Cost-Effective Criminal Enforcement:

A law and economics approach

Kosteneffectieve strafrechtelijke handhaving:

Een rechtseconomische analyse

Proefschrift ter verkrijging van de graad van doctor aan de
Erasmus Universiteit Rotterdam op gezag van
de rector magnificus
Prof.dr. H.A.P. Pols
en volgens besluit van het College voor Promoties

De openbare verdediging zal plaatsvinden op
donderdag 4 juni 2015 om 11.30 uur
door

Elena Reznichenko
geboren te Kiev, Ukraine

Erasmus University Rotterdam

Erasmus

Promotiecommissie

Promotoren:	Prof.dr. M.G. Faure LL.M.
	Prof.mr. P.A.M. Mevis
Overige leden:	Prof.mr.dr. L.T. Visscher
	Dr. J.R. Blad
	Dr. P. Vanin

This thesis was written as part of the European Doctorate in Law and Economics programme

A collaboration between

Acknowledgment

First of all, I would like to thank my supervisor Michael Faure. You were definitely the best supervisor I could have wished for. I am really grateful to you for giving me the freedom I needed to develop my own ideas, but at the same time, being always available for consultation whenever I needed. Thank you for being critical when necessary but also always expressing kind and supporting words. I am also grateful to my supervisor Paul Mevis. Thank you for enriching my comparative analysis by providing different aspects of the Dutch criminal justice system. I am grateful to you for always keeping me on guard to maintain the proper balance between the legal thinking and the economic analysis.

I would like to express my gratitude to the inner committee members, Louis Visscher, Paolo Vanin and John Blad for their diligent review and very insightful comments.

A special gratitude goes to Louis Visscher for other matters as well. Thank you for all the detailed comments you gave me on many parts of my thesis. Even without being my supervisor, you were involved in my research and I always felt I could turn to you with any problem I have. Thank you also for brining the Dutch perspective on pregnancy and delivery when I needed it the most.

I am very grateful to Christoph Engel. Thank you for all the inspiring discussions. You were always willing to listen to my thoughts and to share with me your fascinating ideas. I am also grateful for all the feedback you gave me on different occasions. Thank you also for hosting me at the Max-Planck Institute for Research on Collective Goods for a paper presentation. The discussion and the comments were very fruitful.

I would like to thank the RILE family for stimulating and supporting environment to develop my ideas. I am grateful to Roger J. Van den Bergh, Alessio M. Pacces, Klaus Heine, Neil Rickman, Jonathan Klick, Ann-Sophie Vandenberghe, Jeffrey Rachlinski, Franziska Weber, Sharon Oded, and Pieter Desmet for their comments on my work on different occasions.

I would like to express my appreciation of the comments I received from the participants of the following international conferences and workshops. EMLE MTM Law and Economics Workshop, Erasmus School of Law; Joint Seminar 'The Future of Law and Economics', Maastricht University; The 1st Criminology Workshop, Erasmus School of Law; The 30th Annual European Law and Economics Association (EALE) conference, University of Warsaw; EMLE MTM Law and Economics Workshop, University of Hamburg; 6th Topics

Workshop of the International Max Planck Research School (IMPRS) Uncertainty on Policy Implications of Law and Behaviour, Erasmus School of Law.

I am especially grateful to Marianne Breijer. Thank you very much for all your help and support. Although most of it is mainly "behind the scenes", it is very noticeable and truly appreciated. I would also like to express my gratitude to Simone Rettig and Wicher Schreuders. Thank you for always being available for any question and guidance. On that occasion I would also like to thank Joan Groenendaal-Moeling for all her help with the Dutch bureaucracy. I would like to express my gratitude to the Trustfonds financial support to go to international conference; to Nathalie Weber for her help with grant applications; and to Elaine Mak for her advices.

Many thanks go to the EDLE family, in all three Universities. I am grateful to Luigi Franzoni, Emanuela Carbonara, Patrick Leyens, Stefan Voigt, Thomas Eger, and to the EDLE students for all their feedback on different occasions. I am also grateful to Frauke Schmidt and Lisa Verniti for all their help. Thank you also my EDLE and ESL friends, Ana, Renate, Katie, Kateryna, Alex, Jess, Hossain, Phillip, Tobias, Max, Miriam, Arun, Martin, Rahul, Hong, Shuo, Vaia, Dirk and Shilpi for making this period fun.

I am indebted to Oren Gazal and Avishalom Tor for their help at the beginning of this road. Thank you for introducing me to the law and economics and the behaviour law and economics approaches. You truly inspired me and I am grateful for that.

I take this opportunity to thank my parents, Olga and Alexander, without whom I would not be here. Thank you for always believing in me, even more than I believe in myself; for supporting the path I choose; and for simply loving me no matter whether I succeed or fail. Вы мой вечный тыл и любой мой успех это ваша заслуга! I would also like to thank my sister and brother (in law), Tanya and Igor, for supporting my crazy and sometimes overambitious ideas, and for always being there for me.

Finally, I would like to thank the person who had the largest impact on this project, my dear husband Jarek. Thank you for being so harsh and critical and pushing me to be better; and for always finding the time to listen endlessly to my ideas. On the personal level, thank you for loving me, and making this period really special and unique. I am glad the law and economics field not only enriched me academically but also brought me to you. I love you. And last but definitely not least, I thank you Stefan, my beloved son, for bringing so much happiness and meaning into my life.

Table of Contents

Detailed Table of Contents

Tables

Figures

Chapter 1 Introduction

1. Motivation

Crime cannot be defeated at any price. Whenever the government decides which portion of the public budget to devote to prevent crime, it needs to look at the costs and expected benefits of its decision. Eliminating all crimes is not necessarily the best solution even if it was possible. This policy would be too costly for the society and it might not be justified by higher benefits. Furthermore, these budgetary sources might be spent more efficiently elsewhere, e.g. research, higher education, road infrastructure, etc.

Countries choose different ways to prevent crimes. Those methods can vary not only in the process and the result, but also in the costs imposed on the society by the chosen policies. For instance, following a significant increase in the number of crimes, between mid-1970s and the 1990s the United States (US) became "tough on crime". The new policies consisted of police force increase, higher incarceration rates due to tougher punishments (e.g. three strikes laws[1]) and parole revocations. This novel approach to crime control resulted in more than 2 million people in the US prisons by the year 2000, i.e. approximately four times more than it was in the 1970s.[2] Due to this policy, currently US observe the highest rate of incarceration in the world.[3] While constituting 5% of the global population, US have 25% of the world's prisoners.[4] The effect of maintaining prisons for bigger population, and employing more policemen is a costly policy for the society. To illustrate, the American correction budget due to increased imprisonment had grown from $9 billion in 1982 to $69 billion in 2006.[5] In 2007, US spent $288 billion on police, correction institutions and courts.[6]

Governments often seek ways to reduce this expenditure without harming the efficiency of the criminal justice system. The need for a reduction in this expenditure grew even further in light of the global crisis over the period 2008-2010 and the following sovereign debt crisis in 2010-

[1] Laws that were introduced in the US, requiring judges to impose a life imprisonment sentence on criminals who committed three (or more) serious listed offences.
[2] Steven D. Levitt, "Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not," *Journal of Economic Perspectives* 18 (2004), 163-190, pp. 176-178.
[3] Stefan Harrendorf, Markku Heiskanen and Steven Malby (eds.), "International Statistics on Crime and Justice", European Institute for Crime Prevention and Control, Affiliated with the United Nations (2010).
[4] Suzanne M. Kirchhoff, "Economic Impacts of Prison Growth," Congressional Research Service (2010) available at http://www.fas.org/sgp/crs/misc/R41177.pdf (accessed on 26.06.2012).
[5] Steven N. Durlauf and Daniel S. Nagin, "Imprisonment and Crime: Can Both Be Reduced?" *Criminology & Public Policy* 10(1) (2011), 13-54.
[6] Bureau of Justice Statistics. *Justice Expenditures and Employment, FY 1982-2007 - Statistical Tables*. (US Government Printing Office, Washington, D.C., 2011).

2012 in the European Union (EU). Resulting budget consolidations in some of the EU countries led to substantial cuts in expenditure on enforcement, i.e. police and prison expenditure. For instance, in the United Kingdom (UK) the budget of public order and safety, in relative terms, was reduced significantly by the austerity measures in recent years.[7] Similarly, the police authorities in Finland face budget reductions in the upcoming period.[8] Despite the necessity of budget cuts, their implementation in the enforcement of law ought to be cautious. Governments might be myopic regarding the elements of the enforcement system that continue functioning with reduced budgets. Therefore, effectiveness of different crime control measures should be taken into account when deciding on austerity plans.

2. The Deterrence Theory

> "*The purpose of [punishment], therefore, is nothing other than to prevent the offender from doing fresh harm to his fellows and to deter others from doing likewise*".[9]

Perceiving deterrence as a major goal of criminal law is not the invention of the modern society. Back in the 18th century Beccaria challenged the notion of punishment as a revenge measure. According to his argumentation, penalty cannot be imposed solely for the purpose of making the individual suffer. The agonizing will not reverse the crime and may not be justified. In addition, Beccaria discussed the importance of proportionate punishment asserting that penalty should slightly exceed the expected benefits from the crime to attain its goal.[10]

Half a century later, Jeremy Bentham offered a structured explanation for Beccaria's notion of proportionate punishment. In his pioneering work, Bentham presented the rules that would later on constitute the economic model of deterrence. The three main rules are as follows:[11]

(1) "*The evil of the punishment must exceed the advantages of the offense*". Bentham asserted that in order to prevent an offense, the repressive measure should outweigh the temptation to commit the felony. This can be compared to the modern notion of cost-benefit analysis. Thus,

---

[7] Eurostat, General Government Expenditure by Function (COFOG) (2013), available at http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_a_exp&lang=en (last updated May 9, 2013).
[8] Interview with Esa Käyhkö, Ministerial Adviser, Ministry of the Interior, Police Department, Helsinki, Finland. (June 7, 2012).
[9] Cesare B. Beccaria, *Of Crimes and Punishment*, translated from French by Richard Davies (Cambridge University Press, New York, 1995), originally published in Italian in 1764, p. 31.
[10] *Ibid*.
[11] Jeremy Bentham, *Theory of Legislation* Vol. 2, (New York: Harcourt Brace Co., 1931), pp. 101-104. First published in French by Etienne Dumont in 1802.

Bentham's implicit assumption is that the potential offender is a rational actor who bears in mind the expected benefits and costs while deciding whether to commit an offence.

(2) "*The more deficient in certainty a punishment is, the severer it should be*". The core idea of this rule is the trade-off between certainty and severity of punishment. Namely, in case of a certain punishment, we could simply confiscate the offender's fruits of crime. In these circumstances there is no incentive to commit a crime that will always end with a shame and without the loot. Unless infinite financial resource is devoted to crime prevention, there can never be, however, a complete certainty of punishment. Hence, it should be compensated by harsher expected punishment.

(3) "*Where two offences are in conjunction, the greater offence ought to be subjected to severer punishment, in order that the delinquent may have a motive to stop at the lesser*". Potential offenders might face the choice of committing either very serious crime (e.g. murder) or less severe (e.g. robbery). Imposing equal punishment for all offences may lead the potential offender to choose the severer crime. Thus, to create proper incentives, the criminal system should impose punishment according to the severity of the offence. This notion was later on termed as "marginal deterrence" in the economic literature. As George Stigler and Steven Shavell explained, in order to deter severe crimes, the costs on the margins ought to be higher for the graver crimes. If the punishment is the same for all crimes, there are no incentives for the undeterred criminals to choose light crimes rather than to impose the severest harm on the society.[12]

In his famous paper, Gary Becker[13] translated and expanded Bentham's ideas to the economic model of deterrence. Owing to Becker's extensive economic analysis, crime control became a part of the law and economics scholarship and is regarded today as a system of incentives. In the basis of the deterrence model lays the idea that potential criminals are rational actors. Hence, they will commit a crime only if the expected benefits will exceed the expected costs. Cost is the expected punishment, which is derived through the multiplication of the probability of apprehension and conviction (probability of punishment) by the magnitude of

[12] Stigler, George J., "The Optimum Enforcement of Laws," in *Essays in the Economics of Crime and Punishment*, Gary S. Becker ed. (NBER Books, National Bureau of Economic Research, Inc, 1974), 55-67; Steven Shavell, "A Note on Marginal Deterrence," *International Review of Law and Economics* 12 (1992), 345-355.

[13] Becker, "Crime and Punishment: An Economic Approach," *The Journal of Political Economy* 76(2) (1968), 169-217.

punishment.[14] In 1973, Isaac Ehrlich expanded Becker's model by introducing the choice of the potential offender between legitimate and illegitimate employment opportunities. In addition, Ehrlich presented preliminary empirical evidence to the existence of the deterrent effect as a function of punishment certainty and punishment magnitude.[15]

From the policy maker's perspective, optimal policy can therefore be introduced taking into account the costs of crime and crime control. By increasing or decreasing the expenditure on law enforcement (i.e. police, prosecutors, courts), the state can indirectly control the certainty of punishment. Similarly, by increasing or decreasing the expenditure on prisons and other punitive measures, the state can control for the magnitude of punishment.[16]

Furthermore, according to the basic form of the deterrence theory, there is a trade-off between severity and certainty of punishment. Thus, when the former is raised, the latter may be reduced and vice-versa, without changing the deterrence effect.[17]

A great deal of empirical studies has tested the abovementioned theory and has shown that the deterrence effect largely exists.[18] Although some scholars found supporting evidence for the effect of severity of punishment,[19] most of the empirical literature on this issue suggests that the probability of apprehension and punishment has the dominant effect on deterrence.[20]

---

[14] In his paper, Becker (1968) refers to costs as the monetary value of the loss the offender bears by the imposed punishment. Namely, the amount of money the offender loses paying the fine, or the earnings and freedom he is deprived of while being incarcerated. At this stage costs in its broader meaning, e.g. loss of reputation, would not be considered.

[15] Isaac Ehrlich, "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation," *Journal of Political Economy* 81(3) (1973), 521-565.

[16] Of course, the decision on the magnitude of punishment does not depend solely on the expenditure, but on other factor as well, e.g. security.

[17] See Becker (1968), *supra* note 13, George J. Stigler (1974), *supra* note 12, p. 56. In the literature following Becker's idea, the optimal trade-off between severity and probability of punishment was criticised as being unrealistic. See for example, Mitchell Polinsky and Steven Shavell, "A Note on Optimal Fines When Wealth Varies among Individuals," *The American Economic Review* 81(3) (1991), 618-621. This criticism however, does not undermine the idea of a general trade-off between probability and severity of punishment as such. It rather challenges its precision (1:1 trade-off).

[18] For a review of those studies see Samuel Cameron, "The Economics of Crime Deterrence: A Survey of Theory and Evidence," *Kyklos* 41 (1988), 301-323; Daniel S. Nagin, "Criminal Deterrence Research at the Outset of the Twenty-First Century," *Crime and Justice* 23 (1998), 1-42; Steven D. Levitt and Thomas J. Miles, "Empirical Study of Criminal Punishment" in *Handbook of Law and Economics*, Mitchel A. Polinsky and Steven Shavell eds., Vol. 1, Chap. 7 (Elsevier, 2007), 455-495. More specifically, see Steven D. Levitt, "Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation or Measurement Error," *Economic Inquiry* XXXVI (1998a), 353-372; Steven D. Levitt, "Juvenile Crime and Punishment," *The Journal of Political Economy* 106(6) (1998b), 1156-1185; Steven D. Levitt and Daniel Kessler, "Using Sentence Enhancement to Distinguish Between Deterrence and Incapacitation," *Journal of Law and Economics* XLII (1999), 343-363; Eric Helland and Alexander Tabarrok, "Does Three Strikes Deter? A Nonparametric Estimation," *The Journal of Human Resources* 42(2) (2007), 309-330; Francesco Drago, Roberto Galbiati and Pietro Vertova, "The Deterrent Effects of Prison: Evidence from a Natural Experiment," *Journal of Political Economy* 117(2) (2009), 257-280.

[19] Helland and Tabarrok (2007), *ibid*; David McDowall, Colin Loftin and Brian Wiersema, "A Comparative Study of the Preventive Effects of Mandatory Sentencing Laws for Gun Crimes," *The Journal of Criminal Law*

For instance, Michael Block and Vernon Gerety presented an experimental study where they showed, in accordance with the existing literature, that prisoners are more strongly deterred by an increased probability of detection, while students respond more to the severity of punishment.[21] A more recent study, by Horst Entorf, showed the importance of certainty of apprehension and punishment for the deterrence of criminals exploiting the differences in the level of enforcement between the German *Länder*. The author presented evidence that the growing practice of dismissing cases by prosecutors resulted in weaker deterrence of crimes. The reason for that is that this practice can be counted as lowering the probability of punishment. Another important factor in deterring crime shown in the paper is a higher clearance rate[22]. On the other hand, based on his findings, the author concluded that the severity of punishment does not constitute a significant deterrent factor.[23]

In terms of the chosen sanction, bearing in mind that prisons are a costly method of punishment for society, some scholars presented the superiority of an alternative measure, i.e. fines. In case of pecuniary punishment there is redistribution of wealth, whatever sum the convicted person pays, the society gains. On the contrary, incarceration leads to a loss, especially since its effectiveness is not perfect. First, the high investment in prisons' maintenance is subtracted from the public budget without a direct return.[24] Second, imprisoned citizens do not pay taxes, hence, they are not contributing to the public treasure. As a result, scholars proposed to exhaust the measure of fines as a punishment prior turning to imprisonment.[25]

---

and Criminology 83(2) (1992), 378-394; Silvia M. Mendes, "Certainty, Severity, and Their Relative Deterrent Effects: Questioning the Implications of the Role of Risk in Criminal Deterrence Policy," *The Policy Studies Journal* 32(1) (2004), 59-74; Christoph Engel and Daniel Nagin, "Who is Afraid of the Stick? Experimentally Testing the Deterrent Effect of Sanction Certainty," (Working paper 2012).

