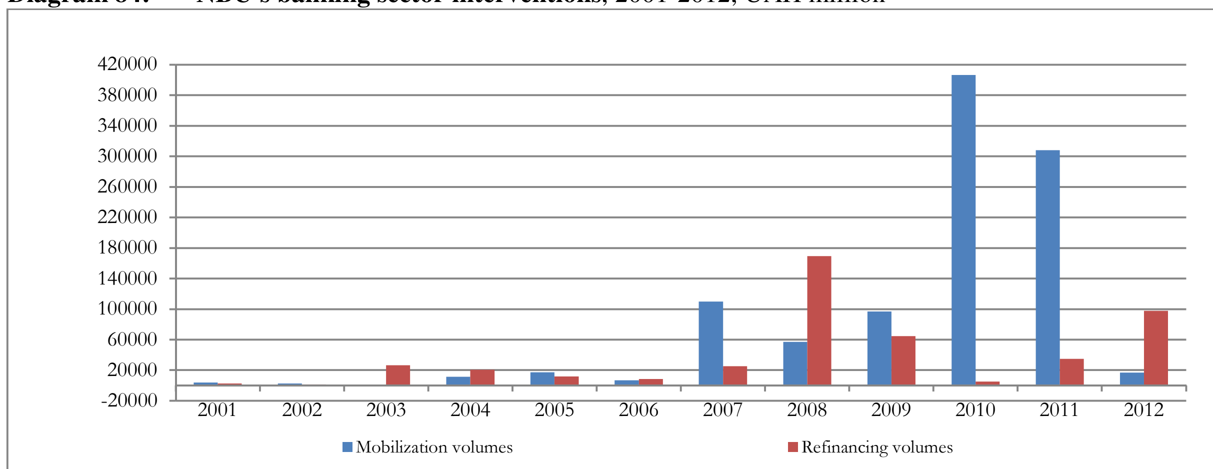
Source: Own calculations based on data provided in the NBU's Balance of Payments and External debt of Ukraine publications for 2002-2014 years.

Diagram 83: **NBU's non-cash emission**, 2000-2010, in %



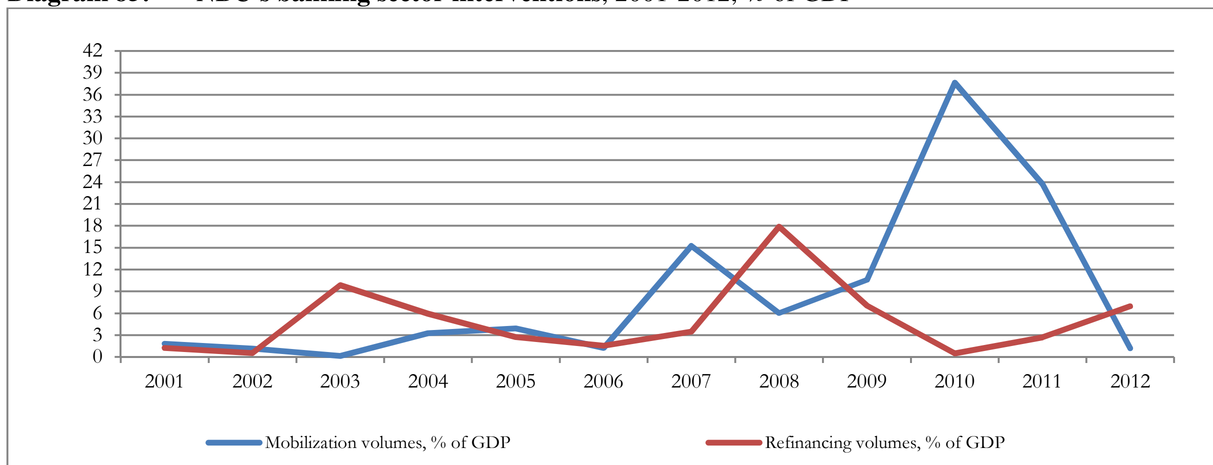
Source: Own calculations based on data provided in the NBU's Annual Reports for 2001-2010 years.

Diagram 84: **NBU's banking sector interventions**, 2001-2012, UAH million



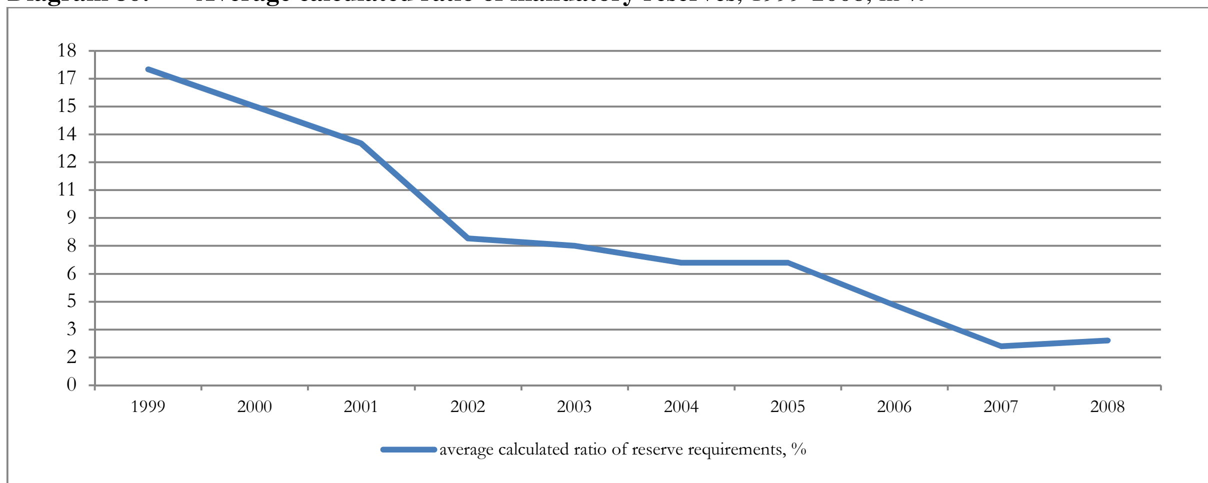
Source: NBU's Annual Reports for the respective years.

Diagram 85: **NBU's banking sector interventions**, 2001-2012, % of GDP



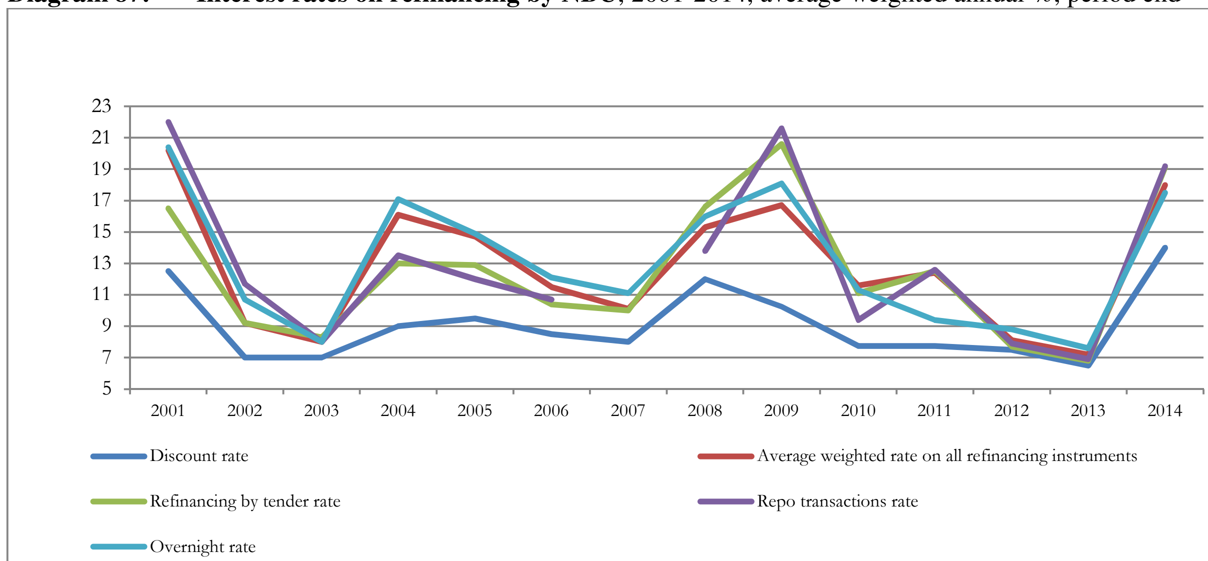
Source: Own calculations based on data provided in the NBU's Annual Reports for the respective years.

Diagram 86: **Average calculated ratio of mandatory reserves**, 1999-2008, in %



Source: NBU's Annual Reports for 2001-2008 years.

Diagram 87: **Interest rates on refinancing by NBU**, 2001-2014, average weighted annual %, period end



Source: NBU's Bulletins for 2002-2014 years.

Figure 1: **Mandatory reserve ratios**, 2003-2009, in %, end of period

Mandatory reserve ratios in %, by the period end	2003	2004	2005	2006	2007	2008	2009
Term funds in hryvnia	6,0-0,0	6,0	6,0	0,5	0,5	0,5	0,0
Demand funds in hryvnia	8,0	7,0	8,0	1,0	1,0	1,0	0,0
Term funds in foreign currencies	10,0-8,0	6,0	6,0	4,0	4,0	4,0	4,0
Demand funds in foreign currencies	12,0	7,0	8,0	5,0	5,0	5,0	7,0

Source: NBU's Annual Reports for the respective years.

Recapitulating the economic and financial tendencies prevailing within the global and national context during the years preceding the Global Financial Crisis, they beyond doubt had serious repercussions on Ukraine's macroeconomy and systemic stability. The profound opening of the national capital account in 2004 accounted for the buoyancy of debt-creating flows of foreign capital to the domestic private sector ever since, having significantly biased the respective financing practices towards the speculative and Ponzi financing mode. The elaboration of structure and sectoral allocation of capital resources within the domestic economy substantiated that Ukraine pursued a model of economic expansion driven by the external debt stimulated private consumption and investment in lucrative speculative operations. Instigated by the facilitated procurement of the less costly external financing over the course of the implied period, Ukrainian banks and local subsidiaries of the international credit institutions continuously amplified their borrowing operations on the global capital markets, to a large extent on short terms. The rapid accumulation of banking sector leverage, accomplished within the deregulated environment and by failing oversight over the banking sector activities, was accompanied by the ongoing expansion of domestic credit operations on behalf of the resident banking units, which essentially embossed the real sector's patterns of financing its consumption and investment activities. The loan accommodation procedure, enforced eminently in foreign currencies, was predicated on collateral values. In many cases, borrowers without permanent income in foreign exchange were qualified for lending. Substantial structural maladjustments, accumulated within the corporate and household balance sheets as a corollary of the implied dynamics, generated appreciable exposures of the real sector to the changes in hryvnia's value. Domestic credit provided mainly for consumption – progressively oriented towards the outlandish production – and investment in construction and real estate purposes engendered asset price inflation, excessive investment and speculation in the respective spheres. The fixed exchange rate policy of the national authorities within the fully convertible currency regime only strengthened the private unit's confidence in the stability of national currency. Their expectations of upholding intensive foreign capital inflows and availability of low-cost refinancing channels instigated them towards the reduced margins of safety while financing their investment projects. The domestic monetary reaction to the above-mentioned developments appeared to be reinforcing due to its pro-cyclical virtue. The central monetary authority had no difficulties in keeping hryvnia closely linked to dollar in the course of vigorous foreign currency inflows. Nor did it have any difficulties in reducing the refinancing and mandatory reserves rates for banks within the rapidly expanding economic environment. Although the intense inflows of external finance

induced the NBU's enduring interventions on the foreign exchange market with the objective of resisting significant exchange rate fluctuations – which effectuated substantial expansion of the banking sector's liquidity –, the measures on mobilisation of the excess banks' funds did not translate into higher interest rates for bank credits. This was due to the circumstance that banks advanced their credit supply to a large extent in foreign currencies, the interest rates for which remained quite stable. Therefore, the provision of credit to the domestic economy could be maintained at a high level until the crisis. In fact, lowering the discount rate on behalf of the NBU in counteraction of appreciative tendencies on hryvnia's external value failed to discourage the external private capital glut. Within the open capital account framework, it appeared to be incapable of accomplishing two objectives simultaneously, to wit to stabilise both the internal and external value of hryvnia at a time. For a stable hryvnia, the measures targeting at influencing the exchange rate dynamics appeared to run counter to those regulating the domestic money and credit markets in a counter-cyclical manner. In light of the extraordinary scale of external financing inflows on the eve of the crisis and the heavy weight of the foreign exchange channel within the structure of the NBU's non-cash emission, a beneficial impact of the domestic monetary and exchange rate policies on the indigenous real sector could hardly ever be avouched. All in all, the strong inward streams of external financing to Ukraine's private sector over the course of its economic expansion prior to the crisis remained "disconnected" from the foreign income generating production and capital investment, having buttressed the country's progressive systemic transformation upwards the fragility gamut. The speculative and Ponzi financing private schemes entrenched far and wide within the domestic economy. Given the continuous deterioration in the country's foreign exchange revenues out of export activities in relation to their outflows on servicing the mounting international obligations, Ukraine became dependent on the incessancy of foreign capital inflows – a condition satisfied until the advent of the crisis.

3.1.2 Capturing changes in the levels of Ukraine's fragility with the aid of Financial Fragility Index

The following section traces the dynamics in the degree of financial vulnerability of Ukraine as a financing unit *vis-à-vis* the international community during the period 1999-2014 with the aid of financial fragility index. It utilises the method of Ponzi financing detection developed by Tymoigne (2011a) within the framework of the evolutionary approach as the corresponding methodological bedrock. Tymoigne's model is predicated on Minsky's perception of financial fragility as the extent of the financing unit's sensitivity to the

inauspicious modifications in the initial terms and conditions underlying its contractual financial commitments. In accordance with the relationship between the stocks and flows on the balance sheet positions and the scope of required defensive position-making, Minsky classified the financial profiles into hedge, speculative or Ponzi. The movement along the financial fragility scale displays the change in the extent of risk to be compelled to defensive position-making, hence providing for the identification of the Ponzi type of financing, which relies extensively on the exponentially growing refinancing operations, and expects the prospective outright asset liquidation at the mounting asset prices. Tymoigne constructed his indexes of financial fragility for the purpose of capturing the shifts in the quality of financing patterns within the US household, financial and non-financial non-farm corporate sectors within the timeframe 1992-2010. In the following, these are going to be adapted for Ukraine's economy. Having studied the magnitude, variability and reliability of the parameters upon which the respective financing structures are based, Tymoigne argued that the inbound flows of cash from the regular economic activity, the outbound flows of cash commensurate with the financial obligations, and the amplitude of monetary reserves all determine the extent of the financing units' predisposition to be affected by the derogatory fluctuations in financing conditions, as well as their dependency on and the dimensions of the defensive position-making operations required to continue honouring the financial commitments in this case. Accordingly, the growing maturity mismatch in the asset-liability structure, rising asset prices, augmenting leverage burden and diminishing volumes of liquid monetary assets – all the more if taking place simultaneously – entail the incrementing refinancing and liquidation pressures and thus embody the consummate premises for the formation of Ponzi systems. Regarding the household sector in greater detail, the author created two indexes, one monitoring the households' overall funding operations and the other monitoring home funding in particular. By composing the overall index of financial fragility for the implied sector, he relied on such variables as the level of the sectors' overall indebtedness (debt to income ratio), net worth (debt to asset ratio), debt burden (debt service to income ratio), liquidity (monetary instruments to pending liabilities ratio) and refinancing volumes (the proportion of the cash-out refinancing mortgage loans within the total mortgage refinancing loans, as well as the proportion of revolving consumer debts). Each set of the data involved in measuring the different stages of financial fragility was assigned a weight in accordance with the degree of its accuracy in terms of capturing any of the position-making risks. The debt service and liquidity ratios were the most ponderous by the calculation as they measured the refinancing and liquidation demands directly. Being the least informative amongst all the

fragility indicators, the net worth and level of indebtedness were in contrast given the lowest weight. If rising, they do not intrinsically pinpoint the progressive accumulation of fragility. Nevertheless, they are necessary for the Ponzi financing to take place. Some portion of arbitrariness has definitely been allowed by the weight attribution. The same approach has been applied by the creation of a home funding index, albeit the constituent variables and their ponderosity for the very activity were modified. The data on home mortgages, home price index, the proportion of cash-out refinancing, mortgage financial obligation ratio and the amount of monetary assets relative to mortgage liabilities were aggregated within the index. Again at this juncture, those variables directly reflecting the refinancing and liquidation strains, i.e. the mortgage financial obligation and liquidity ratios, were given greater weight by the calculation. The mortgage debts and home prices enjoyed the least weight as not being *per se* descriptive of accruing fragility. The more compelling indicator of the mortgage refinancing risk would have been the proportion of cash-out refinance within the total refinancing loans, and not within the total mortgages. On the weight spectrum, this ratio was thus placed in between the other two data sets. Once all variables concurrently demonstrated the ascending dynamics, the index obtained the highest values.

Regarding the indexes measuring the speed of the change in the fragility level as well as its duration within the corporate and financial business sectors respectively, the data proved to be less available, especially in terms of debt servicing and refinancing operations. In case of the former, the author approximated the debt-service ratio by the interest-service ratio which he derived from the amount of monetary interest paid relative to the sources of income after tax, albeit the capital component of debt servicing was excluded by this means. Still, in order to determine the debt rollover pressures to some extent accounted for by the principal payments and hence to evince the assurgent risk of refinancing, Tymoigne availed himself of the proportion of short-term liabilities within the total liabilities. The author argued that the volume of principal payments underlying the refinancing needs hinged inversely on the maturity of the pending obligations, *viz.* the shorter the maturity, the more ponderous the dimensions of principal servicing and the more intense the refinancing pressures. The assignment of residual variables and their weighting proceeded analogously to the household sector. Greater importance has been ascribed to the interest rate service and liquidity ratios as directly determining the refinancing and liquidity demands. The least weight has been given to the general level of indebtedness and net worth in each case, although enhanced in total compared with the households sector. The proportion of short-term debts within the total debts has also been lightly weighted, as not being very convincing in terms of refinancing

needs. Despite some acknowledged arbitrariness in the attachment of weights, Tymoigne, nevertheless, succeeded in providing a reliable method of registering the systemic financial risks at their set-out. This method should enable the supervisory authorities to intervene in the problem areas within the framework of their regulatory capacity at the first signs of an incipient accretion in financial fragility. With the aid of the implied macroeconomic indexes, Tymoigne attested to the rapidly progressing financial weakness of the US financial business, corporate and household sectors, the home funding practices in particular, prior to the global crisis, despite some differences in its duration. He claimed that it would have been possible to halt the accumulation of fragility to an unsustainable dimension, had the regulators in the early stages cast doubt upon the resilience of the prevailing financing practices, *inter alia* the underwriting methods brought into effect in 1999.

In the following, an index of financial fragility is computed for the national economy of Ukraine to identify the shifts in its need to resort to the international capital markets within the framework of performing its external financial obligations denominated almost entirely in foreign currencies. Beforehand, it should be pointed out that the more precise localisation of the genesis of financial fragility would be quite useful at this juncture. The liberalisation of the national capital account facilitated recourse of the indigenous private structures to the foreign capital markets, while accomplishing their investment operations, to a different extent. This circumstance signifies that some of the economic sectors contributed to the accretion in the fragility magnitudes more vigorously than others, while some remained relatively financially robust. With this in mind, the analysis of the sectoral and individual balance sheets therefore appears to be more appropriate. This kind of scrutiny would allow the timely and more accurate policy responsiveness to the problem areas on the part of the national decision makers. Unfortunately, in the case of Ukraine, much of the data expressive for the computation of the fragility index on a sectoral basis is missing so that one has to concentrate on the national economy's financial positions within the international community. The index comprises a set of variables each measuring a particular aspect of the country's financial fragility, *viz.* the level of foreign indebtedness and foreign debt service payments, the domestic asset prices dynamics, the volumes of international liquidity and refinancing pressures; that is:

FFI = 0.1 LR + 0.2 AP + 0.3 DSR + 0.3 MLR + 0.1 RR

Where:

LR = Leverage ratio

AP = Asset prices

DSR = Debt service ratio

MLR = Liquidity ratio

RR = Refinancing ratio

The alterations in the size of leverage (LR) have been measured by the development of the gross external debt relative to GDP. Following Tymoigne, the leverage size is *per se* not problematic if accompanied by maturity extensions and raised income. The domestic asset prices dynamics (AP) constitute the relevant indicator of the debt deflation risks contingent upon the collateral-based mortgage lending in foreign currencies. Given the limited statistical data on a related note, they have been extrapolated from the level of average prices for the residential property in Kyiv on the strength of the fact that this segment of the country's real estate market has been the most dynamic. If a significant upward interplay between the external debt and domestic asset prices is ascertained – which is the fact in Ukraine's case –, this would imply that the funding of the respective assets proceeds by recourse to the speculative, or Ponzi, rather than hedge financing. Taken together, the two variables in question have accordingly been attached the greatest weight. The foreign debt service (DSR) has been derived from the volumes of the country's external debt service payments relative to its routine foreign income. The former comprised both the interest expenses and the principal amount amortisation. Ukraine's export business represented its main economic activity generating foreign exchange earnings. Any kind of foreign development assistance has been disregarded by the calculations of the index, as not corresponding to the regular economic operations. Being essential during the temporary outage of the foreign exchange earnings, the scope of the country's international liquidity (MLR) has been determined by measuring the volumes of its official international reserve assets in proportion to the gross external debt[60]. The liquidity ratio has been used inversely by the computation of the index. Entailing significant debt rollover risks, the last two variables preponderated by the calculation. The refinancing pressures (RR) have been measured by determining the share of the short-term external debt within the country's gross external debt, on the grounds that a greater maturity

[60] Although the measure of foreign exchange holdings would be more convincing on a related note – many thanks to Tymoigne on this comment –, no specific data is available hereof.

discrepancy in the asset-liability structure is assumed in case of the speculative and Ponzi mode of financing. However, this variable has not enjoyed much weight by the calculation as it only revealed whether the principal payment was due more rapidly, at the same time disregarding the interest component, and thus not very expressive *à propos* the refinancing needs. After each of the above constituents of Ukraine's fragility towards the outer world has been approached individually and fixed to the base year 2004, as a starting point for the intensifications of the cross-border private capital flows into the country, they were evaluated in accordance with their contribution to the progressivity of the country's fragility and ultimately aggregated into the overall index. The ascending index values connoted the elevation in the country's sensitivity to the changes in the parameters of financing such as foreign income flows and the external debt amortisation outflows, and hence the growing rollover need in order for the domestic financial edifice to hold good. The results are presented in the Figure 2 and are interpreted below.

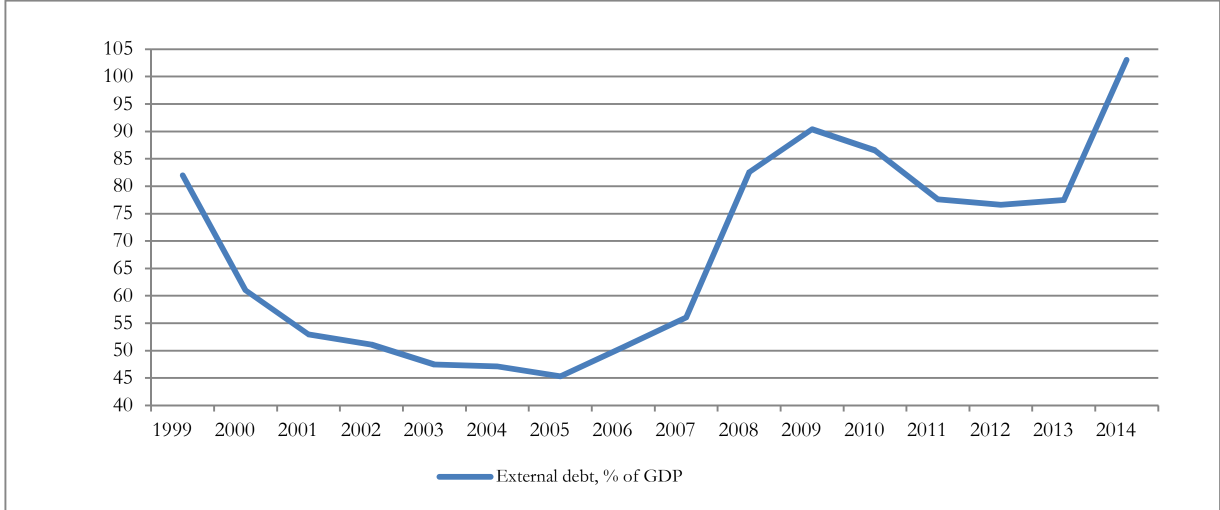
Taking the dynamics of each of the index constituents into account separately, during the period between 1999 and 2005, the gross external debt of Ukraine has been persistently falling relative to the country's GDP until it gained momentum henceforth. Between 2007 and 2009, the sharpest jump in the leverage ratio occurred, *viz.* from 55% to 90%. After its minor decline during the successive years, the ratio stabilised to about ca. 80%, preceding the renewed surge to over 100% in 2014 (Diagram 88). The proportion of short-term debt within the gross external debt of Ukraine reduced steadily by half during 2002-2009, haven falling from 40% to ca. 20% (Diagram 89). Having gone up to 25% within the next couple of years, the ratio subsequently fluctuated around this level. In consideration of the sagging dynamics of the ratio over the course of the pre-crisis period, some doubts existed about its power to accurately capture the refinancing pressures on Ukraine. The country's resilience as a financing unit within the global financial community has in contrast been continuously worsening. The foreign obligations rollover rate – in case available – would have obtained greater validity on a related note. Residential property prices in Kyiv have been continuously augmenting between 1999 and 2008. Only during the four years prior to the crisis, they jumped by ca. 4 times (Diagram 79). After a precipice in 2009, their downward tendency prevailed until the end of the analysis timeframe. The development of the country's external debt service payments in proportion to its export proceeds soared from its minimum of 10% to over 40% during the period 2004-2009 (Diagram 90). After having reduced to 30% over the course of the subsequent couple of years, the debt service ratio rebounded to ca. 45% in 2013. The situation with Ukraine's international liquidity has been even more dramatic. The

alterations in the country's foreign reserve assets in relation to its foreign debt resembled a pyramid where, ascending continuously since the beginning of the evaluation period, the ratio values attained their peak of ca. 50% by 2005, having ever afterwards gone steadily down to 25% in 2009 and down further to 6% in 2014 (Diagram 91).

The assurgent trajectory of the overall index of financial fragility computed for Ukraine as a financing unit corroborated the progressive deterioration in the financial resilience of the country's national economy *vis-à-vis* the rest of the world over the course of the period 2004-2009. Up to that point of time, the index has been downward sloping (Diagram 92). Outstanding rates of the GDP growth between 2004 and 2008, which abided at the levels far beyond 120%, hallmarked the economy's upswing phase up until the crisis (Diagram 51). Nevertheless, Minsky claimed that just over the periods distinguished by the absence of injurious events the financial fragility would prosper, and a twofold increase in the index values within the respective years attested to this assertion. As the debt deflation process gained momentum at the systemic level between 2009 and 2011, the downward sloping index substantiated the deceleration in the fragility growth rates while the resident financing structures were busily engaged in the "simplification" of their debts by means of asset liquidation and enhanced economising. Notwithstanding the widespread deleveraging of the private sector balance sheets, no substantial diminishment in the dimensions of the economy's overall financial fragility could in fact have been recognised. Immediately thereafter, the upwards-spiraled index pinpointed the recuperation of the fragility growth at an accelerated tempo which, by 2014, swelled up to exceedingly high positions. Meanwhile, the index values skyrocketed to levels higher than prior to the crisis. By and large, there has been a threefold surge in the index values over the course of the period 2004-2014. The final remark at this juncture is that, obviously, the index reflected the changes in the levels of Ukraine's financial fragility with a delay of about one year so that it would be more appropriate to shift the year spectrum to the right of the diagram. The incipience of the crisis can be traced back to the last quarter of 2008, which lingered on until the onset of 2010, and this was approximately the timeframe where the index values should have decelerated their growth as a corollary of the debt deflation process, during which the use of Ponzi finance is brought to a standstill. As the conditions underlying the persistence of the established Ponzi edifice reconstituted henceforth, i.e. Ukraine succeeded in rolling over its outstanding foreign obligations so that the scope of refinancing risk recommenced its progression, the index values should have become ascending from that moment on. Nevertheless, by and large, the index appears to have qualified itself as an apt "detector" of the economy's movement along

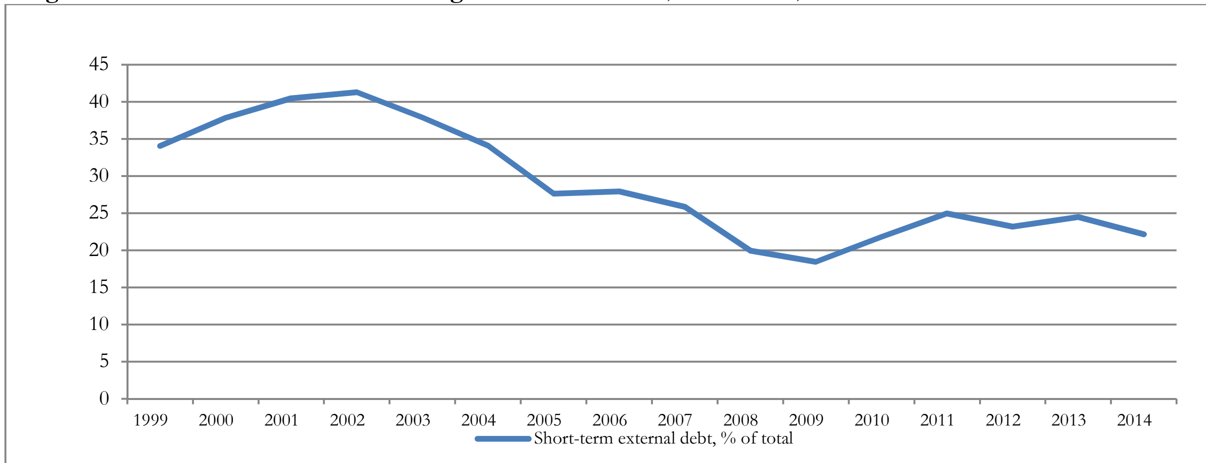
the Ponzi finance lines during the period preceding the crisis, the crisis-induced debt deflation and the resumption in the fragility growth right afterwards, even though belatedly.

Diagram 88: Gross external debt relative to GDP, 1999-2014, in %



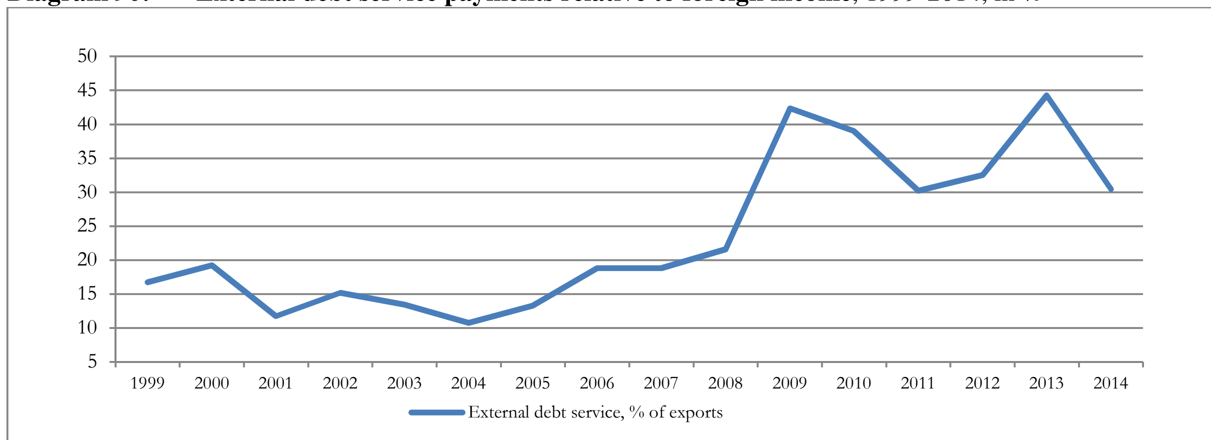
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 89: Short-term relative to gross external debt, 1999-2014, in %



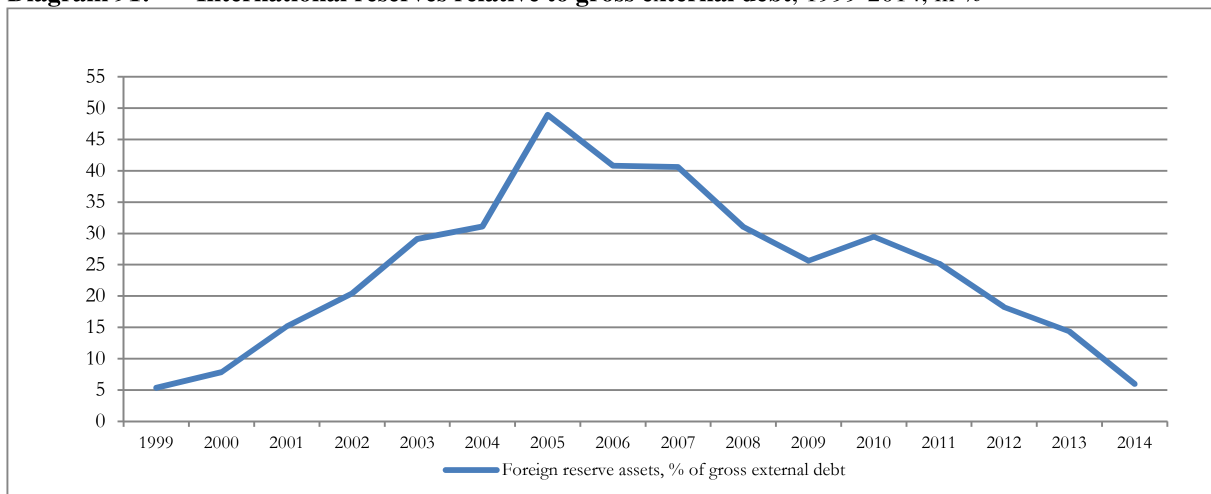
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 90: External debt service payments relative to foreign income, 1999-2014, in %



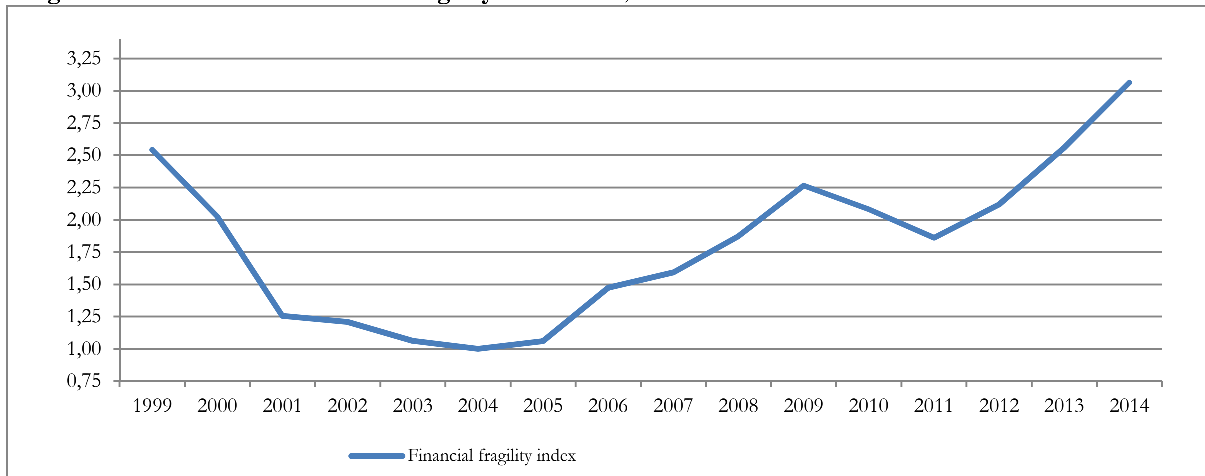
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 91: International reserves relative to gross external debt, 1999-2014, in %



Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 92: Index of financial fragility of Ukraine, 1999-2014



Source: Own calculations, *vide* Figure 2.

3.2 Materialisation of financial instabilities within national boundaries and the effectiveness of domestic stabilisation-oriented policy response

The following sections deal with the macroeconomic processes underlying the transmission of the Global Financial Crisis to Ukraine's economy and its repercussions, as well as the challenges, the country's national government was faced with within the scope of its immediate crisis-counteractive modus operandi.

3.2.1 Transmission of the Global Financial Crisis to Ukraine's economy and ensuing implications

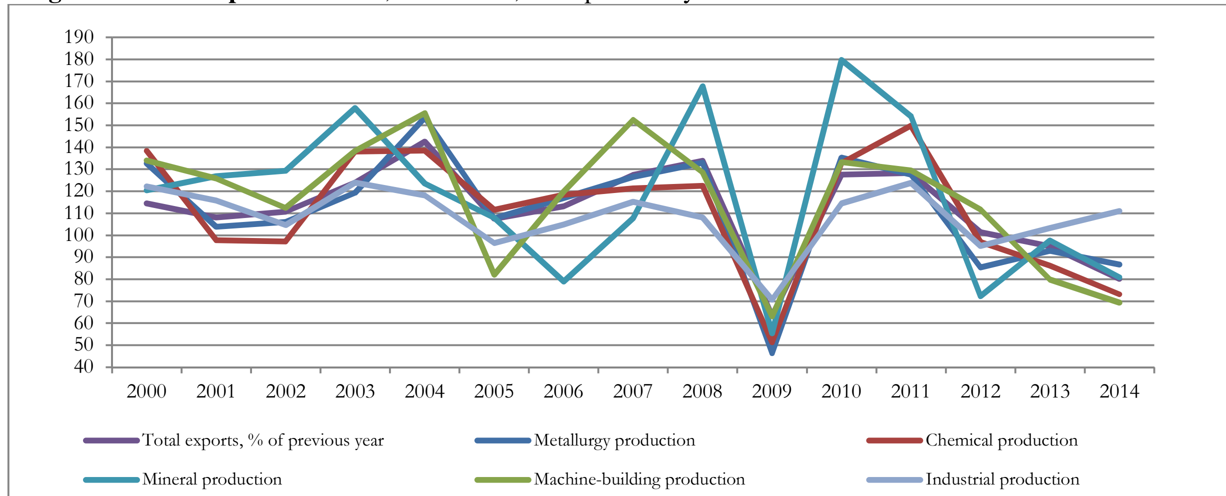
During the period between January and September 2008, the progressiveness of the macroeconomic tendencies prevalent in the course of the preceding years suggested *prima facie* the decoupling of Ukraine's economy from the financial and economic occurrences within the global context. Nevertheless, in the 4th quarter of 2008, they ultimately spilled over the national borders. Given the dimensionality of financial fragilities accumulated on behalf of Ukraine, its private sector predominantly, in the times prior to the crisis, the global turmoil attained the national economy through the distortion of initial terms and conditions lying at the base of the respective funding and financing structures. First and foremost, there was fallout on the foreign income and capital streams, the two principal variables which determined the means of honouring the private sector's external financial obligations. The collapse of the global raw material prices in conjunction with a sharp decline in the outlandish demand for the Ukrainian export commodities effectuated a substantial impairment to the country's export performance since the 4th quarter of 2008, both in terms of its value and volumes (NBU 2008a:5). Nevertheless, owing to the buoyant price dynamics on the global natural resources market during the first three quarters of the year, the value of Ukraine's exports overall increased by 30% during 2008. In 2009, there was a nosedive in the total export revenues, which fell to just above 60% of their previous year values (Diagram 2, Diagram 3). Among the export commodity groups, the country's metallurgical, chemical, mineral and machine-building industries experienced the most remarkable slump in export revenues, having reduced during the year by over 50% in the first two and by ca. 45% and 40% in the last two cases (Diagram 93). A generally higher decrease in the growth rate of import expenditures relative to exports during the year as a result of the sizable devaluation of hryvnia, to wit 37% vs. almost 45% respectively, brought about the reduction in the soaring commercial deficit of the previous years from almost 12% to 2% in relation to the GDP (Diagram 78). Starting from September 2008, the developments within the scope of the

country's financial account were hallmarked by an essential deceleration in the inward private foreign investment and the mounting foreign private capital outflows, which posed considerable difficulties for Ukraine's private sector to compensate for a substantial loss in foreign income and to roll over the maturing external debt liabilities. The failure to attract new long-term funds, accompanied by the repayment of high volumes of past short-term debts and the growing outflow of foreign cash currency from the banking system effectuated a considerable slip of the country's financial balance into the red in the last quarter of 2008 (NBU 2008a:7ff.). Over the respective period, the net direct investment inflows reduced on average by 3.5 times compared with the preceding three quarters of the year. The inflow volumes of long-term loans and debt securities fell by 60%, having effectuated a 3 times decrease in the respective net inflows as compared to the previous quarter of the year. These dynamics applied to both the banking as well as the real sector. Most significant was the outflow of short-term and other capital, in particular in the form of repayment of previous short-term banking sector loans and of foreign cash outside the banks. The total outflow of funds in the fourth quarter of the year amounted to over USD 8.4 billion. 40% of the total volumes of cash leaving the banking system accumulated during the implied period. The established balance of short-term capital in the 4th quarter was negative and amounted to USD 2.8 billion. The net disposition of the private sector securities by non-residents came to USD 0.5 billion respectively. For the year in total, the country's short-term and other capital balances were negative – the latter came up to USD 13 billion –, and the positive FDI and long-term capital balances together counteracted the negative financial account dynamics. Despite the overall positive financial balance in 2008, it reduced by 35% relative to the previous year and, given the negative current account balance, contributed to the establishment of a consolidated deficit to the extent of USD 3.2 billion (Diagram 95). In the 4th quarter of 2008 alone, the deficit equaled USD 9.5 billion. The balance of payments deficit in 2008 was entirely financed by the funds obtained as the first tranche within the scope of the IMF's Stand-By assistance by the end of the year, USD 4.6 billion (NBU 2008b:9). Considering the private capital inflows in 2008 on the whole, after a double increase in their volumes in 2007, they decreased by 10%. The direct and other investment abided almost at the same level, whereas the portfolio flows turned negative (Diagram 11).

The financial dynamics nascent both on the global as well as domestic levels at the end of 2008 only exacerbated during the subsequent period. As a result of an over 50% fall in direct investment in Ukraine, persisting negative private portfolio inflows and a sharp fall in private other investment, the total inward private investment in 2009 turned negative. This

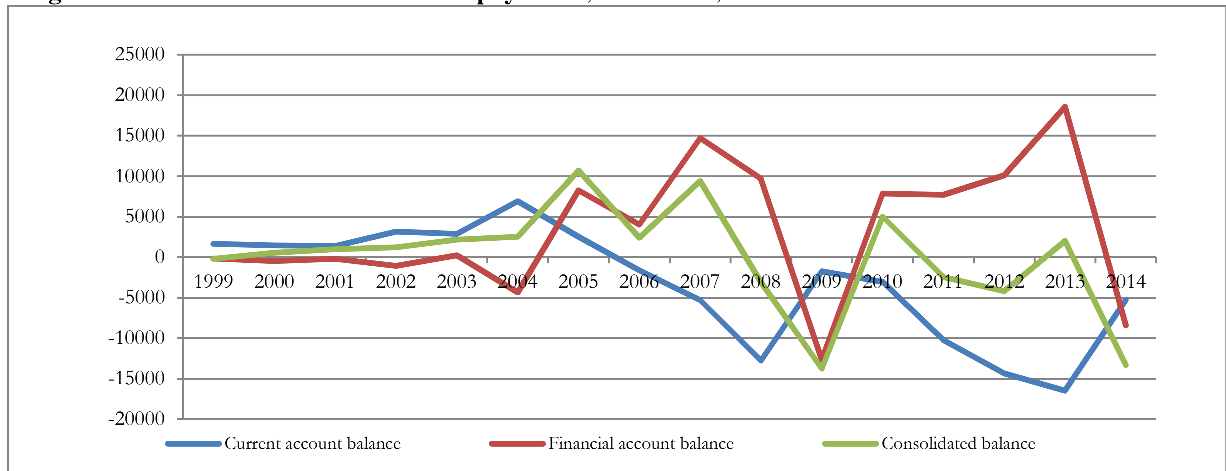
was mainly determined by the reversion of the foreign debt inflows into the banking sector (NBU 2009a:7ff.). The sector's net repayment of external debts was predominantly in the form of short- and medium-term loans and bonds, as well as repatriation of deposit funds previously placed by the nonresident banking units, and amounted to USD 8.8 billion (Diagram 95). The net discharge volumes of short-term bank loans increased by ca. 3 times compared to the previous year and equaled USD 4.4 billion (Diagram 17). The liquidity support from the international subsidiaries mitigated the repercussions of negative debt inflows for the indigenous banking units. Even though having reduced by over a half, the net inward FDI remained nevertheless positive and was for the most part directed to the banking sector, about 40% of the total. They may be primarily attributed to the operations on recapitalisation of the Ukrainian credit institutions on behalf of their overseas parent banks (NBU 2009a:7). Over the course of 2009, about one-third of the total inward FDI in Ukraine was still destined for the domestic financial activities (Diagram 21). With regard to Ukraine's real economy, the inward foreign debt-creating streams plunged by 76%, mainly resulting from the net discharge of the erstwhile loans of long- and short-term maturities, and deceleration in the supply of trade credits. At the same time, the 4 times increase in other short-term liabilities on its behalf, in the form of arrears on the debt payments due, as well as placement of debt securities, counterbalanced the negative impacts so that generally positive net debt inflows were actually recorded (Diagram 96). In general, the real sector fared better than the banking sector in terms of refinancing of the payments on the medium- and long-term external liabilities generated in the past. The rollover rate for the former resided at almost 100%, while for the latter it came up to 76% (Diagram 122). The simultaneous retardation in the growth rates of private investment funds outflowing from Ukraine, most notably in the form of foreign currency cash outside the domestic banking system, mitigated the overall situation by keeping the deficit of the net private foreign inflows in 2009 within bounds (Diagram 9, Diagram 10). Nevertheless, the circumstance that the country's private sector financial dynamics were dominated by the net discharge of external liabilities, first and foremost on behalf of its banking sector, contributed to the conversion of the national financial account from a surplus of USD 9.7 billion in 2008 into the deficit of USD 12.6 billion in 2009. Such a precipice substantially aggravated the deficit position of the country's consolidated balance which, increased by over 4 times during just one year, soared to USD 13.7 billion (Diagram 94).

Diagram 93: **Export revenues**, 2000-2014, % of previous years



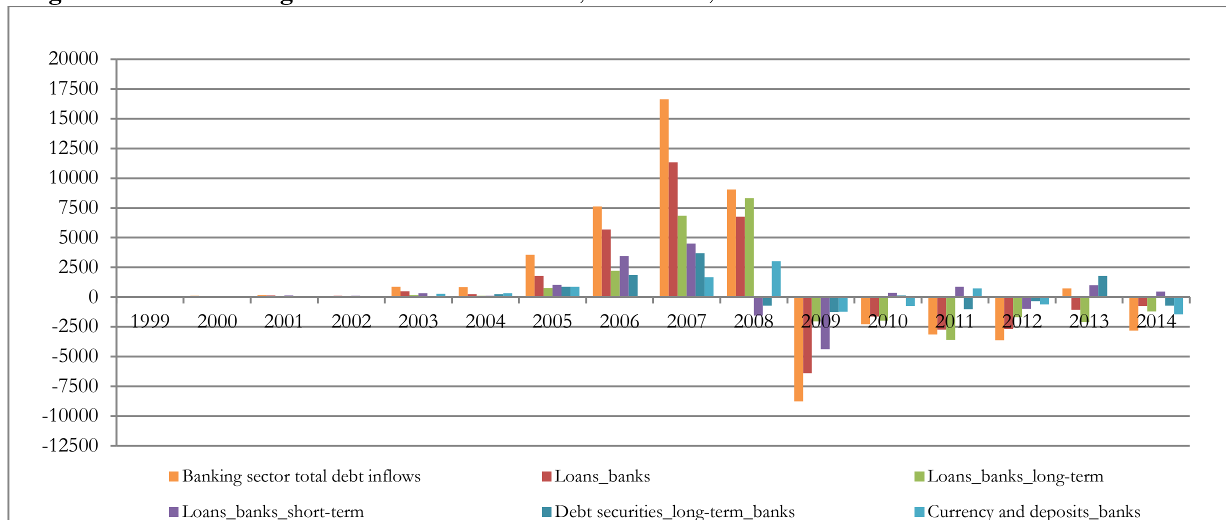
Source: Own calculations based on data provided in the NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 94: **Consolidated balance of payments**, 1999-2014, USD million



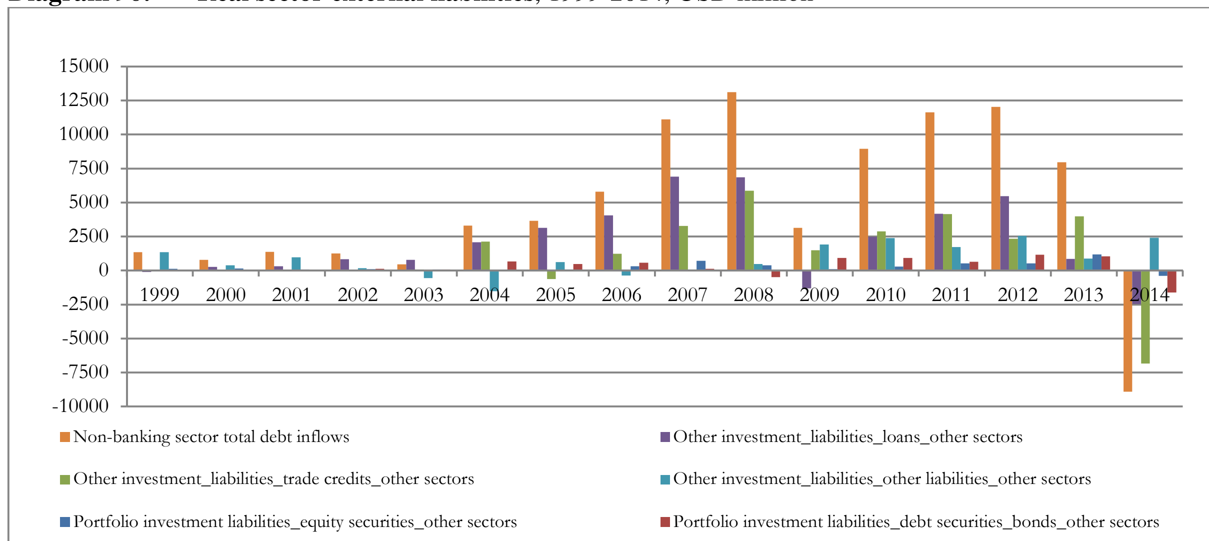
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 95: **Banking sector external liabilities**, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

Diagram 96: Real sector external liabilities, 1999-2014, USD million



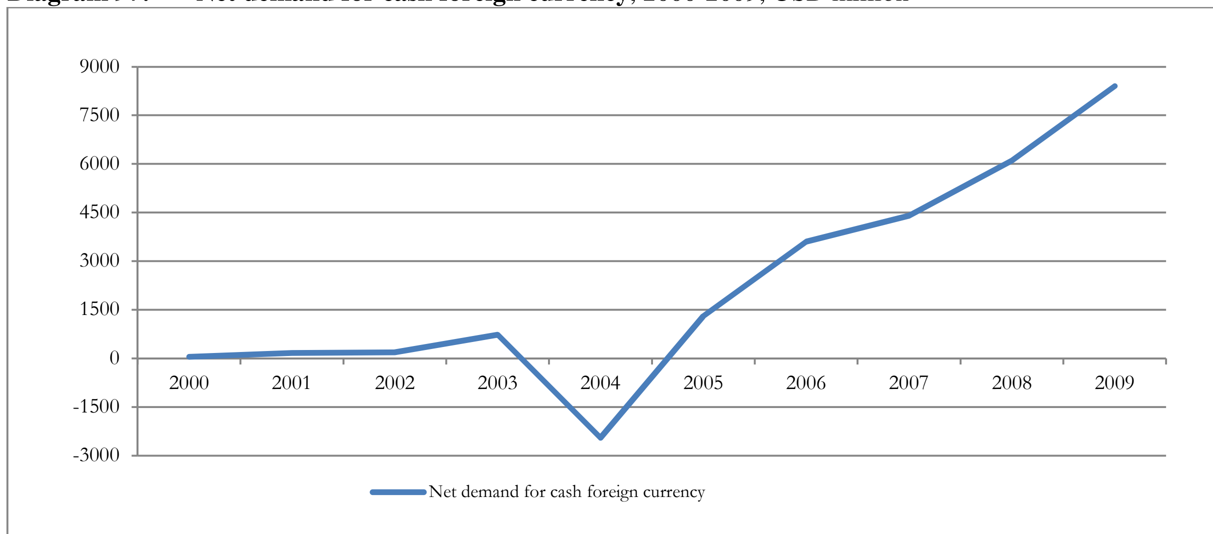
Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

The substantial structural maladjustments accumulated within the private sector balance sheets over the course of the pre-crisis period determined the sector's exceptional exposure to the alterations in the interest rates on the international financial markets, as well as the value of the national currency. These other two channels for the transmission of the Global Financial Crisis into Ukraine's economy operated through the impingement upon the present value of the private sector's cash flows, level of its indebtedness, and the costs of servicing and refinancing its financial obligations. Since the middle of 2008, the international creditworthiness ratings for Ukraine's economy exposed a downward tendency and by the beginning of 2009, the country's ability to meet its international financial obligations denominated in foreign currency was appreciably downgraded[61]. Among the emerging economies, Ukraine experienced the highest rate of growth in the risk premium for borrowing on international capital markets. The Emerging Market Bond Index + (EMBI+) for Ukraine skyrocketed from ca. 300 to 2735 basis points by the end of 2008, having surpassed the emerging markets' average by over six times at this point. The five-year Credit Default Swaps for Ukraine's sovereign debt jumped up to 3200 basis points. Within the first two months of 2009, the EMBI+ advanced further to 3593 basis points (NBU 2008b:40, 2009b:52). The risk of default on financial commitments so highly assessed exacerbated Ukraine's refinancing chances on the external capital markets, as well as its costs. The murky demeanor of international investors contributed eminently to the increase in the downward pressures on hryvnia and determined the situation on the domestic foreign exchange market. The

[61] Ukraine's credit rating history is available at https://ieconomics.com/ukraine-credit-rating# and https://tradingeconomics.com/ukraine/rating, May 2018.

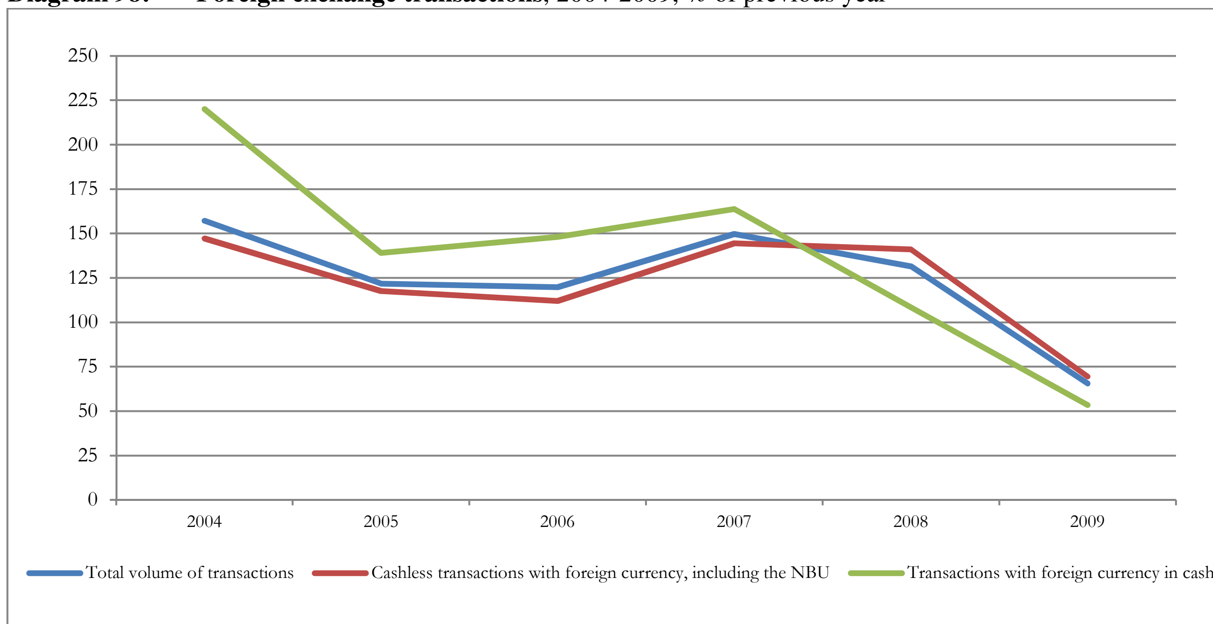
progressivity of the inbound foreign capital streams over the course of the period 2004-2008 accounted for a stable demand for hryvnia on the country's interbank market during the implied timeframe. Between January and August 2008, the appreciation pressures on the national currency were especially intense. Starting from September however, the tendencies on Ukraine's foreign exchange market reversed (NBU 2008b:52ff.). On the one hand, the decreased export revenues as a result of the plummet in the export sector activity accounted for the substantial loss of the foreign exchange incomings. On the other hand, the deceleration in the foreign capital inflows, concomitant with the mounting volumes of the private sector's transfers on repayment of the previously accumulated international debts, engendered a shortage in the foreign exchange supply on the domestic interbank market ever since. In contrast, the cash segment of the country's foreign exchange market was most distinctive of the preponderance of the foreign currency demand over its supply for the entire pre-crisis period, which had hardly ceased growing since 2004 (Diagram 97). The mounting anxiety of the population with regard to the events looming on the world economic and financial markets throughout 2008 compounded the prevalent sentiments by the year end. For the first time during the last four years, the Ukrainian monetary authorities found themselves constrained to readjust the official exchange rate of hryvnia *vis-à-vis* the US Dollar by 53% at the end of the year, *viz.* from 5.05 UAH to 7.70 UAH per 1 USD (Diagram 75). As the strong depreciative tendencies endured throughout 2009, the hryvnia's official exchange rate had to be lowered again, although to a lesser extent, i.e. by 4%. Over the course of the year, the foreign currency deficit on the interbank market, in combination with the burgeoning demand for foreign exchange in cash on behalf of the population, within the scope of settling its foreign currency credit commitments, accounted for the severity of the overall situation on the domestic foreign exchange market (NBU 2009b:50ff.). As a corollary, a considerable curtailment in the volumes of transactions on both its interbank and cash segment followed, *viz.* by almost 50% in the latter case (Diagram 98).

Diagram 97: Net demand for cash foreign currency, 2000-2009, USD million



Source: NBU's Annual Reports for 2001-2009 years.

Diagram 98: Foreign exchange transactions, 2004-2009, % of previous year



Source: Own calculations based on data provided in the NBU's Annual Reports for the respective years.

Throughout 2007, when the appreciative tendencies of hryvnia were especially strong, the growth rate of hryvnia deposits with the deposit-taking institutions was principally higher than in the case of foreign currency deposits. Against the backdrop of the rapidly devaluating national currency starting from September 2008, the situation reversed. In anticipation of the on-going depreciation, the resident economic entities started to withdraw their hryvnia funds placed with the local banks. Within the scope of their intensions, on the one hand, to preserve the value of their deposit funds, and on the other hand, to square their outstanding obligations denominated in external currencies as soon as possible, whose cost of servicing soared, the

real sector participants searched for opportunities to convert their liquid funds into foreign currencies, the US Dollar first and foremost. Just within the 4th quarter of 2008, the amount of cash outside the banks augmented by 16% with significant consequences for the domestic resources base of the Ukrainian deposit taking corporations (NBU 2008d:6). Between October and December 2008, the total fall in deposits held on the domestic banking accounts in national currency corresponded to 14%, or 15% in the case of the individuals and 12% in the case of the business units. By contrast, the deposits placed with the local banks in foreign currencies reduced by only 8%, or by 13% in the case of the retail deposits and by 4% in the business entities' case (ibid.). On the annualised basis in 2008, the growth rate of hryvnia resources at the banks' deposit accounts decelerated to 100% as compared to 170% in the preceding year (Diagram 99). In the wake of some restrictive counteractions, the outflow of hryvnia funds from the banking system moderated since the second quarter of 2009. Nevertheless, overall during the year, the total deposits in national currency fell by 15%, by 10% in the case of the natural persons and by over 20% in case of the enterprises (Diagram 99, Diagram 101, Diagram 102). Their share within the total bank deposits structure reduced against the foreign currency funds from 70% to 50% during 2007-2009 (Diagram 103). In 2009, the real sector's deposits diminished by 10% in total or by 20% in the business entities' case (Diagram 100). By the respective year, the latter's share within the total fell below 30% against the household sector (Diagram 105). Furthermore, the residents' bearish expectations contingent upon the unfavourable international climate induced an alteration in the deposit term structure towards short-termism. In 2009, the proportion of time deposits reduced from 70% at the beginning to somewhat above 60% by the end of the year. The proportion of deposits with the term of over one year within the total deposit volumes almost halved as compared with the preceding year (Diagram 104). Taking into account the distorted income and revenue receipts at the real sector accounts and the sector's mounting refinancing needs of the maturing debt obligations, the banking sector situation throughout 2009 remained precarious.

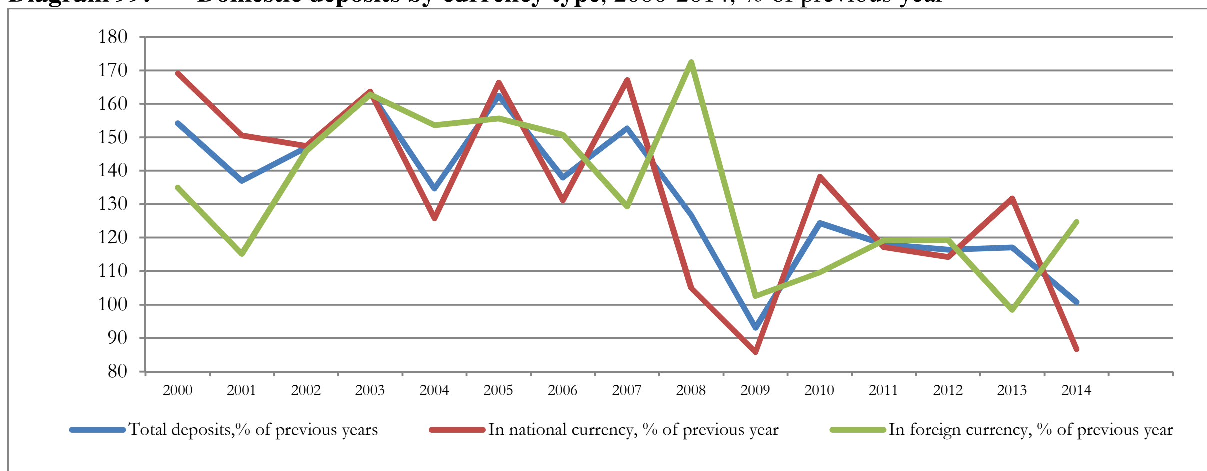
In order to stifle the intense wipeout of deposit funds, the Ukrainian banks continued elevating the rates of interest for the deposits from the resident economic entities in both national as well as foreign currency. Nevertheless, the highest rates were recorded in the former case (Diagram 106). In February 2009, the interest rates on hryvnia deposits surged to just below 17%, and ranged between 20% and 27% for those with the term of up to one year (NBU 2009c:150ff.). The substantial curtailment of hryvnia resources at the deposit accounts compelled the indigenous depository corporations to fund procurement on the domestic

interbank market. Such circumstances translated into upward pressures on the respective interest rates (Diagram 107, Diagram 108). During October-December 2008, interest rates on the interbank market rocketed to phenomenal levels and ranged between 17%-21% per annum in terms of credits and between 15%-19% in terms of deposits (NBU 2009c:164ff.). Following the all-time peak of the volumes of lending transactions on the interbank market in 2007, their growth rate decelerated gradually during January-August 2008. Starting from the end of September, they ultimately plunged. On the annual basis, the volumes of interbank lending transactions in 2008 abated by almost 40% as contrasted with a 2.5 times enlargement in the preceding year (Diagram 109, Diagram 110). The respective credit operations in hryvnia reduced by over 40% (NBU 2009c:123). At the beginning of 2009, the climate on Ukraine's interbank market exacerbated seriously and lingered until nearly the year end. Still substantial, the deposit withdrawals on behalf of the population reflected in the 20% contraction of funds held by other depository corporations on the correspondent accounts with the national bank (NBU 2009b:46). The interbank rates escalated to over 30% in the credit and to over 20% in the deposit case by February-March, and were exceptionally high for the overnight funds, i.e. 35% and 25% respectively (NBU 2009c:164ff.). Notwithstanding the ameliorative trends since the second quarter of 2009, the money market rates remained at an exceedingly high level throughout the year. The average-weighted interest rates on the interbank credits and deposits in national currency in 2009 came up to 18% and 14% in the respective cases (Diagram 107, Diagram 108). By the year results, the volumes of lending operations on Ukraine's money market reduced by about one-third compared to 2008 (Diagram 109, Diagram 110).