[20] For a meta-analysis of deterrence studies concluding probability of punishment is more effective see, Dieter Dölling, Horst Entorf, Dieter Hermann and Thomas Rupp, "Meta-Analysis of Empirical Studies on Deterrence," in *Punitivity International Developments*, Helmut Kury and Evelyn Shea eds., Vo.3 (Universitatsverlag Dr. N. Brockmeyer, 2011), 315-378.

[21] Michael K. Block and Vernon Gerety, "Some Experimental Evidence on Differences between Student and Prisoner Reactions to Monetary Penalties and Risk," *Journal of Legal Studies* 24 (1995), 123-138.

[22] "Clearance rate" is the proportion of cases that have been solved by the police (i.e. the suspect was identified and caught) out of the total number of reported crimes.

[23] Horst Entorf, "Crime, Prosecutors, and the Certainty of Conviction," IZA Discussion paper No. 5670 (2011).

[24] See Frank H. Easterbrook, "Criminal Procedure as a Market System," *The Journal of Legal Studies* 12(2) (1983), 289-332, p. 293; Becker (1968), *supra* note 13. The term "direct return" is used in order not to ignore the costs of crime saved by incapacitating criminals. On the one hand, the society does not receive a share from the costs "paid" by the imprisoned offender and even more, pays for his imprisonment. On the other hand, the physical removal of the offender from the streets saves the costs of crimes that he might have otherwise committed (e.g. property damages, health care expenses etc.)

[25] See for example Becker (1968), *supra* note 13; Mitchell A. Polinsky and Steven Shavell, "The Optimal Use of Fines and Imprisonment," *Journal of Public Economics* 24 (1984), 89-99.

3. The Goal and the Focus of this Study

This thesis analyses the methods to achieve a cost-effective criminal sentencing system. It is assumed that the goal of criminal law is to deter and prevent the criminalised behaviour. However, this might be done in various ways, and the purpose of this study is to find the practice that minimises the enforcement costs while maintaining the deterrent effect. As mentioned in the previous section, empirical evidence supports the dominancy of higher probability of punishment, and demonstrates that severity of punishment as such does not have a strong deterrent effect. For that reason, the enforcement authorities should not invest in harsh sanctions. Rather they should decrease the costs of sentencing and transfer the saved resources to promotion of policies that increase the likelihood of punishment. Therefore, the main focus of the thesis is to conduct a research on the sentencing system and to propose methods to reduce its costs. To be precise, the chapters in this thesis discuss different sanctions and suggest ways to increase their effectiveness without increasing the costs.

The first step to minimise the enforcement costs, is to increase (where possible) the use of alternative sanctions to prison. Incarceration is the most expensive method of punishment in the western society as compared to other sanctions (see Chapter 2). The importance of substituting imprisonment with other methods of punishment lays not merely in the direct costs of confinement. Some theories assert that prisons have a criminogenic effect and might lead to higher recidivism.[26] It is unquestionable that a smaller population of recidivists would result in lower crime rates. Once the alternative sanctions were introduced, their effectiveness should be improved.

Expanding the sentencing continuum beyond prison and fines by adding more types of punishment also improves the marginal deterrence. There are many offences in the criminal codes and potential offenders differ from each other in their personal characteristics, motives, deterability, etc. Therefore, using sanctions with a growing scale of severity might assist in tailoring the punishment to the specific situation. In turn, even if not all crimes will be deterred, at least the most severe crimes will be minimised as explained in the previous section.

---

[26] See for example, Patrick Bayer, Randi Hjalmarsson and David Rozen, "Building Criminal Capital Behind Bars: Peer Effects in Juvenile Corrections," *The Quarterly Journal of Economics* (2009), 105-147; Keith M. Chen and Jesse M. Shapiro, "Do Harsher Prison Conditions Reduce Recidivism? A Discontinuity-based Approach," *American Law and Economics Review* (2007), 1-29; Paul Gendreau, Claire Goggin and Francis T. Cullen, "The Effects of Prison Sentences on Recidivism," Public Works and Government Services Canada (1999), available at http://www.prisonpolicy.org/scans/gendreau.pdf (accessed on 19.06.2012); Daniel Glaser and Margaret A. Gordon, "Profitable Penalties for Lower Level Courts," *Judicature* 73(5) (1990), 248-252.

Although the main focus of the thesis is the sentencing system, one chapter is devoted to the probability of detection. Severity of punishment is not the dominant element of deterrence, therefore there is a larger scope to save costs on the structure of sanctions. Nevertheless, there are techniques to increase the cost-effectiveness of the probability of detection as well, and one such method is explored in Chapter 6. The goal is to illustrate that there is a scope for cost-effective policies in different stages of the criminal enforcement system.

4. Methodology

This study adopts a multidisciplinary approach. The underlying theory leading this research is the rational choice theory in general, and the deterrence theory in particular. Already in the 18th and 19th centuries Becarria and Bentham treated criminals as rational actors. This approach diverged from the then common belief that offenders are a special population that should be treated differently. The rationality approach to crime was later on formalised by Becker. The underlying idea of applying the rational choice theory to criminal justice system is treating potential criminals as individuals who respond to incentives.[27] It is assumed in this thesis that the enforcement authorities have the ability to set proper incentives for the potential offenders in order to minimise their criminal behaviour. However, the resources of the criminal justice system are scarce, thus, obliging a careful choice of the enforcement methods. A comparative methodology is used in order to analyse the current practice in different countries, identify possible problems and offer solutions.

Finally, throughout the thesis, insight from behavioural law and economics are used in order to relax the rational choice theory assumptions and to adjust the suggested policies to behavioural biases. This methodology is not meant to undermine the rational choice theory. It is still assumed that potential criminals are responsive to incentives they are facing. However, the behavioural approach suggests they do not hold full information,[28] and presents heuristics that influence the assessment of limited information. Thus, it is acknowledged that potential offenders act with bounded rationality. The behavioural methodology is explained in the following.

---

[27] Responsiveness to incentives is not merely an assumption. It may also be observed in actual behavior of offenders. See for example, Levitt (1998b), *supra* note 18. This study demonstrates that juveniles change their behaviour once reaching the legal adulthood age in jurisdictions where the severity of punishment varies between young and adult offenders. For an elaborate description of the study see Chapter 2, Section 3.2.2.2.

[28] See for example, Paul H. Robinson and John M. Darley, "Does Criminal Law Deter? A Behavioural Science Investigation," *Oxford Journal of Legal Studies* 24 (2004), 173-205.

In recent decades, based on empirical evidence from the social sciences,[29] behavioural scholars assert that people do not always act rationally in its standard meaning.[30] For instance, according to the Coase Theorem[31] the question regarding who receives the legal entitlement is a redundant one since the parties, in a world with zero transaction costs, always allocate the rights efficiently. On the contrary, social scientists demonstrated repeatedly that due to the "endowment effect" the willingness to accept usually exceeds the willingness to pay for the same good.[32] The endowment effect occurs inasmuch as people tend to attach higher value to goods they retain over those which are not in their possession.[33] This evidence needs to be taken into account when designing efficient legal rules.

Another important area for law and economics analysis where social scientists find deviations from rational choice theory is the decision making under uncertainty process. A great deal of empirical evidence has demonstrated that while calculating probabilities, persons systematically use rules-of-thumbs based on life experience.[34] People have bounded rationality rather than acting as perfectly rational individuals with complete information.[35] For instance, one of these rules-of-thumbs is called "representativeness". People tend to judge an event to belong to a certain group, based on the similarity of this event to the group. This estimation is often made while ignoring the base rate frequency. For example, if one person is randomly selected from a group of 100 people, 30 lawyers and 70 engineers, the prior probability of this individual to be a lawyer is 0.30 even if according to his description (appearance, behaviour) he is more similar to a lawyer.[36] While in many cases

---

[29] For a literature review see for example, John Conlisk, "Why bounded rationality?" *Journal of Economic Literature* XXXIV (1996), 669-700.

[30] Cass R. Sunstein, "Behavioral Analysis of Law," *The University of Chicago Law Review* 64(4) (1997), 1175-1195; Christine Jolls, Cass R. Sunstein,and Richard Thaler, "A Behavioral Approach to Law and Economics", *Stanford Law Review* 50 (1998), 1471-1550.

[31] Ronald H. Coase, "Problem of Social Cost," *The Journal of Law and Economics* 3(1) (1960), 1-69.

[32] Daniel Kahneman, Jack L. Knetsch and Richard H. Thaler, "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy* 98(6) (1990), 1325-1348.

[33] Richard Thaler, "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behaviour and Organization* 1 (1980), 39-60, p. 44. The explanation for this effect lays in the prospect theory. According to this theory "[t]he aggravation that one experiences in losing something appears to be greater than the pleasure associated with gaining the same thing". Selling a good that a person owns is seen as a loss, whereas, purchasing a good is perceived as a gain. Thus, there is a discrepancy between the amount a person is willing to give away for this good as compared to the value he attaches to the same good if he owns it. See Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47 (2) (1979), 263-292, p. 279.

[34] Daniel Kahneman, Paul Slovic and Amos Tversky eds., *Judgment under Uncertainty: Heuristics and Biases*, (Cambridge University Press 1982). (Hereinafter: "Judgment under Uncertainty*").*

[35] Herbert A. Simon, "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics* 69 (1955), 99-118.

[36] Base-rate is defined as the prior probability of a general type of event. *Judgment under Uncertainty* (1982), *supra* note 33, pp. 4-5.

"representativeness heuristic" leads to accurate judgments, ignoring other important information (i.e. base-rate) might result in biases.[37] Identifying those biases is crucial for the legal analysis.

To illustrate, the subject of judicial decisions may be considered. In cases of child sexual abuse, judges tend to seek for characteristics in the child's behaviour that are consistent with sexual abuse. Namely, they look at whether the way the child in question behaves, represents sexually abused children's behaviour in general. This judgment is often made while ignoring the base-rate, and hence, might lead to an erroneous judgment.[38]

Nevertheless, the behavioural approach does not argue that people are unpredictable agents who make random mistakes. On the contrary, behavioural proponents believe the decision makers are subject to systematic biases, which make it possible to predict and even to model their behaviour.[39] As described in Dan Ariely's book "Predictably Irrational" – "*[…] these irrational behaviours of ours are neither random nor senseless. They are systematic, and since we repeat them again and again, predictable*".[40] Consequently, the purpose of the behavioural approach is not to undermine the economic framework, but to strengthen its predictive and analytical power.[41]

The behavioural approach to law and economics was applied to criminal law as well. In this context, neither are the criminals believed to act fully rationally, nor are other criminal justice players.[42] For instance, potential criminals might be less sensitive than expected to increased severity of punishment. One reason might be their experience of hedonic adaptation. According to this notion, there is a default point of happiness to which people always return, whether they experience a fortunate event, such as winning the lottery, or an unfortunate

---

[37] Amos Tversky and Daniel Kahneman, "Judgment of and by Representativeness" in *Judgment under Uncertainty* (1982), *ibid*., pp. 84-98.
[38] Jeffry J. Rachlinski, "Heuristics and Biases in the Courts: Ignorance or Adaptation?" *Oregon Law Review* 79 (2000), 61-102, pp. 89-90.
[39] See for example the prospect theory, Kahneman and Tversky (1979), *supra* note 33.
[40] Dan Ariely, *Predictably Irrational*, first revised and expanded edition (HarperCollins Publishers, New York, 2009), p. xxx.
[41] Jolls, Sunstein and Thaler (1998), *supra* note 30.
[42] Richard H. McAdams and Thomas S. Ulen, "Behavioral Criminal Law and Economics", in *Criminal Law And Economics*, Nuno Garoupa ed. (Edward Elgar, Cheltenham, UK, Northampton, MA, 2009), 403-436; Christine Jolls, "On Law Enforcement with Boundary Rational Actors," in *The Law and Economics of Irrational Behaviour*, Francesco Parisi and Vernon L. Smith eds. (Stanford University Press, California, 2005), 268-286; Frans van Winder and Elliott Ash, "On the Behavioral Economics of Crime," Centre for Research in Experimental Economics and Political Decision-making, University of Amsterdam (2009), available at http://dare.uva.nl/document/181782 (accessed on 20.10.2012).

event such as a severe accident.[43] Hence, criminals might adapt to the conditions of prison faster than they expected.[44] However, this would imply that unlike recidivists, first-time criminals might still be deterred by imprisonment punishment.[45]

Nonetheless, similarly to economists, behavioural scholars believe that potential criminals respond to incentives and take into account the costs and benefits of their crimes. The assumption, however, is that the estimations on which they base their decisions are subject to heuristics and biases.[46] Therefore, to expand the rational choice theory, this thesis follows the approach of "nudging". As illustrated in this section, the behavioural law and economics approach mainly focuses on understanding the different biases that people are subject to and how they affect behaviour. Nevertheless, the next interesting step of this approach is to explore how cognitive biases may be "exploited" in order to improve public policies. The phrase "nudging" was coined by Cass Sunstein and Richard Thaler and suggests that public (and private) organisations may use the behavioural biases in order to improve the decisions people make.[47] This path was considered in variety of areas of public policy such as environment, health care, etc., and supported by different political leaders.[48] However, this approach has not been explored in the context of criminal enforcement. Therefore, this thesis uses the behavioural law and economics methodology to propose the ways in which policy makers may use those biases in order to design an efficient and less costly detection policy.

5. Scientific and Societal Relevance

This thesis touches upon a topic that is relevant to any society. Crime is an inevitable phenomenon in all countries, and although victimisation has a negative impact on people, anybody may find himself subject to the criminal behaviour of others. In fact, one of the

---

[43] McAdams and Ulen (2008), *ibid*., pp. 408-410. For experimental evidence illustrating this effect see for example, Philip Brickman, Dan Coates and Ronnie Janoff-Bulman, "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology* 36(8) (1978), 917-927.

[44] For a review of empirical evidence see Shane Frederick and George Loewenstein, "Hedonic Adaptation" in *Well-Being: The Foundation of Hedonic Psychology*, Daniel Kahneman, Ed Diener and Nobert Schwarz eds. (Russel Sage Foundation, New York, 1999), 302-329, pp. 311-312.

[45] McAdams and Ulen (2008), *supra* note 42, pp. 410, 415-417. As mentioned before, not only criminals are subject to heuristics and biases, but also law enforcement players such as police, prosecutors, judges and juries. For instance, policemen might unintentionally ignore evidence which point out the innocence of the suspect due to the "confirmation bias". The latter suggests that individuals tend to interpret new evidence as confirming their prior believes. For further information on this phenomenon see Barbara O'brien and Phoebe C. Ellsworth, "Confirmation Bias in Criminal Investigations" available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=913357 (accessed on 20.10.2012).

[46] Jolls, Sunstein and Thaler (1998), *supra* note 30, p. 1538; Winder and Ash (2009), *supra* note 42, p. 5.

[47] Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press, New Haven, 2008).

[48] See for instance, Carol Lewis, "Why Barack Obama and David Cameron are keen to 'nudge' you," *The Times* (July 14 2008), available at http://www.thetimes.co.uk/tto/career/article1793099.ece (accessed on 3.8.2014).

reasons for people to surrender a portion of their power to the sovereignty of the state, as derived from Thomas Hobbes' famous writings,[49] is the protection of their rights. Nevertheless, crime control is a costly endeavour and due to scarce resources available to the enforcement authorities, minimising those costs is an important task.

The issue of sanctions is discussed nowadays in different jurisdictions in Europe. Countries acknowledge the importance of an efficient crime control policy, yet at the same time are interested in reducing the costs of enforcement.[50] This thesis contributes to the discussion by applying an old economic model of deterrence from the 1960s to modern policies. Cost-effectiveness is a goal recognised in the different states, and the law and economic approach offers useful tools to analyse the issue of crime control.

From the scientific point of view, each chapter provides a separate discussion of a chosen topic and contributes to the existing literature on sentencing and the theory of deterrence. Due to the social importance of this issue, a variety of disciplines, e.g. law, economics, criminology, devote to it attention. This thesis uses the law and economics approach to offer new methods to increase the cost-effectiveness of the crime control policies. Hence, contribution is made to the penology literature, criminal law scholarship and economics of crime. Furthermore, this thesis refines and expands the rational choice approach to crime and the deterrence theory by using insights from behavioural law and economics.

6. Limitations

The research focuses on the US and western European countries.[51] The rationale behind choosing these countries is the similarities in the development of the sanctioning system and the common social values. An additional driving force for concentrating on those countries is the availability of the necessary data and information for the analysis. Finally, the discussed countries offer some interesting insights, which assist in developing the ideas in this thesis. Nevertheless, it is suggested that the derived policy implications are applicable, with adjustments, in other jurisdictions as well.