The cost of refinancing by the national monetary authority augmented substantially for Ukraine's deposit taking corporations. Aiming to arrest the depreciation tendencies of the hryvnia value by stimulating the external capital inflows and discouragement its outflows, the NBU raised its discount rate twice in 2008, i.e. from 8% to 10% at the beginning of the year and further to 12% at the end of April. A matching upward adjustment in the rates on all the refinancing mechanisms followed (Diagram 87). By March 2009, the average-weighted interest rate on all the refinancing instruments attained its record high of over 18%. The highest rates were recorded under the repo transactions as well as credits granted through tender in the first two quarters of the year ranging between 21%-24% (NBU 2009c:54). Despite the reductions in the NBU's basic rate since mid-2009 against the backdrop of the moderated funds outflows from the banking sector, the rates on residual refinancing instruments subsisted by the end of the year at the exceptionally high level. The diminution of

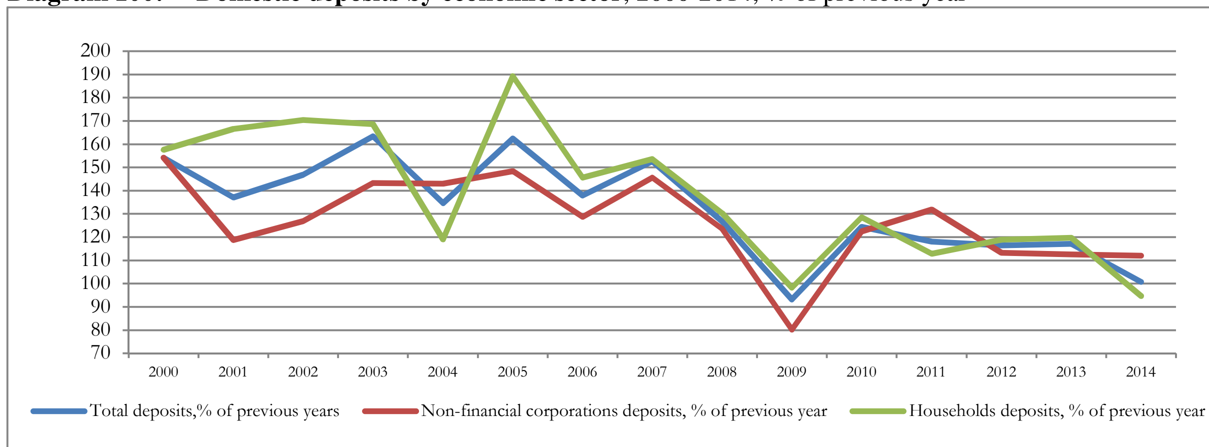
the internal resources base of Ukraine's deposit-taking corporations amplified by the augmented costs of resources procurement on the international as well as domestic capital markets was soon passed over to the real economy and population at the expense of the rates for lending in the national currency (Diagram 74). By the end of 2008, the average weighted interest rates on credits accommodated to the resident economic sectors in hryvnia climbed to ca. 22%. In the first quarter of 2009, they recorded their highest values ranging between 25% and 28% per annum (NBU 2009c:136ff.). Within the respective period, the period average rates were most significant under the credits provided to non-financial corporations and household in hryvnia for the term of up to one year, at phenomenal 30%. In 2009, the dynamics of bank credit provision to the domestic economy were unpropitious (Diagram 60). The growth rate of the foreign currency credits experienced a sharp nosedive from over 200% in 2008 to 85% in the respective year. In the household sector case, the volumes of credit accommodated in both the national as well as foreign currencies reduced by 20% (Diagram 65). As regards the corporate sector, the fall in the growth rate of foreign currency credits was most significant, to wit from over 200% to 80% (Diagram 67).

Diagram 99: Domestic deposits by currency type, 2000-2014, % of previous year



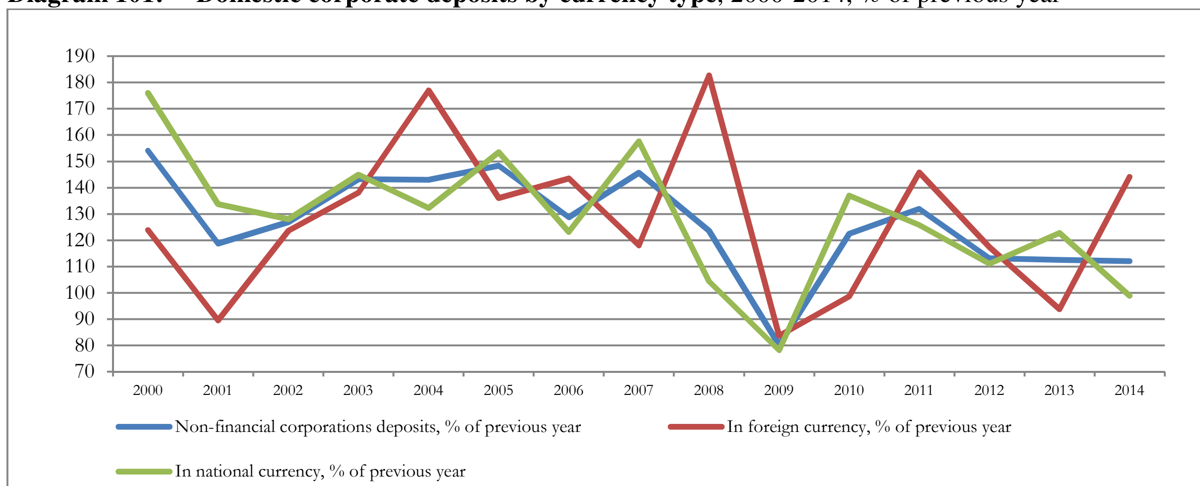
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 100: Domestic deposits by economic sector, 2000-2014, % of previous year



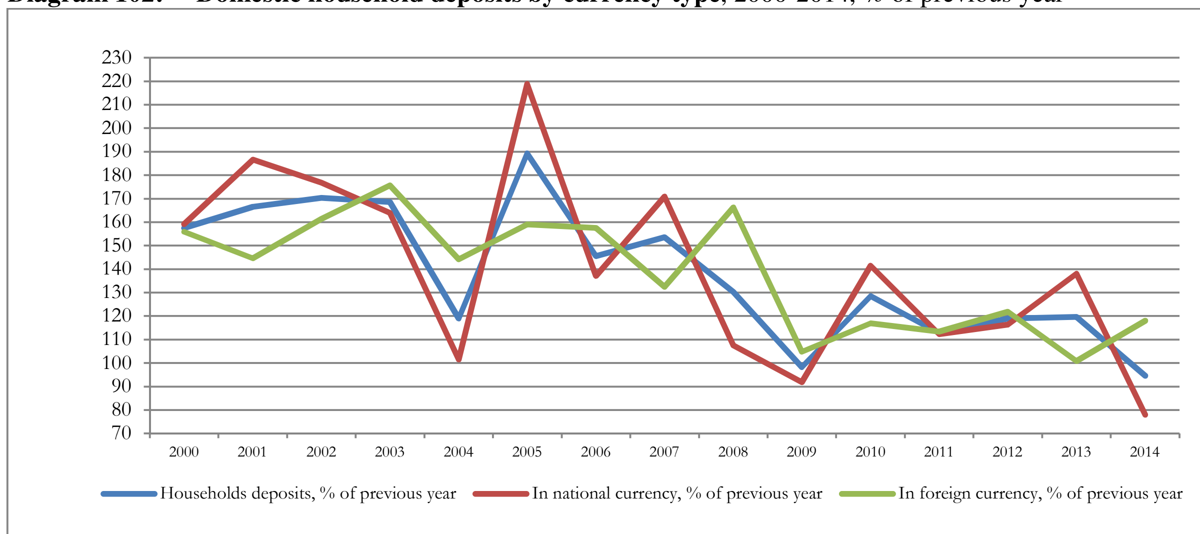
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 101: Domestic corporate deposits by currency type, 2000-2014, % of previous year



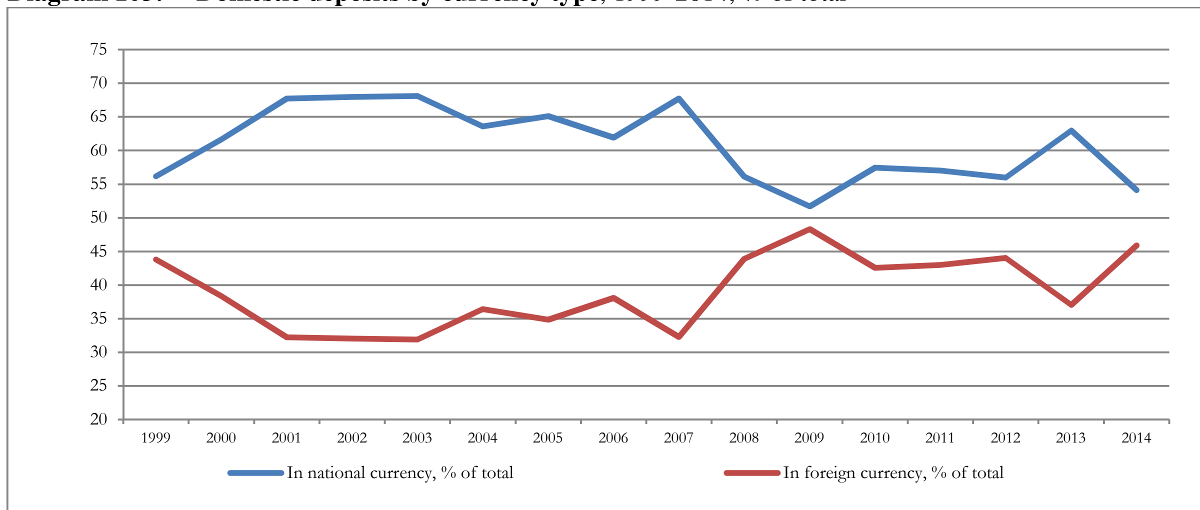
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 102: Domestic household deposits by currency type, 2000-2014, % of previous year



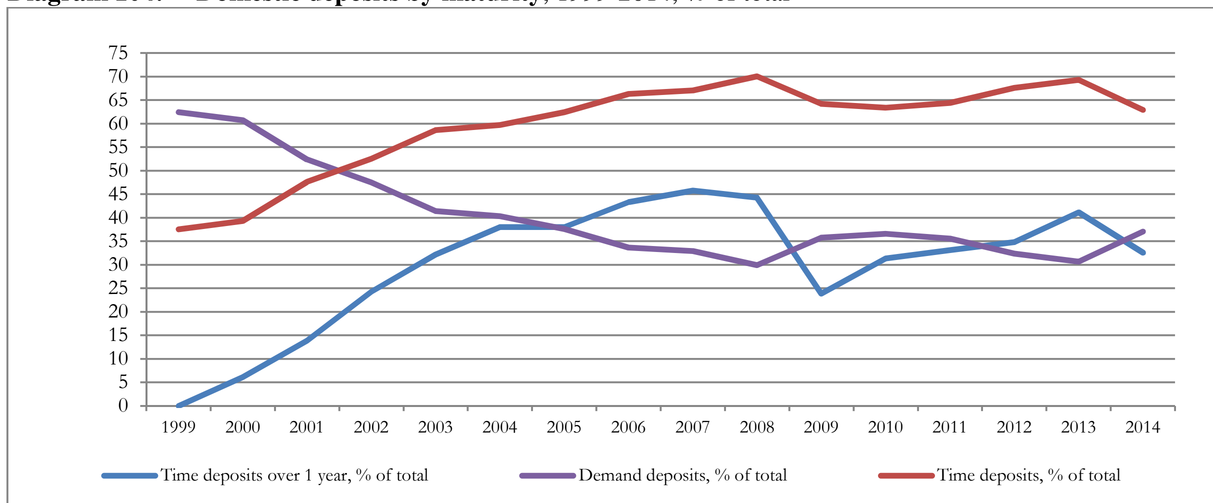
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 103: Domestic deposits by currency type, 1999-2014, % of total



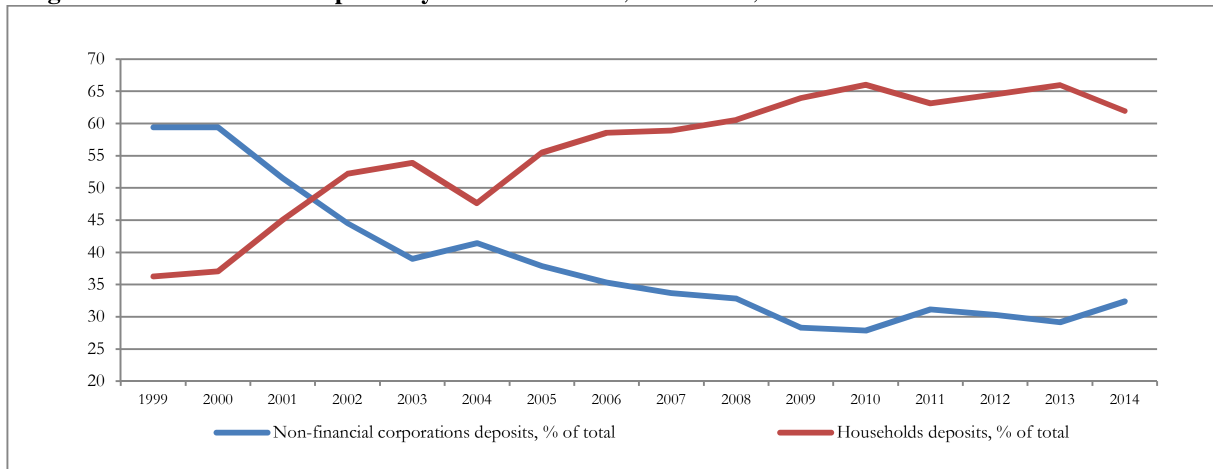
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 104: Domestic deposits by maturity, 1999-2014, % of total



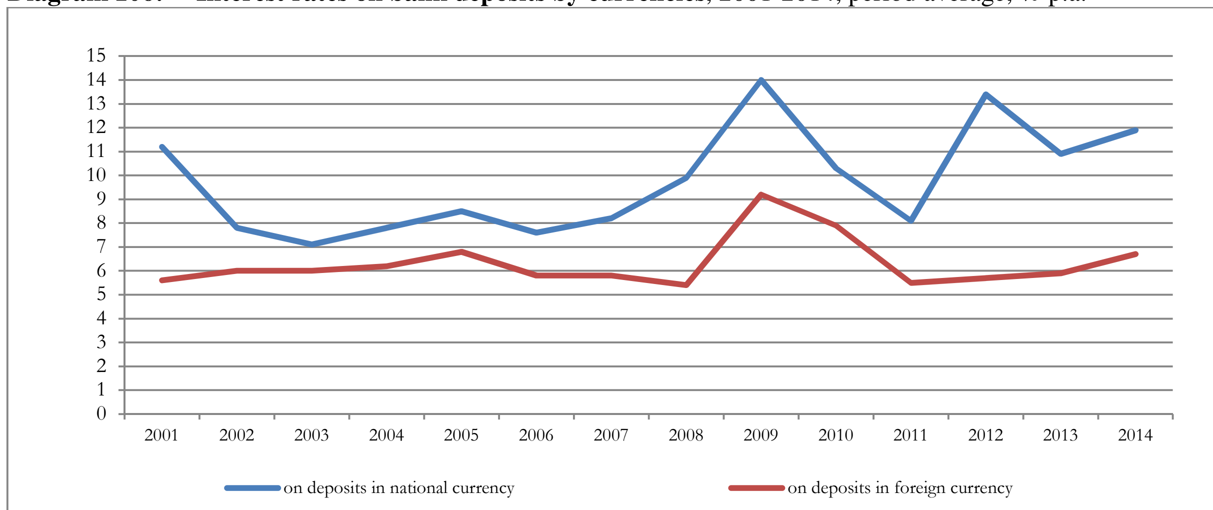
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 105: Domestic deposits by economic sector, 1999-2014, % of total



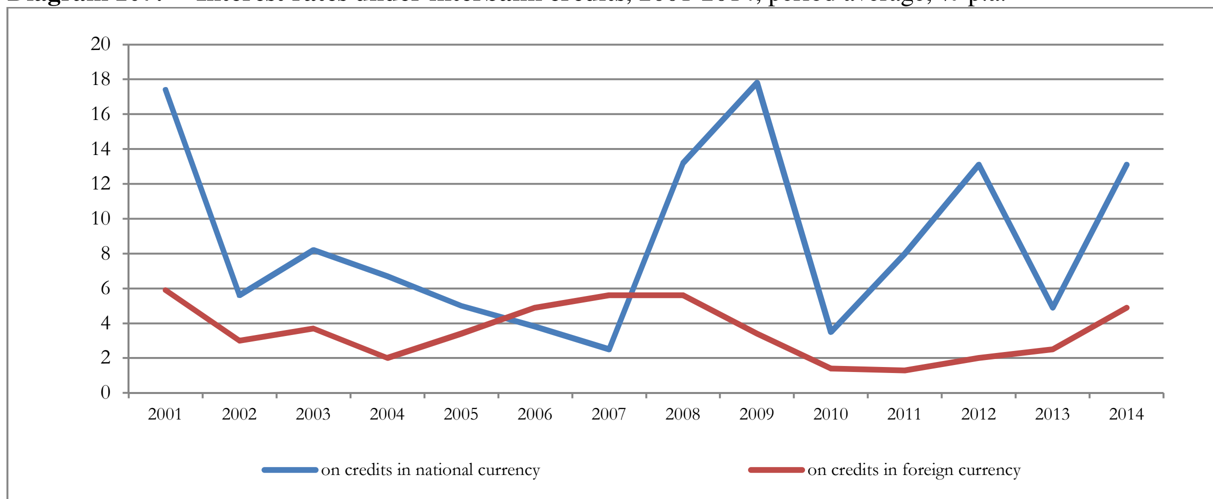
Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

Diagram 106: Interest rates on bank deposits by currencies, 2001-2014, period average, % p.a.



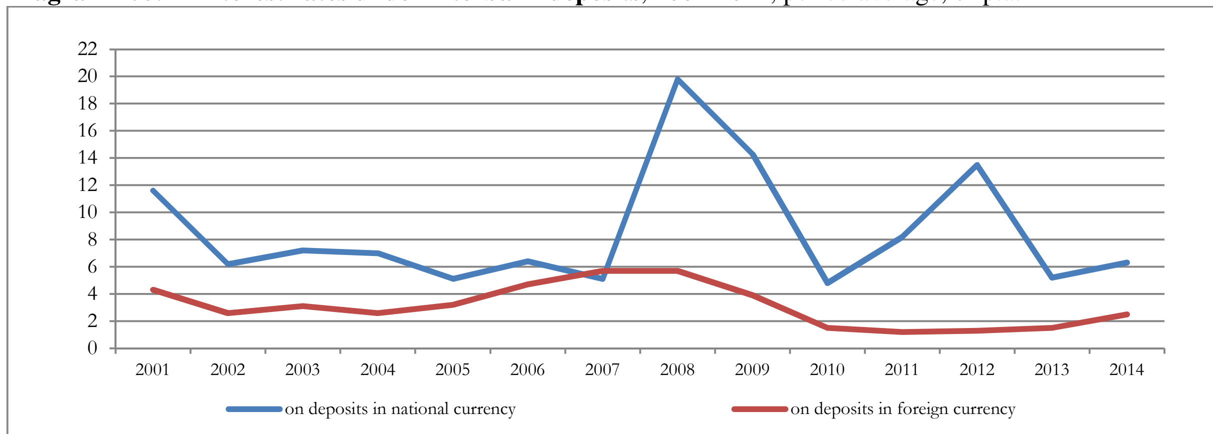
Source: NBU's Bulletins for 2002-2014 years.

Diagram 107: Interest rates under interbank credits, 2001-2014, period average, % p.a.



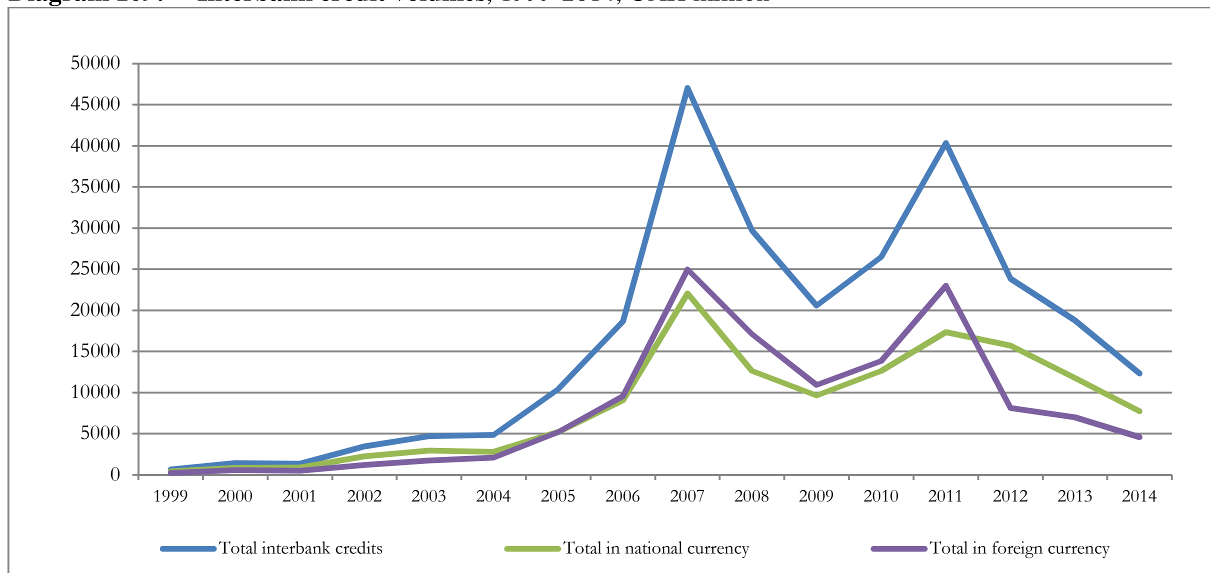
Source: NBU's Bulletins for 2002-2014 years.

Diagram 108: Interest rates under interbank deposits, 2001-2014, period average, % p.a.



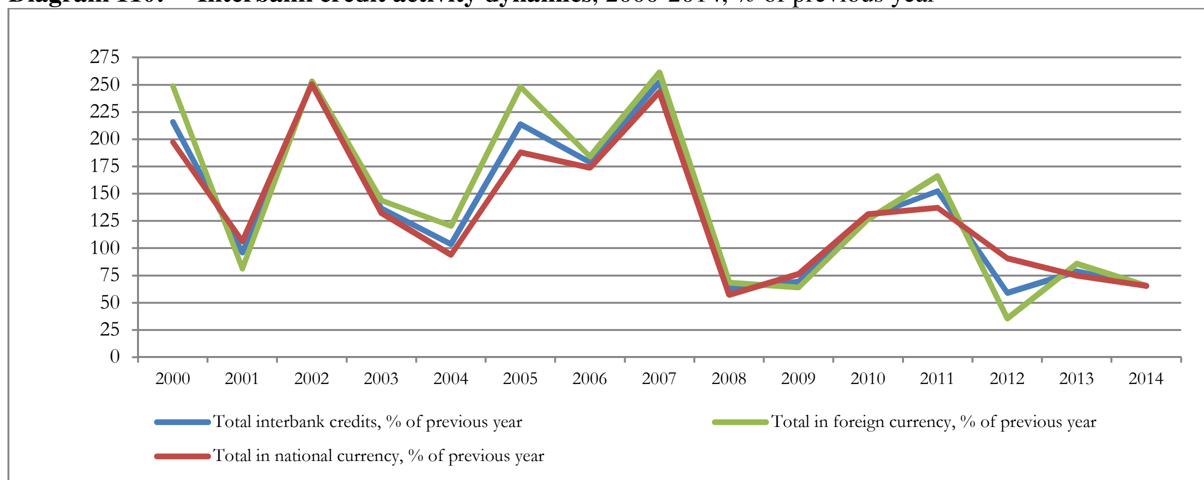
Source: NBU's Bulletins for 2002-2014 years.

Diagram 109: Interbank credit volumes, 1999-2014, UAH million



Source: NBU's Bulletins for 2002-2014 years.

Diagram 110: Interbank credit activity dynamics, 2000-2014, % of previous year



Source: Own calculations based on data provided in the NBU's Bulletins for 2002-2014 years.

In addition to the previously discussed channels which fostered the transmission of the global turmoil into Ukraine's economy, the domestic asset prices, first and foremost within the property market, served as the catalysts of crisis materialisation on the national level. Stimulated by the low interest rates on credits in foreign currency within the framework of the Dollar-pegged exchange rate regime during the period prior to the crisis, the advancing demand for residential and commercial property accounted for the continuous augmentations in the real estate prices. The latter in turn were at the bottom of the financing units' expectations of rising profits and available defensive position-making opportunities in case these are required to keep performing the financial obligations. Rapidly advancing housing prices came along with substantial increases in the net wealth of individual financing units. At

the same time, the general financial soundness of the country's property market was heavily undermined. As a result of significantly overpriced loan collaterals and the reduced to the minimum level margins of safety, the eminently speculative and Ponzi financing profiles advanced on a large scale. The sudden stop in the foreign exchange receipts brought the operations on the country's foreign exchange market to a standstill and, coming along with a considerable loss of hryvnia's value, engendered the *en masse* disposition of the domestic property assets on behalf of the resident economic units. In search for opportunities to reduce their foreign exchange exposure, the property financing units attempted to acquit their outstanding foreign currency liabilities in the minimum possible time. As most of the units made positions by selling their property, the downward correction in the respective asset values was exceptionally strong. The prices for residential property in Kyiv reduced from their peak on the eve of the crisis by 1.5 times during the subsequent period (Diagram 79). The activated debt deflation process had material repercussions for both the debtors' as well as creditors' balance sheets, having ultimately precipitated the materialisation of crisis. The appreciable reductions in the collateral values of bank loans caused the proportion of non-performing mortgage loans to grow at a tearing pace, and contributed to the financial instability of the domestic banking system.

Summarising, the principal repercussions of the global turmoil for Ukraine's economy were the resulting difficulties for the resident economic units connected with the discharge of their financial obligations, denominated predominantly in foreign currencies, and the ensuing effects on the systemic financial and macroeconomic resilience. Specifically, on the micro scale, the financial instabilities accomplished through the derogatory alterations in the variables underlying the viability of the domestic financial positions such as the scope of the income and refinancing inflows, net worth, the level of liquidity and leverage, as well as debt servicing and refinancing cost. As a corollary of the distortion in the initial financial framework conditions, the far and wide entrenched speculative positions slipped off into the Ponzi mode, while the latter imploded, significantly impinging even upon the originally sound financing positions. Having taken place on a massive scale, the individual financial instabilities rapidly translated into financial instability at the macro level and, going hand in hand with economic recession as is usually the case, grew into a full-blown calamity. The disruptions of income flows to the indigenous corporate and households sectors, and the concomitant dire straits arising whilst attempting to approach the growing leverage burden by means of defensive position-making, triggered large-scale insolvencies within the respective sectors. The ramifications for the domestic banking system and the entire macroeconomy

were far-reaching. Contraction of global demand over the course of 2008 brought about significant impacts on the performance of Ukraine's major export industries, most notably metallurgical and machine-building. In the wake of dwindled real sector revenues, the slackening of domestic demand prompted the deceleration in the growth of the country's industrial production destined for the indigenous markets. In consequence, production plummeted in all sectors of Ukraine's industry (NBU 2009b:16ff.). Among all industries the largest slump in output was registered in the construction sector, namely by almost 50%. The output in the metallurgical and machine-building sectors plunged by ca. 30% and 45% respectively. The retail and wholesale trade turnover decreased by 17% and 19% in each case. The volume of total industrial output in 2009 came to 80% of the previous year's volumes (Diagram 111). The low business activity impinged upon the financial performance of Ukraine's entire corporate sector. In 2009, the financial result of the domestic enterprises from their core operating activities before tax, including banks, turned negative for the first time since the beginning of the decade and accounted for ca. 5% of GDP (Diagram 112). The corporate entities engaged in financial and real activities registered the most significant losses, *viz.* 80% and 20% of the sector's total negative balance in the respective cases (Diagram 113). Regarding the banking sector alone, it accounted for 90% of the corporate sector's total loss[62]. The derogatory dynamics within Ukraine's corporate sector impaired the situation within the domestic labour market (Diagram 114, Diagram 115). The total working force dismissals at Ukraine's enterprises, establishments and organisations more than doubled in 2009 (Diagram 116). Just under 50% of total layoffs were registered within the industrial sector (SSSU 2010:367). The substantial increase in wage arrears and the growing share of the unemployed population adversely affected the households' ability to meet their financial responsibilities out of disposable personal income, which diminished by 10% during the year (Diagram 117).

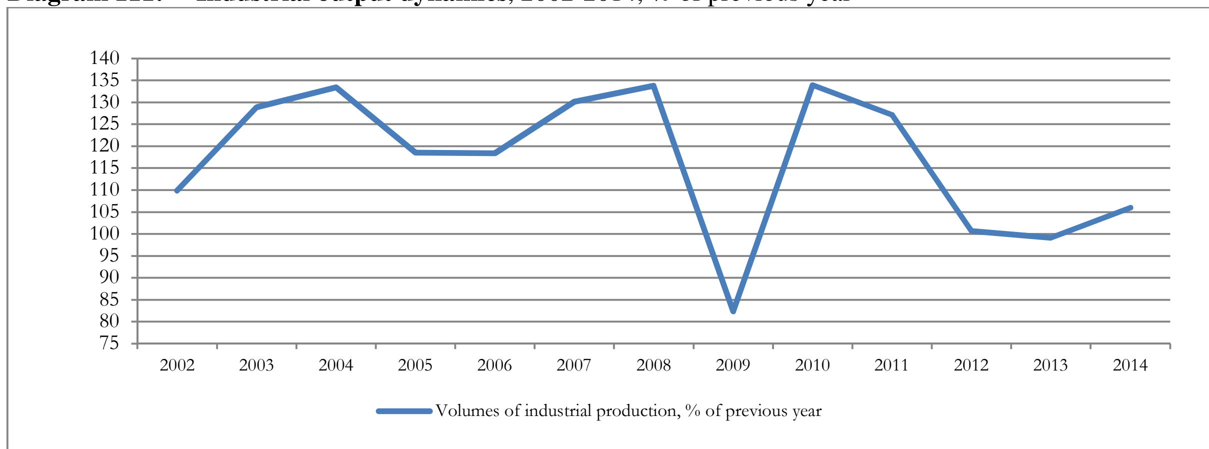
Within the plummeting incomes and debt deflating framework, the collapse of credit provisioning to the domestic economy on behalf of the resident credit institutions truncated the population and business entities from the opportunities of refinancing their income losses and rolling over their existing debts. The household sector was affected most, none more so than in terms of foreign currency loans (Diagram 65). Although the growth rate of lending to the domestic non-financial enterprises in hryvnia remained generally positive throughout 2009, the precipice in the provisioning of the foreign currency loans to the very sector was unprecedented, to wit from over 200% to well-nigh 80% (Diagram 67). The considerable dimensions of the default payments on bank loans on the part of the respective sectors had

[62] Own calculations based on the data provided in NBU (2009b:23,60). The negative financial result of the banking sector amounted to UAH 38.4 billion, whereas that of the entire corporate sector UAH 42.4 billion.

destructive effects for the financial stability of Ukraine's banks and banking system as a whole. According to the official statistics of the national monetary authority, the share of doubtful loans and those overdue for more than 90 days within the total credit portfolio of the indigenous credit institutions augmented by 3.5 times within just one year, having jumped to almost 15% during the crisis (Diagram 118). On grounds of exclusion of the restructured and prolonged credits from the definition of "problem" ones, as well as banks' endeavour to postpone or underrate the share of non-performing loans within their credit portfolios, the official figures considerably understated the *de facto* numbers. The IMF statistics enlarged the NBU's narrow definition of non-performing loans by substandard loans, having significantly amplified the respective ratio (Diagram 119)[63]. The situation with the foreign currency denominated liabilities was most precarious. The plunge in hryvnia value came along with essential payment defaults under the foreign currency credits. The fact that these accounted for 60% of gross loans, and for over 70% of the total households loans by the eve of the crisis (Diagram 61, Diagram 68), had disastrous implications for the resident credit institutions, which had at this juncture already been confronted with soaring outflows of deposit funds. The exhaustion of internal resources base, massive default payments on the real sector loans in foreign currencies, and considerable refinancing straits on the domestic, as well as international financial markets rendered Ukraine's banks unable to service their financial obligations. A number of bank failures followed, among them one of the 6th largest in Ukraine Prominvestbank, which collapsed in October 2008. The demise of the systemically important banks engendered the gridlock of the country's entire financial system and Ukraine's government found oneself constrained to solicit for international support.

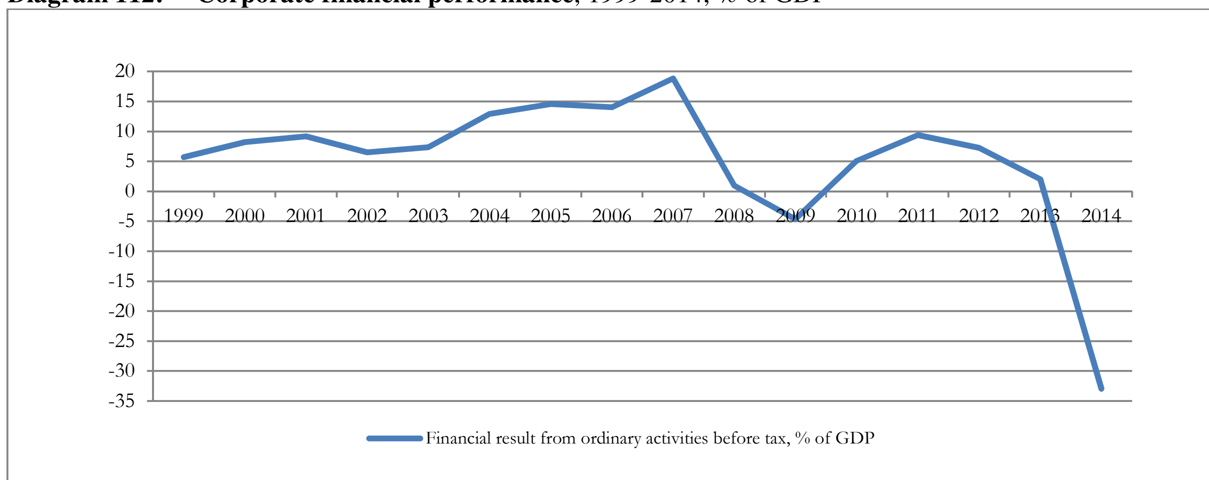
[63] Diagram has been constructed based on the data provided in the IMF reports (2012:31, 2010:8, 2009c:32).

Diagram 111: Industrial output dynamics, 2002-2014, % of previous year



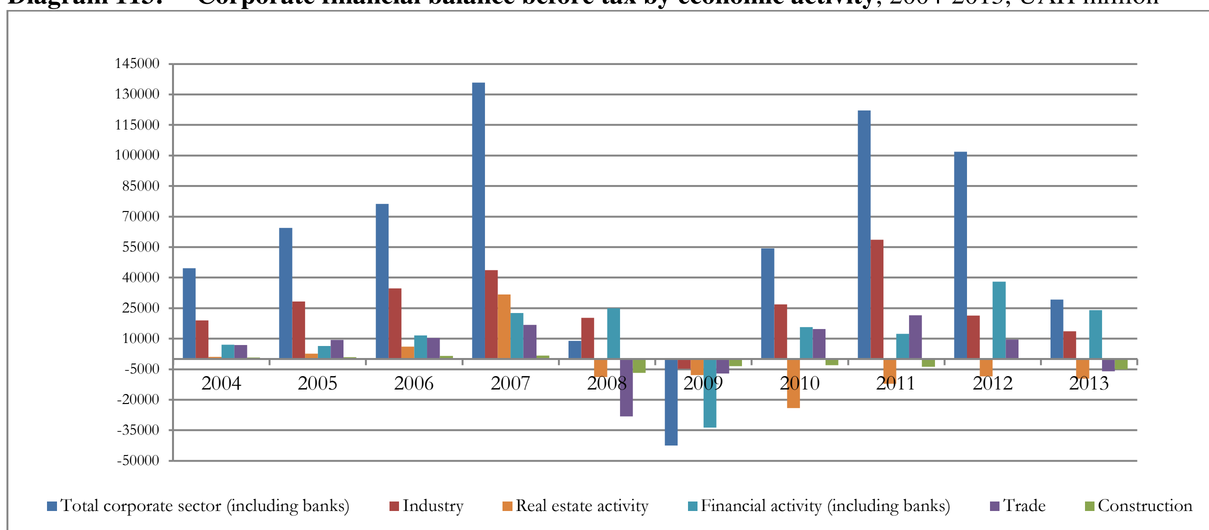
Source: Own calculations based on data provided in the SSSU's statistical publications, online database, https://ukrstat.org/uk/operativ/operativ2002/mp/op/122002.html.

Diagram 112: Corporate financial performance, 1999-2014, % of GDP



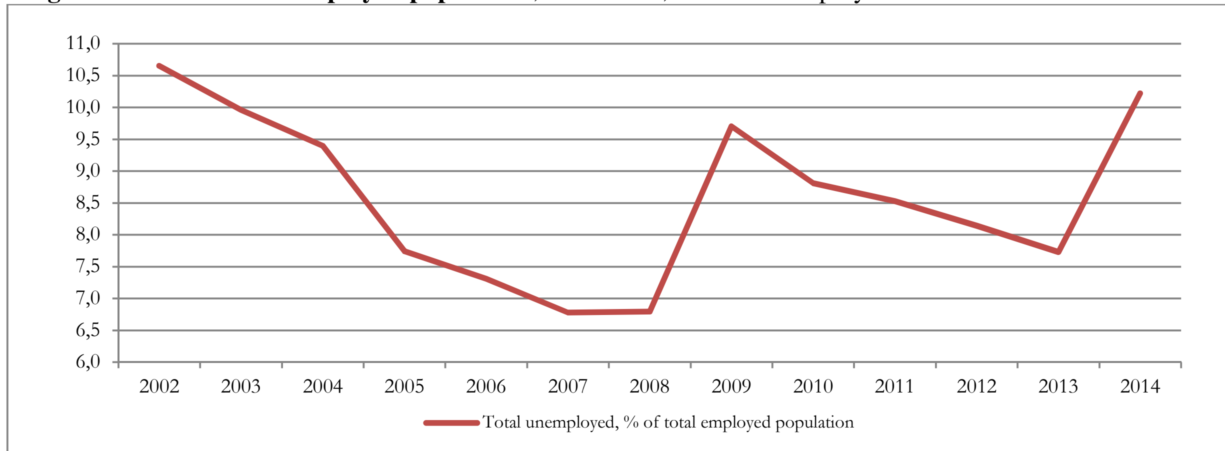
Source: Own calculations based on data provided in the SSSU's Statistical Yearbook of Ukraine publications for the respective years.

Diagram 113: Corporate financial balance before tax by economic activity, 2004-2013, UAH million



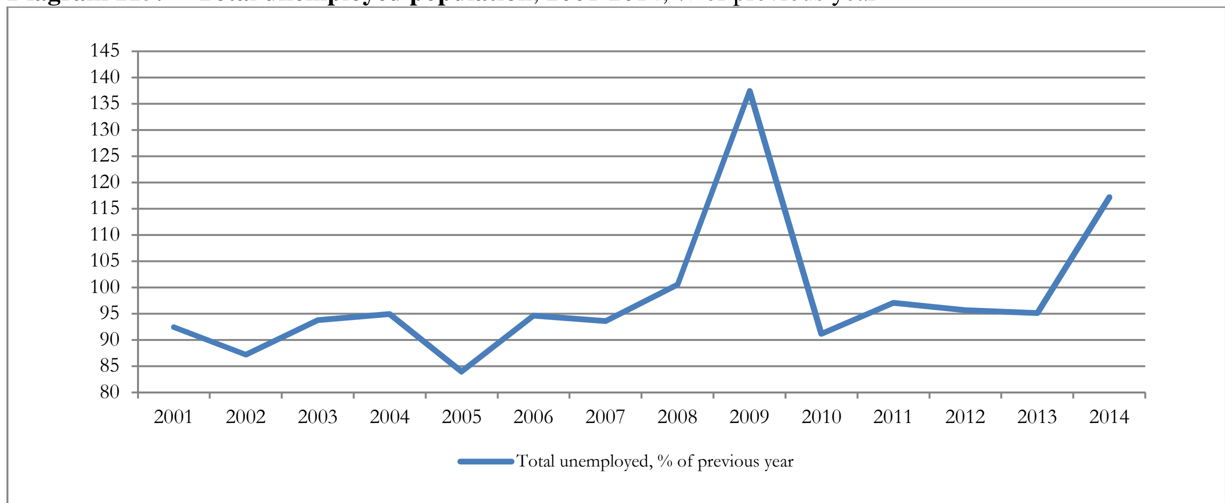
Source: SSSU's Statistical Yearbook of Ukraine publications for the respective years.

Diagram 114: Total unemployed population, 2002-2014, % of total employed



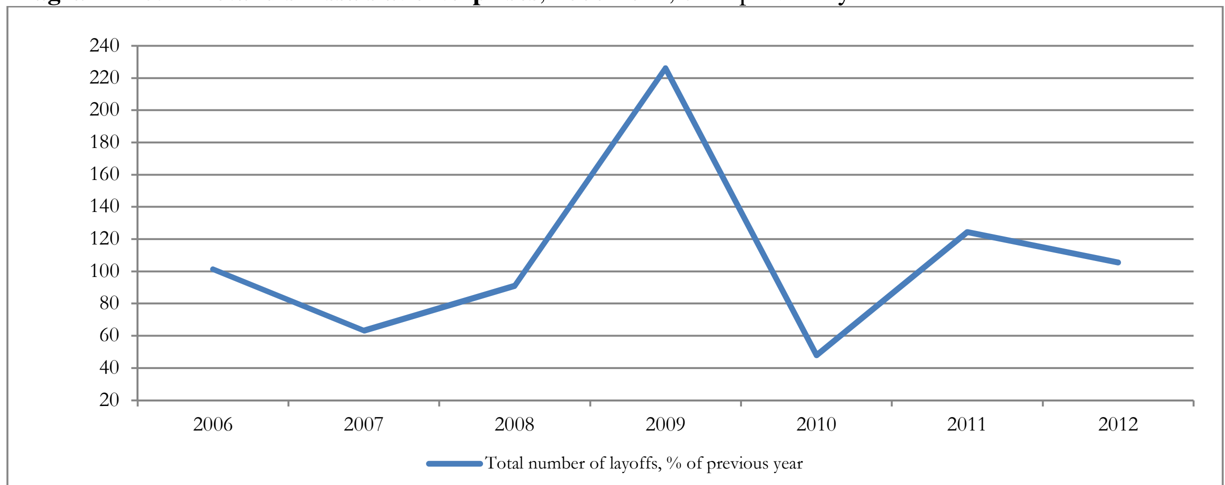
Source: Own calculations based on data provided in the SSSU's Statistical Yearbook of Ukraine publications for the respective years.

Diagram 115: Total unemployed population, 2001-2014, % of previous year



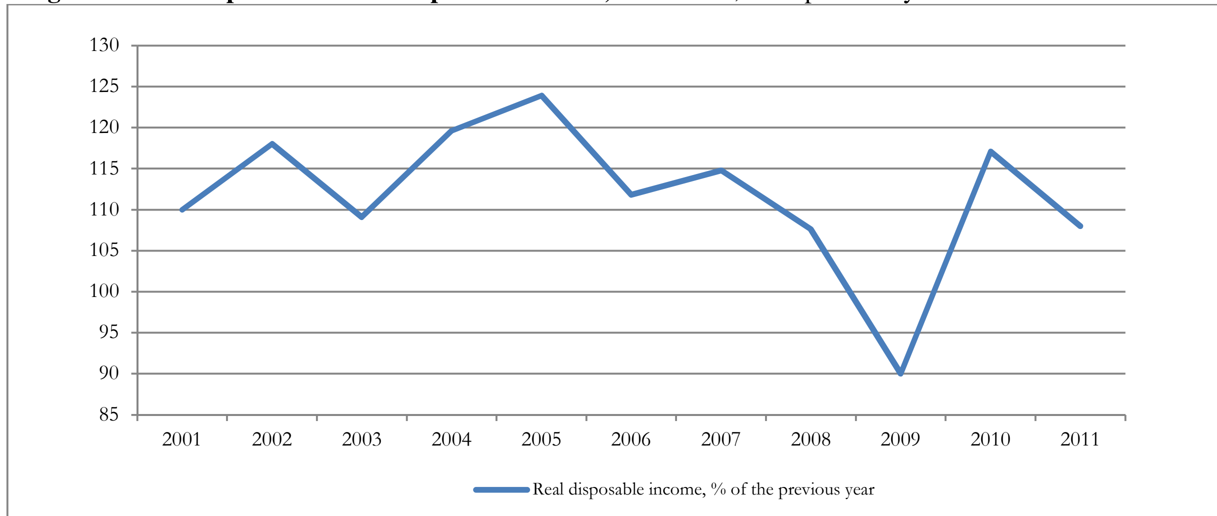
Source: Own calculations based on data provided in the SSSU's Statistical Yearbook of Ukraine publications for the respective years.

Diagram 116: Total dismissals at enterprises, 2006-2012, % of previous year



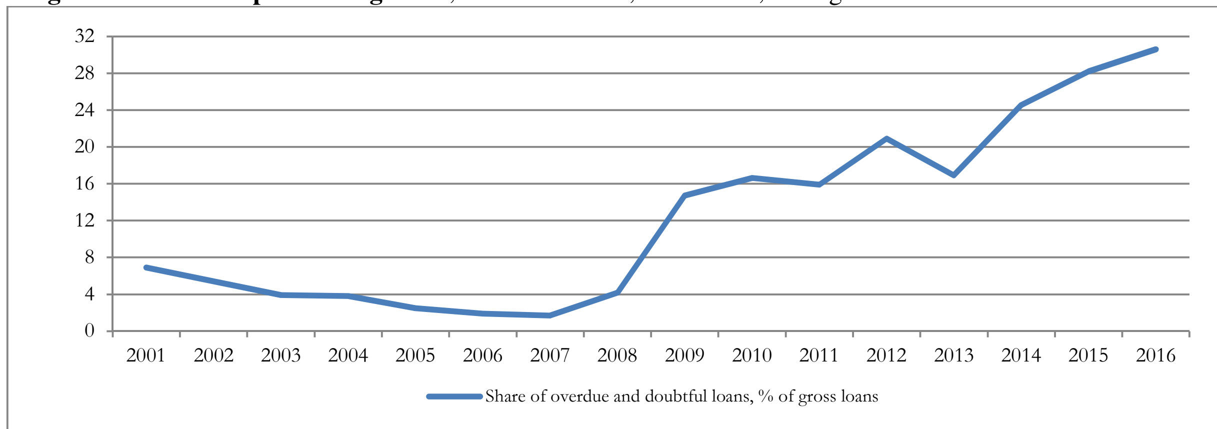
Source: Own calculations based on data provided in the SSSU's Statistical Yearbook of Ukraine publications for the respective years.

Diagram 117: Population's real disposable income, 2001-2011, % of previous year



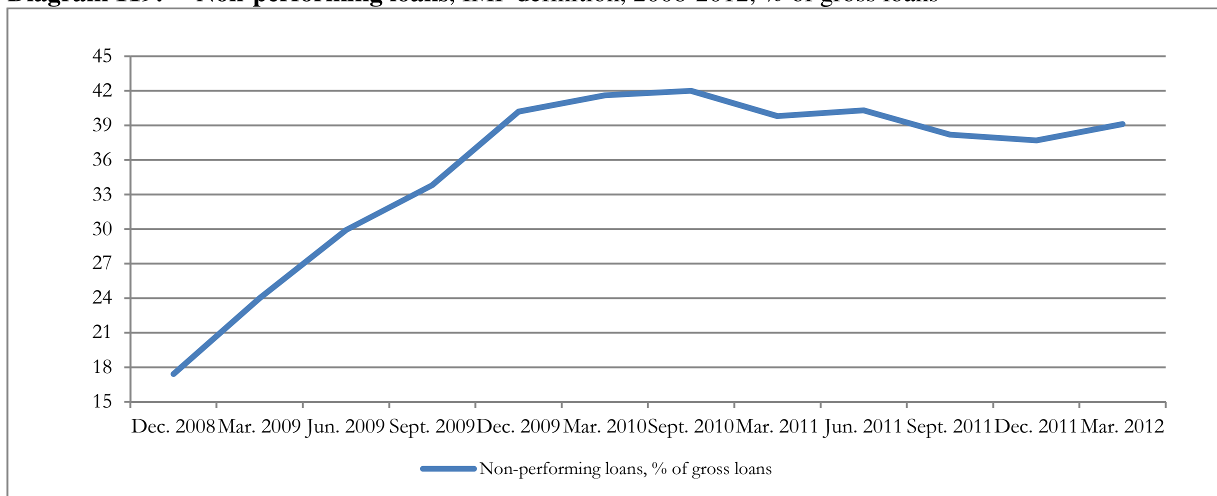
Source: SSSU's National Accounts of Ukraine publications for 2009-2014 years.

Diagram 118: Non-performing loans, NBU definition, 2001-2016, % of gross loans



Source: NBU's Annual Reports for the respective years and Financial Report on Performance of Deposit-Taking Corporations for 2005-2014, https://www.bank.gov.ua/control/uk/publish/category?cat_id=44575, December 2015.

Diagram 119: Non-performing loans, IMF definition, 2008-2012, % of gross loans



Source: IMF's Financial Soundness Indicators for Ukraine's Banking Sector in IMF (2009c, 2012).

3.2.2 Crisis-countering macroeconomic management and its shortcomings

The effectiveness of the immediate policy measures in counteraction of the crisis can be extrapolated from Ukraine's macroeconomic background as well as endogenous and exogenous dynamics prior to the crisis. As previously illustrated, Ukraine's advanced integration into the global economic and financial environment facilitated the accumulation of substantial balance sheet exposures on behalf of its private sector, on both the real and on the financial sides. The more recent strong inflows of external capital resources to the resident banking entities, to a large extent of short term, buttressed their vigorous operations on the internal capital markets in foreign currencies. On the eve of the crisis, the proportion of banking sector liabilities to non-residents within the sector's total exceeded the 30% mark, about 45% of which was with a term of less than one year (NBU 2009d:47)[64]. The ample volumes of funding offered to the real sector on attractive terms, to 60% in foreign currencies, enabled households and business units to expand their consumption and investment activities, which were to a considerable extent oriented towards outlandish consumer durables and real estate[65]. Most commonly, loans denominated in foreign exchange were extended to individuals and economic entities lacking the constant earnings in the corresponding currency, and were collateral-based. As banks borrowed heavily in international capital markets on short terms and provided financing for the real economy's medium- and long-term investment projects, their balance sheets exhibited sizable currency and maturity exposures. These dynamics became responsible for a wide-ranging entrenchment of speculative and highly speculative financing structures within all sectors of the economy's private domain. As the initial premises underlying the resident private financial structures changed as a result of global disturbances, the immediate downgrading of speculative profiles into Ponzi schemes and the latter's ultimate unravelling constituted the principal corollaries at the micro level. The ensuing individual insolvencies to an alarming extent wreaked havoc on the systemic level. Into the bargain, the debt deflation process contingent upon these very dynamics brought about far-reaching implications, even for the originally balanced financial positions and Ukraine's population, having challenged the stability of the country's entire macroeconomy.

[64] By the beginning of 2008, the share of total financial resources acquired by the banks for a term of less than one year constituted 76%, or 83% in the case of hryvnia funds (NBU 2009d:46).

[65] In 2007, the share of machines, equipment and transport facilities came to ca. one third of the total imports (NBU 2007b:37). The respective share of total consumer goods in 2007 and 2008 amounted ca. 20% and 23% (NBU 2008b:34).

The immobilised private foreign income and investment inflows to Ukraine, soaring private foreign capital outflows within the scope of settlement of existing external banking obligations, as well as the flight of foreign cash currency out of the domestic banking system, constituted the primary channels of the global crisis' spillover to the national economy, along with sizeable tensions in terms of hryvnia's value. Within the scope of the fixed exchange rate regime, the country's national monetary authority promptly addressed itself to its stabilisation, primarily through the active sale of foreign currency on the interbank market. During the period from 2004 until the crisis, the foreign exchange channel prevailed significantly within the structure of the NBU's non-cash emission. In 2007, the hryvnia funds put into circulation by means of operations on the foreign exchange market constituted ca. 95% of the total cashless emission (Diagram 83). However, as a result of the foreign exchange shortage looming ahead since October 2008, the NBU mainly performed operations on the withdrawal of funds from circulation through the implied channel, which accounted for ca. 70% of the total funds withdrawn in 2009 (NBU 2009b:45)[66]. The NBU's related interventions on the domestic interbank market during the 4th quarter of 2008 equaled USD 10.3 billion, or 95% of the year's total volumes. In 2009, the entire amount of foreign currency sales came to a further USD 10.4 billion. The balance of the NBU's foreign exchange market interventions in the respective years came out negative (Diagram 81). Despite the incomings of funds from the IMF within the framework of the Stand-By assistance, the consequential curtailment in the volume of the country's international reserves positions turned out to be appreciable, *viz.* by over 30%, from their highest position of USD 38 billion in August 2008 to USD 31.5 billion by the year end, and further down to USD 26.5 billion by the end of 2009 (NBU 2008b:57, 2009b:56).

At the same time, after one of the 6th largest Ukrainian banks announced its failure in October 2008, the intensity of the hryvnia funds withdrawals from the deposit accounts with the domestic credit institutions gained momentum. Just over the period October-December 2008, the alarmist market sentiments engendered a ca. 15% outflow of individual deposit funds from the banking accounts in hryvnia and a 12.5% reduction in the respective funds of business entities. The subsequent increase to the amount of cash outside of the banks within the implied period amounted to 16%, and its share within the total money supply climbed to 30% (NBU 2008d:6). Such a copious outflow of hryvnia resources from Ukraine's banks since October 2008 had a significant destabilising effect on them, and the national banking system in general. In order to avert its collapse, the national monetary authority initially

[66] Overall, in 2008, 40% of emission funds were withdrawn by the NBU from circulation by the implied channel (NBU 2008b:47).

injected substantial volumes of liquidity through miscellaneous refinancing mechanisms, *inter alia* the overnight loans and stabilisation credits, credits provided through the tendering process or based on the financial rehabilitation program, the direct repo and swap operations, as well as other refinancing loans of short- and long-term maturities. Within the structure of the NBU's credit emission in 2008, the share of funds directed into the banks' support amounted to nearly 80% of the total funds put into circulation (Diagram 83). The total volumes of bank refinancing amounted to UAH 169.5 billion, or 18% of GDP, over 60% of which were appropriated during the last quarter of the year[67]. During 2008 as a whole, 138 units were refinanced by the NBU (NBU 2009c:42). Additional measures in support of the banking sector during the early stage of the crisis embraced reductions in the reserve requirements for operations in hryvnia to zero level, relaxation of the loan classification and provisioning requirements, and the substantial expansion of the list of eligible collateral for the refinancing purposes (NBU 2008b)[68]. Furthermore, with the objective of restoring confidence in the national banking system, the NBU launched measures on the discharge of individual depositors' claims to the banks under liquidation. To that end, it widened the volumes of compensation guaranteed by the Deposit Insurance Fund for Individuals. In 2008, over 40% of payments within the total reimbursement amount guaranteed by the Fund were satisfied (NBU 2008b:85f.). In 2009, this figure came to over 60%, having demonstrated a corresponding increase of almost four times (NBU 2009b:81).

Against the backdrop of voluminous operations on bank refinancing, realised on behalf of the NBU during the first months of the crisis, the ensuing enlargement of the banking sector's liquidity together with the appreciable amount of liquid hryvnia resources outside of the banking units only exacerbated the situation on the domestic market for foreign exchange, having put additional pressure on hryvnia. As a result of their mistrust in the stability of hryvnia, and Ukraine's banking system as a whole, residents made every effort to convert their hryvnia funds into foreign currencies in a short space of time within the scope of their intensions to preserve the value of their funds and redeem the outstanding amounts of their foreign exchange obligations. So did the banks. The banks' liquid hryvnia funds converted into foreign exchange were then exported abroad within the scope of settling their external obligations, most notably the short-term loans and nonresident banks' deposits. Just within the last three months of 2008, funds approximating USD 3 billion left Ukraine by these

[67] Own calculations based on data published in NBU (2009d:41f.).

[68] The 20% provisioning on funds under the short-term external loans and deposits for a term not more than 183 days, imposed for banks just on the eve of the crisis and having temporary validity from 01.08.2008 to 13.10.2008, was appropriately rescinded, in accordance with NBU Board Decision № 171 dated of 18.06.2008.

means (NBU 2008a:9). On the strength of these dynamics, the central monetary authority felt compelled at the second stage of the crisis to undertake a number of restrictive monetary steps towards consolidation of hryvnia's value (NBU 2008d:7ff.). In order to terminate the burgeoning outflow of hryvnia funds from the banking system, to suppress the soaring demand for foreign currency, and to discourage private foreign capital flight, the NBU commenced to raise the interest rates under all active and passive operations. Since early December 2008, the average weighted refinancing rate resided at 20%, interest rates under the overnight credits ranged between 22-25%, and those under the NBU's deposit certificates came to 25% per annum. In January 2009, the mandatory reserves requirements for funds in foreign currencies were further elevated, the provisioning coefficients under the credit operations in foreign currency with borrowers having no sources of foreign currency earnings were significantly increased, and the collateral requirements were again tightened. The auxiliary instruments in support of banks' liquidity, utilised in addition to the traditional refinancing mechanisms at the crisis climax, were abrogated by the end of 2008. Since the second half of 2009, the NBU decelerated the accommodation of refinancing credits. Overall in 2009, the year's total volume of refinancing by the central bank decreased to UAH 64.4 billion, or 7% of GDP, and fell 1.5 times below the volumes of funds withdrawn from the banking system (Diagram 84, Diagram 85)[69]. Nevertheless, not only did the above-mentioned measures fail to throttle the devaluing tendencies and suspend the efflux of foreign capital, they were concurrently perceived as an excessive risk of the banking sector default on behalf of economic entities, having only exacerbated the prevailing conditions.

Against the backdrop of the so far failed success in appeasing the gloomy market expectations and, therefore, in stabilising the situation within both the domestic market for foreign exchange and banking sector by traditional instruments, the introduction of foreign exchange and banking sector regulations turned out to be indispensable (NBU 2008b). At short notice, the NBU introduced a moratorium on the premature withdrawal of deposit funds from banking accounts and the premature settlement of foreign exchange loans by banks[70]. With the objective of forestalling the unfounded outflow of foreign exchange outside Ukraine and discouraging speculative operations with foreign currencies, additional measures regulating foreign exchange, as well as capital export and import transactions were adopted by the NBU on a temporary basis. These comprised *inter alia* the 5-day obligatory term of

[69] Own calculations based on data published in NBU (2009e:9). The volumes of refinancing transactions amounted to UAH 55.8 billion in the 1st half and to UAH 8.6 billion in the 2nd half of 2009. The volumes of mobilisation transactions amounted to UAH 39.5 billion in the 1st half and to UAH 57.2 billion in the 2nd half of 2009.

[70] NBU Resolutions № 319 dated of 11.10.2008 and № 413 dated of 04.12.2008.

placement of the investors' proceeds in hryvnia, in the form of investment income or disposition of its assets, within a separate bank account before being converted into foreign currency and transferred outside Ukraine[71], volume limitations on the acquisition of foreign currency by non-residents with the aim of performing the corresponding transfers within the scope of non-trade operations[72], prohibition of foreign currency purchases within the scope of payments for import commodities, designated for further resale to non-residents and without having crossed the national borders[73], interdiction of speculative operations with foreign exchange between banks[74], confinement of the scope of resident banks' lending operations with non-residents to the interbank lending[75], as well as limitations on the marginal cost of external borrowing by residents in foreign currencies on a short-term basis. The regulative provisions within the scope of foreign exchange cash transactions encompassed the introduction of a limit on the margin of deviation between the rate of purchase and sale of foreign currency at the cashier's desk, prohibition of any commission charge on operations with foreign currency in cash on behalf of banks[76], volume limitations on and licensing of separate foreign currency operations on behalf of residents on the individual basis[77], and others (NBU 2008b:56, NBU 2009d:54f.). Within the scope of the banking sector regulations having temporary terms of validity, approved were the prohibition of making alterations in the contractual terms and conditions on a unilateral basis by banks, for example, such as variations in interest rates[78], and the volume limitations on lending in foreign currencies to individuals without foreign exchange income, or legal entities not engaged in export activities[79].

Notwithstanding all the above-mentioned measures, the authorities' efforts to withhold the devaluation of hryvnia came to nought and they found themselves constrained to tolerate a well-nigh 60% fall in its value *vis-à-vis* the US Dollar during the latest three months of 2008. As a corollary of such dynamics, by the end of the year, both the cash and interbank segment of Ukraine's foreign exchange market appeared to be entirely paralysed and, having divested the real sector structures of the legal means of foreign exchange procurement, brought

[71] NBU Resolution № 336 dated of 23.10.2008.
[72] NBU Resolution № 340 dated of 29.10.2008.
[73] NBU Resolution № 413 dated of 04.12.2008.
[74] NBU Resolution № 435 dated of 18.12.2008.
[75] NBU Board Decision № 108 dated of 28.02.2009.
[76] NBU Letter № 13-121/6230-18709 dated of 29.12.2008.
[77] NBU Board Decision № 108 dated of 28.02.2009.
[78] Law of Ukraine № 661-VI dated of 12.12.2008.
[79] Law of Ukraine № 1533-VI dated of 23.06.2009.

considerable repercussions for the respective balance sheets[80]. The speculation on the "black market" for foreign exchange prospered (AESU 2010:109). The auctions on the sale of foreign currency[81], initiated on behalf of the NBU in February 2009 for the purpose of providing assistance to the population in overcoming the difficulties connected with the performance of loan payments in foreign currencies, turned out to bear little fruit in stabilising the situation on the country's foreign exchange market. The introduced foreign exchange and capital market regulations exhibited a relatively modest effect. On the one hand, as a result of their retroactive effect, the regulations came too late in the day, after the unbearable extent of exposures had already been accumulated within the private sector balance sheets. Most of the regulations primarily affected foreign exchange export over the course of the crisis and thus failed to revoke the accrued imbalances. Furthermore, having been recognised as a strong probability of the currency collapse, they rather had a destabilising effect on the economic participants' expectations, and merely reinforced the hryvnia's nosedive. On the other hand, as a result of their ephemerality, they failed to epitomise a paradigmatic milestone in the conventional macroeconomic policies from the medium- and long-term perspective. Within the scope of structural benchmarks scheduled in the first review under the SBA, Ukraine's government asseverated to revoke the enjoined restrictions by the end of 2009 at the very latest[82]. Notwithstanding the first signs of improvement in the situation on the foreign exchange market since the second quarter of 2009, the demand for foreign currencies remained pronounced in every aspect throughout the year.

With a view to determining the solvency and recapitalisation needs of the domestic banking system, Ukraine's national monetary authority performed in spring 2009 a diagnostic study of 38 banks accounting for 85% of total assets (IMF 2009b:20ff.)[83]. Having ascertained substantial capital deficiencies over the course of the scrutiny, the NBU in the first instance prompted both the foreign and domestic private owners of the respective units to come up with additional capital resources in accordance with the ascertained capitalisation needs. In most of the cases, the capital injections into the ailing units were subsequently satisfied to the necessary amounts. However, the shareholders of seven domestically-owned credit institutions, accounting for 15% of the real sector's total deposits, failed to inject the required

[80] The scope of operations with foreign currency in cash plunged by 46%. Most of the foreign currency purchases and sales were accomplished within the interbank segment. The proportion of cashless transactions within the total was gradually decreasing throughout 2005- 2009, to wit from 22% to 17% respectively (NBU 2009b:53f.).

[81] NBU Resolution № 469 dated of 29.12.2008.

[82] *Vide* the Timetable for Elimination of Exchange Restrictions and Multiple Currency Practices on behalf of Ukraine (IMF 2009b:38f., 55).

[83] Law of Ukraine № 639-VI dated of 21.10.2008, NBU Resolutions № 389 dated of 21.11.2008 and № 405 dated of 01.12.2008.

supplementary amounts of capital. With the objective of eschewing the liquidation of the implied problem systemic banks, the NBU introduced temporary administrations within them and administered the measures towards their restructuring, which envisaged the participation of the state in the banks' authorised capital[84]. Specifically, Ukraine's Ministry of Finance intended to provide for the necessary capitalisation by adding the Treasury bills of Ukraine to the banks' registered capital. The banks should then have been able to procure funds from the central monetary authority within the framework of its open market operations. In 2008, the authorised capital of two state-owned banks – Oschadbank (the State Savings Bank of Ukraine) and Ukreximbank (the State Export Import Bank of Ukraine) – was enlarged to the amount of UAH 13.8 billion, or 1.5% of GDP, by these means (NBU 2008b:78)[85]. The aggregate amount of bonds issued in 2009 for the purpose of enlarging the banks' authorised capital, came to UAH 23.3 billion, or 2.6% of GDP, 65% of which was directed towards the recapitalisation of three banks – Ukrgasbank, Rodovid Bank and Kyiv Bank[86]. Within the framework of the financial rehabilitation of domestic credit institutions, over the course of the year, the Board of the National Bank of Ukraine authorised the appointment of temporary administrators for a term of one year in case of the 19 banks, withdrew the licenses to perform banking transactions and incepted the liquidation procedures in case of the 7 banks. As of January 2010, 13 banks were registered at the stage of liquidation (NBU 2009b:77ff.).

As the cushion of international reserves turned out to be insufficient to eliminate the fallout of global financial and economic instabilities, Ukraine approached the multinational institutions for financial support. The solicitation for financial assistance within the scope of the official borrowing was satisfied on behalf of the International Monetary Fund and the World Bank. In November 2008, the Fund approved a two-year Stand-By Arrangement (SBA) under the Emergency Financing Mechanism to the amount of USD 16.4 billion. The first tranche of USD 4.6 billion was appropriated forthwith, whereas the other three tranches were to be disbursed at a later juncture in accordance with the fulfillment of the SBA criteria on the part of Ukraine. In compliance with the most essential of them, which embraced the exchange rate flexibilisation, abolishment of the previously imposed exchange and capital market controls, transition to the inflation-targeting monetary regime, warranting the central monetary authority's independence from the political biases within the scope of its monetary and exchange rate decisions, together with the preservation of a budgetary balance, Ukraine managed to achieve partial success (IMF 2009a). As previously delineated, the monetary

[84] KMU Provision № 960 dated of 04.11.2008.
[85] KMU Provisions № 1116 dated of 17.12.2008 and № 1119 dated of 27.12.2008.
[86] Own calculations based on data published in NBU (2009e:11, 2009b:77f.).

tightening in the light of advancing inflationary pressures manifested in the elevated interest rates on all refinancing mechanisms of the central bank, strengthened credit-loss provisioning and reserve requirements for bank operations in foreign currencies, as well as decelerated provisioning of bank refinancing *vis-à-vis* liquidity withdrawal on behalf of the NBU by the mid-2009. On the grounds of the *prima facie* stabilisation of the situation on the domestic foreign exchange market by the respective point of time, most of the foreign exchange and capital markets restrictions were abolished by the end of the year and the authorities affirmed the *de jure* transition to a free floating exchange rate (NBU 2009b:54ff.). The fiscal steps undertaken within the scope of maintaining the fiscal sustainability in the medium term encompassed a substantial curtailment of government investment and deceleration in the growth of social expenditures, elevation of retail gas tariffs and excise duties on a number of products, abrogation of the moratorium on land privatisation and further advancement of privatisation of public enterprises (NBU 2009b:24ff.)[87]. In 2009, the government investment expenditures fell by over a half, having accounted for merely 6.5% of the year's total expenditures. The share of general government within the gross fixed capital formation attained its all-time low of 8.5% – in 2004, it equaled 20% –, or 1.5% of GDP (Diagram 123, Diagram 124). However, in the light of exacerbated domestic macroeconomic conditions, the achievements in terms of a balanced budget remained modest. Although, the IMF targets were achieved by the middle of the year, by the year end however, the balance of the consolidated budget of Ukraine turned negative, having amounted to 4% of GDP (NBU 2009b:25).