Furthermore, the thesis considers only the adult criminal justice system and the different range of offences. Many criminal jurisdictions treat separately adult criminals and juvenile

[49] Thomas Hobbes, *Leviathan or the Matter, Form and Power of a Commonwealth Ecclesiastical and Civil*, 1st ed. (Basil Blackwell, s.d., Oxford, 1651).
[50] For instance, there is a discussion already for years in the Netherlands on how to expand the use of electronic monitoring in order to reduce prison costs. See Chapter 4.
[51] Chapter 4 discusses also criminal policy in Israel to assist in designing a new model of community service.

delinquents. It might be expressed by having different laws applicable to those groups, different sanctions, etc. Since juveniles are a special group of criminals and the two systems often vary, the treatment of juvenile criminal enforcement is beyond the scope of this thesis.

Not all possible sanctions and measures are covered. Due to the limited scope of the thesis, only the main sanctions and measures, which are used to punish the majority of the convicted population, are discussed. In addition, this thesis analyses mainly individual sanctions and not the possibility to combine them.

It should be stressed that this thesis focuses on the law and economics approach, and acknowledges that this is only one way to tackle the problem. It is not presumed that this is the only method, and other approaches may be adopted. Other fields of science also try understanding the reasons for criminal behaviour and the ways to prevent it. For instance, criminology theories, among others, focus on social and environmental factors. Biological theorists attempt to explain criminal behaviour through biological traits and genetics. The law and economics approach, on the other hand, focuses on incentives as the leading force of human behaviour. By assuming rationality of potential offenders, this approach enables to analyse public policy as an instrument to steer behaviour to a certain direction by introducing different incentives. This methodology, as any other theory, is a partial view of criminal behaviour that does not take into account all possible factors. However, the relative simplicity of this approach, and the rich body of empirical research of economics of crime, allows for concrete policy suggestions.

Finally, only the instruments that are part of the criminal justice system are analysed. In theory, crime may be reduced through policies outside the criminal law, e.g. improving education, employment opportunities. Those policies are not discussed in this thesis. Furthermore, the criminal justice system is a complicated environment and due to the structure of the chosen methodology, not all possible arguments are considered. In this context, the law and economics approach treats criminals as the average person. Nevertheless, it is acknowledged that offenders, and prisoners in particular, often differ from the average person by having addictions, social problems, mental disorders etc.

The research in this thesis ends in January 2015. Therefore, reforms or changes that are introduced after this period are not mentioned.

7. Content Structure

Overall, the thesis comprises of 7 chapters. Following this introduction, **Chapter 2** provides a comprehensive positive analysis of the current available sanctions in the western criminal justice systems. For each punishment or measure (where available), this chapter describes its historical development; offers a graphical illustration of the extent selected countries use this sanction; presents empirical evidence of its effectiveness; analyses it from the law and economics perspective; and finally, provides costs. This chapter is a first and essential step prior to analysing methods to increase the cost-effectiveness of the enforcement system. The empirical evidence assists in understanding better which sanctions have the power to reduce crime and through which channels. The law and economics analysis and the costs assist to compare those punishments and place them in the sentencing continuum. The next three chapters analyse more closely four of the sanctions, i.e. fines, community service and electronic monitoring, and finally imprisonment. The choice to concentrate on these forms of punishment derives from the fact that the majority of the criminals are subject to those sanctions.

Chapter 3 focuses on fines. From the law and economics perspective this is the superior sanction due to its reduced costs and the ability to transfer to the society whatever is paid by the criminal. However, in contribution to the existing literature, this chapter provides an analysis that demonstrates the advantages of a *day-fine* over other models of pecuniary measures. This fine does not only consider the severity of the crime and the blameworthiness of the offender, but also his financial state. For as much as it imposes an equal relative burden of punishment on the offenders irrespective of their wealth, it is claimed that this fine has a better potential to achieve both general and marginal deterrence. Furthermore, this chapter analyses from the law and economics perspective the problems of obtaining the financial information of the offender. Finally, using insights from behaviour law and economics, a novel method, named the *secondary enforcement system*, is offered to solve the abovementioned information problem.

The community service and electronic monitoring are analysed in **Chapter 4**. The former refers to the sanction of performing an unpaid work for the public benefit. The latter allows for the confinement of the offender in other facilities than prison, e.g. his home, while monitoring him using a special technology. Those two alternative sanctions are less costly than imprisonment, yet have the potential to deter and partially incapacitate delinquents. Nevertheless, one problem that threatens the efficiency of those sanctions is the *net-widening*

effect. Community service and electronic monitoring were introduced with the aim to reduce the prison population and divert offenders from imprisonment. However, in practice, those two sanctions were imposed also on offenders who would not otherwise be imprisoned and this phenomenon is called net-widening. This problem may increase the costs of the sentencing system. First, it does not divert offenders from the costly sanction of imprisonment to the extent it could. Second, some offenders who may be deterred by less costly punishment, e.g. fines, are sent to serve their punishment in community service or being monitored at home. Therefore, Chapter 4 identifies possible reasons for the occurrence of this phenomenon and offers some solutions. The first part of the solution is substantive. In other words, it is suggested to increase the costs community service and electronic monitoring impose on the offender in order to make an appropriate substitute for prison. Furthermore, an additional form of community service should be introduced in order to expand the sentencing continuum. Following that, this chapter recommends supplementing it with a procedural solution, which is designed using behavioural insights. The procedural solution discusses the legal rules that would regulate the imposition of those sanctions by the sentencing authorities.

Inasmuch as prisons are also an inevitable method of punishment, **Chapter 5** is devoted to analysing ways to make this sanction more cost-effective. The first instrument discussed is privatising prisons. This notion refers to the practice of contracting out the construction and the operation of correctional institutions to private provides. Nevertheless, the state remains the responsible authority for this sanction. This chapter provides explanation from the law and economics perspective for the need of public prisons. Yet, it continues to argue for "subsidised" rather state owned facilities. Furthermore, the principal-agent model is applied to explain the possible inefficiencies of private prisons, and some solutions are discussed. The second potential method to reduce the costs of incarceration is prison labour. Although this practice is common in many jurisdictions, it is often applied inefficiently. Therefore, Chapter 5 discusses the possible causes of those inefficiencies and offers some solutions.

Chapter 6 deals with the second element of the deterrence theory and attempts to illustrate one method how the probability of apprehending criminals may be more cost-effective. Behavioural law and economics insights are applied to demonstrate that detection of criminals ought to be ambiguous rather than just risky. The difference between those two notions lies in the amount of information the criminal possesses. When acting in a risky environment, the person does not know the outcome, but is aware of the probabilities of the different prospects. On the other hand, when the situation is ambiguous, the person is not even aware what the

probabilities for the occurrence of different outcomes are. Empirical evidence suggests that people are ambiguity-averse, thus deterred better by ambiguous policies of detection. Once the ambiguity is introduced in the apprehension methods, it is important to increase the awareness of potential criminals to this change. In order to measure the level of awareness of potential violators to changes in the law this thesis offers survey results concerning the Italian tax policy. Ambiguous detection may not enhance deterrence if potential criminals are not aware of its existence. Therefore this chapter uses behavioural law and economics insights to discuss the methods to increase the saliency of this policy.

Finally, based on the analysis offered in this thesis, **Chapter 7** offers some concluding remarks. Furthermore, possible ideas for future research are presented.

Chapter 2 Punishments and Measures, their Effects and Estimated Tangible Costs[52]

1. Introduction

Punishment imposed by the state is a well-accepted notion in the modern society. However, throughout history philosophers discussed the justification for such an intrusive power given to the sovereign. The importance of this discussion does not merely lie in the question of limitations on the individual's liberty, but also in the choice of punishment that should be imposed. Sanctions should match the justifications and the goals of the criminal justice system. In addition, sentences imposed within the criminal system reflect the contemporary values of the society and the balance they make between individual freedom and public safety. Nonetheless, it is a matter of investigation to decide which methods are superior in reaching the intended aims.

The design of an effective and less costly crime control system requires a thorough analysis of the contemporary targets of the criminal justice system, the variety of instruments provided by the state in order to control crime and their relative efficiency. Therefore, this chapter begins with providing the main justifications for punishment. Following that, different types of punishment and measures[53] are reviewed in a consistent way that includes the following elements:

(1) A brief historical review of the development of the sanction and a graphical illustration[54] (where available) of the scope of its implementation in selected countries.
(2) A law and economics analysis of the function of the sentence with regard to different goals set by this approach. In addition, where available, the tangible costs of the sanctions in selected countries.
(3) Empirical evidence (to the extent available) for the effectiveness of the punishment as measured by different aspects.

---

[52] This chapter is based on my paper "The Secret of a Cheaper Sentencing System: Lessons from Europe," *Public Interest Law Journal* (2015, forthcoming). I would like to thank Michael Faure, Paul Mevis, Roger van den Bergh and the participants of the faculty seminar at Erasmus University Rotterdam for their valuable comments. In addition, I am grateful to Jaroslaw Kantorowicz for all the helpful suggestions and support. All possible mistakes are however my own.
[53] This chapter reviews on the one hand, the sanctions which are aimed at punishing and deterring and on the other hand, the measures taken to treat the offender and provide him support in order to divert him from the criminal way.
[54] Unless otherwise mentioned, the graphs capture the sentencing of adult offenders. Some of the sentences might be overlapping since in many countries the court may impose a combination of different punishments.

The chapter provides a positive analysis with a focus on the US and selected European countries[55], referred to as the 'countries of interest'. The rationales behind choosing these countries are the similarities in the development of the sanctioning system and the common social values. An additional driving force for concentrating on those countries is the availability of the necessary data for the analysis. Due to the limited scope, this chapter focuses on the main sanctions and does not provide an exhaustive analysis of all available alternatives. The majority of offenders are dealt with those sanctions. In addition, some measures are briefly discussed, yet not elaborated upon since they often merely complement the different sanctions (e.g. rehabilitation).

2. Justification of Punishment

The justification of punishment is an old inquiry that goes back to the ancient times of the Greek philosophers. Even though in the modern times the criminal justice system and the right of the state to punish individuals are taken for granted, there are different theories that provide the justification for that practice. The following sections review in a nutshell the two main justifications discussed in the philosophy literature and their possible reconciliation. In addition, it states briefly other justifications for punishment.[56]

2.1 Retribution and Desert

The most notable proponent of the old 'retribution' or 'retaliation' justification for punishment is Immanuel Kant. According to Kant, no person can be treated as merely a means to an end. In other words, the punishment does not serve the purpose of threatening other potential offenders. A sanction may be inflicted upon an individual only for the reason that he has committed a crime. The rationale behind this approach is that any act that the criminal commits against another person should be seen as if he completed it against himself.[57]

When discussing the question of how severe the punishment should be, the retribution justification stresses the concept of "eye for an eye" and the principle of equality. A person deserves a punishment that would be equal to his wrongdoing and express his internal

[55] Those countries include the EU-15 and in addition, Switzerland, Norway and Iceland. When referred in this chapter to European countries or Europe, those are the countries discussed unless otherwise mentioned. EU refers to all European Union member states.
[56] For more comprehensive discussion of punishment justifications and their criticism see for example, Harry B. Acton ed., *The Philosophy of Punishment* (St. Martin's Press, New York, 1969).
[57] Immanuel Kant, *The Philosophy of Law* (Augustus M. Kelly Publishers, New Jersey, 1974), pp. 195-198. First published in English in 1887.

wrongfulness. For instance, the only proper penalty for a murderer is the death penalty, and no other means may be used to punish for such a crime. Therefore, a punishment needs to exactly fit the crime.[58] In a broader sense, the Kantian retribution approach seeks to restore the equilibrium. It is believed that once a person commits a crime, he places himself in an advantageous position as compared to law abiding-citizens. Thus, in order to regain the initial state once again, the offender must be punished.[59]

A similar modern approach to retribution is named "desert". This is a past-looking theory that asserts that a person should be punished for his crimes because he *deserves* it.[60] The punishment conveys a criticism in order to express society's discontent of the criminal's behaviour. Bearing this in mind, the gravity of punishment should be proportionate to the crime. Inasmuch as the criminal sanction carries blame, severer crime should be punished more harshly. This way the punishment itself can express the discontent towards the prohibited act. Thus, two offenders who committed the same crime should receive the same punishment.[61] However, first-time offenders are the exception to this rule. The justification, based on the desert theory, to punish them less severely is the lack of confidence in their criminal intent.[62]

2.2 Deterrence[63]

The deterrence theory is a utilitarian concept that rationalises an act by its consequence. Deterrence as the true justification for imposing punishment can be traced back to Protagoras whose words were brought in the writings of Plato:

> "*For no one punishes a wrong-doer in consideration of the simple fact that he has done wrong, unless one is exercising the mindless vindictiveness of a beast. Reasonable punishment is not vengeance for a past wrong – for one cannot undo what has been done – but is undertaken with a view to the future, to deter both the wrong-doer and whoever sees him being punished from repeating the crime*".[64]

Therefore, as opposed to the retribution approach, according to the deterrence theory the state has the right to punish not for the reason that the offender committed a crime, but rather for

---

[58] *Ibid*.
[59] Jeffrie G. Murphy, *Kant: The Philosophy of Right* (Mercer University Press, Macon GA, 1994), p. 121.
[60] Andrew von Hirsch, *Doing Justice: The Choice of Punishments*, Report of the Committee for the Study of Incarceration (Hill and Wang, New York, 1976), p. 46.
[61] Andrew von Hirsch, *Censure and Sanctions* (Clarendon Press, Oxford, 1993), p. 9.
[62] Von Hirsch (1976), *supra* note 60, p. 86. According to von Hirsch, it is hard to establish culpability of the criminal based on one incident. It is possible for example, that the offender had no true intent, but rather the presumed intent prescribed by the criminal law, i.e. "persons…intend the natural and probable consequences of their acts".
[63] See *supra* in the introduction Chapter the discussion on the rational choice theory.
[64] Plato, "Protagoras", in *Plato: Complete works*, John M. Cooper and D. S. Hitchinson eds. (Hackett Publishing Company, Inc. United States, 1997), 746-790, p. 759.

the purpose of preventing future crimes. Already at this stage, the theory includes both individual and general deterrence. Whereas the former seeks to discourage the punished criminal from repeating his crimes, the latter intends to dissuade other potential offenders from committing similar misconducts.[65]

Many centuries later, philosophers revived the idea of punishing individuals in order to deter prospective crimes. In the 18th century, Cesare Beccaria asserted that the right of the sovereign to impose a sanction is restricted to the sole purpose of protecting the society. He repeated the idea that inasmuch as the punishment cannot undo past crimes, the drive for imposing a sanction is the deterrence of offenders from committing wrongdoings in the future. Consequently, according to Beccaria the severity of punishment should be balanced between the necessity to leave an impression on potential criminals, and the need to refrain from imposing senseless suffering.[66]

Following Beccaria, Jeremy Bentham promoted punishment as the instrument that the state may use with the aim of preventing future crimes through imposition of fear.[67] According to his utility theory, if the enforcement authorities would generate a threat of costs higher than the potential benefits from crimes, it would discourage people from committing those crimes. Hence, the first objective of punishment is to deter all crimes. Inasmuch as not all crimes might be deterred, Bentham justifies proportionality in punishment to preclude the most severe crimes. If sanctions vary, the potential criminal would choose to commit those crimes that have the threat of a lighter sanction.[68] In the law and economics literature this objective is referred to as "marginal deterrence".

In modern times, the deterrence theory was translated into an economic model of rational choice and is now well established in the law and economics literature. According to this model, criminals are rational individuals and utility maximisers, thus, they choose to commit crimes only when it provides them benefits, which ought-weight their expected costs.

---

[65] For a more comprehensive definition see Franklin E. Zimring and Gordon J. Hawkins, *Deterrence: the Legal Threat in Crime Control* (The University of Chicago Press, Chicago, 1976), pp. 71-72.

[66] Cesare Beccaria, *An Essay on Crimes and Punishments*, Adolph Caso ed. (International Pocket Library, Boston, 1983), Chapter. 2, p. 20, and Chapter 12, pp. 36-7. First published in Italian in 1764.

[67] Jeremy Bentham, *Theory of Legislation: Principles of the Penal Code*, vol. 2, translated from French by Etienne Dumont (Weeks, Jordan & Company, Boston, 1840), p. 41.

[68] Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Dover Publications, INC., New York 2007), pp.178-179. First published in 1780.

Enforcement authorities in turn are able to create a threat of punishment that would constitute expected costs for potential criminals and to ensure those costs outweigh crime benefits.[69]

2.3 A Compromising Approach

In the 20th century the legal philosopher H.L.A Hart contested the search for a single principle of punishment, and offered to find a combination of values that would justify the infliction of punishment. The choice of the principle depends on the specific question at hand. Therefore, according to Hart while the general justification for punishment is the benefits of its consequents (i.e. deterrence of criminals), the limits of the right to punish are derived from the retribution concept. The latter relates to the distribution of punishment, namely the question, which individuals ought to be sentenced. The retribution approach provides the answer asserting that only those who actually committed a crime should be punished.[70]

2.4 Other Rationales for Punishment

Although retribution and deterrence are the two main justifications for punishment, there are other concepts motivating the penal system. One concept is incapacitation. According to this notion the justification for punishment is the physical removal of criminals from the society.[71] A broader understanding of the notion incapacitation may include any restriction that has the potential to prevent the offender from committing a crime.[72] Similar to deterrence, incapacitation is also a looking-forward notion that seeks to prevent future crimes. However, instead of fear and threat, a physical restriction is used (e.g. imprisonment). The rationale behind this justification might be the handling of the 'judgment proof' offenders. This group of criminals cannot be deterred by any means and the only way to cease their criminal activity is by restricting their freedom.[73] Since the 1970s incapacitation has replaced the rehabilitation

---

[69] Becker (1968), *supra* note 13.