Generally, by borrowing from the international organisations, Ukraine's government employed a kind of "wait-and-see" tactic. Specifically, by these means, it contemplated bridging the pinnacle of the crisis until the convalescence of the global economic and financial environment. The survival of the established Ponzi financing architecture, which assumed the resumption of servicing the international private obligations in the medium term, called for the immanent renewal of the external capital inflows into the domestic private domain. This was not long in coming. The ameliorative trends on the international commodity markets by the end of 2009 came along with renewal of global demand for Ukraine's export commodities, and the ensuing economic recreation set the flows of foreign income into operation for the moment (Diagram 93). In 2010, the export-oriented industries, in particular the metallurgical, machine-building and (petro)chemical, demonstrated the most buoyant trends, and their output grew by 36%, 23% and 12% respectively (NBU 2010b:16). The overall increase in the total industrial production over the course of the year came to almost

[87] *Vide* also Barisitz et al. (2010:70).

35% (Diagram 111). Appreciable improvement in the foreign investors' attitudes, following an upgrade in the international sovereign and corporate ratings for Ukraine with the pursuant abatements in the risk spreads[88], was paralleled by the restoration of the external debt-creating financing inflows, primarily to the real and state sectors (Diagram 95, Diagram 96, Diagram 120), as well as FDI (Diagram 19). As in the previous years, the largest volumes of the FDI – ca. one-third of the total volumes – were destined for the financial sector, followed by the metallurgy industry, ca. 20%, and the real estate activities, ca. 10% (NBU 2010a:6). External borrowing by the public sector took off in the form of loans and long-term debt securities, among which was a short-term loan from the Russian VneshtorgBank, internal government loan bonds, eurobonds with maturities of five and ten years, and also funds acquired from the IMF under the new SBA approved by the mid-2010 (ibid.:7.). The real sector procured external financing primarily in the form of loans, trade credits and other short-term debt liabilities, such as payment arrears on the matured debts. In 2010, the share of short-term debt within the sector's total elevated to ca. 40%. Overall, the real sector' share within the total short-term debt of Ukraine resided at 75% (Diagram 40, Diagram 50). In contrast to the implied two sectors, the domestic credit institutions continued deleveraging by and large, although their net redemption volumes reduced by ca. 4 times against the preceding period (Diagram 95). Taken as a whole, the rollover rate on the previously accumulated private debts augmented in 2010 from 83% to 109%, *viz.* from 76% to 90% in case of the banks and from 100% to 136% in case of the real sector, by comparison with the previous year (Diagram 122). The growth in outflows of private foreign capital decelerated, with almost 40% reduction in the volumes of foreign currency cash outside banks (Diagram 10).The national financial and capital accounts slid into the surplus zone. Being of a material size, and given the country's negative commercial and current account balances, they were solely responsible for the establishment of a positive consolidated balance in 2010 (Diagram 94).

The propitious tendencies within the world economy, along with the earliest signs of the domestic economic and financial amelioration, resurfaced by the end of 2009, allowing the general government to renounce until the mid-2010 its pledges made to the IMF in terms of the monetary and fiscal conservativism. After the disbursement of a second tranche in autumn 2009, the program soon went off track. Just a few months before the elections, the Ukrainian Rada passed the Law on the increase in the minimum wages by 20%, and the upcoming upward adjustment in the retail gas tariffs was suspended.[89] In the light of the upcoming Euro 2012 football tournament, the government capital expenditures during the

[88] The EMBI+ for Ukraine reduced over the course of the year from 1002 to 436 basis points (NBU 2010b:49).
[89] Law of Ukraine № 1646-VI dated of 20.10.2009.

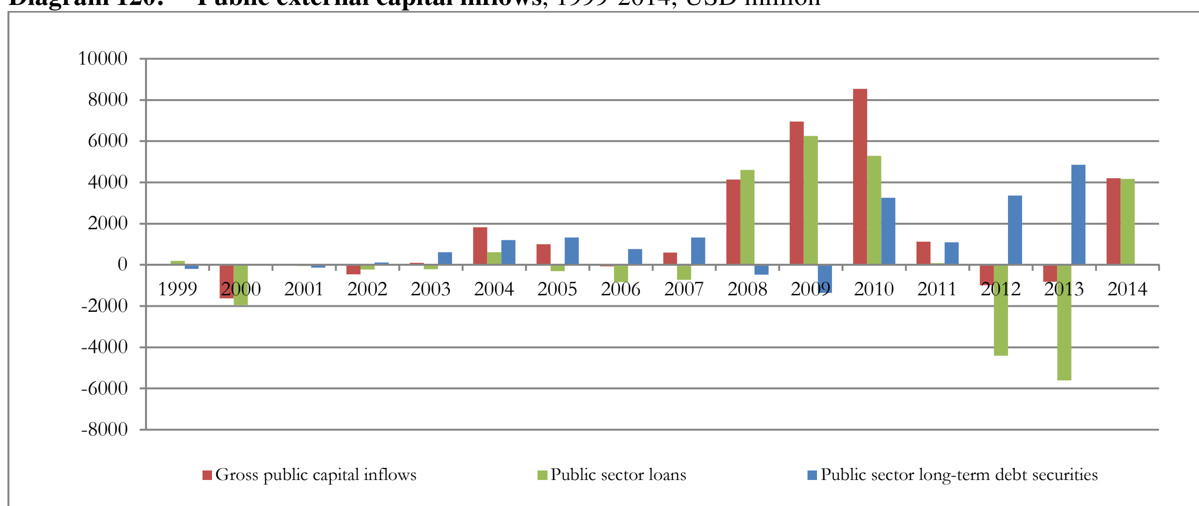
year slightly advanced (Diagram 123, Diagram 124)[90]. The domestic economic activity finally gained momentum, with *prima facie* only a brief respite in the recession. Improvement in the financial performance of Ukraine's non-banking corporate sector followed in 2010, except for enterprises engaged in real estate and construction activities (Diagram 112, Diagram 113). The dynamics of unemployed population exposed a declining tendency and the volumes of workforce dismissals reduced by a half (Diagram 114, Diagram 115, Diagram 116). The resumption in the growth of the population's income turned out to be beneficial for the recuperation of the domestic consumer demand (Diagram 117)[91], which contributed to the enhancement in both output within the sectors oriented towards the internal markets, as well as commodity imports (NBU 2010b:16f.). Despite the intensification of export performance in the period following the crisis, the negative balance of trade in commodities worsened, having doubled as compared to the previous year. The positive balance of trade in services failed to offset the rising imports of goods and the commercial, and current account deficits widened in 2010 (Diagram 77, Diagram 78). In the wake of the steadily rising foreign currency inflows, the foreign exchange market signalised the incipient stabilisation. Between March and April 2010, the certain signs of appreciation became apparent and the national monetary authority reverted to a pegged exchange rate regime as an overarching monetary policy objective (Diagram 75). Within its foreign exchange interventions, the NBU succeeded in replenishing its official reserves, having effectuated a positive balance over USD 1.3 million in the respective year (Diagram 121). The prevailing supply of foreign currency in subsequent years became responsible for the consolidation of hryvnia's exchange rate by UAH 7.96 per USD 1, and facilitated the advancement of further measures towards the greater liberalisation of Ukraine's foreign exchange market on behalf of the central bank (NBU 2011d:5).

For the time being, the banking system as well seemed to be rehabilitated. The ascending dynamics marked both the individuals' as well as business entities' deposits, *viz.* by almost 30% in the former and by 23% in the latter case (Diagram 100). The growth in total deposits in 2010 equaled 24%, or almost 40% for the hryvnia and 10% for the foreign currency funds (Diagram 99). Nevertheless, the domestic deposit-taking corporations showed substantial differences in this regard. Whereas the foreign-owned banking units and those recapitalised by the state enjoyed the expansion of their deposit base, the local-owned units were still faced with appreciable outflows (IMF 2009c:10f.). In accordance with both the

[90] *Vide* also the data on the consolidated budget of Ukraine in 2010 published in NBU (2010b:22ff.).
[91] After a fall by about 15% in 2009, the households' consumer spending increased by 7%. In contrast, the gross accumulation of fixed assets increased by only 5%, after an over 50% fall in 2009 (NBU 2010b:17).

NBU and IMF definitions, the ascending trend of the share of non-performing loans within the gross loans relented for a few subsequent years, having albeit remained appreciable (Diagram 118, Diagram 119). The negative financial result of the banking sector reduced in the respective year by ca. 3 times from ca. UAH 38 billion to UAH 13 billion or from 4.2% to 1.2% of GDP[92]. Over the course of 2010, the central monetary authority's principal objectives remained the guaranteeing of the national monetary unit's stability, by means of preserving both its external as well as internal value. In this context, the NBU deployed and altered its monetary instruments in alignment with the foreign exchange and inflation dynamics. In view of the preponderance of the foreign currency supply over its demand since the second quarter of the year, the vigorous purchase of foreign exchange on the part of the NBU accounted for above 70% of its total non-cash emission (Diagram 81, Diagram 83). On the strength of the NBU's operations against inflationary pressures, the total volume of funds mobilised over the course of the year turned out to be unprecedented, to wit almost 40% of GDP (Diagram 84, Diagram 85). At the same time, the NBU settled for the monetary smoothing buttressed by reduction in the rates of interest for all the refinancing instruments (Diagram 87). A pursuant reduction in the interest rates for all types of operations on the domestic money market (Diagram 107, Diagram 108), as well as on operations with the real sector, except for bank lending in foreign currencies (Diagram 74, Diagram 106), nevertheless, failed to instigate the crediting of domestic economy (Diagram 64, Diagram 66).

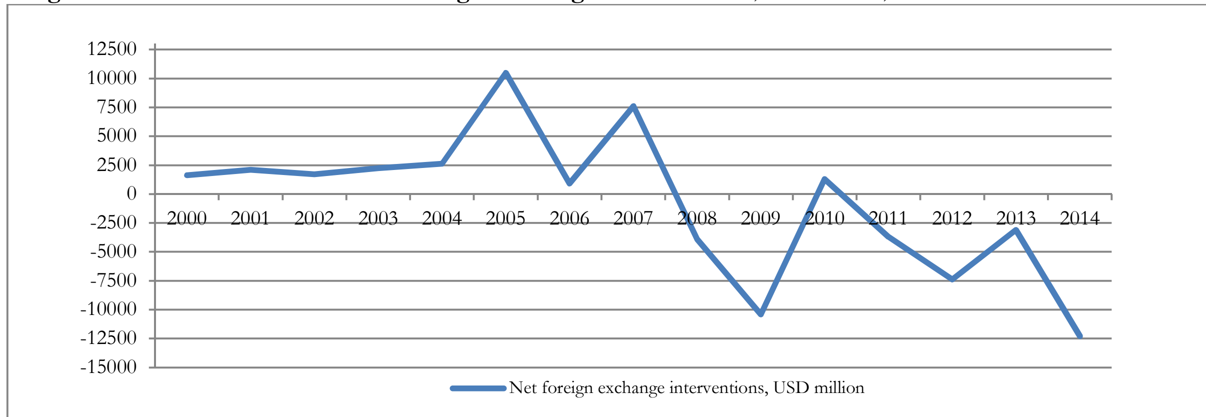
Diagram 120: Public external capital inflows, 1999-2014, USD million



Source: NBU's Balance of Payments and External Debt of Ukraine publications for 2002-2014 years.

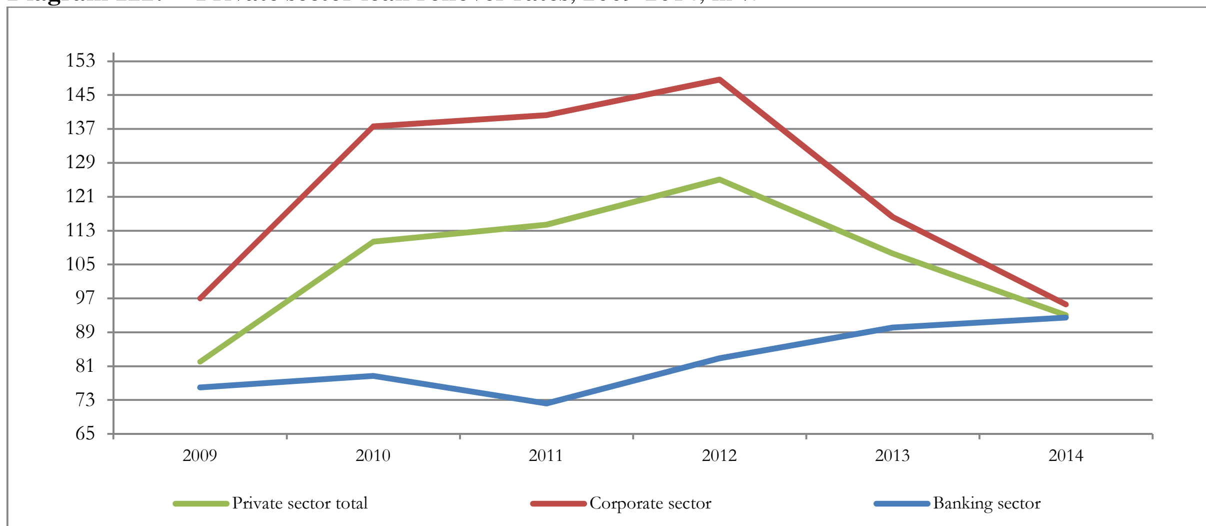
[92] Own calculations based on data provided in NBU (2010b:58).

Diagram 121: Balance of NBU's foreign exchange interventions, 2000-2014, USD million



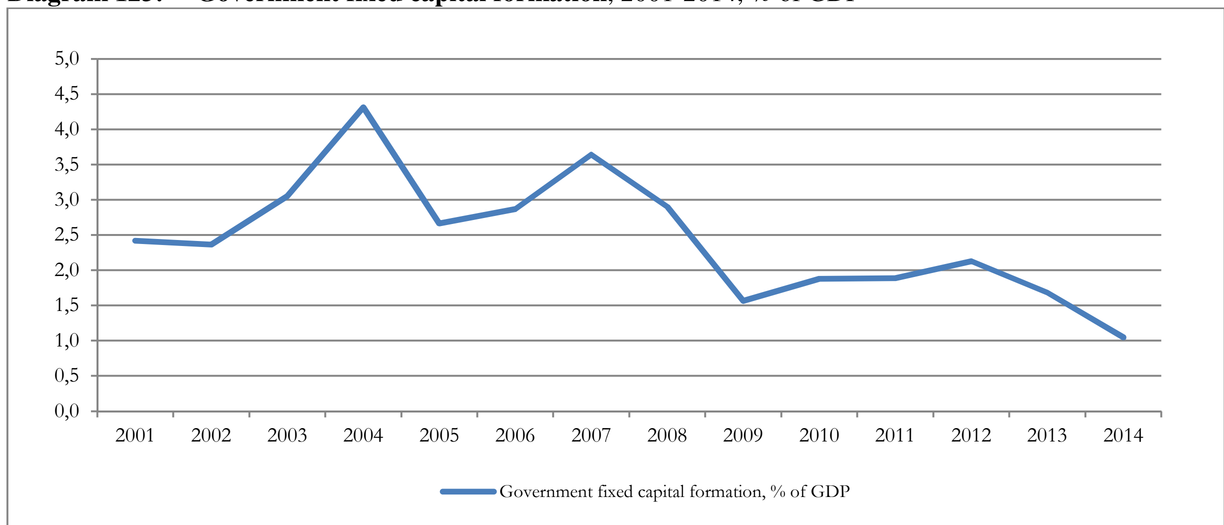
Source: NBU’s Annual Reports for 2001-2014 years.

Diagram 122: Private sector loan rollover rates, 2009-2014, in %



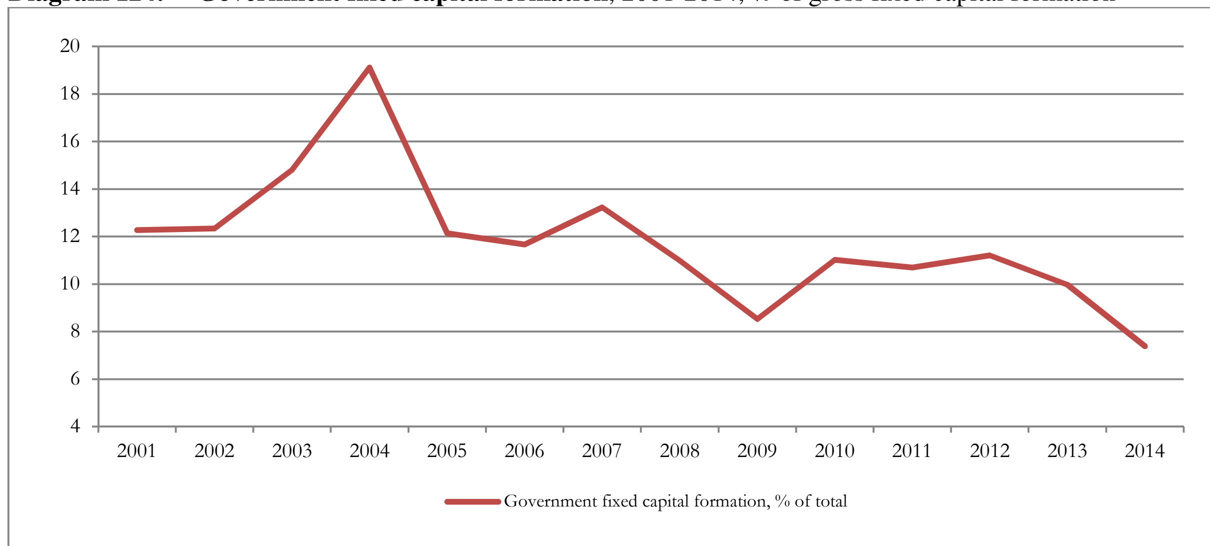
Source: NBU’s Annual Reports for the respective years.

Diagram 123: Government fixed capital formation, 2001-2014, % of GDP



Source: SSSU’s National Accounts of Ukraine publications for 2009-2014 years.

Diagram 124: Government fixed capital formation, 2001-2014, % of gross fixed capital formation



Source: Own calculations based on data provided in the SSSU's National Accounts of Ukraine publications for 2009-2014 years.

The principal aspects of criticism against the immediate national macroeconomic policy response in counteraction of the crisis are its complete neglect of the real economy's state of affairs, together with its contribution to the onward escalation in the level of the country's financial fragility over the long term owing to the backing up of Ponzi financing schemes in large numbers. Considering the first aspect, it neither entailed any arrangements towards the restructuring of the high levels of household and corporate sectors' foreign currency leverage, nor did it cater for a material relief of the originally hedged financing structures and population. In consequence of its pro-cyclical agency, it failed to create the premises which would have provided for the sustainability of revenue streams to the real economy essential to expedite its deleveraging over the medium and long term, and to usher its financing practices towards sustainable modes. Deteriorating real sector income, paralleled by the soaring costs of debt service payments denominated to a considerable extent in foreign currencies, as well as absent refinancing and position-making opportunities came along with considerable financial straits for the corresponding financing structures, being for the greater part speculative. When individual financial instabilities gained weight on an unprecedented scale, these dynamics reverberated to the domestic banking system. The exceedingly speculative banking units now also found themselves in a Ponzi situation and, being no longer in a position to rollover the debts, on the brink of collapse. In the first instance, the Ukraine's national monetary authority addressed itself to the stabilisation of the domestic banking sector. However, within the context of a comprehensive openness of the national financial and capital accounts, the full convertibility of hryvnia, and failing supervision of the banks'

balance sheets, the NBU's operations on the refinancing of beleaguered credit institutions in the initial phase of the crisis buttressed the far-reaching capital flight abroad, through the aforementioned channels. Into the bargain, capital resources were accommodated to predominantly insolvent units, rather than those facing liquidity bottlenecks at short notice. The non-transparency of the implied transactions and the dubious quality of the underlying collaterals – specifically, the affected banks' equities, property and financial assets in the form of real estate and other credits in foreign currency with the utter contingency risk were accepted by the NBU as eligible collaterals for refinancing loans –, came along with material exposures of the central bank's balance sheets to the subsequent value impairment of the implied financial assets (AESU 2010:109). After the national authorities decided not to liquidate any of the systemic problem banks, measures on their resolution were initiated. The limited success of recapitalisation of distressed banking units within the scope of the banks' financial rehabilitation program was manifested in the ensuing significant downgrade in the quality of their financial assets and rapidly accruing financial losses, despite the implemented measures. Given the scale of the non-performing assets within banks' balance sheets, the capital infusion turned out to be underwhelming against the backdrop of substantial risks of default on the real sector's obligations. Up until then, the central monetary authority instructed the credit institutions to facilitate the framework for a voluntary out-of-court restructuring of the corporate and household debts[93]. However, the banks' actions in this regard exhibited significant shortcomings. In most cases, the restructuring conditions were negotiated to the disadvantage of real units, having implied a heavier burden of debt in the medium and long run whilst the situation on the assets side of the respective balance sheets hardly changed, if not aggravated (Bondarenko 2011). In the long term, for two of the three privately-owned commercial banks recapitalised by the state in 2009, Kyiv Bank and Rodovid Bank, liquidation procedures were finally initiated[94].

Preoccupied solely with the morbid banking sector over the course of the crisis, the national authorities availed themselves of the conventional monetary instruments within the scope of regulating the commercial banks' liquidity and interventions on the domestic market for foreign exchange, having paid hardly any attention to the deflating real economic environment. Endorsing the financial assistance within the Stand-By framework, destined first and foremost towards the bailing out of Ponzi structures within the domestic banking sector as

[93] *Vide* Ukraine's Memorandum of Economic and Financial Policies in IMF (2009b:43ff.).
[94] NBU Board Decisions № 39 and № 128 dated of 24.02.2015, № 5455 dated of 20.12.2017, № 811-рш dated of 19.12.2017.

well as their international debtors, they failed by and large to enforce the fundamental macroeconomic reformations which would have allowed the real economy to transform from the speculative to robust financial structures over the medium and long term, whilst properly dismantling the Ponzi systems. Insisting on the maintenance of the unimpeded financial and real resources mobility in the long run, the IMF's conditionality predicated on the monetary and fiscal conservativism, geared towards the depression of the domestic demand for imports. Although the soaring commercial deficit considerably reduced in 2009, nevertheless, in the length of time, Ukraine failed to produce external surpluses to the amounts thus far necessary for the prospective liquidation of its external private and public obligations (Diagram 78). In much the same manner as during the period preceding the crisis, the officially borrowed funds remained "disconnected" from the foreign income generating production and capital investment as a *sine qua non* for the generation of current account surpluses on a sustainable basis. On the contrary, endeavouring to comply with the requirements stipulated within the SBA context, the national short-term policy response to the crisis deprived the real economy of the opportunities to recover along sustainable lines. The strong employment and production nosedive within the debt deflating environment and truncated refinancing channels drastically impaired the individual and corporate balance sheets, having exacerbated the debt payments delinquencies on their part. Throughout 2009, insolvencies within the real sector remained vast and continued to wreak havoc on the banking sector's balance sheets. Considering the second aspect, as enlarged upon earlier within the theoretical groundwork, the survivability of the firmly established Ponzi pyramid was subjected to the alacrity of international capital providers to proceed with lending. By having countenanced the IMF conditionality, Ukraine managed in the short term to convince them in continuing to provide financing. In the light of accreted foreign exchange reserves, as well as adoption of measures towards the suppression of domestic demand and balanced fiscal positions, the country proved to the reasonable satisfaction of foreign investors its reconstituted ability to continue servicing its external obligations in the near term, and the inward streams of foreign capital renewed for a couple of subsequent years. As the anti-crisis management marked no structural watershed in the national policy course steered so far, having obtained the bridging finance from the IMF, Ukraine merely bought the time until it had restored the circumstances underlying its immaculately functioning Ponzi architecture. It kept borrowing to roll over the outstanding debt payments with the simple alteration in the debt structure to the disadvantage of the public sector (Diagram 31). Banking sector deleveraging at the expense of the latter failed to abate

the country's overall fragility level on sustainable terms, and added on explosiveness. Starting from 2011, it started a meteoric rise (Diagram 92).

The *prima facie* accomplishments in melioration of Ukraine's overall macroeconomic wellbeing in the aftermath of the crisis were *de novo* attributable to the advantageous dynamics within the international context. The regained access of the country's private sector to the foreign capital markets came along with the renewal of private debt-creating inflows, first and foremost to its real domain, and allowed the external debts of the latter to be rolled over at a high rate until 2012 (Diagram 122). Despite the far-reaching deleveraging of the banking sector, the share of non-performing debt within its balance sheets abided at an exceedingly high level. The revitalised for the moment domestic economic activity provided for the preliminary slowdown in its growth (Diagram 118, Diagram 119). In reality, however, the eventual events of default in large quantities were merely procrastinated, connoting the correspondent jeopardies for the domestic financial solidity at a later juncture. Ukraine did not have to wait long. The international commodity and financial markets dynamics by the end of 2011 augured an upcoming slowdown of the world economy. The slackening magnitude of international commerce, accompanied by the global financial markets' volatility in view of the unresolved structural asymmetries at the European as well as worldwide scales, echoed within the developing economies. Ever afterwards, Ukraine's principal macroeconomic indices demonstrated the sagging dynamics, and the phase of stagnation suspended the brief economic recovery. The fiscal restrictiveness in 2011 – there was more than a twice deficit decrease of Ukraine's consolidated budget to 1.8% of GDP in the respective year (NBU 2011b:15) –, only exacerbated the investment and growth prospects and, around the mid-2012, the economy fell back into recession (NBU 2013b:15). The growth of the country's industrial production and GDP substantially reduced its speed (Diagram 111, Diagram 51). The positive corporate financial results – including banks – dwindled (Diagram 112, Diagram 113). Aggravated by a gradual increment in the investment income paid in terms of both its total volume as well as its proportion to the earned foreign income (Diagram 43, Diagram 44), the negative commercial and current account balances soared anew (Diagram 77, Diagram 78)[95]. This could only be financed by a sustained expansion of borrowing on the external capital markets. Since the aftermath of the crisis, however, the gross inflows of foreign capital manifested the relenting trends (Diagram 6, Diagram 7). The gross public capital inflows reduced to zero since 2011. Despite the government's frequent borrowing on the international financial markets by means of placing the external government loan bonds, the acquired

[95] The negative investment income balance was mostly entirely compensated for by high current transfers (NBU 2014a).

financial means were generally used to refinance the previously issued ones. The growth of respective inflows into Ukraine's private sector stagnated ever since, having hardly exceeded 10% of GDP. Nevertheless, until 2014, they remained positive, and could almost exclusively be attributed to the net accumulation of debts by the country's real sector, as well as FDI. In contrast, the resident banking sector was for the most part characterised by a net discharge of external obligations, with only net inflows of highly liquid financial assets being occasionally positive (Diagram 95, Diagram 96).

At the outset of 2014, financial instabilities of an alarming extent were looming at all levels of Ukraine's economy. Recessionary economic trends alongside the comprehensive foreign capital flight and constricted refinancing channels, against the backdrop of the dramatic civil and political events, put Ukraine on the edge of an abyss in every respect. One could speak about a financial catastrophe of an unprecedented scale, or a "bankollapse", as well as economic, social and political upheaval. As the private capital inflows turned negative, and the national capital and financial accounts slipped into the red in the first quarter of the year, the NBU was no longer able to defend the exchange rate. After having abandoned its peg in March, a painful 97.3% nosedive in hryvnia's value *vis-à-vis* the US Dollar followed (Diagram 75). The banking sector was again hit hard by the massive flight of hryvnia deposits from its accounts, particularly from those of individuals (Diagram 99, Diagram 102). During the first three quarters of the year, the amount of cash outside the banking system jumped by ca. 30% (NBU 2014d:3). Considerable pressures on the foreign exchange market lingered throughout the year. The net demand for foreign exchange escalated, and the cash segment of the foreign exchange market collapsed. The volume share of the respective transactions within the total descended to 4% over the year (NBU 2014b:40). Within the environment of an unfolding political and social unrest, the capital account openness enabled a voluminous foreign capital "siphoning" out of domestic credit institutions abroad, which had previously received substantial amounts of financial support from the NBU[96]. As the corporate finances worsened tremendously and unemployment soared (Diagram 112, Diagram 114, Diagram 115), the share of loan delinquencies within the gross loans to real economy climbed in 2014 to well-nigh 25%, and continued rising in subsequent years (Diagram 118). In the respective period, the banking sector experienced a strong plunge in its income, primarily at the cost of the heightened loan loss provisions. A wave of bank failures followed. In 2014, 33 units were withdrawn from the market and, by the end of the year, only 147 out of 180 units operating at the year start remained in force (NBU 2014b:12).

[96] Kozak (2016).

Throughout 2015, the situation severely exacerbated. The central monetary authority pigeonholed 59 banks as troubled and insolvent. In the case of 43 of them, licenses for performing banking operations were abrogated and liquidation procedures launched. Another 30 banks were effectively withdrawn from the market, and the total number of operating banks reduced by the end of 2015 to further 117 units (NBU 2015b:57ff.). The corresponding "cleanup" of the domestic banking system triggered a number of structural transformations within it. The foreign capital participation in the authorised capital of solvent banks augmented to ca. 40%, and that of the state-owned to 38% respectively. The massive bank withdrawals intensified the market concentration. The assets share of the top-5 banks augmented in 2014-2015 from 45% to 54% respectively, and to 62% in terms of volumes of individuals' funds (ibid.). The large-scale insolvencies within Ukraine's banking sector came along with significant losses of capital resources kept by the population and local enterprises within the insolvent units. Given the stupendous volumes of the debtors' claims on the banks under liquidation, the Household Deposits Guarantee Fund was able to compensate for only a small portion. Crediting of the real economy appreciably retrenched, especially in terms of the household sector, and was attributable to both the low credit demand and supply. The deteriorated economic activity and borrowers' solvency were paralleled by the dwindling of banks' funding base, despite the liquidity injections on the part of the central bank. In light of the collapsed lending activity, the domestic credit institutions invested their free funds primarily in the NBU's certificates of deposit and public sector securities, or expanded their funds on the correspondent accounts. Given the scope of the NBU's foreign exchange market intervention, the redemption amount and service payments of the public external debt, Ukraine's international reserve positions diminished during 2014 by over 60% (NBU 2014b:53). In proportion to the country's gross external debt, they attained their most critical low since the turn of the century, to wit 6% (Diagram 82). Ukraine's access to refinancing on the foreign capital markets was compounded by the sizable downgrading of its international sovereign credit ratings and the surge in appropriate risks related to crediting the resident economic entities. The menacing default on external debt payments compelled the Ukrainian authorities to once again seek financial assistance from the IMF.

This time, nothing has changed in the scenario as compared to the dramatic events of 2008/2009 – including the national policy reaction –, but the strength of the juggernaut, whose devastating ramifications Ukraine was desperately struggling against. In the course of 2014, Ukraine found itself in the midst of the gravest financial, economic, social and (geo)political instabilities since its independence, and the vestiges of the past evinced, what

went wrong during the previous time. The mischief of the inappropriate crisis-countering domestic response to the implied financial and economic turbulences came to light in the circumstance that it merely provided for the perpetuation of the ingrained Ponzi financing system in the aftermath of the crisis, and its long-term consequences were writ large in a much heavier blow on the country's financial system, its entire macroeconomy and sovereignty.

3.3 Recommendations in light of the counter-productiveness of reactive policy measures

What has been happening in Ukraine during the period prior to and during the crisis unfolded after an ordinary scenario which had for such a long time been foreboded by Post Keynesian economists within a myriad of contributions reproaching the neoclassical economic hegemony within the policy course of developing states. Nevertheless, "yes, it has happened again"[97]. Moreover, having elaborated extensively on the constantly recurring financial and economic instabilities, which bore directly on the way the advancement of developing economies was financed, these very contributions seemed to deliver an appropriate arsenal in the fight against them. This has been particularised earlier within the introductory chapters. The circumstance that Ukraine was subjected to a rancorous financial instability over the course of the global financial and economic turmoil of 2008/2009, with the entire national economy having been succumbed to depression, must be ascribed to the fact that it ignored the messages previously propagated by the non-mainstream academia. This could not avoid reflecting upon each occasion about the experiences of previous debt crises of the less-advanced economies. Specifically, the persistent enhancement in the level of Ukraine's financial fragility, primarily within its private domain, in times prior to the crisis, proceeded in accordance with the customary Ponzi financing process, which Minsky delineated within the scope of his works. The previous chapters elaborated on the circumstances and dynamics which rendered Ukraine's economy prone to financial instability, which consequently materialised via certain channels, as well as what went wrong with the reactive stabilisation-oriented policy agenda at the national level. Considering retrospectively the counter-productiveness of the domestic anti-crisis management, the aspiration stipulated at this juncture is to provide recommendations anent what should in the first instance have been done in order to eschew the subsequent accentuation of the crisis on the systemic level, as well as to forestall its long-term fallout. The latter found its expression in the country's

[97] Kregel (1998), referring to "Minsky Crisis".

confrontation with the severest financial, economic, social and (geo)political instabilities by 2014. The recommendations are put forward with recourse to the insights previously gained within the theoretical context.

3.3.1 Measures in pursuit of macroeconomic stabilisation in the short term

As the salient ramifications of the global instabilities for Ukraine's economy embodied the consequential financial straits for the country's private economic structures in terms of performing their internal and external payment obligations, the instant national policy measures should have been designed in such a way as to circumvent the proliferation of individual instabilities on a systemic scale through the debt deflation process. To this end, the national authorities should have promptly enforced the fundamental macroeconomic reformations, which would have then allowed the speculative private financing structures to regain their resilience over the medium and long term, while properly dismantling the established Ponzi systems in order to avoid the systemic reverberation of their disruption. This would have envisaged an array of policies favourably influencing the tendencies on the private sector's expectational, real and financial sides within the scope of a bottom-up approach. It has earlier been argued that the major deficiency of the short-term stabilisation measures was the neglect of the real economy's situation and the condoning of its lapse into debt deflation over the course of the crisis. At the same time, attempts to stabilise the morbid banking sector by conventional monetary instruments with financial assistance from the IMF failed to bring about the expected positive results, having merely aggravated the situation. Within the framework of appurtenant liquidity and foreign exchange interventions, the national authorities were engaged in bailing out the respective Ponzi structures as well as their international debtors. In the first months of the crisis, prior to some temporary foreign exchange and capital market restrictions being implemented, the full convertibility of hryvnia within an open capital account regime had facilitated stupendous foreign capital flight abroad, primarily through the channel of presumable redemption of international obligations. As a result of their *ex post* effect, the subsequent regulations had rather a destabilising effect, having further contributed to the exacerbation of the private sector's state of affairs. Having significantly impinged upon the economic units' expectations, they instigated massive withdrawals of hryvnia funds from the residents' bank accounts, which were ultimately directed to the foreign exchange market. Partly to preserve the value of their savings, and partly to acquire valuta in order to liquidate their outstanding liabilities denominated in foreign currency, households and business units searched for opportunities to exchange

hryvnia as rapidly as possible for other currencies. The precipice of hryvnia could no longer be avoided, and was instantaneously reflected in a steep ascent in the level of the real sector's foreign currency indebtedness, as well as the cost of its servicing in terms of national currency. When the foreign exchange reserves of the central monetary authority proved to be insufficient to cover the soaring deficit on the foreign exchange market, both its cash and interbank segments collapsed. Deteriorating real sector income, the soaring costs of debt service payments, denominated to a considerable extent in foreign currencies, and the absence of refinancing and position-making opportunities engendered massive household and corporate insolvencies. Once the share of the real sector's non-performing debt within the resident banks' credit portfolios escalated to an unprecedented scale, these dynamics concussed the entire banking system. By that time already striving against the internal resources outflows, the exceedingly speculative banking units immediately descended to the Ponzi mode and, being no longer in a position to rollover the debts, found themselves on the verge of collapse. In the case of Ukraine in the end, the success of the conventional modus operandi towards macroeconomic stabilisation by means of customary monetary and exchange rate policies within the scope of a top-down approach appeared to be deceptive.

What should in the first instance have been done in pursuit of a prompt macroeconomic stabilisation was streaming liquidity to the real economy thus avoiding the fully-fledged debt deflation. The principal assignment for the domestic policy measures at this juncture should have been to cater for a material relief of the robust financing structures and domestic population, whilst supporting the balance sheets of the beleaguered viable units whose positions became speculative in consequence of the crisis. This should have been done by stabilising employment and investment within the sectors mostly affected by the crisis, and hence the respective income and profit flows, by means of comprehensive spender of last resort activities, as well as by stabilising the flow of credit and refinancing resources to them within the scope of the lender of last resort operations. Simultaneously, arrangements towards the restructuring of the speculative financing profiles along sustainable lines and the unwinding of individual insolvency cases over the medium- and long-term should have been launched. The proliferation of real structures' insolvencies on a massive scale should have accordingly been averted. The assumption of the real sector's external and foreign currency liabilities by the state to this end should nevertheless have been eschewed. In the second step, it would have been necessary to create premises which would have catered for the sustainability of revenue streams within the real economy, essential to expedite the deleveraging of its participants over the medium and long term. The expedient short-term

measures within the domestic banking sector should have comprised an immediate introduction of temporary administrations in all operating units, which would have subjected them to painstaking investigations in terms of their solvency. Liquidity should have been provided only to the viable banking structures, and should have had attached specific terms and conditions. More precisely, it should have been appropriated in support of banks' onward lending to business entities and households, or concrete arrangements on the reorganisation of the real structures' debts and their payment profiles, and should have come along with the distinct ameliorations of the respective balance sheets. It should have been therefore ensured that the real economic structures remained the primary beneficiaries of the appropriated resources. Liquidity provision should have been accomplished under rigorous supervision over the resources utilization. In case of those units, where massive shortcomings had been asserted, the assigned administration should first of all have suspended any of the unit's active and passive transactions, countermanded all investment payouts, and launched the primary measures on its resolution under tight oversight. On a related note, the values of the unit's assets should have been accurately assessed, and the viable ones either sold to private investors without abatement of their purchase price, or kept in public hands. The scope of the non-performing debts should have been properly evaluated and their reorganisation initiated, whilst allowing forfeiture of the "bad debts". In this case, the depositors should have entirely been paid off. Remember, the rescheduling of the fragile financing structures in the sustainable vein would have only been feasible in isolated cases, as long as the systemic subsidence to the Ponzi level had remained precluded. Unfortunately, in consequence of the inappropriateness of its immediate crisis-countering policy response, Ukraine missed this opportunity.

Considering at length the efforts to be directed towards stabilisation of the real economy as a preventive measure of debt deflation at the systemic level, they should have been paralleled with an upholding of the afflicted units' revenue flows, thwarting an increase in their debt burden, forestalling the crumbling of prices of the debts underlying collaterals, as well as provision of refinancing at a bearable cost. These would have automatically exerted a positive influence on the units' expectations in terms of their financial solvency, thereby obviating the necessity of asset liquidation on their part. On the preliminary pages, dealing with the theoretical fundamentals of the research project, one warned against the policies in the spirit of a simple aggregate demand management on the part of the state by means of the common counter-cyclical instruments, such as tax abatements, increased transfer payments and subsidies, or unproductive investment expenditures. The objective at this juncture would

have been not to increase the real sector's overall income credits, but to grant direct relief for those economic units or sectors most heavily distressed by the crisis, as well as to provide for their sustainability in order to facilitate the indebted units' deleveraging in perspective. This kind of policies would have allowed to immediately tackle the problems at their roots, whilst fending off the risks of an upward or a cushioned downward instability. As the past and contemporary experiences within the international context had revealed, the former would usually be writ large in inflationary pressures and the latter in the tacit debt deflation process, when business units adjust to the crisis by downsizing their output and employment levels (Tymoigne 2006a)[98]. Therefore, what the country's real sector was longing for in order to avert the crisis proliferation at the systemic level were policies in the spirit of a Responsible Big Government with the "quality" of government spending and lending looming large. The former should have expressed itself first and foremost in the targeted public employment and investment projects, which would have succeeded in undergirding the unintermitted flow of funds to the accounts of the beleaguered units within the framework of employment and production processes. Concrete state actions on a related note, could have embodied any type of direct employment-inducing activities in the domains which were hardest hit by the turmoil as well as any other economic sphere serving the general public interest, such as infrastructure, public amenities, education as well as environmental and social areas. Offering ordinarily high collective but low individual gains, the latter are usually less attractive for the private initiative, in particular during periods of crisis. In view of the fact that the heretofore established infrastructural and technological base of Ukraine constituted for the most part the bequest of the Soviet era, which has by then become long obsolete, there would have been much work to be done in this regard. By having routed the income directly to the dismissed and unemployed, the public "direct job creation" programs would have had an immediate effect on the enfeebled by the crisis units. Given the fact that, by 2008, consumer and commercial real estate loans of households sector constituted almost 40% of the total bank credit accommodated to the domestic economy[99], the sustained supply of employment opportunities in the required volumes on behalf of the government would have buttressed economic recovery from the bottom up (Tcherneva 2011). At the same time, stabilisation of income flows to the population by the implied employer of last resort programs, and thus its purchasing power, would have immediately been reflected in the reflow of corporate earnings. These dynamics would have provided for the balance sheet recreation of those financially

[98] Liquidity injections not paralleled with an increase in productive capacity are inflationary. *Vide* Kregel's (2010b) and Wray's (2009d) assessment of the US fiscal stimulus over the course of the Global Financial Crisis.
[99] Own calculations based on the statistics provided in the NBU (2014c).

stricken business units with production lines oriented towards the domestic markets. Nevertheless, in order to ensure that the respective enhancement of purchasing power would not be accompanied by growing current account imbalances and inflationary tendencies, a set of supplementary policies would have been necessary. To that end, the residents' access to the external commodity markets should have been subjected to control, and managed in accordance with the national development plan. Additionally, the government should have compensated for the declining importation of goods, by looking for means to satisfy the respective demand on the internal markets. This could have been done by making the private enterprises responsible for realisation of the productive non-priority projects on the basis of market competition. In those domains, some kind of financial enticements to the business entities on the part of the state would have been conceivable, in case new employment positions had been generated. Into the bargain, by having ensured the appropriate allocation of investment to the spheres of most national concern mentioned above, the government could have authorised the domestic enterprises for project implementation within the context of the public-private cooperation (Tymoigne 2008).

The implied employment-targeting investment activities of the government would have not only been accompanied by an increase in the ability of the real sector participants to acquire funds necessary to fulfil their outstanding financial obligations, but also by the amelioration in their expectations in terms of solvency. As no position-making in the form of asset liquidation would have been required to that end, the downward spiral in the asset values below those of liabilities incurred to finance them could have thus been avoided. By having stabilised the flux of income and profit to the real economy, the state would have succeeded in obviating the widespread individual financial disruptions, thereby guarding against debt deflation at the systemic level. Moreover, not only would the encompassing ELR activity on behalf of the state have catered for the aversion of the full-fledged financial disaster, but would also have coped with its distributional ramifications. Through the appropriation of funds for the benefit of the national capital and socioeconomic advancement, the state would have allowed the investment, and not the crisis costs, to be "socialised" (Mazzucato/Wray 2015, Tymoigne 2008). On a final note, the stabilising effect of the employment-oriented fiscal spending on the real sector's balance sheets could then have been realised owing to the circumstance that much of the public projects of the socioeconomic concern, for instance, the edification and maintenance of public infrastructure as well as realisation of multifarious social and community services, would have proximately targeted the most labour and construction-intensive economic activities therefore acting as a tonic for the economic units

and sectors in the most awkward predicament brought about by the crisis, *inter alia* in the building and subsistence sectors, as well as the small and medium-sized businesses. The virtue of such state-guaranteed employment opportunities would have been manifested in their countercyclical agency by providing the labour a facility to shift back to the business sector for a higher wage than that stipulated within the framework of the public employment program, as soon as the private sector economic performance had commenced to recover (Wray 2007a). Even if the volumes of the respective income flows had diminished as a result of the generally lower wages within the public job guarantee program, the extension of individual defaults on private obligations to the macro level could have well been averted by these means. Although, a generally lower economic growth must have been assumed, it must not have been the primary focus of the stabilisation-oriented policy response. Within the scope of measures in the Responsible Big Government spirit, it would nevertheless have been possible to set limits to both upward and downward instability (Tymoigne 2006a).

In preventing debt deflation at the aggregate level, the government actions within the framework of targeted spending should have been supplemented with the targeted lender of last resort activities, which would have ensured further lending and low-cost refinancing to the ailing real economy in domestic currency. Despite the NBU's liquidity supply to the resident banking sector at the beginning of the crisis, commercial banks almost stopped crediting the real sector, having appropriated the acquired funds for speculative purposes and capital expatriation. Refinancing, if available, was provided at extremely high punitive interest rates. On the back of this, special credit granting entities should have been created within the central bank's structures, which would have had as their primary objective the streaming of credit and refinancing to the real economic entities at a low cost during the crisis. Above all, a low, fixed rate refinancing at extended maturities and sound underwriting criteria should have been provided in terms of mortgage loans. The "right to rent" plan could have been envisaged in some mortgage cases[100]. In the aftermath of the crisis, the incorporated institutions could have remained in force in the form of community banks on the local level. Here again, it should have been warranted that liquidity had been supplied to the solvent financing structures with the originally hedged positions in order to avoid the prolongation of terms and conditions at the base of Ponzi financing schemes, and thus the cultivation of moral hazard. Liquidity provision should have been accomplished under the strict supervision of the

[100] Dean Baker's (2011) the "Right to Rent" plan provided for an alternative for facing the foreclosure home owners to rent their homes at the market rate for a substantial period of time.

beneficiaries' balance sheets so that its leakages towards the unproductive fragile activities were kept foreclosed.

All the above-mentioned measures should have been paralleled by a far-reaching de-liberalisation of the national current and capital accounts and termination of hryvnia's convertibility on a permanent basis. The effectiveness of the stabilisation-focused macroeconomic management in the Responsible Big Government style is significantly contingent upon the degree of the country's economic and financial openness, and the scope of convertibility of its national monetary unit. In the case of the entirely liberalised national current and capital accounts, accompanied by the fully convertible domestic currency, the link between the state targeted spending and lending activities and the employment-stimulated growth is missing. As particularised within the preliminary chapters, the enhanced credit positions on the real sector accounts might, on the one hand, usher in the revitalised domestic spending on the external commodity markets. In times of an exceedingly high uncertainty and pessimistic expectations, on the other hand, the income and profit receipts may be expatriated instead of being reinvested in the economy. Both could be witnessed in the case of Ukraine in the aftermath of the crisis. Although, the *de facto* domestic policy response in direct counteraction of the crisis was far even from mere fiscal activism, and the pro-cyclical character of the austere measures only gave a stronger push towards both the upward and downward instabilities, a certain fiscal activation has been recognised in the medium term. This was contingent upon the incipient revival of the buoyant global commodity and financial dynamics, which gave afresh the external impetus to Ukraine's economic activity, having allowed the national government to temporarily veer off course, covenanted with the IMF, in view of the upcoming presidential elections early in 2010. The government germane actions were nevertheless reduced to the elevation of the pension and minimum subsistence levels, deferment until August 2010 of the natural gas tariff increases for the population, and the slightly widened investment expenditures in advance of the European football championship, consequently having failed to sustain the *prima facie* stabilisation of the real sector in the long term. As no "automatic stabilisers" worked for the enduring boost in employment and production oriented towards the satisfaction of the domestic needs – a *sine qua non* for the perspective transformation of the real structures towards sustainable modes of financing –, the domestic demand relapsed to a previously known demeanour. Within the outright open economic settings, the re-emerging domestic spending, which could not be satisfied and financed within the national boundaries, availed itself of the external markets in the same way it was happening during the expansionary phase prior to the crisis. Imports grew non-

proportionally to exports and the commercial balance deteriorated rapidly. Growth of external private debt accelerated. In consequence of both the external and short-term fiscal impulse prior to Ukraine's presidential elections, no "downward reversion" in the expectations of financing structures towards the cautious use of debt took place in the aftermath of the crisis. In the absence of fundamental reformations towards restructuring of the private indebtedness, most notably within the real sector, the recovery gained momentum before the economy reached robustness, and its long-term resilience was squandered in favour of short-term resilience[101].

The theoretical section of this research project has delved into the subject of affordability of the stabilisation measures by the state. Specifically, it has been argued that the government's capacity of being "big" is conditioned by the degree of its "monetary sovereignty". That is to say, only if it performs as a "net supplier" of the high powered money, would it enjoy independence within the scope of domestic policy-making. When the state spends by issuing its own currency, it does not face any financial constraint. The size of the fiscal deficit is therefore irrelevant, as the monetarily sovereign body never defaults on its national debt. Recapitulating, this line of reasoning is based upon the Lerner's (1947) concept of "functional finance", where public financing is quite different from that of the private economic entities. The state constitutes the sole "creator of money", which it is then able to supply in limitless quantities and without any imperative to levy taxes or borrow from the public, if it is resolved to spend. By contrast, a non-sovereign state is committed to borrowing if it intends to enhance its expenditures beyond its budgetary boundaries, as – to the same extent as individuals and business entities – it only "uses" but does not "create" currency. Accordingly, before the currency can be "used" by the private sector, it must be "issued" and "spent" by the government. Analogously, the relationship goes the other way around: within the scope of government spending, money is created and allocated by the government to the private sector and may only then be spent, saved or used to comply with the existing tax and financial obligations (Wray 2007a:21ff.). In a nutshell, a sovereign body operating within its own currency regime never faces any financial constraint within the scope of its deficit spending and is thus autonomous in terms of its policy-making. Furthermore, beyond performing transactions in domestic currency, the monetary sovereignty postulates a government wary of taking over the debts issued by the other sectors of economy in external currencies (ibid.:24f.). As long as the state acquiesces to the private structures' default on their foreign currency denominated debts in consequence of the financial instability, there is

[101] This is exactly what Minsky admonished of, according to Tymoigne (2006a:44).

no need to bother about its sovereign power. *Vice versa*, the latter is jeopardised in case the state assumes those debts by bailing out the domestic debtors from its limited foreign exchange reserves. By acting under the constraint of procurement of external resources with a view to debt servicing, the state abdicates its policy-making prerogative to this end, thus disdaining the real needs of its national economy. In principle, as soon as the economy becomes integrated into the international financial and economic architecture, it is no longer hedged for the simple reason that the external value of its national currency is beyond the economy's control (Arestis/Glickmann 1999). In consequence, it becomes highly sensitive to the vicissitudinous foreign exchange flows, global capital markets' interest rates, and foreign investors' expectations. In the case of external disturbances, the implied parameters usually serve as the channels for their contagious effects on the domestic economy, whose financial resilience then becomes contingent upon the economy's ability to keep servicing its external debts out of international reserves. Even if the state's external financing positions are primarily sustainable, in the sense that its public external debt is trivial, and it possesses more than sufficient liquid foreign exchange assets, the state *a priori* converts into a speculative unit, if it pursues a stringent foreign exchange regime within the scope of its convertible currency. This signifies the state's pledges of bailing out the private external obligations in order to preserve the external value of the national currency, therefore entailing a high risk of its decadence to the Ponzi mode during financial instabilities. And this is exactly what has happened in the case of Ukraine.

The processes of global economic and financial liberalisation induced Ukraine to abdicate its privilege of monetary sovereignty and to become dependent on the acquisition of foreign exchange for honouring its international debts. Considering the exceedingly high content of the speculative and super-speculative financing positions within the national economic structures, the magnitude of the economy's sensitiveness to the external events was outstanding on the eve of the Global Financial Crisis. As most of them slipped off into the Ponzi mode over the course of the global turmoil, it is doubtful that the forbearance to take action on the part of the state would ever have embodied an adequate denouement. Although, since the liberalisation of the national capital account, the public external debt was persistently decreasing and by 2007 attained its lowest level of 8.7% of GDP, the country's private sector in contrast kept incurring liabilities on the international capital markets, to 100% in foreign currency. Just prior to the crisis, they skyrocketed to ca. 70% of GDP, or almost 40% in the case of banking sector. When the spillover of the global crisis to Ukraine's economy materialised through the channels of foreign income and capital flows, along with

the interest and exchange rates the state bailed out the ailing private structures, most notably the resident credit institutions, for the purpose of averting the undermining of hryvnia. In this way, the burden and risks connected with the foreign debts servicing were transformed from the deleveraging banking to the public sector. When the international currency reserves dwindled to a considerable extent, Ukraine found itself in a Ponzi financing position *vis-à-vis* the rest of the world and, in order to remain solvent, had to borrow to rollover the debts. Despite the official funds being obtained within the framework of the IMF's Stand-By arrangement, Ukraine's attempts to immediately stabilise the situation came to nought and the national authorities had to wander off the liberal course. A number of foreign exchange and capital mobility regulations followed on a temporary basis which then allowed the state – after the initially sparked panic – to defuse the situation until the amelioration of the global tendencies. Having some time later come along with the restoration of the foreign exchange flows into the economy, they ultimately withheld the entire Ponzi edification from its collapse.

However, in the absence of structural readjustments, necessary to bring its wide-ranging speculative structures towards the hedge mode over the medium- and long-term, whilst properly dismantling the Ponzi financing pyramids, Ukraine forfeited its chance of macroeconomic stabilisation on a sustainable basis. The inappropriateness of its instant anti-crisis policy response, which merely catered for the prolongation of the circumstances at the base of the unsustainable schemes, only respited the bust. Over the course of the crisis, many of the country's real economic structures became insolvent. Given the absence of an appropriate debt resolution mechanisms, the exceedingly heavy weight of the non-performing household and corporate debts on the banks' balance sheets added to the explosiveness and deferred their *en masse* default to a later date. Notwithstanding the deleveraging of the domestic credit institutions in the aftermath of the crisis, the real and state sectors continued incurring debts and merely rolled over their outstanding liabilities. The great menaces resurfaced by 2014, when the time to settle old scores has come but the prospects for further satisfaction of Ponzi conditions waned. The widespread loan delinquencies compelled the credit institutions to write them off as total loss and a more intensified wave of bank failures followed in subsequent years. In light of the fact that the crisis materialised from the inability of the country's private sector to fulfil its financial obligations due in foreign currency, the question arises as to how it was ever possible to support the respective balance sheets by the state actions without alighting itself on the Ponzi level, as well as to circumvent the debt deflation which had taken the form of an upward interaction between the debt and exchange

rate. Furthermore, it is questionable whether Ukraine was ever able to finally comply with the vast amount of financial obligations accumulated to the rest of the world, both private and public, in the distant future. The answers to these very questions will be provided in the subsequent chapter.

3.3.2 Measures targeting the debts resolution in the medium and long term

Within the scope of the short-term stabilisation measures, the comprehensive and targeted interventions *à la* Responsible Big Government, directed towards the backing of those who did not take part in the fragilisation of the national economy, should have been supplemented by the appropriate mechanisms aiming at the prompt restructuring of the real sector's indebtedness in a sustainable way, before it had transformed into Ponzi financing. To that end, a specialised institution should have been created within the central bank's structures, which would have – in cooperation with the banks – worked out miscellaneous options for reducing the real sector's level and burden of debt. Interest rate reductions, maturity prolongations, and debt standstills right up to the curtailment of the outstanding principal amount – would all have qualified as suitable appliances for the debt mitigation. The objective at this juncture would have been to reorganise to debtor's payment commitments in accordance with the crisis-induced modifications in the income flows out of his core economic activity. In order to enforce a better "matching" between his cash inflows and outflows, for instance, the debtor should have been allowed to use only a certain proportion of his revenues for performing the liabilities. The symmetrical virtue of such a measure would have been manifested in no increment in the borrower's debt burden arising until a commensurate enhancement in the volume of his earnings. This would have contributed to an appreciable improvement in the state of the borrower's financial affairs. For the export-based enterprises, a kind of "natural hedges" could have been bargained with the international creditors with the objective of dealing with the volatility of the country's export earnings. These would operate in a similar way as just explained (Kregel 2004b:8). In terms of the intercompany debts within the FDI framework, the reinvestment of interest and dividends in the form of non-repatriated profits into the stricken units could have represented an alternative. In this context, a partial reloading of the debt restructuring onus on foreign investors should have been envisaged, as those had recognised the risks emanating from the respective balance sheets exposures and had consequently embraced the eventual losses. Summarizing, the evolution of financing structures towards speculative profiles does not necessarily imply the debtor's malevolence, and the demeanor of the counterpart is equally

determinative. All, debtors and creditors act their part in the financing process and must therefore be prompted to share the cost of restructuring. Moreover, in most cases, the cost for a creditor in the event of an obligation default would be larger than that of its workout so that the following debt relief measures would for both parties embody an opportunity to keep the business afloat.

The situation with the deliverance of the real sector balance sheets from the foreign currency denominated obligations would have been rather intricate. Taking into account the heavy weight of foreign currency loans within the total credit accommodated to the resident economic sectors which, on the eve of the crisis, amounted to well-nigh 60% with this figure running up to over 70% in terms of the household sector, or 90% in the commercial real estate and 85% in the mortgage credit cases[102], their resolution would have been painful. The appropriate methods should have envisaged their coerced conversion into the national currency on behalf of the loan-accommodating institutions. Having become super-speculative, the latter should have been held accountable for practicing the unsustainable methods of financing. During the economy's expansionary phase, when the euphoric anticipations prevailed, the domestic businesses units and households were inclined to substantial reductions in their margins of safety, whilst their financial positions seemed *prima facie* to keep strengthening. At the same time, all agog with expectations of elevating profits, the venturesome credit institutions sought to satisfy the growing real economy's need for credit by extending the foreign currency loans under the substantially downgraded lending criteria. Although it is the commensurate transformation in the leveraging conventions of both parties, which expedited the economy's movement up the fragility road, nonetheless, it is at the level of credit generation where the major "weakening" had happened. Recapitulating Minsky (1986), the general robustness of the financial system is dependent on the manner the credit creation process is expedited on the part of the banking units. When a bank lends money generating the corresponding positions on the asset side of its balance sheet, it does not lend its own capital resources. It rather lends the resources of others, for example, the real structures' deposit funds so that bank's assets for the most part constitute the borrowers' liabilities. In other words, the bank accumulates assets by means of issuing liabilities which, at the same time, represent the assets of other economic participants. If the generation of debt lies at the bottom of the banking activity, then the bank's primary assignment is the "guaranteeing that some party is creditworthy" and it must act accordingly (ibid.:256). Minsky (1991:6) insisted that "[i]n the business of capitalist financing, it is the duty of the

---

[102] *Vide* Diagram 68, Diagram 70, Diagram 71.

banker to be the skeptic". Especially in the economy's upswing phases, when the demand for bank financing is exceedingly strong, the bank must exercise reasonable care within the scope of its lending activities, as to dampen the jeopardies of "animal spirits" for the systemic financial resilience. If this has not been the case, then the bank in charge of the systemic fragilisation must be subjected to bearing all the corresponding expenses. This would embody a kind of penalisation for the abuse of its due diligence devoir within the scope of the money creation process.

The above-mentioned recommendations for real sector's debts rescheduling on a sustainable basis would have definitely triggered even more bank failures. Moreover, they could have been realised only under the premise that the majority of the real sector's structures had been distinguished by the positive net present values, i.e. maintained the speculative positions (Kregel 1998). As many of them cascaded into the Ponzi scheme, one was no longer confronted with the financial instabilities at the micro level, but the systemic crisis. The widespread insolvencies of the real structures and the generalised bank loan delinquencies could no longer allow the Ukraine's national authorities to withhold the domestic banking system from the gridlock. As a consequence, more radical actions would have been necessary. At this instant, the government should have been taken on board, however, not as a "sponsor" in terms of taking over the cost of the debt restructuring – neither by providing the foreign exchange to the banks, nor by extricating their balance sheets from the respective "bad debts" –, but as a "reformer". This would have assumed an authorisation of the private sector's default on international commitments as a corollary of distributing the burden of losses between investors and borrows as a "market solution" (Kregel 2011), and the financial system's reboot within the scope of redressing the shortcomings of the deregulation process. The demise of the private Ponzi systems should have been endorsed as the only congenial solution on a number of grounds. On grounds of sustainability, no other outcome for a Ponzi financing pyramid, than to fail at the end of the day, would have ever been affordable. The potential of such a system to accumulate the financial capital in the length of time is equal to nil, given the persistent imperative of its anew recreation (Kregel 2004c). On ethical grounds, those responsible for the economic fragilisation should have been held liable. The government should have let the crisis to continue whilst backstopping the rest, depositors and the viable business and banking units struck by the domino effect. The state should have been equipped with the appropriate mechanisms directed towards the encompassing resolution of the widespread insolvency issues within the banking sector. In order to eschew the respective failures wreaked havoc onto the entire payment traffic and to thwart the

macroeconomy's cascade into greater chaos, the resolution of systemic banks should have been prompted under the nationalisation program. In the long-term perspective, a profoundly de-liberalised and downscaled system of national banking should have emerged as a corollary of these actions, with the publicly-controlled institutions claiming the majority. This should have constituted an integral part of the comprehensive reform agenda for the domestic banking sector in the long run. Owing to its essence – the generation of leverage –, the financial fragility is intrinsic in banking activity. The financing profiles of the credit granting institutions incorporate for the most part the duration mismatches and the enduring risks of borrowers' default on debts. Customarily, they finance their long-term asset positions by the short-term external funds from depositors and other financial institutions, building ergo upon the permanency of refinancing operations. Lending their capital over multiple times, the banks dwell on the significant leverage ratios and therefore pose ponderous systemic jeopardies. The bigger the bank, the higher are the risks from its collapse for the stability of the entire financial edifice. The larger the extent of the respective bank failures, the more violent is the fallout of the banking system gridlock for the macroeconomy. At the same time, banks should serve an important public purpose – promotion of the national capital development, in the broad sense as perceived by Minsky[103] –, in the length of time. If the country wishes to enjoy a stable financial environment, which provides for the fulfilment of the implied goal, it must permanently exert control over its basic infrastructure, including the banking system. Much of the private sector's financial wealth and debt would have ultimately been wiped out. Nevertheless, as a corollary of such a "balance sheet simplification", a relatively stable financial architecture with the predominantly hedged structures would have emerged and the configuration of a sound financial system could have been started from scratch[104].

Taking into account Ukraine's core corporate segment, here again, the fundamental reorganisations of the beleaguered units should have been advanced under the auspices of the state. The economy's major productive capacity should have been saved from bankruptcy and from being taken over by foreign private capital. Especially, when it comes to the country's major business premises generating the foreign income. The domestic export sector should have at least partially become public for quite a number of reasons. First, on the strength of

[103] The "capital development" in Minskyan terms embraces all types of investment projects in the sphere of technology, human capital and public infrastructure (Mazzucato/Wray 2015:2).

[104] Nersisyan and Wray (2010:27-28) pointed out at Minsky's remark that, during depressions, the major balance sheets' cleaning from financial assets and liabilities would take place. Such a process of "balance sheet simplification" would have positive impacts on an economic system, which would usually recover from the crisis as more stable.

the type of their business activity, the implied corporate structures are exposed to a significant risk of the foreign income and exchange rate volatility, and hence *a priori* speculative. These risks can only be managed on the macro scale and should therefore be subjected to direct control on the part of the government. Second, with Ukraine's industrial complex being to a great measure oriented towards external markets, the domestic export sector remains of paramount importance. The impact of the global crisis on the country's overall economic performance was primarily through the deterioration in the activity of its export sector to the industrial production oriented towards the domestic markets. Ukraine should not in the future allow its national employment level to be largely determined by external factors, being out of its control. Finally, the exceedingly high level of Ukraine's indebtedness towards the international community forces the country to exert power over its principal foreign income generating facilities, if it is ever to be extinguished. In perspective, all priority sectors of the national economy, which constitute the elements of instability for the domestic economic and financial well-being, should pass over either to public ownership or at least to a public-private partnership. Ukraine's national government should take care of its financial, export, housing and energy sectors on a permanent basis, whilst promoting private enterprise within the residual economic domains.

The final issue to be dealt with at this point concerns the prospects for Ukraine's private sector in terms of its ability to settle in the distant future the debts which it accumulated to the rest of the world. This would have only been feasible by means of accumulating foreign assets from the enduring external surpluses of the stupendous size (Kregel 2011). These in turn would have assumed the fundamental domestic structural transformations, regaining the state's control over the national balance sheets, as well as prolific negotiations on the international level as to the creation of terms and conditions, which would have enabled Ukraine's economy to revert back from Ponzi to the speculative mode of financing in the long term. All this would not have been easy to handle. In the wake of the global economy being fraught with substantial structural maladjustments, it would have been extraordinary difficult to achieve much success in this regard. In lieu of approving the enlarged influx of merchandise and services from Ukraine, or minimising the level and burden of the country's international debt, refinancing on short terms within the scope of official lending represented an alternative which the global economic structures opted for. The implied recipe could have augured success only provided that the newly borrowed external capital resources had been utilised in such a way as to "gain the time" for building up the "real capital", which would then have allowed the country to generate foreign exchange

earnings in the amounts necessary to extinguish its foreign debts and to escape from the Ponzi finance trap at some future date (Kregel 2004c). This would have postulated appropriate investments coming along either with the augmentation in the country's productivity on the international commodity markets, diminishment of its import content or reduction in the volatility of export proceeds. In the case of Ukraine, however, this did not happen. Rather, the borrowed funds were utilised for bailing out the resident banks and their international private credit grantors, which would have otherwise had to declare insolvent, whereas the commercial deficit continued advancing. In a nutshell, the opportunities for building up the "financial capital" essential for convincing the international investors of the country's ability to meet the near-term maturities were anew recreated. When the external capital streams to Ukraine reconstituted in the medium term, and the premises at the base of the established Ponzi financing mechanics were for the time being renewed, the system recovered in the years that followed with even higher level of foreign debt, private as well as public. The menaces of a systemic collapse resurfaced by 2014, when the heavily burdened economy faced the largest macroeconomic, social and (geo)political instabilities since its independence. Another sovereign default was looming ahead as the consequential long-term effect of the corresponding circumstances.

4 Inferences and synopsis

Having ultimately risen to the pinnacle of fame within the mainstream economics by the end of the 1970s, the neoclassical tenets have been practiced far and wide by the leading advanced, as well as global macroeconomic structures. Such an ascendant position of the meta-ideology accelerated the regulatory transformations during subsequent years, which then removed the obstacles along the "natural drive" of individual, as well as international financial systems along the road towards fragility. Those liberalised less-advanced economies, which were to a large extent integrated into the global economic and financial architecture, were given an ominous ride and, having become the principal addressees of the unbridled transborder private capital, ultimately found themselves in frequent confrontation with the rancorous financial, real and socioeconomic, as well as (geo)political ramifications. From the financial perspective, the accumulation of foreign debts of unsustainable magnitudes engendered substantial dependencies of the respective economies on the incessancy of foreign finance inflows within the scope of debt servicing, having consequently determined their systemic transition in the Ponzi finance vein, as well as the crebritude, severity and duration of the relapsing financial instabilities. From the real and socioeconomic perspective, the

process of global financial liberalisation deprived the developing countries of the time and the will to build up or fundamentally modernise their industrial base, facilitated the emergence of business cycles, and effectuated the excessiveness of investment within the highly remunerative attractive for the speculative players activities. At the same time, the domestic population was allowed to bear the costs of the stunted development within the essential productive domains of the national economies, such as industry and agriculture, in the form of unemployment and inflation. The lopsided investment operations ignored the countries' internal real and socioeconomic necessities such as public infrastructure, education, ecology etc. and engendered the rent-seeking mentality. From the (geo)political perspective, the international financial latitude provided for the safeguarding of wealth and consolidation of power on the part of the domestic ruling clans. In many cases, the economic and financial crises in the aftermath of the periods of vigorous inflows of external financing continued with the internal and international political conflicts.