[70] H.L.A. Hart, *Punishment and Responsibility* (Oxford University Press, Oxford, 1968), pp. 3, 8-9. The importance of the distribution of punishment is perhaps connected to the well-known criticism of the utilitarian approach. According to this criticism, the deterrence theory justifies punishing the innocents (see for example, John Rawls, "Two Concepts of Rules," *The Philosophical Review* 64(1) (1955), 3-32, p. 7). Inasmuch as criminals believe the punished innocent is guilty, it would have the desired deterrent effect. It seems that in order to avoid this, Hart suggests deciding who to punish based on the retribution concept rather than on the deterrence concept.

[71] Alfred Blumstein, Jacqueline Cohen and Daniel Nagin eds., *Deterrence and Incapacitation: Estimating the Effect of Criminal Sanctions on Crime Rates* (The National Academies Press, Washington, D.C., 1978), p. 64.

[72] In the context of driving license revocation, see for example, James L. Nichais and Laurence H. Ross, "The Effectiveness of Legal Sanctions in Dealing with Drinking Drivers," Judicial and Administrative Processes Background Papers (1991), 93-112, p. 93. The broader definition is used through out this thesis.

[73] The term "judgment proof" is borrowed from tort law where some injurers cannot compensate for the harm they caused due to insufficient assets they own. See Steven Shavell, "The Judgment Proof Problem," *International Review of Law and Economics* 6 (1986), 45-58.

idea in the US. Due to this transformation the number of incarcerated persons substantially increased.[74]

Another factor, which stands behind the criminal sentencing policy, is the concept of rehabilitation. In the core of this approach is the belief that the criminal may be "healed" through the criminal punishment from his deviating tendencies. The way to achieve this is to change the potential offender's opportunities, character, customs, etc. Rehabilitation programmes use instruments such as training to acquire new skills, treatment and support. Even though these methods seem to be applied to assist the criminal, the main goal can be seen as the protection of society by minimisation of future crime. Rehabilitation was one of the major goals of the criminal justice system in the US until the 1970s. During this period the proportionality of a sentence seemed inefficient. Namely, the gravity of the offence did not have a significant weight in the selection of the punishment. Therefore, a criminal committing a serious crime could have received a lenient punishment (e.g. probation rather than imprisonment) compared to other offender who committed less severe crime. The rationale behind this decision was the assumption that this way the offender would more rapidly integrate into the society.[75]

The last example of other aims of sentencing is the justice restoration or reparation. People supporting restorative justice place the victim in the centre of the criminal system. They assert that once the offender is detected the matter should be transferred to informal methods of resolution. Under this method the offender and the victim are meeting face to face in a safe environment with other community members and sometimes in the presence of professionals. The victim is expected to discourse about the material and the psychological harm the crime caused him. The offender in turn, should acknowledge his responsibility and compensate the victim. Occasionally, the family members of the offender commit themselves to help and monitor the offender not to repeat his crimes. The restorative justice is believed to achieve multiple benefits. First, it might be more responsive to the necessities of the victims than the formal criminal justice system. Second, it may help the delinquent to regain respect from the community rather than condemnation. Third, occasionally this process seems as more demanding than the trial procedure since the offender is expected to engage actively in the restoration of justice, i.e. acknowledging his guilt, apologising and compensating. Last, since

[74] Franklin E. Zimring and Gordon Hawkins, *Incapacitation: Penal Confinement and the Restraint of Crime* (Oxford University Press, Inc., Oxford, 1995), p. 3.
[75] Andrew von Hirsch and Andrew Ashworth eds., *Principled Sentencing: Readings on Theory and Policy*, 2nd ed. (Hart Publishing, Oxford, 1998), pp. 1-5.

the criminal trial is costly, the saved expenses might be directed to efficient crime-prevention projects. Therefore, restoration of justice rather than punishment is perceived as the proper way to handle criminals.[76]

2.5 Conflicting Goals

The different justifications of punishment might lead to conflicting goals of the criminal justice system. In certain situations retributivists would like to inflict a harsher punishment than utilitarians. For instance, if it is clear that a lighter sanction can suffice to deter future crimes, even if the criminal "deserves" more. On the other hand, based on the deterrence approach, judgment proof offenders should be incapacitated in order to protect the society from future crimes. However, according to retribution and desert, the past crime of these offenders' might not justify a long incapacitation. Rehabilitation and restoration considerations might in theory conflict with both, retribution and deterrence approaches. Those justifications usually lead to a stronger focus on the offender's and the victim's needs rather than on the society as a whole. Therefore, the imposed sanction or measure might be perceived as not retributive enough and imposing too low costs to prevent future crimes.

It seems as if the current criminal justice systems in the modern Western society combine the diverse concepts of punishment and do not turn to one sole justification. Since these concepts might have conflicting goals, a variety of available punishments might enable achieving these goals by combining different sanctions. The following sections discuss the different types of penalties and measures used nowadays, empirical evidence of their effectiveness where available, and their assessed costs.

3. Categories of Punishments and Measures

From the law and economics perspective, prison and fines are the most prominent kinds of sanction, and they constitute the two opposite ends on the severity scale of punishment. However, over time many intermediate sentences have been developed and introduced a gradual scaling of sentencing. The different criminal codes usually contain a variety of offences, thus in theory this system of intermediate sentences truly enables the proportionality of punishments. However, each sanction functions and costs differently and consequently might be more or less effective in achieving diverse goals of the criminal law.

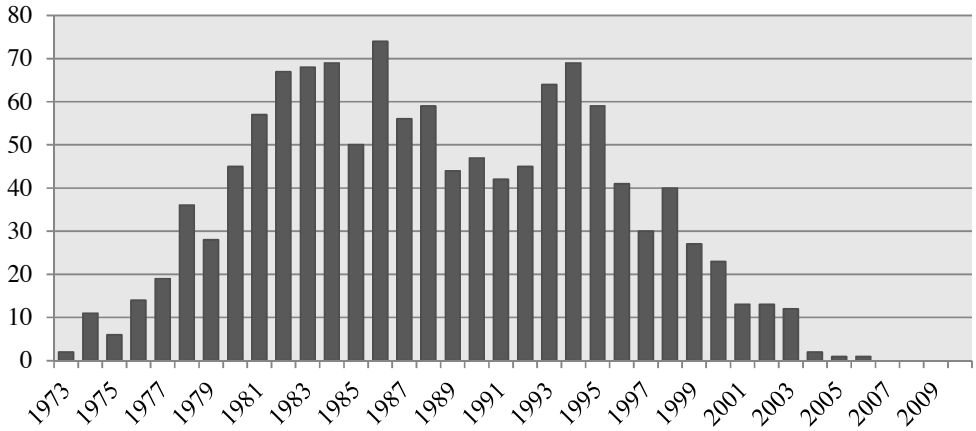
[76] Gerry Johnston, *Restorative Justice: Ideas, Values, Debates* (Willan Publishing, Devon UK, 2002), pp. 1-9. (Hereinafter: "Restorative Justice").

In addition to punishment, some systems use measures in order to prevent future crimes. Those measures do not constitute a punishment, yet directly relate to the criminal justice system.

3.1 Capital Punishment[77]

It is difficult to trace back the moment in time where the death penalty[78] was first introduced. It seems as if this type of punishment was used at least since the documented history. No doubt in the modern society this is the most severe punishment. However, out of the countries of interest, only some states in the US retain offences punishable by the death penalty, and still practice executions (for the changes in the number of executed see Figure 1). Although in the past the most common method of execution was hanging and later on the electric chair, due to humanity reasons, nowadays, lethal injection is the customary method.[79] On the contrary, as of 2012, after Latvia abolished its death penalty, none of the EU member states retains a capital punishment.[80] For the information on the year of the capital punishment abolishment in the EU countries and the usage of the capital punishment in the US see Appendix 1 and 2 respectively.

Figure 1: The Number of Executed in the US 1973-2010



[77] This sanction is discussed on a theoretical level and is addressed since it is still practiced to some extent in the US. Nevertheless, regardless the results of the analysis, this sanction may not be reintroduced in the EU.
[78] The notions "death penalty" and "capital punishment" are used interchangeably throughout this chapter.
[79] Stuart Banner, *The Death Penalty: An American History* (Harvard University Press, Cambridge, 2002), pp. 2, 169-207. Interestingly, the death penalty was practiced for centuries, however, after decay for some period, new public support for the capital punishment arose during the 1980s and 1990s (pp. 275-276).
[80] For the EU approach towards the death penalty and the general guidelines for the member states see "EU Guidelines on the Death Penalty: revised and updated version" (General Affairs Council of 16 June 2008) available at http://europa.eu/legislation_summaries/human_rights/human_rights_in_third_countries/r10106_en.htm (accessed on 28.2.2013).

Source: own chart based on Tracy L. Snell, "Capital Punishment, 2010 – Statistical Tables" *Bureau of Justice Statistics* (2011), available at http://bjs.ojp.usdoj.gov/content/pub/pdf/cp10st.pdf (accessed on 20.1.2013).

3.1.1 Law and Economics Analysis of Capital Punishment

From the law and economics perspective capital punishment should have the strongest deterrent effect within the range of different sanctions.[81] In theory, the costs of its administration are not high[82], at least as compared to prison costs. Thus, according to the classic deterrence model, the choice of this sanction ought to compensate for the low probability of apprehension and deter perpetrators using lower costs of enforcement. A worthy example of this trade-off can be found in the old penal code of England. In the 18th century, England did not have sufficient police force, property crime was on the rise, and there was a general sense of insecurity. In addition, there were strong procedural safeguards that benefited the defendants and constituted a burden for their prosecutors. Those circumstances reduced the probability of apprehension and punishment for the potential offenders.[83] Therefore, to balance this lack of punishment certainty and to increase deterrence, many offences became punishable by a death penalty. During this period more than 160 offences were capital, a number that has never been observed until then.[84]

Although in theory the reform of the English penal law responds to the first requirement of Bentham's approach, it did not fulfil the second prerequisite, i.e. proportionality and thus, fails to achieve marginal deterrence. Following the proportionality notion, the most severe penalty should be imposed only on the gravest offences. This way the potential offender, if not deterred entirely, would be at least marginally deterred from the most undesirable crimes.[85] In 18th century's England, capital punishment was prescribed by law for offences with very different moral blameworthiness attached to them. For example, a person who committed a murder with aggravated circumstances could expect the same sanction as a

[81] One might assert that life imprisonment with harsh prison conditions might be perceived as more severe punishment than the death penalty. However, the increased effort put in converting the death penalty to life imprisonment, and the cases where defendants plead guilty in exchange to the prosecution's consent not to seek the death penalty, implies the other way around. For examples where the defendants explicitly plead guilty in order to receive a life imprisonment without parole instead of the death penalty see the case of Loughner in Arizona available at http://edition.cnn.com/2012/08/07/us/arizona-loughner-plea, and the case of Komisarjevsky available at http://www.nytimes.com/2011/03/12/nyregion/12cheshire.html?_r=0 (accessed on 4.3.2013).

[82] At this point, costs of capital punishment refer only to the narrow costs of implementing this punishment. See *infra* discussion on the expanded costs of capital punishment.

[83] Leon Radzinowicz, *A History of English Criminal Law and its Administration from 1750*, vol. 1 (Stevens & Sons Limited, London, 1948), pp. 25-31.

[84] *Ibid*., p. 3.

[85] Bentham (2007), *supra* note 68, pp. 178-179.

person who was pickpocketing[86] or seen in the company of gypsies.[87] Thus, the potential culprits had the same incentives to commit the most severe and the minor misconducts.

Furthermore, by the end of the 18th century and the beginning of the 19th century, the public began to perceive the penal system as morally inappropriate and it was expressed in the enforcement of the law. First, to avoid imposition of capital punishment in lighter offences, the juries were "manipulating" the facts, which resulted in either acquittal or conviction for a lesser offence. Second, judges were instructing prosecutors[88] to lower the value of the stolen good in order not to convict for an offence punishable by capital punishment. Third, based on the judges' recommendations, the Crown was pardoning the convicted, conditionally or unconditionally, and avoiding capital punishment. To illustrate, whereas between the years 1749-1758 roughly 70% of the convicted for capital offences were hanged, in the period of 1795-1804 only 16% of those on the death row[89] were actually executed.[90] This phenomenon is already known to psychologists, according to whom jurors base their decisions whether to convict not solely on the evidence presented to them, but on other factors as well. For instance, when the penalties are too high, jurors might be more reluctant to convict.[91]

Consequently, the attempt to trade-off certainty of punishment with severity failed and reached the opposite result. The expected costs of crime decreased significantly and could no longer serve as a deterrent factor. In the first stage, the culprit had a very low probability of apprehension due to the lack of a sufficient police force. In the second stage, there was a low probability to be convicted for a capital crime due to the unwillingness of the criminal court officers to impose capital punishment for many crimes. In the final stage, offenders had low probability of actually being executed due to the pardoning system that frequently pardoned criminals unconditionally.

In terms of the tangible costs the death penalty imposes on the society, its measurement is a complex task. At first glance, capital punishment may be perceived as a "cheap" option of

---

[86] Some of the theft offences were becoming capital based on the value of the stolen good.

[87] Radzinowicz (1948), *supra* note 83, pp. 10-11. Interestingly, the English approach is not compatible with the retribution and the desert theories either. When punishing offences with different gravity with the same severe penalty, the sanction does not express the moral wrong of each crime and in practice signals that theft is unacceptable by society as much as a murder.

[88] In that period in England prosecutors were the actual victims of the crime and not state officials. See John H. Langbein, "Albions' Fatal Flaws," *Past & Present* 98 (1983), 96-120, pp. 101-105.

[89] The death row is the place where prisoners awaiting execution are placed.

[90] Radzinowizc (1948), *supra* note 83, pp. 92-92, 107-112, 151; Langbein (1983), *supra* note 88, pp. 104-106. The Crown pardoned criminals by converting their death penalty either to imprisonment or transportation. Many times the Crown pardoned the convicted unconditionally.

[91] Neil Vidmar, "Effects of Decision Alternatives on the Verdict and Social Perceptions of Simulated Jurors," *Journal of Personality and Social Psychology* 22 (1972), 211-218.

punishment. The expenses are limited in time. In other words, the main source of costs is the medicine the state needs to purchase in order to execute the offender (in case of a lethal injection). In addition, there are some costs for personnel exercising this task and the facility where it is performed. However, overall, this sanction seems to constitute a lesser financial burden on the society than prison since there are no additional costs after the offender is executed. Imprisonment on the other hand, necessitates the funding of the offenders for a continuing period.

Nevertheless, this type of approach neglects the special feature of the death penalty. This sanction is final, thus, risking extreme error costs. If an imprisoned person or an offender who was sentenced to community service is exonerated *ex-post*, the state has the ability to compensate him for the lost time and other harms caused to him. Hence, from an economic point of view, through payment of damages the person may be placed back to his initial state. On the other hand, there is no turning back when the offender is executed. The state may not compensate an innocent offender in this case. Therefore, the error costs of capital punishment are significantly higher than the error costs of any other penalty. Having this in mind, the criminal justice system imposes strict barriers on the enforcement authorities that wish to sentence the offender to a death penalty. In addition, those trials are subject to numerous motions, hearings and appeals. Those barriers significantly increase the costs of litigating each capital case.[92] For instance, an assessment of costs in the US found that the costs of a capital case (trial, imprisonment and execution) range from $2.5 to $5 million per inmate. This is to compare with less than $1 million spent on a murdered sentenced to life in prison without parole.[93]

3.1.2 Empirical Evidence

The capital punishment is still maintained in many of the American states. However, its existence is a controversial matter, and many empirical studies have been conducted in order to examine whether it is an efficient method to prevent crime. In theory, the death penalty has a potential of constituting the best empirical assessment of the deterrence theory. It is the gravest penalty in modern society, hence, allowing for the examination of the severity effect

[92] Amnesty International http://www.amnestyusa.org/our-work/issues/death-penalty/us-death-penalty-facts/death-penalty-cost (accessed on 3.4.2014).

[93] Jeffrey Fagan, "Public Policy Choices on Deterrence and the Death Penalty: A Critical Review of New Evidence," Testimony before the Joint Committee on the Judiciary of the Massachusetts Legislature on House Bill 3834, "An Act Reinstating Capital Punishment in the Commonwealth" (2005), p.18, available at http://www.deathpenaltyinfo.org/MassTestimonyFagan.pdf (accessed on 3.4.2014).

on crime. Nonetheless, in practice the empirical results are inconsistent and until today there is no consensus whether the death penalty deters crime or not.

Isaac Ehrlich was the first scholar to examine empirically the deterrent effect of capital punishment after Becker introduced the economic model of crime. In his pioneering study based on time-series analysis, Ehrlich found a deterrence effect of the death penalty and asserted that one execution prevents eight additional murders.[94] In 1977, the author conducted a supplementary study where he controlled for states with and without capital punishment. Once more the deterrence effect was found, yet somewhat weaker.[95]

Ehrlich's findings were challenged later on by other studies that attempted to replicate his results. First, the sample size of executions and the variation within the variables was argued to be too small. Second, some studies showed that the inclusion of different omitted variables, which were not incorporated in Ehrlich's studies, diminishes the deterrence effect of capital punishment. Third, the reversed causality problem, i.e. the possibility that the number of executions raises as a response to increasing rates of murder, places doubt in the stated causal relation. Apart from those difficulties, other rationales were raised to undermine Ehrlich findings.[96]

The attempt to identify the deterrent effect of capital punishment continues in the 21st century. For instance, in 2003 Hashem Dezhbakhsh, Paul Rubin and Joanna Shepherd examined empirically the impact of executions on the murder rates in US states between the years 1977-1996. In their study they found a strong and significant deterrent effect of capital punishment and concluded that in 1996 each execution prevented on average 18 murders.[97] However,

---

[94] Isaac Ehrlich, "The Deterrent Effect of Capital Punishment: A Question of Life and Death," *The American Economic Review* 65 (1975), 397–417.

[95] Isaac Ehrlich, "Capital Punishment and Deterrence: Some Further Thoughts and Additional Evidence," *Journal of Political Economy* 85 (1977), 741–788.

[96] Samuel Cameron, "A Review of Econometric Evidence on the Effects of Capital Punishment," *Journal of Socio-Economics* 23(1) (1994), 197–214, pp. 202-206. See this study also for a review of additional empirical evidence on the deterrent effect of the capital punishment, which supports or refutes Ehrlich's evidence.

[97] Hashem Dezhbakhsh, Paul H. Rubin and Joanna M. Shepherd, "Does Capital Punishment Have a Deterrent Effect? New Evidence from Postmoratorium Panel Data," *American Law and Economics Review* 5(2) (2003), 344-376. For additional recent evidence supporting the deterrence effect of capital punishment see Joanna M. Shepherd, "Murders of Passion, Execution Delays, and the Deterrence of Capital Punishment," *The Journal of Legal Studies* 33(2) (2004), 283-321; Naci H. Mocan and Kaj R. Gittings, "Getting Off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment," *Journal of Law and Economics* 46 (2003), 453-478; Paul R. Zimmerman, "State Executions, Deterrence, and the Incidence of Murder," working paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=354680 (accessed on 8.1.2013); Hashem Dezhbakhsh and Joanna M. Shepherd, "The Deterrent Effect of Capital Punishment: Evidence from a 'Judicial Experiment'," *Economic Inquiry* 44(3) (2006), 512–535. For a study not finding a significant deterrent effect of capital punishment see Lawrence Katz, Steven D. Levitt and Ellen Shustorovich, "Prison Conditions, Capital Punishment, and Deterrence," *American Law and Economics Review* 5 (2003), 318-343.

similar to other supporting evidence of the deterrent effect of capital punishment, those results were criticised later on in the extensive study by John Donohue and Justin Wolfers. The authors argued that the empirical studies on the capital punishment matter are significantly sensitive to changes in specifications, a fact which leads to different results. For instance, a replication of one study with an extension of the period examined, led to a reversal of the correlation sign so as to imply more executions are associated with higher homicide rates. In addition, they argued that the executions come about so rarely that it is merely impossible to attribute to them yearly changes in homicide rates.[98] For example, in 2010 only 46 offenders were executed out of 3,158 prisoners sentenced to a death penalty, which constitutes only 1.4%.[99]

Another reason to doubt the empirical evidence supporting the deterrent effect of capital punishment is the significant lack of celerity of the criminal justice system. Due to the irreversibility of an execution, the litigation process of capital cases takes many years.[100] Beccaria stressed the importance of the proximity between the time of committing the crime and the commencement of punishment in order to achieve deterrence.[101] The celerity notion is strengthened by the evidence from behavioural law and economics that suggest criminals have inconsistent discounting rates. These findings imply that the offenders attach higher value to immediate benefits than their disutility from the postponed costs.[102] Therefore, the more remote the execution from the commission of crime is, the less deterrent effect it will have on the culprits.

Nevertheless, the absence of consensus regarding the effectiveness of the death penalty is not the only argument against its imposition. Placing aside the moral costs of capital punishment, another crucial reason is the imperfection of the criminal justice system. With a severe sanction such as the death penalty, error type II (acquitting guilty defendants) may be tolerated but error type I (convicting innocent people) should be entirely avoided. Unfortunately, until today no justice system developed a method to avoid entirely the conviction of innocents. The non-negligible number of exonerations in different countries is a salient proof of that. In the US, 301 people were exonerated since 1989 using the DNA tests

---

[98] John J. Donohue and Justin Wolfers, "Uses and Abuses of Empirical Evidence in the Death Penalty Debate," *Stanford Law Review* 58(3) (2005), 791-845.
[99] Tracy L. Snell, "Capital Punishment, 2010 – Statistical Tables," *Bureau of Justice Statistics*, p.8, available at http://bjs.ojp.usdoj.gov/content/pub/pdf/cp10st.pdf (accessed on 20.01.2013).
[100] Banner, Stuart, *The Death Penalty: An American History* (Harvard University Press, Cambridge, 2002), p. 2.
[101] Beccaria (1983), *supra* note 66, Chapter 19, p. 51.
[102] McAdams and Ulen (2009), *supra* note 42, pp. 423-424.

after their conviction. 18 of those people were serving their sentence on the death row.[103] In England, one of the cases that led to the abolition of the capital punishment was that of a man named Timothy Evans. Evans was convicted for the murder of his wife and daughter. Three years after his execution the real culprit was found and Evans was granted a posthumous pardon.[104] More recently, in the Netherlands the Supreme Court has decided that the case known as "*The zes van Breda*" should be re-examined due to the possibility that the convicted people who already served years in prison might be innocent.[105] Therefore, imposition of irreversible punishment such as the death penalty might have severe consequences.

3.2 Imprisonment

The action of imprisoning people is also a very old notion and exists for centuries. However, until the 18th century it was not part of the penal system, but rather an instrument to extract human capital, e.g. forced labour. During this period the main criminal sanctions in Europe were the death penalty and the infliction of pain through torture. Only in the 18th century had the prison developed as a method to remove offenders from society, i.e. incapacitation.[106] With the social and the moral changes, so came the changes in the way society choses to punish its criminals.

The concept of the modern prison emerged at the beginning of the 19th century. At first, the custody was perceived as the disciplinary mechanism to bring young, poor and unemployed people to the right track. Gradually the prison population began comprising of more and more offenders for property crimes. Worth mentioning is that during this period it was a common practice to occupy the inmates with labour, whether for outside manufacturing or the maintenance of the prison needs. However, starting from the end of the 19th century and the beginning of the 20th century, prisons were losing their central role in the criminal sanctioning system. One of the reasons for the change was the growing awareness of the public to the increased recidivism prisons brought with them instead of rehabilitation.[107] Consequently, many European countries initiated the development of different non-custodial sentences, such

---

[103] For the facts on exonerations in the US see The Innocence Project, available at http://www.innocenceproject.org/Content/Facts_on_PostConviction_DNA_Exonerations.php (accessed on 8.01.2013).

[104] See http://hansard.millbanksystems.com/commons/1965/nov/25/timothy-evans-reinterment (accessed on 8.1.2013).

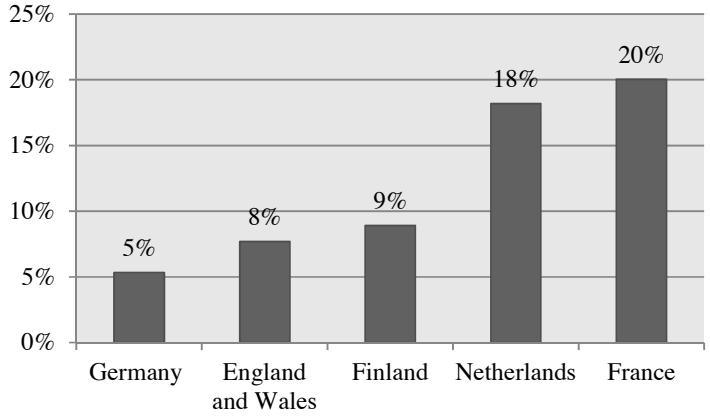
[105] See http://nos.nl/artikel/452951-zaak-zes-van-breda-moet-over.html [in Dutch] (accessed on 8. 1.2013).

[106] Michel Foucault, *Discipline and Punish: The Birth of the Prison* (Penguin Books Ltd. London, 1975), translated from French to English by Allen Lane, p. 231.

[107] Another reason is the understanding that there are different origins of crime, e.g. industrialisation, poverty, alcoholism, requiring other solutions to crime than prisons.

as the suspended sentence, probation and supervised parole.[108] These new sanctions reduced the prison population across Europe.[109] For the current usage of prison in selected countries see Figure 2.

Figure 2: Proportion of a Custodial Punishment out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own figure based on multiple sources.[110]

In the US incarceration became the core penalty at the beginning of the 19th century as well. The idea behind it was the belief that it can serve as a rehabilitative institution that would discipline the offenders to reconcile with the society. In addition, prisons were perceived as more human than the previous punishments. However, the American penitentiaries were characterised by a military discipline. The inmates had a strict daily schedule, they were obliged to work and silence was kept in the prison. Those who violated the rules were punished in order to be controlled.[111]

In the period of post-World War II (WWII), the conditions and the humanity of prisons were emphasized. Moreover, some of the European countries even developed open prison

[108] "Suspended sentence" and "conditional imprisonment" are used interchangeably through the chapter. Under those sanctions the imprisonment sentence is not imposed on the culprit but postponed for a certain period of time. If during this period the offender would commit a crime, he will be sent to prison. Similarly, under probation, the sentence is suspended but the offender has to follow certain conditions in order not to be imprisoned. Lastly, the parole is an early release from prison due to good behaviour, and was also conditioned on the criminal's compliance with certain rules for a set period of time.

[109] Patricia O'brien, "The Prison on the Continent: Europe, 1865-1965," in Norval Morris and David J. Rothman eds., *The Oxford History of the Prison: the Practice of Punishment in Western Society* (Oxford University Press, New York, Oxford, 1995), pp. 199-226. (Hereinafter: "The History of Prison").

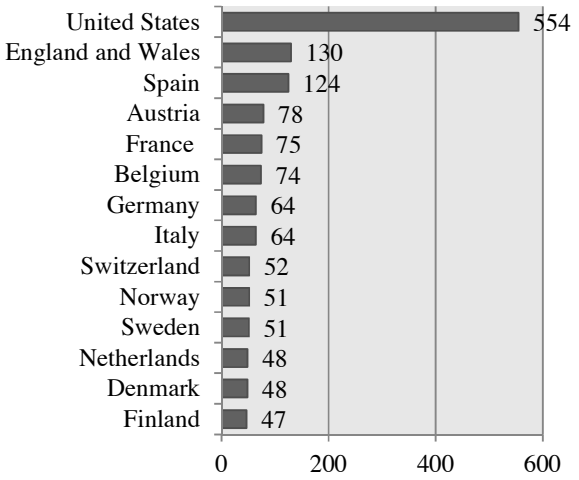
[110] Strafverfolgung - Fachserie 10 Reihe 3 – 2012, Table 3.1 (Statistics of Germany); Sentencing Tables December 2012, Table Q5.8. (England & Wales Statistics); Syytetyt, Tuomitut ja Rangaistukset – 2012 (Statistics of Finland); Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics of the Netherlands); Condamnations selon la nature de la peine principale en 2012 (Statistics of France).

[111] David J. Rothman, "Perfecting the Prisons: United States 1789-1865," in *The History of Prison* (1995), 111-130.

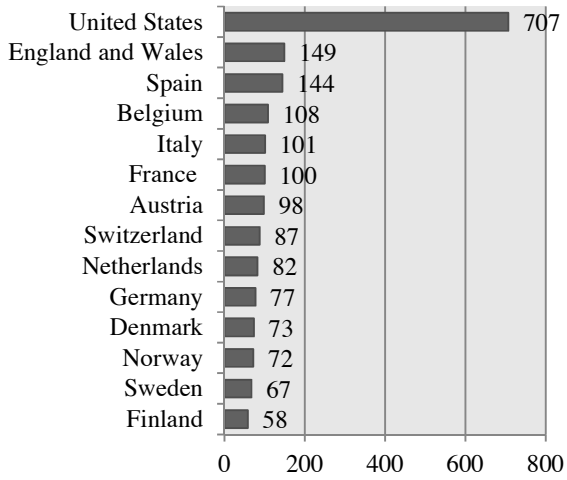
institutions that were intended for the trustworthy offenders and introduced periodical leaves from prison. In that period the Scandinavian prisons became the most lenient form of incarceration.[112] Although there was a period of a decline in prison population, starting from the 1980s Europe witnessed an increasing rate of incarceration.[113] A trend of growing prison population was taking place in the US as well starting from the 1970s, but to a larger extent.[114] For the prison population in selected countries see Figure 3. However, the attempt of decreasing prison population and expanding the usage of alternative penal measures continues in Europe up to date.

Figure 3: Prison Population per 100,000 in 2012 (Selected Countries)

3a. Excluding Remand[115] Prisoners



3b. Including Remand Prisoners



Source: own chart based on the International Centre for Prison Studies, available at http://www.prisonstudies.org/info/worldbrief/ (accessed on 9.4.2014).

3.2.1 Law and Economics Analysis of Imprisonment

In the law and economics literature incarceration is not considered as the superior method of punishment. Prisons are a costly way to combat crime (for tangible costs in selected countries see Table 1) and there are no financial direct returns to the society. To be precise, when an offender is incarcerated, society is paying for his stay in prison. Hence, there is a "double" cost of the committed crime, i.e. the loss to society from the crime and the maintenance

[112] O'brian (1995), *supra* note 109, pp. 218-222.
[113] Sonja Snacken, Kristel Beyens and Hilde Tubex, "Changing Prison Populations in Western Countries: Fate or Policy," *European Journal of Crime, Criminal Law and Criminal Justice* 3 (1995), 18-53. The exceptions are countries like former West Germany and Finland, which were concerned with their relatively high incarceration rates and hence, starting from the 1970s were reducing their prison population.
[114] Norval Morris, "The Contemporary Prison: 1965-Present," in *The History of Prison* (1995), 227-259, p.236.
[115] Remand is a pre-trial arrest, meaning that the defendants or suspects are held in detention while awaiting trial or verdict. Thus, this is not a punishment but a measure to detain a person if there is a risk that he would escape, contaminate the evidence or cause harm.

fees[116] of prison. Although the culprit's removal from society is believed to reduce the costs of crime, there is no direct transfer of these costs back to the state.[117] One such example of "direct" return of the punishment costs is fines. The delinquent is believed to pay to society the amount it lost due to his misconduct. Consequently, scholars proposed to exhaust the measure of fines as a punishment prior to turning to imprisonment.[118]

Table 1: Estimated Imprisonment Costs in Selected Countries, Different Years (Per Prisoner)

Country	Costs Per Day	Costs Per Year
Netherlands	120€	43,800€(2012)
England & Wales	123€	45,060€(2012)
Belgium	126€	45,990€(2012)
Italy	127€	46,452€(2004)
Sweden	160€	58,400€(2008)
Finland	167€	60,843€(2012)
Sweden	235€	85,775€(2012)
Ireland	267€	97,700€(2008)
United States	64€(Average) 29€- 119€(Range)	23,187€(2010) AV 10,588€- 43,559€RA

Source: own table based on multiple sources.[119]

[116] Another monetary loss can be assumed from the foregone earnings. If the incarcerated persons had the freedom to work, they could contribute to society by paying taxes.
[117] Easterbrook (1983), *supra* note 24, p. 293; Becker (1968), *supra* note 13.
[118] See for example Becker (1968), *supra* note 13; Mitchell A. Polinsky and Steven Shavell, "The Optimal Use of Fines and Imprisonment," *Journal of Public Economics* 24 (1984), 89-99.
[119] Criminal Sanctions Agency, "Criminal Sanctions Agency Statements and Annual Report for the Year 2012", 2013 [in Finnish], p. 4 available at http://www.rikosseuraamus.fi/material/attachments/rise/julkaisut-monisteetjaraportit/6FcvDvctb/1_2013_TP_ja_toimintakertomus_2012_korj220313VALMIS.pdf (accessed on 12.2.2014) (Finland-average); Mike Nellis, Kristel Beyens and Dan Kaminski eds., Electronically Monitored Punishments: International and Critical Perspectives (Routledge, London and NY, 2013), pp. 150-153, 179-182, (hereinafter: "Electronically Monitored Punishments") (Netherlands and Belgium–low security prison); Peter Lindström and Eric Leijonram, The Swedish Prison System, in Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF (Wolf Legal Publishers, Nijmegen, 2008), (Hereinafter: "Prisoners' Rights"), 559-570, p. 563 (Sweden–average of low and high security prison); Alessandro Barbarino and Giovanni Mastrobuoni "The Incapacitation Effect of Incarceration: Evidence from Several Italian Collective Pardons," IZA Discussion Paper No. 6360 (2012), p. 33 available at http://ssrn.com/abstract=2010975 (accessed 28.1.2013) (Italy); Prison Reform Trust, Bromley Briefings Prison Factfile (2013), p. 73 (England & Wales-average of 12 private prisons); Jan Bungerfeldt, "Electronic Monitoring in Sweden: The Past, Present and the Future," CEP Conference Stockholm 2012, slide 12 (Sweden-low security); Michael Mellett, Irish Prison Policy, Prison Regime and Prisoners' Rights in *Prisoners' Rights* (2008), 407-427, p. 411 (Ireland-average); Christian Henrichson and Ruth Delaney, "The Price of Prisons What Incarceration Costs Taxpayers," Vera Institute for Justice (2012), p. 10, available at http://www.vera.org/pubs/special/price-prisons-what-incarceration-costs-taxpayers (accessed on 3.4.2014) (US States-average and range. The lowest costs are in Kentucky, and the highest are in New York State).