In the case of Ukraine, all the aforementioned arguments applied bar none. Over the course of the pre-crisis period, the generation of high levels of financial fragility on behalf of its national economy transpired through the reciprocal action of exogenous and endogenous processes. The external agency has been induced by the processes of global economic and financial liberalisation which, since their advancement by the world's mightiest financial centres, catered for the allocation of the international "liquid finance" and the outlandish commodities in copious volumes to the economy's private domain. Being to a large extent countenanced by the domestic political and economic elites, the ensuing recourse of the indigenous private structures to unsustainable financing practices expeditiously disseminated to the systemic level. Explicitly, it is, on the one hand, the pent-up domestic consumption and investment demand satisfied by the provision of debt financing on behalf of the international private creditors and, on the other hand, the natural tendency of the endemic financing structures towards the reduced margins of safety during the period of economic upswing which lay at the base of the economy's metamorphosis towards financial fragility *vis-à-vis* the rest of the world. This sowed the fertile seeds for the swift transgression of the outwards nascent events to the domestic economy in 2008 after the following scenario. The large-scale openness of Ukraine's national capital account since 2004 substantiated the onward progressiveness of the international private capital circulations through the national borders. This facilitated the ability of the indigenous banking and business structures to take positions on the external financial markets in foreign currencies and was paralleled by the accumulation of significant structural imbalances within the respective balance sheets. Until the inception of

the crisis, the abundance of inward-streaming foreign finance encouraged enhanced risk-taking and burgeoning speculation within the domestic investment activities, having provided for the widespread entrenchment of highly fragile positions in some sectors of the economy, *inter alia* banking and the real estate sectors. Against the backdrop of fervent anticipations of rising income and profit revenues, as well as of the longevity of prevailing propitious circumstances, the thriving real sector's spending activities were reinforced by the abundant foreign currency lending on behalf of the resident credit institutions. The enlargement of private leverage in valuta was advancing at an alarming rate and, by 2008, rose to almost 60% of the total domestic credit. Within the framework of the underwriting procedures not tethered to the units' potential foreign exchange earnings, these dynamics were paralleled by ever mounting commercial and current account imbalances. The trajectory of the financial fragility index computed for Ukraine's economy empirically corroborated the above delineated developments. By having traced the changes in Ukraine's external debt level and burden, the domestic asset prices, the volumes of its international reserves and the refinancing pressures over the course of the period 2004-2009, the index attested to the progressiveness of the economy's fragilisation as a financing unit within the global context during the period prior to the crisis.

Caught in the contagion effect by the externally induced financial disturbances, the ultimate passage from the state of financial fragility to instability at the domestic micro level ensued through the impairing modifications in the initial premises at the base of the individual balance sheets. More precisely, the regression in the foreign income and capital inflows, the adverse interest and exchange rate tendencies, the aggravated domestic and foreign investors' expectations, and the substantial abatement in the values of the underlying collateral assets have all in large measure impinged upon the financing units' level of income, encumbrance, and the defensive position-making opportunities. The corollaries were substantial financial straits for the respective units within the context of performing their payment obligations which, exacerbated by the profound debt deflation process, transcended to the systemic level. Specifically, as the foreign income and capital streams to the national economy immobilised and the international risk premium for the country's corporate and sovereign bonds skyrocketed, the national currency came under appreciable depreciation pressures. The residents' sombre anticipations of the onward deterioration in the hryvnia's values, elicited the large-scale withdrawals of the respective funds from the deposit accounts within the domestic banks, which were forthwith streamed to the domestic foreign exchange market. Immediately upon these very tendencies, the national authorities addressed themselves to the

achievement of the two principal assignments, sc. the stabilisation of the national monetary unit and of the domestic banking system. Seeking to withstand the reversion of the foreign capital flows and stabilise hryvnia with conventional monetary instruments, the National Bank of Ukraine raised the interest rates on all operations, active as well as passive, initiated the copious sales of foreign currency on the domestic foreign exchange market and injected ample volumes of liquidity into the aggrieved banking units. Within just the first three months of the crisis, the total amount of financial resources appropriated on a related note through the miscellaneous refinancing mechanisms came to over 10% of GDP[105]. In the wake of the residents' alarmist sentiments, operating in the herd manner within the context of expeditious position-making, the implied measures however failed to appease the situation. As a corollary, both segments of the domestic foreign exchange market turned out to be entirely paralysed and the fierce speculation with valuta prospered. Fueled by the outright convertibility of hryvnia within the system of its *de facto* peg to the US Dollar, the mass exodus of foreign capital outside Ukraine only compounded the situation. In counteraction of these adverse outcomes, the national monetary authority introduced in the second round of the crisis a number of foreign exchange and capital market regulations on a selective and temporary basis. Nevertheless, in light of their retroactive effect, the following measures came too late in the day, after the unbearable dimensions of the exchange rate exposures had already been accumulated within the private sector's balance sheets. Into the bargain, having primarily targeted at the outbound foreign capital streams, most of them were revoked by the end of 2009. Given their failure to tackle the conundrum at the core of the crisis, i.e. the unsustainable dimensions of private leverage in foreign currencies, they proved to be unsatisfactory. Constrained by the inability to procure foreign exchange to perform their foreign currency obligations – corresponding to over 70% of the total household and to over 50% of the total corporate credit by 2008 –, the real sector's structures straightaway descended to the Ponzi financing position. Cases of individual insolvencies proliferated and the number of defaults on banking loans and foreclosures grew by leaps and bounds, having reverberated with the intrinsically fragile banking architecture. Financial gridlock transpired by the time the debt deflation process gained momentum at the systemic level.

The pro-cyclical agency of the domestic short-term policy response in reaction to the above delineated dynamics evinced its weakness in countervailing the adverse effects of the crisis, which manifested itself as a solvency rather than a liquidity crisis, having even engendered its subsequent intensification. The central monetary authority's efforts to stabilise

[105] Own calculations based on data provided in NBU (2009c).

hryvnia came to nought and it sustained an appreciable devaluation, *viz.* well-nigh 60% within the first three months of the turmoil. Against the backdrop of such a formidable precipice, the already trivial margins of safety of the real sector's speculative units vanished almost entirely in a minimum of time, having finally precipitated their conversion into the Ponzi financing schemes. Most of the respective structures sought for opportunities to minimise their losses from hryvnia's weakening and to elude insolvency. Trying to acquit their outstanding foreign currency obligations within the shortest possible time, the resultant large-scale position-making operations set the wheels of the debt deflation process in motion, having brought about the far-reaching ramifications even for the originally balanced financial positions. When the event of financial instability befell Ukraine's economy, the exceedingly fragile banking edifice found itself on the verge of collapse. The revalidation of the Ponzi system's conditions, with the mere alterations in the debt structure to the public sector's detriment, appeared *prima facie* to be the economy's unique egress out of the financial mayhem, and the national authorities balloted for it. For this purpose, they approached the international institutions. The solicitations for finance were for the greater part satisfied by the IMF within the scope of official borrowing, and were subjected to stringent conditions. En route along the structural readjustment towards the consolidated public finances, flexible exchange rates and inflation-targeting, Ukraine's authorities essayed to achieve remarkable outcomes. Their belief that once the international investors' confidence in the financial resilience of the domestic economy was recaptured, the inflows of private financing from abroad would reforge. This would accordingly instigate the banking units to resume the accommodation of credit for the consumption and investment projects of the real sector, thus galvanising the growth dynamics. Meanwhile, the domestic banking sector had to be bailed out at the expense of the real economy.

When the NBU widened the scope of its liquidity injections to the ailing banking units to that end, the exceedingly speculative units in turn tended to make positions in the shortest possible time. With the objective of settling their external liabilities, the banks' liquid hryvnia funds were immediately converted into foreign exchange and repatriated to their overseas affiliates, instead of being invested in the real economic projects. In the contentions between the national and foreign investors' concerns, put to rest to the detriment of the former, the ensuing onus then fell on the Ukrainian enterprises and population to assume responsibility for the economic devastations engendered by the crisis. This was writ large in substantial corporate losses, collective dismissals, and sizable reductions in the population's income as well as in the values of the real sector's assets. Exacerbated by the increased cost of financing

and absent position-making opportunities, this ushered in massive bankruptcies. When, in consequence of the outspread debt deflation, the multiple cases of loan delinquencies mirrored in the banks' balance sheets, the national authorities affirmed the rescue of the distressed systemic banks with the objective of preventing their failures from sparking a backlash on the entire financial system. Within the framework of financial rehabilitation of the units in question, their recapitalisation and restructuring of their debt to external creditors at the expense of the public funds was endorsed. Some of them were ultimately resold to private investors, for instance, the 6th largest Prominvestbank, whereas others remained in public hand. Over the course of the rehabilitation program, the number of operating banks with foreign capital increased and, by 2010, amounted to 55 units, or over 30% of the total number of operating banks. Just under half of them exhibited a 100% share. The proportion of foreign capital within the banks' registered authorised capital exceeded 40% (Diagram 54). With a further move towards greater presence of foreign capital, owing to the injections of additional capital resources to the vernacular banking units on the part of their foreign subsidiaries, Ukraine's banking system appeared *prima facie* to be in the more propitious position than the real economy to take itself out of the crisis.

The "no-policy" stance of Ukraine's national government during the initial phases of the crisis, except for bailing out the domestic credit institutions and their international debtors, was in the medium term slightly moving towards the "fine-tuning". Having for the moment protected itself against the systemic default in the above-mentioned way, Ukraine applied a kind of "wait-and-see" tactics, cherishing great expectations *apropos* the meanwhile regeneration of the inbound external capital. Owing to the debt financing flows to the country's public and corporate sectors getting off the ground again by 2010, much of its external debt could be rolled over. In the latter case, this figure was particularly high and amounted to almost 140%. The domestic banking system appeared to feel again on terra firma, and credit granting institutions continued their progressive deleveraging. These dynamics allowed Ukraine's government to avert for a short period from its fiscal alignment pledged to the IMF, and the public expenditures enlarged in the light of increased social transfers, pensions and minimum wages, deferred increases in the gas tariff for the population and augmented public investments related to the UEFA Euro 2012. In the meantime, the private spending reignited, in the first instance at the expense of the private consumption (NBU 2010b). Although the ameliorative trends on the global commodity and financial markets at the outset of 2010 gave a strong impulse to domestic growth in the subsequent periods, nevertheless, in the absence of seminal structural reorganisations on the national

level, the implied actions of the national government in the medium term appeared to be of a rather superficial character, and therefore chargeable to the country's macroeconomic stability in the long term perspective. Despite the growth in the level of the economy's financial fragility decelerating during the period between 2009 and 2011 due to the "debts simplification" on the part of the resident economic structures, the ever since upwards spiraling index pinpointed its prompt subsequent recuperation which, by 2014, crescendoed to desperate positions. The aforementioned propitious dynamics nascent on both national as well as international levels in the aftermath of the crisis failed to perpetuate the flow of funds to the real sector's balance sheets, and thus to tackle the problem of the sector's exorbitant encumbrance in days to come. When economic recovery got underway, it turned out to be not only short-lived but also financially risky with corresponding implications emerging in the extreme proximity of time. The share of non-performing debts within the credit portfolio of domestic commercial banks remained sizeable and kept growing steadily in the aftermath of the crisis, having soared to 25% by 2014. Throughout the five years following the crisis, the vast cases of commercial banks demise nearly doubled, having ultimately shattered all hopes relating to the resilience of the domestic banking system[106]. The country's foreign debt overhang accrued to its historical level, *viz.* over 100% of GDP, within the respective period. The long-term ramifications of the inappropriate policy response of Ukraine's government immediately in counteraction to the crisis proved to be calamitous, as it did not allow the country to eschew the much heavier blow on the domestic financial system, the entire macroeconomy as well as its national sovereignty. The domino effect of individual financial disruptions paralysed *de novo* the banking system but, this time, with greater power. For Ukraine's economy embodying a rent-seeking system, the collapse of the rent flows triggered vehement internal social and political instabilities. The ensuing intensification of the country's financial dependence on the occidental hemisphere in terms of the unintermitted revalidation of parameters underlying the subsistence of the endemic Ponzi financing architecture had rancorous geopolitical repercussions. To avoid the systemic devastations, Ukraine had to make concessions of economic and political character to the western creditors, for which it had to pay a heavy price. The country's endeavours to approach the western economic alliances resulted in the civil war and political altercation with Russia.

What would have been appropriate in the short term, in order to avert the pernicious global events would at the end of the day have morphed into a full-blown financial calamity of the systemic magnitude, was a "bottom-up" approach to macroeconomic stabilisation,

---

[106] According to the NBU reports, in 2009, 13 units were in liquidation. In 2014, their number raised to 23 units (NBU 2009b:80, 2013b:65).

paralleled by the pertinent mechanisms towards the reorganisation of the private sector's leverage along sustainable lines, and the system's decontamination from the Ponzi financing schemes. Moreover, in order to guard against the commitment of similar blunders in future, initial steps towards the seminal structural reformations on the way to robust methods of financing the capital accumulation over the long-term perspective should have been launched. Specifically, when the Global Financial Crisis attacked Ukraine's economy, the onus was then on the state to forestall the major burden would have fallen on the country's population and those economic structures which had abstained from taking part in the economy's fragilisation, therefore dispensing them from shouldering the costs, while penalising the rest. By relinquishing the "too big to fail" maxim – and this should have been applied to any financial and other private institution –, the Ponzi financing systems should have been allowed to collapse whilst simultaneously impeding them from sparking a backlash. The private sector's default on international commitments should then have been embraced as a corollary of the loss sharing between debtors and creditors. On a related note, the transformation of the private debt burden into a sovereign debt burden should have by all means been precluded.

The stabilisation of balance sheets of the real sector's viable structures within the framework of a "bottom-up" approach would have stipulated a range of policies in the Responsible Big Government style. These should have encompassed the comprehensive employment-targeted spender and lender of last resort activities, stretching far beyond the pure aggregate demand management. Within the framework of the former, a meticulous employment plan should have been contrived in conformity with the situation on the domestic labour market and complemented by the miscellaneous direct employment-generating activities in the socially desirable and strategical spheres of the national economy, above all the public infrastructure, agriculture, social and environmental domains. The stream of incomes generated within the scope of the public employment programs would have had a direct and instantaneous effect on the units enfeebled by the crisis, the dismissed and unemployed. The simultaneously reinforced purchasing power would have reforged the flows of corporate earnings, thus enabling the resident enterprises to recreate their balance sheets. The stabilising effect on the real sector's balance sheets by such an employment-oriented government spending could have been realised owing to the circumstance that much of the public projects of the socioeconomic concern, for instance, the edification and maintenance of public amenities as well as realisation of multifarious social and community services, would have proximately targeted the most labour- and construction-intensive economic activities,

thereby revitalising those economic sectors being in the most awkward predicament brought about by the crisis, *inter alia* the construction, subsistence, as well as sundry small- and medium-sized businesses.

In order to prevent the proliferation of debt deflation at the aggregate level, the government's ELR activities should have been supplemented with the targeted lender of last resort activities, within the scope of which credit and low-cost refinancing would have been provided to the viable real economic structures, in particular households as well as small and medium-sized businesses. This assignment should have been accomplished by special financial institutions, established for that purpose within the central bank's structures. First and foremost, they should have allowed the eschewal of unproductive allocation of funds by the credit granting institutions in times of extreme uncertainty, and should have subsequently remained in place in the form of the national community development banks. The accommodation of financial resources to the real structures should have been accomplished under the rigorous supervision of the beneficiaries' balance sheets. By stabilising at short notice the real sector's balance sheets and expectations with the aid of the respective government targeted operations, it would have become possible for the national authorities to obviate the real needs for position-making on a large scale, and thus to prevent the downward spiral in the domestic asset prices and the proliferation of debt deflation at the systemic level. Through the aversion of the multiple cases of the household and corporate insolvencies and the commensurate delinquencies on bank loans, the ensuing deteriorations in the quality of the banks' assets could have been circumvented. Together with the hereby strengthened resident units' confidence in the stability of the domestic banking system, the financial pandemonium could have been averted. However, in order to enforce the real economy's deleveraging and to encourage the anchorage of the robust financing practices in the long-term perspective, the solutions should have definitely gone well beyond the prompt crisis-countering measures. These should have provided for the sustainability of funds flowing to the real economy within the non-inflationary full employment environment, in the way that has been described in all its particulars within the theoretical context of the current research.

The effectiveness of such a "bottom-up" approach to macroeconomic stabilisation in the short term would however have been contingent upon the degree of the state's "monetary sovereignty", manifested in its ability to perform as a "net supplier" of the "high powered money". This postulates a government operating within the scope of a flexible exchange rate regime and avoiding both the issue of liabilities denominated in external currencies and the assumption of related private liabilities. Having bailed out the domestic private debtors from

the official foreign currency reserves with the objective of supporting the peg of the hryvnia, Ukraine’s government abdicated its privilege as an autonomous crisis manager and, being constrained by the necessity of procuring external resources for servicing its public debt, was compelled to acquiesce in the demands of global financial players abhorrent to the solicitations of the national economy. On the evidence of the high level of foreign exchange exposures accumulated within the country’s private balance sheets prior to the crisis, forbearance could nevertheless have hardly been an option. The transformation of the widespread speculative structures into the Ponzi financing schemes over the course of the crisis evinced the enormous challenges for the national authorities outreaching the ambit of their domestic policy manoeuvre. If the international community had genuinely desired to grant relief to Ukraine’s economy, then it should have participated in the prompt restructuring of the troubled but nevertheless still viable private financing profiles in a sustainable way, consequently bearing a part of the corresponding expenses. The stipulations on a related note could have encompassed the immediate “debt standstills” and their subsequent “workouts” targeting at the closer alignment of cash inflows and outflows of the respective units. For that, the reductions in the rates of interest and principal amount, maturity extensions and currency transformations would all have qualified as expedient to the minimisation of their leverage burden. Additionally, any type of concessions fostering the stabilisation or advancement of the foreign income flows to the beleaguered units would have been beneficial. For any financing units, some sort of “natural hedges” could have been conceived, which would to all intents and purposes have provided for the arrest or abatement of debt redemption volumes when getting into dire straits and their restitution or amplification in times of enhanced revenues. This would have given the national authority time to start the resolution of the real sector’s foreign currency debts, with particular attention to the corresponding household mortgage debt, and usher in groundbreaking macroeconomic reformations.

In any other case, the default on private international obligations should have been accepted as a corollary to the loss sharing between debtors and creditors. No other egress would have been possible, as to permit the Ponzi financing architecture to implode at the end of the day, while foreclosing it had sparked a backlash on the residual systemic constituents. The ramifications would have been excruciating and would have charged their price. They would have urged for a number of steps to be taken towards retrieval of most of the economy’s productive and foreign income generating capacity by the government. Overall, if Ukraine as a financing unit *vis-à-vis* the rest of the world was ever going to escape from the “Ponzi trap”, it should have regained control over its principal foreign income and debt

generating facilities. To that effect, the strategical spheres of the national economy had to revert permanently to public ownership and, in the long-term perspective, atone for the havoc wreaked by the neoliberal hegemony over the course of the transformational phase. It is absolutely certain that the adjustment process was going to be arduous, but this was only the reflexion of what had been going wrong within the economy for quite a long time. Nonetheless, at the final stage of the economy's reboot, this event would have had an assuaging effect as, owing to the correspondingly appreciable simplification of the private balance sheets, the largest portion of their unsustainable leverage would have been depleted. As a corollary of these dynamics, an unburdened and predominantly stable financial system would have emerged, and the reconfiguration of the national banking system could have been started from scratch under the aegis of the state. The kind of fugacious recovery undergone by Ukraine's economy in the aftermath of the crisis, with the dimensions of foreign debt, private as well as public, having come out higher than ever before, should have by all means been circumvented.

Finally, some words of advice are to be articulated *à propos* the game-changing structural watershed de rigueur for the promotion of domestic capital development in a financially stable way. This should stretch beyond the mere financial reforms and incorporate measures incessantly addressing the exogenous and endogenous triggers of financial fragility. Much has already been said on that point within the introductory chapters and should in place be laconically reiterated. In principle, as soon as an economy is integrated into the international financial system, it is no longer hedged for reasons of becoming highly sensitive to the volatility in the external terms and conditions being at the base of its financing profiles, in particular the foreign exchange earnings, international interest rates, external value of the national currency and foreign investors' expectations (Arestis/Glickman 1999). The extent of their volatility then determines the scale of the gap between the country's earnings and cash commitments. In case of external disturbances, the implied exogenous parameters turn into the sources of uncertainty and therefore the catalysts for the contagious impacts on the domestic economy. The occurrences in the course of the Global Financial Crisis corroborated the unsatisfactoriness of Ukraine's foreign currency reserves in serving as buffers against the external shock, despite being hitherto reckoned as adequate. The accumulation of foreign debt by a sovereign unit must ergo be predicated neither upon the magnitude of its foreign reserves nor upon its dexterousness in gaining access to unintermittent refinancing on the external capital markets, but solely upon its faculty to accumulate "real capital" in the length of time, which will then provide for the generation of prospective foreign income on the scale

envisaged for the debt redemption at some future time. For any developing country, therefore, this represents a unique recipe for the evasion of the Ponzi finance pitfall, and is only accomplishable if the country manages its own balance sheets by exerting absolute control over the capital and commodity traffic across the national boundaries (Kregel 2004c). Apart from abating the risks the external determinants would raise the economy's potential for financial instability, there are additional reasons why external borrowing as a long-term development strategy must be taken with a grain of salt. To eschew the systemic financial weakening, the borrowing activity must habitually be aligned with the foreign income producing operations, which are ordinarily concentrated within the indigenous export sector. Streaming the foreign funds to the Ukrainian export sector with the objective of enhancing the economy's potential to prospectively acquire higher foreign exchange revenues embodies from the perspective of national capital development, equality of incomes and social fairness a rather inadequate line of action. In lieu of satisfying the internal real and socioeconomic necessities, the export-led development usually contributes to the consolidation of the endemic oligarch structures possessing *de facto* this very sector. Into the bargain, it is conducive to inflationary dynamics if not paralleled by commensurate commodity imports. Reiterating the Minsky's reasoning on the endogenous forces underlying the systemic fragilisation at this juncture, the environment hallmarked by persistent underemployment and chronic inflation engenders a system utterly prone to instability, as much of its financing structures are rent-seeking and eminently audacious (Tymoigne 2006a). Therefore, it becomes exigent to create an environment in which the reconcilable with the endemic socioeconomic concerns capital development – private, public and human – could be promoted in a financially robust manner. This appertains to the duty of the state, as it is the only institution capable of forming an overall macroeconomic perspective of all processes across the national economy and thus rendering inoperative the endogenous catalysts of the systemic weakening. The state should then contrive an omnidirectional national development plan and reconstitute the domestic financial system in a way as to live up to the assignments envisaged within it. Generally, in order to thwart the financial weakening of the system from within, a combination of policies must be stipulated, *inter alia* regulation and monitoring of the internal financial markets and the prevailing patterns of financing, continuous regulative updating in accordance with the innovative financial mechanisms, a "job guarantee" for everyone, congruous income policies and the provision of functional finance (Tymoigne 2006b). The domestic growth process is then going to proceed in a smoother way, but only because part of

it would be sacrificed for the sake of economic and financial stability, social equality and justice.

In view of the fact that the arrangements which were promptly undertaken at the behest of Ukraine's national authorities to bring the country out of the crisis have lost their grip on reality, the state's attempts to comply with the above-mentioned obligations came to nought. The policy errors referred to earlier in this work urged for a paradigmatic change in the domestic policy mindset and commensurate fundamental reformations at the systemic level in due course. For the purpose of henceforward eschewing the commitment of similar blunders and advancing the national interests, the solutions must definitely have gone well beyond the respective crisis-countering measures in the short term. Explicitly more radical vehicles should have been excogitated to beget the financial system working for the domestic capital needs over the long term. Unfortunately, the elaborations on that score are placed beyond the capacity of the current research project, which is gradually drawing to an end. Nevertheless, it should be once more emphasised in place that, unless Ukraine remains a long way from masterminding its domestic financial, fiscal, employment, income as well as industrial strategies, the country's national development in a financially sustainable way can hardly ever be guaranteed. This errand can only be realised if the country prospectively progresses in regaining its policy-making sovereignty.

Bibliography

Academy of Economic Studies of Ukraine[107] (2010): Глобальна Економічна Криза 2008-2010 років: Світовий Досвід Та Шляхи Подолання в Україні [Global Economic Crisis 2008-2010: International Experiences and Remedies for in Ukraine], Kyiv.

Arestis, Philip (2004-2005): Washington Consensus and Financial Liberalization, *Journal of Post Keynesian Economics* 27 (2), 251-271.

Arestis, Philip/ Glickman, Murray (1999): Financial Crisis in South East Asia: Dispelling Illusion The Minskyan Way, Working Paper No. 22, University of East London, Department of Economics.

Aslund, Anders (2005): The Economic Policy of Ukraine after the Orange Revolution, *Eurasian Geography and Economics* 46 (5), 327-353.

Avdjiev, Stefan/ Chui, Michael/ Shin, Hyun-Song (2014): Non-financial corporations from emerging market economies and capital flows, *BIS Quarterly Review*, December 2014, 67-77.

Baker, Dean (2011): The Right to Rent Plan, Issue Brief, June 2011, Center for Economic and Policy Research, Washington, D.C.

Barisitz, Stephan/ Holzhacker, Hans/ Lytvyn, Olena/ Sabyrova, Lyaziza (2010): Crisis Response Policies in Russia, Ukraine, Kazakhstan and Belarus – Stock-Taking and Comparative Assessment, Focus on European Economic Integration Q4/10, December, Österreichische Nationalbank, 48-77.

Bello, Walden (2013): Capitalism’s Last Stand? Deglobalisation in the Age of Austerity, London: Zed Books.

Bibow, Jörg (2013): Germany and the Euroland Crisis: The Making of a Vulnerable Haven, Working Paper No. 767, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Bibow, Jörg (2012): The Euro Debt Crisis and Germany’s Euro Trilemma, Working Paper No. 721, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Bibow, Jörg (2011): Permanent and Selective Capital Account Management Regimes as an Alternative to Self-Insurance Strategies in Emerging-market Economies, Working Paper No. 683, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

[107] Академія Економічних Наук України.

Bibow, Jörg (2010): Global Imbalances, the U.S. Dollar, and How the Crisis at the core of Global Finance Spread to "Self-insuring" Emerging Market Economies, Working Paper No. 591, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Bibow, Jörg (2008a): Insuring Against Private Capital Flows: Is It Worth the Premium? What Are the Alternatives? Working Paper No. 553, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Bibow, Jörg (2008b): The International Monetary (Non-)Order and the "Global Capital Flows Paradox", Working Paper No. 531, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Blecker, Robert A. (2013): Economic Stagnation in the United States: Underlying Causes and Global Consequences, Draft of November 14, 2013, Keynote Speech, 10 Fórum de Economia, Fundacao Gétulio Vargas, Sao Paulo.

Blecker, Robert A. (1998): International Capital Mobility, Macroeconomic Imbalances, and the Risk of Global Contraction, Working Paper No. 5, June 1998, Center for Economic Policy Analysis, American University, Economic Policy Institute, NY.

Bondarenko, L.A. (2011): Реструктуризація Позичок Як Спосіб Управління Проблемною Кредитною Заборгованістю Банків: Вітчизняний Та Зарубіжний Досвід [Credit Restructuring Approach to Bank's Non-Performing Debt: Domestic and International Practice], *Вісник соціально-економічних досліджень* [*Bulletin of Socioeconomic Research*] 3 (43), 22-26.

Botta, Alberto (2014): Structural Asymmetries at the Roots of the Eurozone Crisis: What's New for Industrial Policy in the EU? Working Paper No. 794, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Bresser-Pereira, Luiz Carlos (2010): The global financial crisis and a new capitalism? *Journal of Post Keynesian Economics* 32 (4), 499-534.

Chakravarty, Sukhamoy (1987): Post-Keynesian Theorists and the Theory of Economic Development, Working Paper No. 23, August 1987, World Institute for Development Economics Research of the United Nations University.

Chang, Ha-Joon/ Grabel, Ilene (2004): Reclaiming Development. An Alternative Economic Policy Manual, London: Zed Press.

Coelho, Bruno/ Gallagher, Kevin P. (2010): Capital Controls and 21st Century Financial Crises: Evidence from Colombia and Thailand, Working Paper Series No. 213, Political Economy Research Institute, University of Massachusetts, Amherst.

Dzarasov, Soltan S. (2010): The Post Keynesian Alternative for the Russian economy, *Journal of Post Keynesian Economics* 33 (1), 17-40.

Epstein (2009a): Rethinking Monetary and Financial Policy: Practical suggestions for monitoring financial stability while generating employment and poverty reduction, Employment Working Paper No. 37, International Labour Organization, Geneva.

Epstein (2009b): Should Financial Flows Be Regulated? Yes., DESA Working Paper No. 77, July 2009, United Nations Department of Economic and Social Affairs.

Epstein, Gerald/ Grabel, Ilene/ Jomo, K. S. (2004): Capital Management Techniques in Developing Countries: Managing Outflows in Malaysia, Indian and China, a revised version of a paper presented at the XVIth Technical Group Meeting of the G-24 in Port of Spain, Trinidad and Tobago, February 13-14, 2003.

Ferrari-Filho, Fernando/ de Paula, Luiz Fernando (2008-2009): Exchange rate regime proposal for emerging countries: a Keynesian perspective, *Journal of Post Keynesian Economics* 31 (2), 227-248.

Fisher, Irving (1933): The Debt Deflation Theory of Great Depressions, *Econometrica* 1 (4), 337-357.

Forstater, Mathew (1999): Functional Finance and Full Employment: Lessons from Lerner for Today?, Working Paper No. 272, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Gallagher, Kevin P. (2012): The Myth of Financial Protectionism: The New (and Old) Economics of Capital Controls, G-24 Discussionpaper Series No. 58, United Nations Conference on Trade and Development.

Gallagher, Kevin P. (2011): Regaining Control? Capital Controls and the Global Financial Crisis, Workingpaper Series No. 250, Political Economy Research Institute, University of Massachusetts, Amherst.

Ghosh, Jayati (2005): The Economic and Social Effects of Financial Liberalization: A Primer for Developing Countries, DESA Working Paper No. 4, United Nations Department of Economic and Social Affairs.

Grabel, Ilene (2003a): Averting crisis? Assessing measures to manage financial integration in emerging economies, *Cambridge Journal of Economics* 27 (3), 317–336.

Grabel, Ilene (2003b): Predicting Financial Crisis in Developing Economies: Astronomy or Astrology?, *East Economic Journal* 29 (2), 243–258.

Grabel, Ilene (2002): Capital account controls and related measures to avert financial crises, paper presented at the Alternatives to Neoliberalism Conference sponsored by the New Rules for Global Finance Coalition, May 23-24, 2002.

Hein, Eckhard (2012): Finance-dominated capitalism, re-distribution and the financial and economic crises - a European perspective, Munich Personal RePEc Archive, Paper No. 35903, http://mpra.ub.uni-muenchen.de/35903/, 15.05.2016.

Hein, Eckhard/ Truger, Achim (2010): Finance-dominated capitalism in crisis – the case for a Global Keynesian New Deal, Working Paper No. 06/2010, Institute for International Political Economy, Berlin School of Economics and Law.

Hein, Eckhard/ Truger, Achim (2009): Finanzmarktkrise und globale Rezession – Konjunkturpakete sind nicht genug! Spw 1/2009, Im Fokus, *Zeitschrift für sozialistische Politik und Wirtschaft* 169, 14-20.

Herrera, Rémy (2006): The Neoliberal 'Rebirth' of Development Economics, *Independent Socialist Magazine* 58 (01), Monthly Review, May 2006, https://monthlyreview.org/2006/05/01/the-neoliberal-rebirth-of-development-economics/, 10.08.2018.

Hudson, Michael (2010): The Transition from Industrial Capital to a Financialized Bubble Economy, Working Paper No. 627, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

International Monetary Fund (2012): Ukraine, IMF Country Report No. 12/315, November 2012, Washington: IMF Publication Services.

International Monetary Fund (2010): How Did Emerging Markets Cope in the Crisis, prepared by the Strategy, Policy, and Review Department, June 2010, Washington: IMF Publication Services.

International Monetary Fund (2009a): Ukraine – Stand-By Arrangement – Review Under the Emergency Financing Mechanism, IMF Country Report No. 09/17, January 2009, Washington: IMF Publication Services.

International Monetary Fund (2009b): Ukraine: First Review Under the Stand-By Arrangement, Requests for Waivers of Nonobservance of Performance Criteria, and Rephasing of Purchases Under the Arrangement, IMF Country Report No. 09/173, June 2009, Washington: IMF Publication Services.

International Monetary Fund (2009c): Ukraine: Second Review Under the Stand-By Arrangement and Request for Modification of Performance Criteria, IMF Country Report No. 09/270, September 2009, Washington: IMF Publication Services.

International Monetary Fund (2008): Ukraine: Request for Stand-by Arrangement, IMF Country Report No. 08/384, December 2008, Washington: IMF Publication Services.

Kaboub, Fadhel (2007): Employment Guarantee Programs: A Survey of Theories and Policy Experiences, Working Paper No. 498, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Keynes, John Maynard (1936): General Theory of Employment, Interest and Money, reprinted (1994): Allgemeine Theorie der Beschäftigung, des Zinses und des Geldes, 7. Auflage, Berlin: Duncker & Humblot.

Keynes, John Maynard (1933): National Self-Sufficiency, *Yale Review* 22 (4), 755-769.