The costs of prison seem to be higher on average in Europe than in the US. This might be explained by the higher ratio of staff-prisoner in Europe than in the US.[120]

3.2.2 Empirical Evidence

Imprisonment has two possible channels for preventing crimes, i.e. incapacitation and deterrence. Whereas the former physically prevents criminals from committing their crimes, the latter relies on the fear of people to lose their freedom. In the past, empirical studies investigating the effect of imprisonment on crime did not disentangle those two channels, and only in mid-1990s the separation was introduced. The following sections present the empirical evidence for the deterrence and the incapacitation effects of imprisonment. In addition, evidence for recidivism following imprisonment is discussed.

3.2.2.1 Studies Which Do Not Disentangle the Incapacitation from the Deterrence Effect

Prior to the 1990s, the absence of sophisticated empirical methods to infer causality led some criminologists to suggest imprisonment has no - deterrent or incapacitating - effect on crime. This inference resulted from the concurrent growth of crime and imprisonment during this period.[121] In 1994, Thomas Marvell and Carlisle Moody used econometric methods to break the simultaneity between the growth of crime and the number of prisoners. The authors found in their study that prison punishment reduces crime. More specifically, they presented evidence that incarceration of one prisoner prevents around 17 crimes.[122] Despite the significance of this study, the methods used are not enabling to separate the effect of incapacitation from the effect of deterrence.

A few years later, Steven Levitt examined the impact of imprisonment on the rates of crime using prison-overcrowding litigations. In the US, lawsuits against overcrowding of prisons are occasionally filed and if won, a portion of prisoners may be discharged prior to their set release date. In theory, those discharges are not related to crime rates, yet are strictly affecting the prison population. Therefore, it enables to overcome the simultaneity bias described above. In this paper, similarly to Marvell and Moody, Levitt concluded that increased imprisonment reduces crime. This inference is derived from the findings that a release of one prisoner was associated with an increase of 15 crimes per year. Based on the estimation of

---

[120] Barbarino and Mastrobuoni (2012), *ibid*., p. 33.
[121] Levitt and Miles (2007), *supra* note 18, p. 470.
[122] Thomas B. Marvell and Carlisle E. Moody, "Prison Population Growth and Crime Reduction," *Journal of Quantitative Criminology* 10(2) (1994), 109-140. It should be mentioned that the effect is mainly on property crimes and robberies. The findings show little or no effect on murder, rape and assault. The number of averted crimes is the adjusted number for underreporting of crime. The initial number of prevented crimes was six (p. 133).

costs of crime, Levitt demonstrated that incarceration of one additional prisoner saves around $53,900 per year.[123]

3.2.2.2 Studies which Disentangle the Effect of Incapacitation from the Deterrence Effect

The question whether imprisonment reduces crime through deterrence or incapacitation has great importance for policy decision-making. If only incapacitation matters, the only way to combat crime is by imprisoning all offenders. On the other hand, if a deterrence effect exists, methods such as conditional imprisonment and parole are effective as well. Thus, more and more studies are using different econometric methods in order to disentangle those two effects and examine their usefulness.

One of the first empirical systematic attempts in achieving the abovementioned task was pursued by Steven Levitt in 1998. Based on the assumption that offenders engage in diverse crime activities, the author investigated the effect of a change in the expected punishment (arrest in this context) on different offences. He gave the example of two substitute offences, i.e. burglary and larceny[124]. If the dominant effect of punishment is deterrence, increasing the expected costs of burglary will shift the offenders to commit more larceny. In other words, if the rate of arrest for burglary increases, a rational criminal would alter to committing larceny. On the other hand, if crime is prevented through incapacitation, arrest of burglars would reduce both crimes, i.e. burglary and larceny. Based on these assumptions, Levitt found that rape is mainly prevented by incapacitation; robbery is equally affected by incapacitation and deterrence; and the deterrence effect is the dominant channel through which aggravated assault and property crimes are prevented. To be precise, the deterrence effect can explain more than 75% of the observed effect of arrests on crime.[125]

Another method to examine the independent existence of a deterrent effect is to observe juveniles' criminal activities prior and subsequently the point in time they become adults. Many criminal justice systems "discriminate" between adults and juveniles with regard to the sentences that can be impose on them. Usually, the punishments are more severe for adults.[126] Thus, once the young perpetrator reaches the age of majority, there is an immediate increase

---

[123] Steven D. Levitt, "The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation," *The Quarterly Journal of Economics* 111(2) (1996), 319-351. As before, the number of prevented crimes (15) is adjusted to underreporting. The quantity of reported crimes prevented by an additional prisoner is between five-six (p. 345).

[124] "Burglary" is entering to a facility in order to commit a crime, "larceny" is theft.

[125] Levitt (1998a), *supra* note 18.

[126] See for example, Howard N. Snyder and Melissa Sickmund, "Juvenile Justice System Structure and Process," in *Juvenile Offenders and Victims: 1999 National Report*, Chapter 4 (1999), p. 85, available at https://www.ncjrs.gov/html/ojjdp/nationalreport99/toc.html (accessed on 9. 1.2013).

of his expected costs of crime. This sudden change in punishment enables to examine the deterrence effect, as opposed to incapacitation, since only the threat of punishment is different and not the already imposed sanction. Indeed, some anecdotal evidence based on interviews with juveniles demonstrated their awareness of the differences between adults' and juveniles' jurisdictions. Moreover, they admit being responsive to those changes by decreasing their criminal activities.[127]

The first study, which examined this issue in an empirical systematic way, was conducted by Steven Levitt in 1998. In his paper, Levitt observed the rate of crimes committed by juveniles reaching the age of majority. To examine the deterrence effect, the author compared the US states having a more lenient criminal system toward juveniles with states where the severity of punishment is similar for both groups of culprits, juveniles and adults. Levitt found that in states with the largest gap between juveniles' and adults' jurisdictions, violent crimes committed by offenders reaching their majority age decreased on average by 3.8%. On the other hand, in states with similar punitive approach towards juveniles and adults, violent crimes committed by delinquents reaching majority age increased on average by 23.1%. Comparable but somewhat less extreme differences are found for property crimes. The author concluded that the immediate change in behaviour preceding the transformation to the majority age demonstrates the deterrence effect of a higher expected punishment.[128]

In 2005, David Lee and Justin McCrary measured the changes in the criminal behaviour of juveniles reaching the age of majority in Florida. Contrary to Levitt, the authors did not find a significant deterrence effect.[129] However, their choice of the State and the period of the empirical investigation might shed a light on the differences between the two studies. Lee and McCrary focused solely on one State, i.e. Florida, in the period of 1995-2002. Florida is one of the 47 American States that made their juvenile criminal system more punitive between the years 1992-1997.[130] Hence, it is reasonable to assume that the gap between juvenile and adult sentencing severity diminished. Therefore, transition to the adult criminal system is no longer expected to have a special deterrence effect. In contrast, Levitt compared American states with different levels of leniency towards juveniles. This comparison demonstrated that the

[127] Barry Glassner, Margret Ksander and Bruce Berg, "A Note on the Deterrent Effect of Juveniles vs. Adult Jurisdiction," *Social Problems* 31(2) (1983), 219-221. A 16 years old juvenile gave the following answer to the question why he changed his criminal behaviour: "*I try to be careful as much as I can these days. Cause you know, I know I can go to jail, cause they changed the law. You can go to jail at sixteen*". (p. 219).
[128] Levitt (1998b), *supra* note 18.
[129] David S. Lee and Justin McCrary, "Crime, Punishment, and Myopia," NBER working papers (2005).
[130] Snyder and Sickmund (1999), *supra* note 126, p. 89.

deterrence effect could be found only in those states where a gap between the severity of sanctions for juveniles and adults exists.[131]

Several studies examined the independent deterrence effect of punishment by measuring the crime rates surrounding the enactment of punishment-enhancement laws in the US. For instance, one of the most famous of these laws is the "three strikes law". Under this rule, an offender who commits a certain category of crimes for the third time automatically receives a long custodial sentence or even life imprisonment.[132] In their study from 1999, Steven Levitt and Daniel Kessler investigated the change in criminal behaviour immediately preceding the enactment of California's Proposition 8, which enhanced punishment for repeated offenders. The authors found that there was a decrease of 4% of crimes eligible for the enhancement of punishment. In addition, observing the long-run results, Levitt and Kessler discovered a larger incapacitation effect on reducing crime.[133] Similarly, Eric Helland and Alexander Tabarrok demonstrated in their study from 2006 that the "three strikes law" in California reduced the number of arrests for the third "strike" by 17-20%, or around 12,700 crimes per year.[134] Since in both studies the changes were observed in proximity to the enactment of the rule, the mentioned reduction can be attributed to a deterrence effect.

Although the vast majority of this kind of studies is conducted on US data, the independent deterrence and incapacitation effects may be found also in Europe. For instance, Francesco Drago and co-authors examined the deterrence effect using Italian data. In 2006, the Italian Parliament provided a collective pardon to a large number of prisoners (37% in the first month). The released prisoners who committed a crime in the period of five years after the pardon had to serve the new sentence combined with the residual sentence they were pardoned for. Drago and co-authors observed that former inmates with higher residual

[131] Levitt (1998b), *supra* note 18, p. 1175.
[132] John Clark, James Austin, and Alan D. Henry, "'Three Strikes and You're Out': A Review of State Legislation," National Institute of Justice, US Department of Justice (1997) available at https://www.ncjrs.gov/pdffiles/165369.pdf (accessed on 28.1.2013).
[133] Levitt and Kessler (1999), *supra* note 18. Proposition 8, among other changes, introduced an addition of five years to prison sentence of offenders who committed a repeated serious offence (p. 353). For a criticism of this study see Anthony N. Doob and Cheryl M. Webster, "Sentence Severity and Crime: Accepting the Null Hypothesis," *Crime and Justice* 30 (2003), 143-195.
[134] Helland and Tabarrok (2007), *supra* note 18. In order to estimate the number of the deterred crimes, the authors used the following information. First, criminologists suggested that only around 4.3% of the crimes are committed by offenders with two or more strikes. Second, the authors assumed that crimes are deterred in the same ratio as arrests and used the FBI Index crimes for California to have the number of the relevant crimes in a given year. Using this data and their average result of 17% reduction in arrests the authors concluded that the law prevented around 12,700 crimes per year (pp. 326-327).

punishment committed less crime than those with lower residual punishment. Based on those findings the authors concluded there is an independent deterrence effect.[135]

The crime-reducing effect of incapacitation was also demonstrated on data from European. Ben Vollaard used the quasi-experiment created by the introduction of the Dutch *Habitual Offender Law* in 2001. According to this law, recidivist criminals who committed in the past ten or more offences and were resistant to short-term rehabilitation programmes were exposed to the possibility of receiving significantly higher imprisonment.[136] Most commonly the enhancement of the punishment was from two months to two years incapacitation. This policy was implemented initially as an experiment in limited number of cities and to a different extent, thus, enabling a comparison of crime trends. The findings of this study demonstrated that the sentence enhancement reduced (the affected) crime rates by 25%.[137]

In addition, crime-reducing effect of incapacitation was found in a recent study on the Italian pardons and amnesties. Using data on the collective pardons in Italy between the years 1962-1995, Alessandro Barbarino and Giovanni Mastrobuoni presented that an increase of incapacitation by 10%, decreases crimes by 1.5%.[138] Although the incapacitation effect is important, the diminishing propensity to commit crimes, which comes with age, should warrant against too long sentences.[139]

3.2.2.3 Imprisonment and Recidivism

It seems as if prison is an effective method to prevent crime, whether by deterring criminals or incapacitating them. However, there is a long-standing argument that custodial punishment has a criminogenic effect. According to this notion, prison serves as a school for crime. More precisely, it creates an environment where new offenders may acquire criminal skills from more experienced delinquents and re-offend following their release from prison.[140] Constructing a system that on the one hand, prevents crime, yet on the other hand, produces more crime might be a costly and useless endeavour. If indeed prison may increase re-

---

[135] Drago, Galbiati and Pietro Vertova (2009), *supra* note 18. However, it should be mentioned that dangerous criminals (who had longer initial sentences) were not deterred (p. 276).
[136] This is considered a measure rather than a punishment.
[137] Ben Vollaard, "Preventing Crime Through Selective Incapacitation," *The Economic Journal* (2012), 1-23.
[138] Barbarino and Mastrobuoni (2011), *supra* note 119.
[139] Alfred Blumstein, Jacqueline Cohen and Paul Hsieh, *The Duration of Adult Criminal Careers: Final Report* (National Institute of Justice, Washington, 1982), p. 71.
[140] See for example, Jeremy Bentham asserting that "*[i]n a moral point of view, an ordinary prison is a school, in which wickedness is taught by surer means than can ever employed for the inculcation of virtue*", in Bentham, *Theory of Legislation* (1840), *supra* note 67, p. 132. For a discussion of a similar idea see Thomas Fowell Buxton, *An Inquiry: Whether Crime and Misery are Produced or Prevented, by Our Present System of Prison Discipline*, 2nd ed. (John and Arthur Arch, London, 1818), pp. 47-50.

offending of those serving custody sentences, the effect of crime prevention might be offset. Therefore, an efficient policy might be a discriminating one, which avoids incapacitating those offenders who can be deterred by other means. The following section briefly examines evidence on the effect of imprisonment on crime, or in other words, whether prison is a "school for crime".[141]

In order to understand whether prison may be perceived as a school for crime, Patrick Bayer and co-authors investigated the peer-effects of a sample of juveniles in Florida. The authors thoroughly examined the peer connections of more than 8,000 young delinquents in 169 different correctional institutions. They estimated that if prison serves as a "school", upon release the ex-offenders would commit similar crimes to those committed by their peers in custody. The findings of the study demonstrated that peers in correctional institutions have a reinforcing effect on juvenile offenders. Namely, juveniles who had experience with certain offences had higher probability to re-offend in the follow-up period of two years after release, if they were exposed to peers with comparable criminal history. For example, if the young offender was committing larceny prior to his sentence, exposing him to other thieves in the correctional institution increased the probability that he would commit larceny after release.[142]

Another study investigated the criminogenic effect of prison in Europe. Daniel Nagin and co-authors examined a large sample of first-time prisoners in the Netherlands in 1977 (N=1,475) with the aim of measuring the effect of imprisonment on later re-offending. This group was compared to offenders who were convicted yet not imprisoned (N=1,315). The main problem in answering the question of recidivism is the possible selection bias. If indeed ex-prisoners are found to be more frequent recidivists, a plausible explanation might be that their tendency to re-offend was the reason they were sent to prison in the first place. In order to overcome this bias, the authors used a matching technique[143]. A three-years follow-up examination of the delinquents demonstrated a statistically significant difference between the rates of re-convictions of the two groups. To be precise, the treatment group (first-time prisoners) had on

---

[141] For a general review of previous studies see Daniel S. Nagin, Francis T. Cullen and Cheryl Lero Jonson, "Imprisonment and Reoffending," in *Crime and Justice: a Review of Research*, Michael Tonry ed. Vol. 38 (University of Chicago Press, Chicago, 2009), pp. 115-200. The authors concluded that there might be a mild or no criminogenic effect of prison, however, due to methodological problems in the reviewed studies, more evidence is needed.

[142] Patrick Bayer, Randi Hjalmarsson and David Pozen, "Building Criminal Capital Behind Bars: Peer Effects in Juvenile Corrections," *The Quarterly Journal of Economics* (2009), 105-147. Interestingly, juveniles who did not have prior experience with the same offences (NE), were not affected by their peers. Although the authors demonstrated a reinforcing effect, i.e. higher re-offending rate after peer contact, it seems peculiar that the NE group did not adopt the skills of their peers if indeed prison is a school of crime.

[143] The authors controlled for a variety of differences between the control and the treatment group and specifically paid attention to criminal propensity.

average nearly twice more convictions than the control group. These findings imply that prison has a criminogenic effect on offenders who experience the custody for the first time.[144]

There might be three alternative explanations for the increased recidivism subsequent imprisonment. The first explanation might be the phenomenon of hedonic adaptation of criminals in prison. Under this effect people have a tendency to adjust to new circumstances, whether they are positive or negative. In the context of first time prisoners, prior to their incarceration they might have perceived prison as a grave punishment, which increases their expected costs of crime. However, while serving their time in custody they might have adjusted to its conditions. Following that, this punishment is no longer perceived as imposing high costs, thus, crime seems more attractive.[145] The second possible explanation is the reduced effect of stigma. First-time offenders might incorporate stigma as a cost in their calculation whether to commit a crime. However, once in prison, this cost is already inflicted and becomes a sunk cost. Thus, the new expected cost of crime is lower.[146] The third potential reason for re-offending subsequent release from prison might be the poor employment opportunities. Incarceration has a stigmatising effect, and might reduce social and human capital. In other words, offenders who serve a prison sentence do not acquire working skills and the sentence of imprisonment signals their untrustworthiness. This situation in turn, makes those offenders less productive employees after their release.[147] Failure to reintegrate in the legitimate labour market increases the attractiveness of illegal activities.

Some studies examine in addition the impact of harsher conditions of prison on post-release criminal behaviour. Keith Chen and Jesse Shapiro measured in their study the re-offending rate of criminals released from high-security federal prisons in the US, as compared to those who were assigned to lower security levels. Since the supervision and the conditions are harsher in the former, it is possible to estimate the effect of prison conditions on recidivism. The authors found that harsher conditions in prison do not reduce recidivism, and might even increase it.[148] Similar results may be found in a paper by Francesco Drago and co-authors.

---

[144] Paul Nieuwbeerta, Daniel S. Nagin and Arjan A. J. Blokland, "Assessing the Impact of First-Time Imprisonment on Offenders' Subsequent Criminal Career Development: A Matched Samples Comparison," *Journal of Quantitative Criminology* 25 (2009), 227–257.

[145] For evidence on hedonic adaptation in prison see Frederick and Loewenstein (1999), *supra* note 44, pp. 311-312.

[146] For the effect of stigma of arrest see Kirk R. Williams and Richard Hawkins, "Perceptual Research on General Deterrence: A Critical Review," *Law & Society Review* 20(4) (1986), 545-572, pp. 562-564.

[147] Bruce Western, Jeffrey R. Kling and David F. Weiman, "The Labor Market Consequences of Incarceration," *Crime & Delinquency* 47 (2001), 410-427.

[148] Chen and Shapiro (2007), *supra* note 26. In this empirical design there is a concern of selection bias, i.e. the possibility that the authorities assign to higher security levels offenders who are initially more prone to

The authors exploited the collective pardon in Italy to examine how conditions in prison, measured by the rate of death and overcrowding, affect recidivism. They found that harsher prison conditions seem to be associated with higher rates of re-offending.[149] Unlike these studies, which use individual data, Lawrence Katz and co-authors made an attempt to answer the same question by examining aggregated data. The authors used the rate of deaths as a proxy for the conditions in prison. Their findings, as opposed to the other studies, demonstrated a subsequent deterrent effect of harsher prison conditions.[150]

3.3 Preventive Detention

Preventive detention[151] is a very controversial method to preclude crime, which was developed in most of the European countries at the beginning of the 20th century.[152] Unlike imprisonment that is based on an *ex-post* approach, i.e. punishing for past crimes, preventive detention is rather a measure that focuses on the *ex-ante* risks. Countries which exercise this method believe that some people impose high risk of harming the society and that the only way to avert them is by depriving them from their freedom. Unlike punishment, this system is not based on blameworthiness of the detained person but on his dangerousness. Therefore, this measure is applied not as a sentence, but as a preventive mechanism to avoid future crimes, which raises a constitutional question. Although associated with the criminal justice system, this measure is not always enshrined in a criminal code but occasionally derived from the civilly forced confinement laws.

Certain American states have laws that enable courts to civilly confine ex-sex offenders who completed their sentence, yet are still considered as dangerous to society.[153] In the influential case *Kansas v. Hendricks*, the US Supreme Court held for the first time this kind of law as constitutional. Leroy Hendricks was an ex-sex offender who completed his imprisonment sentence and was about to be released when the state applied for civil confinement on the

---

recidivism. To overcome this bias, the authors focus on the border cases. Namely, the authorities decide whether to assign a prisoner to low or high security level based on a risk ranking. Therefore, the authors examined only the offenders who were ranked around the shifting risk level. This way the offenders should be similar in characteristics, yet serving their punishment in different conditions (p.10).

[149] Francesco Drago, Roberto Galbiati, and Pietro Vertova,"Prison Conditions and Recidivism," *American Law and Economics Review* 13(1) (2011), 103-130. The authors argued that the assignment method of prisoners, which often depends simply on the availability of cells in certain prisons, solves the selection bias.

[150] Katz, Levitt and Shustorovich (2003), *supra* note 97.

[151] Preventive detention in the context of this chapter refers to the measure imposed in specific circumstances on dangerous offenders. It does not refer to the pre-trial detention.

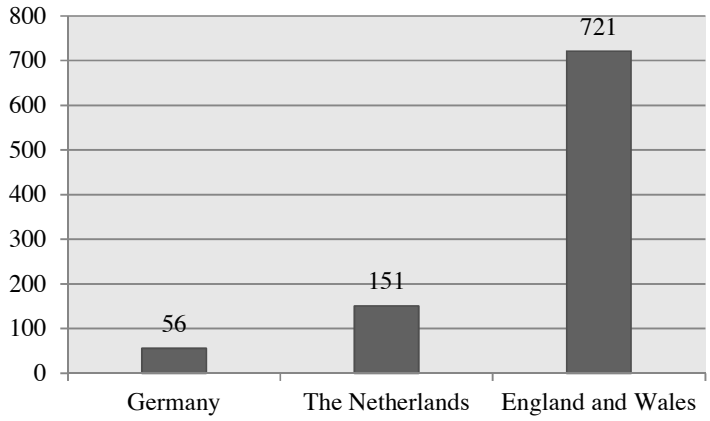
[152] Grischa Merkel, "Incompatible Contrast? Preventive Detention in Germany and the European Convention on Human Rights," *German Law Journal* 11(9) (2010), 1046-1066, p. 1047.

[153] Stephen J. Morse, "Blame and Danger: an Essay on Preventive Detention," *Boston University Law Review* 76 (1996), 113-155, pp. 134-135.

grounds of dangerousness to society. Hendricks challenged the constitutionality of the decision in the Supreme Court. Following the ex-offender's admission that he is a paedophile and still has uncontrolled sexual desires for children the court held that the conditions of the law are fulfilled and that the deprivation of liberty is constitutional.[154]

Preventive detention is practiced also in European countries (for the scope of its usage in selected European countries see Figure 4).[155] In the Netherlands, for instance, an offender can be admitted to involuntary confinement (TBS – 'terbeschikkingstelling') on the grounds of the fulfilment of several conditions. First, that the offender committed a serious offence, which is punishable by at least four years imprisonment. Second, at the time of committing the offence, the culprit was suffering from a psychiatric disorder. Third, there is a high risk of re-offending. Usually, every two years the hospital or a probation officer (following the court's request) needs to complete a re-assessment, and every six years, an external expert (assigned by the Dutch Ministry of Justice) re-examines the situation.[156]

Figure 4: The Number of People Assigned to Preventive Detention in 2012 (Selected Countries)



Source: own chart based on multiple sources.[157]

[154] *Kansas v. Hendricks*, 521 U.S. 346 (1997).
[155] For a review of different systems see Clare Connelly and Shanti Williamson, "A Review of the Research Literature on Serious Violent and Sexual Offenders," The Scottish Executive Central Research Unit (2000) available at http://www.scotland.gov.uk/Resource/Doc/156656/0042094.pdf (accessed on 20.1.2013). For the preventive detention model in the UK see Andrew Ashworth, *Sentencing and Criminal Justice* (Cambridge University Press, Cambridge UK, 2010), pp. 228-238.
[156] Marijke Drost, "Psychiatric Assessment after Every Six Years of the TBS Order in the Netherlands," *International Journal of Law and Psychiatry* 29 (2006), 257–261. For more information see The Custodial Institutions Agency (DJI, in Dutch) http://www.dji.nl/Onderwerpen/Patienten-in-forensische-zorg/Straffen-en-maatregelen/Tbs-maatregel/index.aspx (accessed on 28.1.2013).
[157] Strafverfolgung - Fachserie 10 Reihe 3 – 2012, Table 5.1 (Statistics in Germany), Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics in the Netherlands); Sentencing tables December 2012, table Q5.8 (England and Wales).

The preventive detention was and still is subjected to a continuing criticism. One difficulty with this measure is the inclination to detain for an indeterminate period too many unsuitable offenders. For instance, prior to the 1970s' reform, a vast majority of the detained in Finland were property crime recidivists.[158] In addition, this method is challenged on the grounds of human rights violation. This disapproval is mostly stressed in the context of the German preventive detention. In Germany the most significant change to the legislation of the preventive detention was made in the 1998 reform. Following this reform the detention could be indeterminate instead of limited to ten years, and its application was permitted retroactively, i.e. also on offenders who committed crimes prior to 1998. In 2010, the European Court of Human Rights (ECHR) ruled against Germany proclaiming that the measure is used as a punishment and hence violates the prohibition on retroactive sentencing.[159] Although Germany did not comply with this ruling, in May 2011 the Federal Constitutional Court in Germany ruled against preventive detention claiming that its application resembles the penalty of imprisonment and thus is unconstitutional. According to the Court, the provisions, which were deemed unconstitutional, need to be modified by May 2013.[160]

3.3.1 Law and Economics Analysis of Preventive Detention

From a law and economics perspective, preventive detention serves to preclude crime by mere incapacitation.[161] This method is meant to handle only judgment proof offenders who cannot be deterred, generally due to some mental illness or behavioural disorder. It is compatible with the idea of Isaac Ehrlich who claimed that there should be a discrimination of

---

[158] Tapio Lappi-Seppälä, "Sentencing and Punishment in Finland: The Decline of the Repressive Ideal," in *Sentencing and Sanctions in Western Countries*, Michael Tonry and Richard S. Frase Eds. (Oxford University Press, New York, 2001), 92-150, pp. 111-113. (Hereinafter: "Sentencing and Sanctions").

[159] Merkel (2010), *supra* note 152. For the case, see *M. v. Germany* (Application no. 19359/04), European Court of Justice, Strasbourg 17 December 2009.

[160] For the press release in English of the Federal Constitutional Court in Germany see http://www.bundesverfassungsgericht.de/pressemitteilungen/bvg11-031en.html (accessed on 22.1.2013). The judgment in English: Federal Constitutional Court (Bundesverfassungsgericht), Judgment of 04 May 2011 - 2 BvR 2365/09, available at http://www.bundesverfassungsgericht.de/SharedDocs/Entscheidungen/EN/2011/05/rs20110504_2bvr236509en.html (accessed on 17.04.2015). Following this decision, the parliament introduced the Gesetz zur bundesrechtlichen Umsetzung des Abstandsgebotes im Recht der Sicherungsverwahrung (BR-Drs. 689/12) [Act to Federal Law Implementing the Distance Commandment in the Law of Preventive Detention], which amends the nature of preventive detention. This act entered into force in June 1st, 2013, available at http://dipbt.bundestag.de/extrakt/ba/WP17/438/43817.html (accessed on 17.04.2015).

[161] In some systems, offenders in preventive detention receive treatment in order to reduce their criminal behaviour. Thus, crime might be reduced not just by incapacitation but by rehabilitation.

punishments based on the level of deterability.[162] Although this measure is not supposed to constitute a sanction, its intention is to protect the society from particularly dangerous perpetrators,[163] correspondingly to the notion of incapacitation. The administration costs of such a measure are expected to be high, thus it should be restricted to those criminals who are predicted to impose on the society significantly high costs of crime.

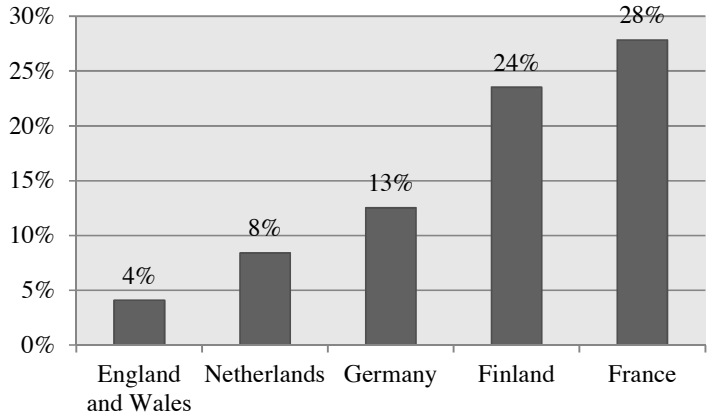
Empirical evidence of the effectiveness of this method might be derived from the studies on incapacitation.[164] In addition, its impact might be intuitive, i.e. dangerous offenders who are isolated from the society cannot physically impose harm. However, the question remains whether the authorities really hold the predictive power necessary to incapacitate only those criminals who would otherwise commit severe crimes.[165] A suitable empirical investigation on that matter might be conducted if the decision of the Federal Constitutional Court in Germany would lead to a release of offenders who were assessed as particularly dangerous to society.

3.4 Suspended Prison Sentence and Probation

In Europe, the suspended sentence was first developed in Belgium and France at the end of the 19th century and in the following decades other European countries adopted this practice as well. The rationale behind this method was to avoid imprisonment of first-time offenders assuming it has a negative influence on them and increases recidivism. Under this sanction the court was allowed to postpone the execution of the punishment on the condition that the offender will not commit an additional crime. However, the offences and the type of offenders who were entitled for a suspension varied across different criminal systems.[166] Nowadays this measure is applied in all the countries of interest. See Figure 5 for the scope of usage in selected countries.

[162] Isaac Ehrlich, "On the Usefulness of Controlling Individuals: An Economic Analysis of Rehabilitation," *The American Economic Review* 71(3) (1981), 307-322, p. 318.
[163] In some jurisdictions, an additional purpose is to treat their mental illness.
[164] See for example Levitt (1996), *supra* note 123; Barbarino and Mastrobuoni (2011), *supra* note 119.
[165] For a criticism on the ability to predict dangerousness see Andrew Von Hirsch, *Past or Future Crimes: Deservedness and Dangerousness in the Sentencing of Criminals* (Manchester University Press, Manchester UK, 1986), pp. 104-114.
[166] Marc Ancel, *Suspended Sentence* (Heinemann, London, 1971).

Figure 5: Proportion of Suspended[167] Punishment out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own figure based on multiple sources.[168]

Probation is closely related to the suspended sentence and constitutes a unique method of punishment since there is a variation in its implementation. In some countries, it is used as an independent punishment according to the United Nations' definition[169]. However, it is also frequently used as an intervention in different stages of the criminal justice procedure, i.e. prior to sentencing, during imprisonment and preceding release. As mentioned before, the probation was developed in Europe in the 19th century. Its origins were in the volunteering work of benevolent institutions that engaged themselves in assisting criminals morally and financially.[170]

At the beginning of the 20th century, as the criminal system shifted the focus on the individual offender and his rehabilitation, the probation merged with the suspended sentence. In other words, the probation became one of the available sanctions as the need for supervising offenders during their suspended sentence period emerged. As time passed, the probation in many European countries shifted to the responsibility of the state. Moreover, together with the

[167] In some courtiers other sanctions, e.g. fine, community service, may also be suspended. However, this paper deals only with suspended custodial sentence.

[168] Sentencing Tables December 2012, Table Q5.8. (England & Wales Statistics); Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics of the Netherlands); Strafverfolgung - Fachserie 10 Reihe 3 – 2012, Table 3.1 (Statistics of Germany); Syytetyt, Tuomitut ja Rangaistukset – 2012 (Statistics of Finland); Condamnations selon la nature de la peine principale en 2012 (Statistics of France).

[169] John F. Klaus, "Handbook on Probation Services: Guidelines for Probation Practitioners and Managers," United Nations Interregional Crime and Justice Research Institute (1998), available at http://www.unicri.it/documentation_centre/probation/docs/Probation_handbook.pdf (accessed on 18.01.2013). "*Probation as a sentencing disposition is a method of dealing with specially selected offenders and consists of the conditional suspension of punishment while the offender is placed under personal supervision and is given individual guidance or 'treatment'*" (p. 9).

[170] Anton M. van Kalmthout and Ioan Durnescu eds., *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), pp. 3-18. (Hereinafter: "Probation in Europe").

cooperation of non-governmental organisations this practice became prominent in the community-based sanctions. This development enabled an increased use of alternative sanctions due to the improved implementation and supervision.[171] As the suspended sentence, this measure is used, in many different ways, in all countries of interest.

Although this method is widespread, its structure and usage differs among countries. In the Netherlands for instance, the probation services are private and professional organisations that receive their funding from the Ministry of Security and Justice. They perform the tasks that are delegated to them by the court, prosecution or the penitentiary system. Those tasks include providing reports and advices regarding the offenders, supervising and controlling during a suspended sentence and the management of community service. In addition, the probation services offer behavioural interventions for criminals. Although in the past the focus was on helping the delinquents, nowadays the main aim is supervision and control.[172] Other countries, e.g. Italy ans Norway, mainly provide control and supervision of different sentences or parole. These sentences include community sanctions, home detention, etc. In addition, unlike in the Netherlands, in those countries the probation office is a public organisation constituting a part of the Ministry of Justice.[173] Another model of probation may be found in Germany. This institution comprises of different workers and have broader goals which include supervision but also assistance to the offenders. Thus, the more common name of this general institution is "social services in the criminal justice system".[174] For the list of responsibilities given to the probation services in different European countries, see Appendix 2.