Kozak, Michal (2016): Bank failures in Ukraine ruin citizens and hit the economy, Central European Financial Observer, October 2016, http://financialobserver.eu/cse-and-cis/ukraine/bank-failures-in-ukraine-ruin-citizens-and-hit-the-economy/, 05.07.2018.

Kregel, Jan A. (2015): Emerging Market Economies and the Reform of the International Financial Architecture: The “Exorbitant Privilege” of the Dollar Is Only the Symptom of a Structural Problem, Working Paper No. 833, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2014): Minsky and Dynamic Macroprudential Regulation, Public Policy Brief No. 131, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2011): Debtors’ crisis or creditors’ crisis? Who pays for the European Sovereign and Subprime Mortgage Losses, Public Policy Brief No. 121, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2010a): Is This the Minsky Moment for Reform of Financial Regulation? Working Paper No. 586, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2010b): Fiscal Responsibility: What Exactly Does It Mean? Working Paper No. 602, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2009a): Some simple observations on the Reform of the International Monetary System, Policy Note 2009/8, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2008): Financial Liberalization and Domestic Policy Space: Theory and Practice with Reference to Latin America, in Arestis, Philip/ de Paula, Luis Fernando (eds.): Financial Liberalization and Economic Performance in Emerging Countries, Hampshire: Palgrave Macmillan, 9-25.

Kregel, Jan A. (2007): The Natural Instability of Financial Markets, Working Paper No. 523, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A. (2004a): Using Minsky to Analyze the Impact of International Development Finance on International Financial Stability, Working Paper No. 33, United Nations Conference on Trade and Development.

Kregel, Jan A. (2004b): External Financing for Development and International Financial Instability, G-24 Discussion Paper Series, Paper No. 32, United Nations Conference on Trade and Development.

Kregel, Jan A. (2004c): Can we create a stable international financial environment that ensures net resource transfers to developing countries? *Journal of Post Keynesian Economics* 26 (4), 573-590.

Kregel, Jan A. (1998): Yes, “It” Did Happen Again – A Minsky Crisis Happened in Asia, Working Paper No. 234, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Kregel, Jan A./ Matzner, Egon (1992): Agenda for the Reconstruction of Central and Eastern Europe, *Challenge* 35 (5), 33-40.

Lerner, Abba, P. (1947): Money as a Creature of the State, *American Economic Review* 37 (2), 312-317.

Lerner, Abba, P. (1943): Functional Finance and the Federal Debt, *Social Research* 10 (1), 38-51.

Marangos, John (2006): Developing a civilised society in transition economies: The Post Keynesian paradigm, *Journal of Socio-Economics* 35 (4), 660-681.

Mazzucato, Mariana/ Wray, L. Randall (2015): Financing the Capital Development of the Economy: A Keynes-Schumpeter-Minsky Synthesis, Working Paper No. 837, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Minsky, Hyman P. (1996): Uncertainty and Institutional Structure of Capitalist Economies. Remarks upon Receiving the Veblen-Commons Award, *Journal of Economic Issues* 30 (2), 357–368.

Minsky, Hyman P. (1993): Finance and Stability: The Limits of Capitalism, Working Paper No. 93, presented at a Conference on "The Structure of Capitalism and the Firm in Contemporary Society", March 18-20, Milan.

Minsky, Hyman P. (1992): The Financial Instability Hypothesis, Working Paper No. 74, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Minsky, Hyman P. (1991): The Transition to a Market Economy: Financial Options, Working Paper No. 66, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Minsky, Hyman P. (1986): Stabilising an Unstable Economy, New Heaven: Yale University Press.

Minsky, Hyman P. (1980): Finance and profit: The changing nature of American business cycle, in Joint Economic Committee (ed.): The Business Cycle and Public Policy, 1929-1980, U.S. Government Printing Office, Washington D.C., reprinted in Minsky, H. P. (ed.): Can 'It' Happen Again?, New York: M.E. Sharpe.

Minsky, Hyman P. (1975): John Maynard Keynes, Cambridge: Cambridge University Press.

Minsky, Hyman P. (1969): The new uses of monetary power, *Nebraska Journal of Economics and Business* 8 (2), reprinted in Minsky, H. P. (ed.): Can 'It' Happen Again?, New York: M.E. Sharpe.

Minsky, Hyman P./ Whalen, Charles J. (1996-1997): Economic insecurity and the institutional prerequisites for successful capitalism, *Journal of Post Keynesian Economics* 19 (2), 155-170.

Minsky, Hyman P./ Papadimitriou, Dimitri B./ Phillips, Ronnie J./ Wray, L. Randall (1993): Community Development Banking, A Proposal to Establish a Nationwide System of Community Development Banks, Public Policy Brief No.3, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Mitchell, William (2013): Full employment abandoned: the triumph of ideology over evidence, Professorial Lecture Series 2, Lecture 1, June 2013, Charles Darwin University, Darwin.

Mitchell, William/ Wray L. Randall (2004): In Defense of Employer of Last Resort: a response to Malcolm Sawyer, Working Paper No. 04-03, May 2004, Centre of Full Employment and Equity, The University of Newcastle, Callaghan.

National Bank of Ukraine (2015a): Balance of Payments and External Debt of Ukraine 2015, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2015b): Annual Report 2015, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2015c): Bulletin of the National Bank of Ukraine 4/2015 (195), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2014a): Balance of Payments and External Debt of Ukraine 2014, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2014b): Annual Report 2014, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2014c): Bulletin of the National Bank of Ukraine 12/2014 (191), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2014d): Monetary Review 2014, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2013a): Balance of Payments and External Debt of Ukraine 2013, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2013b): Annual Report 2013, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2013c): Bulletin of the National Bank of Ukraine 12/2013 (179), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2012a): Balance of Payments and External Debt of Ukraine 2012, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2012b): Annual Report 2012, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2012c): Bulletin of the National Bank of Ukraine 12/2012 (167), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2011a): Balance of Payments and External Debt of Ukraine 2011, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2011b): Annual Report 2011, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2011c): Bulletin of the National Bank of Ukraine 12/2011 (155), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2011d): Monetary Review 2011, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2010a): Balance of Payments and External Debt of Ukraine 2010, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2010b): Annual Report 2010, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2010c): Bulletin of the National Bank of Ukraine 12/2010 (143), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2009a): Balance of Payments and External Debt of Ukraine 2009, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2009b): Annual Report 2009, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2009c): Bulletin of the National Bank of Ukraine 12/2009 (131), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2009d): Дії Національного банку України в період загострення світової фінансової кризи, Аналітичний Звіт 2009 [Actions of the National Bank of Ukraine in Times of Aggravation of the Global Financial Crisis, Analytical Report 2009], Kyiv.

National Bank of Ukraine (2009e): Monetary Review 2009, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2008a): Balance of Payments and External Debt of Ukraine 2008, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2008b): Annual Report 2008, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2008c): Bulletin of the National Bank of Ukraine 12/2008 (119), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2008d): Monetary Review 2008, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2007a): Balance of Payments and External Debt of Ukraine 2007, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2007b): Annual Report 2007, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2007c): Bulletin of the National Bank of Ukraine 12/2007 (108), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2006a): Balance of Payments and External Debt of Ukraine 2006, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2006b): Annual Report 2006, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2006c): Bulletin of the National Bank of Ukraine 12/2006 (96), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2005a): Balance of Payments and External Debt of Ukraine 2005, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2005b): Annual Report 2005, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2005c): Bulletin of the National Bank of Ukraine 12/2005 (84), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2004a): Balance of Payments and External Debt of Ukraine 2004, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2004b): Annual Report 2004, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2004c): Bulletin of the National Bank of Ukraine 10/2004 (72), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2003a): Balance of Payments and External Debt of Ukraine 2003, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2003b): Annual Report 2003, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2003c): Bulletin of the National Bank of Ukraine 12/2003 (62), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2002a): Balance of Payments and External Debt of Ukraine 2002, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2002b): Annual Report 2002, NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2002c): Bulletin of the National Bank of Ukraine 12/2002 (52), NBU Statistic Publications, Kyiv.

National Bank of Ukraine (2001): Annual Report 2001, NBU Statistic Publications, Kyiv.

Nersisyan, Yeva/ Wray, L. Randall (2010): The Global Financial Crisis and the Shift to Shadow Banking, Working Paper No. 587, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Ocampo, José A./ Palma, José G. (2008): The Role of Preventive Capital Account Regulations, in Ocampo, Josè A./ Stiglitz, Joseph E. (eds): Capital Market Liberalization and Development, Oxford: Oxford University Press, 170-204.

Ocampo, José A./ Spiegel, Shari/ Stiglitz, Joseph E. (2008): Capital Market Liberalization and Development, in Ocampo, José A./ Stiglitz, Joseph E. (eds): Capital Market Liberalization and Development, Oxford: Oxford University Press, 1-47.

Onaran, Özlem (2009): From the Crisis of Distribution to the Distribution of the Costs of the crisis: What Can We Learn from Previous Crises about the Effects of the Financial Crisis on Labor Share?, Working Paper Series No. 195, March 2009, Political Economy Research Institute, University of Massachusetts, Amherst.

Palley, Thomas I. (2009a): America's Exhausted Paradigm: Macroeconomic Causes of the Financial Crisis and Great Recession, Working Paper 02/2009, Institute for International Political Economy, Berlin School of Economics and Law.

Palley, Thomas I. (2009b): Rethinking the Economics of Capital Mobility and Capital Controls, Working Paper Series No. 193, Political Economy Research Institute, University of Massachusetts, Amherst.

Palley, Thomas I. (2008a): Financialization: What it is and Why it Matters, Working Paper 04/2008, Macroeconomic Policy Institute, Hans-Boeckler-Foundation, Düsseldorf.

Palma, Gabriel (2000): The Three Routes to Financial Crises: The Need for Capital Controls, Working Paper No. 18, Working Paper Series III, Center for Economic Policy Analysis, American University, Economic Policy Institute, NY.

Pérez-Caldentey, Esteban/ Vernengo, Matías (2012): The Euro Imbalances and Financial Deregulation: A Post-Keynesian Interpretation of the European Debt Crisis, Working Paper No. 702, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Priewe, Jan (2008): Capital Account Management or Laissez-faire of Capital Flows in Developing Countries in Arestis, Philip/ de Paula, Luis Fernando (eds): Financial Liberalization and Economic Performance in Emerging Countries, Hampshire: Palgrave Macmillan, 26-51.

Popovych, Zakhar (2015): History of accumulation of the Ukrainian sovereign debt, defaults and its effects on the economic development of the country, Committee for the Abolition of Illegitimate Debt, July 2015, http://www.cadtm.org/History-of-accumulation-of-the, 15.08.2018.

State Statistics Service of Ukraine (2016): National Accounts of Ukraine for 2014, Kyiv.

State Statistics Service of Ukraine (2015): National Accounts of Ukraine for 2013, Kyiv.

State Statistics Service of Ukraine (2014): National Accounts of Ukraine for 2012, Kyiv.

State Statistics Service of Ukraine (2013): National Accounts of Ukraine for 2011, Kyiv.

State Statistics Service of Ukraine (2012): National Accounts of Ukraine for 2010, Kyiv.

State Statistics Service of Ukraine (2011): National Accounts of Ukraine for 2009, Kyiv.

State Statistics Service of Ukraine (2015): Statistical Yearbook of Ukraine for 2010, Kyiv.

State Statistics Service of Ukraine (2014): Statistical Yearbook of Ukraine for 2013, Kyiv.

State Statistics Service of Ukraine (2013): Statistical Yearbook of Ukraine for 2012, Kyiv.

State Statistics Service of Ukraine (2012): Statistical Yearbook of Ukraine for 2011, Kyiv.

State Statistics Service of Ukraine (2011): Statistical Yearbook of Ukraine for 2010, Kyiv.

State Statistics Service of Ukraine (2010): Statistical Yearbook of Ukraine for 2009, Kyiv.

State Statistics Service of Ukraine (2009): Statistical Yearbook of Ukraine for 2008, Kyiv.

State Statistics Service of Ukraine (2008): Statistical Yearbook of Ukraine for 2007, Kyiv.

State Statistics Service of Ukraine (2007): Statistical Yearbook of Ukraine for 2006, Kyiv.

State Statistics Service of Ukraine (2006): Statistical Yearbook of Ukraine for 2005, Kyiv.

State Statistics Service of Ukraine (2005): Statistical Yearbook of Ukraine for 2004, Kyiv.

State Statistics Service of Ukraine (2004): Statistical Yearbook of Ukraine for 2003, Kyiv.

State Statistics Service of Ukraine (2003): Statistical Yearbook of Ukraine for 2002, Kyiv.

State Statistics Service of Ukraine (2002): Statistical Yearbook of Ukraine for 2001, Kyiv.

State Statistics Service of Ukraine (2001): Statistical Yearbook of Ukraine for 2000, Kyiv.

State Statistics Service of Ukraine (2000): Statistical Yearbook of Ukraine for 1999, Kyiv.

Tcherneva, Pavlina R. (2011): Fiscal Policy Effectiveness: Lessons from the Great Recession, Working Paper No. 649, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2014): Measuring macroprudential risk through financial fragility: a Minskian approach, *Journal of Post Keynesian Economics* 36 (4), 719-744.

Tymoigne, Éric (2012): Measuring Macroprudential Risk through Financial Fragility: A Minskyan Approach, Working Paper No. 716, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2011a): Measuring Macroprudential Risk: Financial Fragility Indexes, Working Paper No. 654, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2011b): Financial stability, regulatory buffers and economic growth after the Great Recession: some regulatory implications, in Whalen, Charles J. (ed): Financial Instability and Economic Security after the Great Recession, Cheltenham: Edward Edgar, 114-142.

Tymoigne, Éric (2010a): Detecting Ponzi Finance: An Evolutionary Approach to the Measure of Financial Fragility, Working Paper No. 605, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2010b): Financial Stability, Regulatory Buffers, and Economic Growth: Some Postrecession Regulatory Implications, Working Paper No. 637, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2009a): A Critical Assessment of Seven Reports on Financial Reform: A Minskyan Perspective, Part I: Key Concepts and Main Points, Working Paper No. 574.1, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2009b): Central Banking, Asset Prices and Financial Fragility, Routledge International Studies in Money and Banking, London: Routledge.

Tymoigne, Éric (2008): Minsky and Economic Policy: "Keynesianism" All Over Again?, Working Paper No. 547, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2006a): The Minskyan System, Part I, Properties of the Minskyan Analysis and How to Theorize and Model a Monetary Production Economy, Working Paper No. 452, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2006b): The Minskyan System, Part II, Dynamics of the Minskyan Analysis and the Financial Fragility Hypothesis, Working Paper No. 453, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2006c): The Minskyan System, Part III, System Dynamics Modeling of a Stock Flow–Consistent Minskyan Model, Working Paper No. 455, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric (2005): Asset Prices, Financial Fragility, and Central Banking, Working Paper No. 456, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Tymoigne, Éric / Wray, L. Randall (2014): The Rise and Fall of Money Manager Capitalism. Minsky's half century from World War Two to the Great Recession, Routledge Critical Studies in Finance and Stability, Oxon: Routledge.

United Nations Conference on Trade and Development (2008): Trade and Development Report, 2008. Commodity prices, capital flows and the financing of investment, New York: United Nations Publications.

Van Treeck, Till (2009): The political economy debate on 'financialisation' – a macroeconomic perspective, *Review of International Political Economy* 16 (5), 907-944.

Van Treeck, Till/ Hein, Eckhard/ Dünhaupt, Petra (2007): Finanzsystem und wirtschaftliche Entwicklung: Tendenzen in den USA und in Deutschland aus makroökonomischer Perspektive, Working Paper 5/2007, Macroeconomic Policy Institute, Hans-Boeckler-Foundation, Düsseldorf.

Wade, Robert (2009): Beware what you wish for: Lessons for international political economy from the transformation of economics, *Review of International Political Economy* 16 (1), 106–121.

Whalen, Charles J. (2017): Understanding Financialization: Standing on the Shoulders of Minsky, Working Paper No. 892, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Whalen, Charles J. (2002): Money Manager Capitalism: Still Here, But Not Quite as Expected, *Journal of Economic Issues* 36 (2), 401-406.

Wray, L. Randall (2018): Functional Finance: A Comparison of the Evolution of the Positions of Hyman Minsky and Abba Lerner, Working Paper No. 900, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Wray, L. Randall (2012): Global Financial Crisis: A Minskyan Interpretation of the Causes, the Fed's Bailout, and the Future, Working Paper No. 711, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Wray, L. Randall (2011): Minsky's Money Manager Capitalism and the Global Financial Crisis, *International Journal of Political Economy* 40 (2), 5-20.

Wray, L. Randall (2009a): Money Manager Capitalism and the Global Financial Crisis, Working Paper No. 578, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Wray, L. Randall (2009b): An Alternative View of Finance, Saving, Deficits, and Liquidity, Working Paper No. 580, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Wray, L. Randall (2009c): The rise and fall of money manager capitalism: a Minskian approach, *Cambridge Journal of Economics* 33 (4), 807-828.

Wray, L. Randall (2009d): The Return of Big Government, Policy Advice for President Obama, Public Policy Brief No. 99, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Wray, L. Randall (2007a): The Employer of Last Resort Programme: Could it Work for Developing Countries? Economic and Labour Market Papers 2007/5, International Labour Office, Geneva.

Wray, L. Randall (2007b): Minsky's Approach to Employment Policy and Poverty: Employer of Last Resort and the War on Poverty, Working Paper No. 515, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Yanamandra, Srinivas (2014): Minsky, Monetary Policy and Mint Street: Challenges for the Art of Monetary Policymaking in Emerging Economies, Working Paper No. 820, Levy Economics Institute of Bard College, Annandale-on-Hudson, NY.

Normative and Legislative Acts

Постанова Кабінету Міністрів України № 960 «Про затвердження Порядку участі держави у капіталізації банків» від 04.11.2008 [KMU Provision № 960 "On the Approval of Order of Banks Recapitalisation Procedure on behalf of the State" dated of 04.11.2008].

Постанова Кабінету Міністрів України № 1116 «Про збільшення статутного капіталу відкритого акціонерного товариства "Державний експортно-імпортний банк України" та внесення змін до його статуту» від 17.12.2008 [KMU Provision № 1116 "On Increase in the Statutory Capital of the State Export-Import Bank of Ukraine and on Making Statutory Amendments" dated of 17.12.2008].

Постанова Кабінету Міністрів України № 1119 «Про збільшення статутного капіталу відкритого акціонерного товариства "Державний ощадний банк України» від 27.12.2008 [KMU Provision № 1119 "On Increase in the Statutory Capital of the State Saving Bank of Ukraine" dated of 27.12.2008].

Постанова Кабінету Міністрів України № 148 «Деякі питання участі держави у капіталізації банків» від 18.02.2009 [KMU Provision № 148 "On the Approval of Order of Banks Recapitalisation Procedure on behalf of the State" dated of 18.02.2009].

Закон України № 639-VI «Про першочергові заходи щодо запобігання негативним наслідкам фінансової кризи та про внесення змін до деяких законодавчих актів України» від 31.10.2008 [Law of Ukraine № 639-VI "On Immediate Measures on Counteracting the Negative Ramifications of the Financial Crisis and On Making Amendments to Some of the Legislative Acts of Ukraine" dated of 31.10.2008].

Закон України № 661-VI «Про внесення змін до деяких законодавчих актів України щодо заборони банкам змінювати умови договору банківського вкладу та кредитного договору в односторонньому порядку» від 12.12.2008 [Law of Ukraine № 661-VI "On Making Amendments to Several Legislative Acts of Ukraine Regarding the Prohibition of Making Alterations in Terms and Conditions of the Deposit and Loan Agreements on the Unilateral Basis on the Part of the Bank" dated of 12.12.2008].

Закон України № 923-VI «Про внесення змін до деяких законів України з метою поліпшення стану платіжного балансу України у зв'язку із світовою фінансовою кризою» від 04.02.2009 [Law of Ukraine № 923-VI "On Making Amendments to Some of the Legislative Acts of Ukraine with the Objective of Improving the Balance of Payments of Ukraine in Consequence of the World Financial Crisis" dated of 04.02.2009].

Закон України № 1533-VI «Про внесення змін до деяких законів України з метою подолання негативних наслідків фінансової кризи» від 23.06.2009 [Law of Ukraine №

1533-VI “On Making Amendments to Several Legislative Acts of Ukraine with the Objective of Overcoming the Negative Ramifications of the Financial Crisis” dated of 23.06.2009].

Закон України № 1646-VI «Про встановлення прожиткового мінімуму та мінімальної заробітної плати» від 20.10.2009 [Law of Ukraine № 1646-VI “On Introduction of a Minimum Maintenance Level and Minimum Wage” dated 20.10.2009].

Постанова Правління НБУ № 108 «Про внесення змін до деяких нормативно-правових актів Національного банку України» від 28.02.2009 [NBU Board Decision № 108 “On Making Amendments to Some of the NBU Regulations” dated of 28.02.2009].

Постанова Правління № 171 НБУ «Про затвердження Правил резервування коштів за залученими уповноваженим банком депозитами і кредитами (позиками) в іноземній валюті від нерезидентів» від 18.06.2008 [NBU Board Decision № 171 “On Approval of the Rules of Reserving the Funds under Attracted by the Authorized Bank of Deposits and Credits (Loans) in Foreign Currency from Non-residents” dated of 18.06.2008].

Постанова Правління НБУ № 128 «ПАТ “АКБ “КИЇВ” було віднесено до категорії неплатоспроможних» від 24.02.2015 [NBU Board Decision № 128 “On Approval of Liquidation Procedures for Kyiv Bank” dated of 24.02.2015].

Постанова Правління НБУ № 39 «Про запровадження тимчасової адміністрації у ПАТ “АКБ “КИЇВ”» від 24.02.2015 [NBU Board Decision № 39 “On Introducing the Temporary Administration in Kyiv Bank” dated of 24.02.2015].

Постанова Правління НБУ № 811-рш «Про відкликання ліцензії санаційного банку та ліквідацію Публічного акціонерного товариства «РОДОВІД БАНК» від 19.12.2017 [NBU Board Decision № 811-рш “On Withdrawal of the Banking License of the Reorganised Rodovid Bank” dated of 19.12.2017].

Постанова Правління НБУ № 5455 «Про початок процедури ліквідації АТ «РОДОВІД БАНК» та делегування повноважень ліквідатора банку» від 20.12.2017 [NBU Board Decision № 5455 “On Initiating the Liquidation Measures for Rodovid Bank” dated of 20.12.2017].

Лист НБУ № 13-121/ 6230-18709 «Щодо стягнення уповноваженими банками комісійної винагороди під час здійснення операцій з купівлі-продажу готівкової іноземної валюти в касах банків» від 29.12.2008 [NBU Letter № 13-121/6230-18709 “Concerning the Prohibition of Imposing Commission on the Cash Foreign Exchange Transactions” dated of 29.12.2008].

Постанова НБУ № 319 «Про додаткові заходи щодо діяльності банків» від 11.10.2008 [NBU Resolution № 319 "On Additional Measures Related to Activity of Banks" dated of 11.10.2008].

Постанова НБУ № 336 «Про внесення зміни до Положення про порядок та умови торгівлі іноземною валютою» від 23.10.2008 [NBU Resolution № 336 "On Making Amendments to the Regulations on the Order and Terms of the Foreign Currency Trade" dated of 23.10.2008].

Постанова НБУ № 340 «Про внесення зміни до постанови Правління Національного банку України від 11.10.2008 N 319» від 29.10.2008 [NBU Resolution № 340 "On Making Amendments to the NBU's Regulation № 319 dated of 11.10.2008" dated of 29.10.2008].

Постанова НБУ № 389 «Про здійснення діагностичного обстеження банків» від 21.11.2008 [NBU Resolution № 389 "On Realization of the Diagnostic Study of Banks" dated of 21.11.2008].

Постанова НБУ № 405 «Про затвердження Спеціального порядку здійснення заходів щодо фінансового оздоровлення банків» від 01.12.2008 [NBU Resolution № 405 "On the Approval of Special Procedure on the Implementation of Measures as to the Financial Rehabilitation of Banks" dated of 01.12.2008].

Постанова НБУ № 413 «Про окремі питання діяльності банків» від 04.12.2008 [NBU Resolution № 413 "About Some Aspects of Banks' Activity" dated of 04.12.2008].

Постанова НБУ № 435 «Про функціонування безготівкового міжбанківського валютного ринку України» від 18.12.2008 [NBU Resolution № 435 "On Functioning of the Non-Cash Interbank Foreign Exchange Market of Ukraine" dated of 18.12.2008].

Постанова НБУ № 469 «Про запровадження Національним банком України валютних аукціонів» від 29.12.2008 [NBU Resolution № 469 "On Introduction of the Foreign Exchange Auctions on behalf of the National Bank of Ukraine" dated of 29.12.2008].

Internet sources

Blagovist Real Estate Agency, https://blagovist.ua/

Center for Economic and Policy Research, https://cepr.org/publications

Centre of Full Employment and Equity, http://e1.newcastle.edu.au/coffee/publications.cfm

Hans-Boeckler-Foundation, https://www.boeckler.de/imk_45298.htm

Hyman P. Minsky Archive, https://digitalcommons.bard.edu/hm_archive/

International Labour Organization, https://www.ilo.org/global/publications/lang--en/index.htm

International Monetary Fund, https://www.imf.org/en/publications

Munich Personal RePEc Archive, https://mpra.ub.uni-muenchen.de/

Levy Economics Institute of Bard College, Annandale-on-Hudson, NY, http://www.levyinstitute.org/publications/

National Bank of Ukraine, https://bank.gov.ua/control/en/publish/article?art_id=16459216&cat_id=37350

Political Economy Research Institute, https://edirc.repec.org/data/permaus.html

State Statistics Service of Ukraine, http://ukrstat.org/en/menu/publikac_e.htm

United Nations Conference on Trade and Development, http://unctad.org/fr/Pages/publications.aspx

World Bank World Development Indicators, https://datacatalog.worldbank.org/dataset/world-development-indicators

Законодавство України [Ukraine's Legislation], http://zakon.rada.gov.ua/laws/show/z0086-09/card6#Public

Appendix

Figure 2: Index of Financial Fragility of Ukraine, 1999-2014

Table 2: Index of financial fragility of Ukraine																
Leverage ratio (LR)																
USD million	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Gross external debt	20500	19100	20400	21645	23811	30647	39619	54512	79955	101659	103396	117346	126236	134625	142079	126307
GDP, UAH million	130442	170070	204190	225810	267344	345113	441452	544153	720731	948056	913345	1079346	1299991	1404669	1465198	1586915
Exchange rate, UAH per 100 USD	521,63	543,45	529,85	533,24	533,15	530,54	505	505	505	770	798,5	796,17	798,98	799,3	799,3	1295,07
GDP, USD million	25007	31295	38537	42347	50144	65049	87416	107753	142719	123124	114383	135567	162706	175737	183310	122535
Gross external debt, % of GDP	82,0	61,0	52,9	51,1	47,5	47,1	45,3	50,6	56,0	82,6	90,4	86,6	77,6	76,6	77,5	103,1
Indexed to 2004	1,74	1,30	1,12	1,08	1,01	1,00	0,96	1,07	1,19	1,75	1,92	1,84	1,65	1,63	1,65	2,19
Weighted by 0.1	0,17	0,13	0,11	0,11	0,10	0,10	0,10	0,11	0,12	0,18	0,19	0,18	0,16	0,16	0,16	0,22
Refinancing ratio (RR)																
USD million	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Short-term external debt	6982	7228	8251	8937	9015	10440	10944	15212	20677	20301	19061	25594	31514	31240	34775	27980
Long-term external debt	13518	11872	12149	12708	14796	20207	28675	39300	59278	81358	84335	91752	94722	103385	107304	98327
Short-term external debt, % of total	34,1	37,8	40,4	41,3	37,9	34,1	27,6	27,9	25,9	20,0	18,4	21,8	25,0	23,2	24,5	22,2
Indexed to 2004	1,00	1,11	1,19	1,21	1,11	1,00	0,81	0,82	0,76	0,59	0,54	0,64	0,73	0,68	0,72	0,65
Weighted by 0.1	0,10	0,11	0,12	0,12	0,11	0,10	0,08	0,08	0,08	0,06	0,05	0,06	0,07	0,07	0,07	0,07
Asset prices (AP)																
USD thousand	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Average flat price per square meter in Kiev	0,29	0,35	0,45	0,54	0,85	1,10	1,76	2,92	3,54	4,04	2,60	2,35	2,25	2,56	2,40	2,00
Indexed to 2004	0,26	0,32	0,41	0,49	0,77	1,00	1,60	2,65	3,22	3,67	2,36	2,14	2,05	2,33	2,18	1,82
Weighted by 0.2	0,05	0,06	0,08	0,10	0,15	0,20	0,32	0,53	0,64	0,73	0,47	0,43	0,41	0,47	0,44	0,36
Debt service ratio (DSR)																
USD million	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Export proceeds	17058	19522	21086	23351	28953	41291	44378	50239	64001	85612	54253	69255	88844	90035	85482	68485
External debt service	2855	3755	2475	3545	3889	4428	5890	9438	12031	18490	22966	26993	26841	29302	37848	20863
External debt service, % of exports	16,7	19,2	11,7	15,2	13,4	10,7	13,3	18,8	18,8	21,6	42,3	39,0	30,2	32,5	44,3	30,5
Indexed to 2004	1,56	1,79	1,09	1,42	1,25	1,00	1,24	1,75	1,75	2,01	3,95	3,63	2,82	3,03	4,13	2,84
Weighted by 0.3	0,47	0,54	0,33	0,42	0,38	0,30	0,37	0,53	0,53	0,60	1,18	1,09	0,85	0,91	1,24	0,85
Monetary liquidity ratio (MLR)																
USD million	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Foreign reserve assets	1094	1505	3089	4417	6937	9525	19391	22256	32463	31543	26505	34578	31795	24546	20416	7533
Foreign reserve assets, % of gross external debt	5,3	7,9	15,1	20,4	29,1	31,1	48,9	40,8	40,6	31,0	25,6	29,5	25,2	18,2	14,4	6,0
Gross external debt, % of international reserve assets	18,7	12,7	6,6	4,9	3,4	3,2	2,0	2,4	2,5	3,2	3,9	3,4	4,0	5,5	7,0	16,8
Indexed to 2004	5,82	3,94	2,05	1,52	1,07	1,00	0,64	0,76	0,77	1,00	1,21	1,05	1,23	1,70	2,16	5,21
Weighted by 0.3	1,75	1,18	0,62	0,46	0,32	0,30	0,19	0,23	0,23	0,30	0,36	0,32	0,37	0,51	0,65	1,56
Level of financial fragility	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Financial fragility index	**2,5**	**2,0**	**1,3**	**1,2**	**1,1**	**1,0**	**1,1**	**1,5**	**1,6**	**1,9**	**2,3**	**2,1**	**1,9**	**2,1**	**2,6**	**3,1**

Notes: All data is provided for the end of the respective period

Sources: Data on gross external debt, long- and short-term external debt, exports, imports, international reserve assets is provided in the Balance of Payments of Ukraine for the respective years published by the National Bank of Ukraine; data on the debt service on external debt is available from the World Bank database on World Development Indicators at http://data.worldbank.org/indicator/DT.TDS.DECT.CD?locations=UA; data on the dynamics of the average flat prices per m2 in Kyiv is available from the database of the real estate agency Blagovist at https://blagovist.ua/; data on GDP is provided in the National Accounts of Ukraine for the respective years published by the State Statistical Service of Ukraine; data on the official exchange rate of Hryvnia against the US Dollar is provided in the Bulletin of the National Bank of Ukraine published at the end of the respective year; data on gross external debt, short-term debt, international reserves, export, imports and the official exchange rate of Hrvynia against the US Dollar for the period 1999-2000 is available in the Bulletin of the National Bank of Ukraine for the respective years.

Figure 3: Business Cycle and Change in Leveraging Convention

Crisis: (Minsky 1975a, 124, 127, 143)

"A sharp change occurs when position making by refinancing breaks down."

$\Delta Y < 0$ (large or not) or change in the convention about leveraging: leveraging is dangerous ⇒ increase in the demand for money as a store of value.

↓

Debt-deflation: (Ibid., 126, 128)

Liquidation of assets and repayment of debts are the first priorities of economic units.

$\Delta Y << 0$ and $\Delta P_A << 0$ (and so wealth and collateral decrease).

Convention: "the guiding wisdom is that debts are to be avoided, for debts lead to disaster."

↓

Stagnation: (Ibid., 126, 128)

Economic units are traumatized.

Convention: "the guiding wisdom is that debts are to be avoided, for debts lead to disaster."

↓

"As subjective repercussions of the debt-deflation wear off, as disinvestment occurs, and as financial positions are rebuilt."

↓

Recovery: (Ibid., 127)

"Strong memory of the penalty" induced by past behaviors.

Liability structures are "purged of debt."

Convention: prudence/ "wise" use of the leverage.

↓

Expansion: (Ibid., 127)

"Over time the memory of the past disaster is eroded."

"Success breeds daring" and "more adventurous financing of investment pays off to the leaders."

This gives the incentive to those who used "wisely" the leverage to follow the previous units who dared to challenge the convention.

Convention: the leverage is a convenient way to increase profit.

↓

The expansion "will, at an accelerating rate, feed into a boom."

↓

Boom: (Ibid., 128)

The economy is close to full employment.

The "current generation of economic soothsayers will proclaim that business cycle has been banished from the land and a new era of permanent prosperity has been inaugurated."

+ "new policy instruments" + "great sophistication of the economic scientists advising on policy" ⇒ "crises and debt-deflations are now things of the past."⇒ "Debts can be taken on"

Convention: the leverage is not risky and provides automatically great profits.

DESTABILIZING

Source: Tymoigne (2006b:7).