In the US, the practice of probation emerged through judicial discretion in the state of Massachusetts at the beginning of the 19th century. Only several decades later the Massachusetts legislator endorsed it.[175] Nowadays, probation is the most used sanction in the US. For example, in 2004 around 4.1 million people were on probation.[176] This method of punishment comprises of three models, i.e. "intensive supervision probation" (IPS), "probation with residential conditions" and "probation with treatment conditions". These

[171] *Ibid*.
[172] Anton van Kalmthout and Leo Tigges, "Netherlands" in *Probation in Europe*, Chapter 22, pp. 679-682.
[173] Luisa Gandini and Sebastiano Zinna, "Italy" in *Probation in Europe*, Chapter 16, pp.489-490; Gerhard Ploeg, "Norway" in *Probation in Europe*, Chapter 24, pp.767-768.
[174] Jürgen Mutz, "Germany" in *Probation in Europe*, Chapter 13, pp.383-384.
[175] Frank W. Grinnell, "The Common Law History of Probation: An Illustration of the "Equitable" Growth of Criminal Law," *Journal of Criminal Law and Criminology (1931-1951)* 32(1) (1941), 15-34.
[176] Lauren E. Glaze and Seri Palla, "Probation and Parole in the United States, 2004," Bureau of Justice Statistics (2005) available at http://bjs.gov/content/pub/pdf/ppus04.pdf (accessed on 18.1.2013).

models differ in the intensity of supervision and the goal of the sentence.[177] The intensive probation is the most widespread program. It was developed as a response to the growing prison population and the increased number of serious offenders who had to be diverted from custody. Therefore, the aim of the IPS is to punish and control the criminals while protecting the public. Under this programme, the delinquents are obliged to be in frequent contact with probation officers, comply with curfew and sometimes perform community service. Violations of the requirements may result in incarceration.[178]

3.4.1 Law and Economics Analysis of Suspended Sentence and Probation

From the law and economics point of view the suspended sentence and probation are functioning as a deterrence mechanism. The offenders are released with a threat of increased expected costs of the next crime. However, there are some differences between suspended sentence and probation. The former has no cost of administration and no element of incapacitation. It is solely based on the belief that the expected costs of punishment would deter the criminal from re-offending, thus focusing on individual deterrence. Probation on the other hand, occasionally includes different conditions, which might serve as a partial incapacitation, e.g. treatment programmes. In addition, this method is more costly than the suspended sentence since it requires supervision by a staff and sometimes an expensive administration of different programmes.

The rationale for the suspended sentence in particular is to provide a "second chance" for first time offenders instead of immediately imprisoning them. This approach resembles the responsive regulation literature that promotes a gradual sanctioning system. For instance, in the regulation of plants, the enforcement should start with mild methods such as warnings and fines, and only if the plant continues to violate the rules, the enforcement authorities should turn to more drastic measures such as criminal prosecution.[179] Similarly, in criminal law first the authorities may impose suspended sentences and only if the offender does not cease his criminal behaviour, to resort to more severe sanctions. However, this method might be criticised due to its potential diluting effect on deterrence. In other words, offenders would

---

[177] Norval Morris and Michael Tonry, *Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System* (Oxford University Press, New York, Oxford, 1990), 176-178. (Hereinafter: "Between Prison and Probation").

[178] Arthur J. Lurigio and Joan Petersilia, "The Emergence of Intensive Probation Supervision Programs in the United States" in *Smart Sentencing: the Emergence of Intermediate Sanctions*, James M. Byrne, Arthur J. Lurigio and Joan Petersilia eds. (Sage Publications, California, 1992), 51-53. (Hereinafter: "Smart Sentencing").

[179] Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate*, (Oxford University Press, Oxford/NY, 1992), pp. 35-38.

know ex-ante that the costs of the first crime are very low and be incentivised to commit crime at least once in their life.[180]

3.4.2 Empirical Evidence

Empirical evidence for the deterrence effect of a suspended sentence might be inferred from the study on the collective pardon in Italy by Drago and co-authors discusses in Section 3.2.2. The authors in that study demonstrated that pardoned offenders with longer residual sentence were more deterred from committing new crimes.[181] The deterrence mechanism existing in the post-pardon release and during the suspended sentence is analogous. In both cases the custodial sanction of the delinquent is postponed for a limited period of time. If the criminal commits a new offence during this period, the court has the right to activate the suspended sentence. Furthermore, the court may impose an additional sentence for the new crime, thus, prolonging the prison stay.

The efficiency of probation can be measured by the recidivism rate, but also by the number of violations during the probation period. However, it is difficult to find empirical evidence for the independent impact of probation forasmuch as this program is usually combined with other sanctions. In addition, the existing evidence often is subject to different biases. Therefore, there is no clear consistency in the evaluation of this measure.

On the one hand, an empirical study conducted on drug offenders in Florida during the 1980s reached the conclusion that probation does not reduce recidivism and is not good deterrent mechanism as compared to imprisonment. It is worth mentioning that this examination occurred in a period when Florida became “though on crime” and due to prison overcrowding was obliged to divert some especially dangerous offenders to probation.[182] Other studies simply do not find any significant difference in the re-offending rates of offenders on probation as compared to those who served a prison sentence. Possible bias in these results might be the increased (registered) probability of being detected. To be precise, many crimes are underreported in usual circumstances. Yet, when under probation supervision, offenders might be more frequently detected committing crimes even if the actual rate of crime did not

[180] This argument is similar to the criticism of responsive regulation presented in Paul Fenn and Cento Veljanovski, "A Positive Economic Theory of Regulatory Enforcement," *The Economic Journal* 98(393) (1988), 1055-1070, p. 1059.
[181] Drago, Galbiati and Vertova (2009), *supra* note 18.
[182] Iljoong Kim, “An Econometric Study on the Deterrent Impact of Probation: Correcting Selection and Censoring Biases,” *Evaluation Review* 18 (1994), 389-410.

increase.[183] On the other hand, a study examining sex offenders on probation presented evidence that only 16% re-offended and out of them, only 4.5% committed a new sex offence.[184] In addition, evaluations of specific intensive programmes in the US demonstrated relatively low violation rate (around 30%) and re-offending rates (10%-16%).[185]

3.5 Pecuniary Sanctions

Pecuniary sanctions were imposed as a penalty even prior to the custodial period. Moreover, there was a time when its scope was significantly broader than today. For instance, in the old English law from the 12th century it was the most common sentence, even for the gravest crimes such as murder.[186] The rationale behind this practice was the belief that a price can be attached to any harm.[187] Nowadays, this sanction is considered to be placed on the opposite side of the severity scale than imprisonment, and can be imposed together with other punishments, e.g. suspended sentence, community service.

The significance of fines as a sanction increased in Europe in the 20th century, especially after WWII. For example, in the *Swedish Penal Code* of 1965 a substantial portion of offences was punishable by fines, and in practice this penalty was imposed on 95% of the offenders. This change can be attributed to the transformation from retribution as a justification of punishment to prevention.[188] Although initially the amount of the fine was correlated only with the severity of the offence (summary or fixed-fines), nowadays some of the European countries use the so-called day-fines system.[189]

---

[183] Lawrence W. Sherman, Denise Gottfredson, Doris MacKenzie, John Eck, Peter Reuter and Shawn Bushway, *Preventing Crime: What Works, What Doesn't, What's Promising*, A Report for the United States Congress, National Institute of Justice (1997), Chapter 9, available at https://www.ncjrs.gov/works/index.htm (accessed on 5.2.2013) (Hereinafter: "Preventing Crime").

[184] Michelle L. Meloy, "The Sex Offender Next Door: An Analysis of Recidivism, Risk Factors, and Deterrence of Sex Offenders on Probation," *Criminal Justice Policy Review* 16 (2005), 211-236.

[185] Morris and Tonry, *Between Prison and Probation* (1990), *supra* note 177, pp. 181-183. Certainly, in this case the evaluation might suffer from selection bias by assigning less risky offenders to the intensive probation programmes. However, one of the reviewed programmes has a special assignment mechanism where the judge first imposes a prison sentence, and only then the offender may apply to convert the punishment to probation. In this way, there is a guaranty at least that the punished offender was perceived as a risky enough to impose on him a custodial sentence.

[186] Even nowadays this practice may be found in the customary laws of some communities. In Papua New Guinea for example, a murderer can repay his crimes with a monetary compensation to the family of the victim. See Shaun T. Larcom, *A Law and Economics Analysis of Legal Pluralism in Papua New Guinea* (2012) (unpublished thesis).

[187] Sir Frederick Pollock and Frederick W. Maitland, *The History of English Law before the Time of Edward I,* Vol. 2, 2nd ed. (Originally published: Cambridge University Press, 1898, reprinted in 1952), p. 473.

[188] O'Brien (1995), *supra* note 109, p. 221.

[189] A detailed analysis of day-fines is provided in Chapter 3.

The notion of day-fines is taking into account the severity of the offence, yet at the same time, assuring that the punishment imposes an equal burden on offenders who committed the same crime regardless of their wealth. Therefore, the implementation of this punishment consists of a two-step decision. First, the court assigns the number of days within the prescribed limit according to the severity of the offence. In the next step, the court is expected to evaluate the offender's means in order to allocate the daily amount he should pay. This assessment should take into account the culprit's income, assets and financial obligations.[190] The final fine is the multiplication of those two units.

Finland was the first country to introduce the day-fine in 1921. Some Scandinavian countries i.e. Sweden and Denmark followed Finland during this period. However, other European countries, which embraced this practice, did it only in the second half of the 20th century. Germany, together with Austria, was the first to embed day-fines in their criminal code in the second wave (1975), followed by Hungary (1978), France and Portugal (1983), UK (1991) and Switzerland (2007). In some countries, fines became the major penalty. For instance, in 2007 approximately 87% of all sentences given by the German courts were a fine.[191] However, in the UK the introduction of day-fines was an unsuccessful attempt since the judges resented this practice and eventually the legislator abolished this category of fines. Nevertheless, in recent decades day-fines are again present in the UK political debate.[192] Still, some countries, i.e. the Netherlands, Norway, Italy, Belgium and Iceland, prefer the custom of summary fines.[193] For the statistics on fine practice in selected countries see Figure 6a.

In the US, the practice of fines has not developed as widely as in Europe. Although pecuniary measures are used, their imposition is restricted to minor offences and they do not constitute a factual alternative to imprisonment. In addition, this type of sanction is usually combined with other measures and seldom implemented as a stand-alone sentence.[194] Another difficulty with this type of sentence is the low amount imposed on offenders. On the one hand, in order to be considered punitive and deterrent, a fine ought to be sufficiently high. Marginal fines are

---

[190] U.S. Department of Justice, *How to Use Structured Fines (Day Fines) as an Intermediate Sanction* (Vera Institute of Justice, 1996), p. 1. (Hereinafter: "How to Use Structured Fines").
[191] Hans-Jörg Albrecht, "Sanction Policies and Alternative Measures to Incarceration: European Experiences with Intermediate and Alternative Criminal Penalties," United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (2012), pp. 33-34, available at http://www.unafei.or.jp/english/pdf/RS_No80/No80_07VE_Albrecht.pdf (accessed on 22.1.2013).
[192] Ashworth (2010), *supra* note 155, pp. 330-331.
[193] Albrecht (2012), *supra* note 191, p. 34.
[194] Sally T. Hillsman, "Fines and Day Fines," *Crime and Justice* 12 (1990), 49-98; Edwin W. Zedlewski, "Alternatives to Custodial Supervision: The Day Fine," U.S. Department of Justice (2010), available at https://www.ncjrs.gov/pdffiles1/nij/grants/230401.pdf (accessed on 22.1.2013).

considered inadequate and enable wealthy people to buy justice. On the other hand, excessive fines may result in the unfair systematic imprisonment of low-income people who default on their payment.[195]

In order to resolve the abovementioned difficulties, some US jurisdictions introduced the day-fines based on the European experience.[196] During the late 1980s two extensive studies were conducted by the National Institution of Justice on the new programmes imposing day-fines, in Staten Island and in Milwaukee. The researchers evaluated the day-fines system and the summary fines. They found that judges were willing to impose day-fines; offenders repaid more often under the day-fines system; and the recidivism rates did not differ between the two systems.[197]

Another pecuniary measure to fight crime is the forfeiture of property, which was introduced in the 1970s in the US. This legal instrument enables authorities to confiscate, without compensation, private property of suspects which was obtained by illegal means or which served as a devise to commit a crime.[198] The modern forfeiture was developed as a response to the emergence of organised crime in different countries. It was believed that seizure of the property, which serves the criminal organizations, might help bringing their activity to an end. Although in the past in the common law systems this method was used as a punishment, due to the difficulties to prove beyond reasonable doubt the guilt of the property owner, the US transferred this instrument to the civil sphere. This way the state targets the property and not the owner, thus, bypassing the need to prove any guilt.[199]

Forfeiture legislation also exists in many of the European countries and in most of them derives from the criminal law.[200] Similarly to the US, this method allows the state to confiscate assets that were used to commit a crime or that are the product of a crime.[201] In the

---

[195] Hillasman (1990), *ibid*., p. 54.
[196] Zedlewski (2010), *supra* note 194, p. 6.
[197] Douglas C. McDonald, Judith Greene and Charles Worzella, *Day Fines in American Courts: The Staten Island and Milwaukee Experiments*, U.S. Department of Justice (1992), available at https://www.ncjrs.gov/pdffiles1/Digitization/136611NCJRS.pdf (accessed on 22.1.2013). For more detailed information on the second study see *infra* note 219 and the accompanied text.
[198] Leonard W. Levy, *A License to Steal: The Forfeiture of Property* (The University of North Carolina Press, 1996), p. 1.
[199] Simon N.M. Young, *Civil Forfeiture of Criminal Property: Legal Measures for Targeting the Proceeds of Crime* (Edward Elgar, Northampton, UK, 2009), pp. 1-10.
[200] In the past, this was not a legal sanction but a social result of criminal conviction. Others forms of social punishment was a loss of citizenship.
[201] Michael Kilchling, "Comparative Perspectives on Forfeiture Legislation in Europe and the United States," *European Journal of Crime, Criminal Law and Criminal Justice* 5(3) (1997), 342-361. See for example, Article 69 of the *Swiss Criminal Code*; Title Seven: Forfeiture and Confiscation of the *German Criminal Code* (Strafgesetzbuch, StGB).

UK it was first introduced in 1986 as an instrument to combat drug trafficking. However, later on forfeiture was entrenched in the general criminal code in order to be applicable for other crimes. Interestingly, in the UK's *Drug Trafficking Act* of 1994 the burden of proof was transferred to the defendant to show that his property (during a certain period) is not the proceeds of drug trafficking. This change reduces the costs of identifying the illegal gains. Other examples of European countries that introduced the sanction of forfeiture are Germany in 1975, Italy in the 1970s and Belgium in 1990. Similar trends might be found in the Netherlands, Sweden and Denmark.[202]

Although having origins in older legislation, the development of the relevant statutes in Europe during the 1990s and the 2000s was guided by the EU legislation. Also in Europe, forfeiture provides the possibility to confiscate, freeze and seize proceeds of crime. Since the structure of the EU enables cross-border criminal activity, these rules empower countries to fight more efficiently organised crime, money laundry and terrorism.[203] For the usage of forfeiture in selected countries see Figure 6b.

From the legal point of view, the sanction of forfeiture sends the strongest signal that "crime does not pay". It is especially important in crimes where the victim is the society as a whole rather than specific individual. Whereas in crimes harming certain people the offenders are often obliged to pay direct compensations and return the goods (in property crimes), there are no compensations in "victimless" crimes. In other words, it serves to restore justice by correcting the imbalance caused by the offence. One of the main examples for such practice is the punishment of drug trafficking that combines a "regular" sentence with forfeiture.[204]

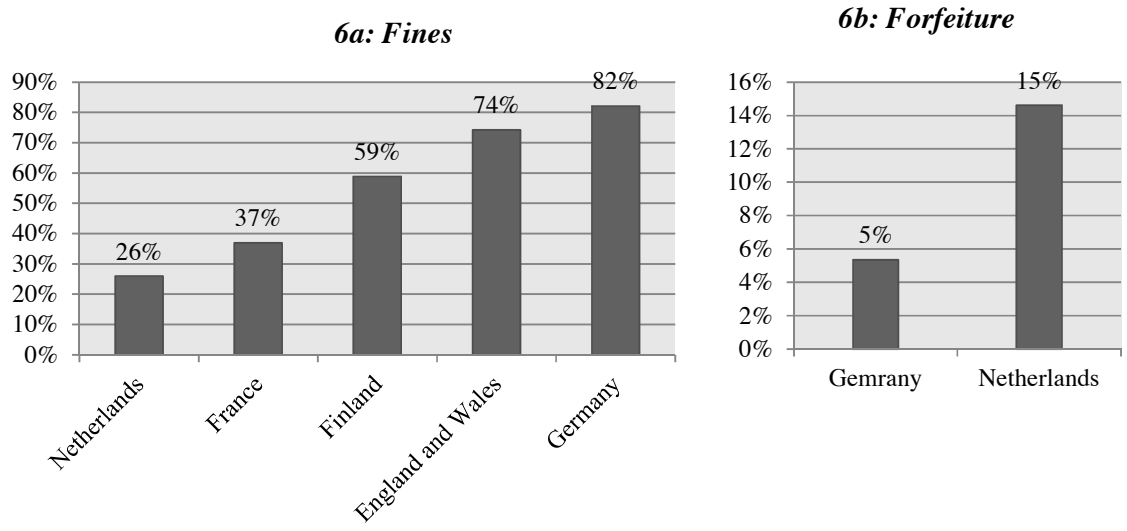
---

[202] Roger Bowels, Michael Faure and Nuno Garoupa, "Forfeiture of Illegal Gains: An Economic Perspective," *Oxford Journal of Legal Studies* 25(2) (2005), 275-295, pp. 279-280.

[203] See for example European Council, "Council Framework Decision on Confiscation of Crime-Related Proceeds, Instrumentalities and Property," (2005/212/JHA, 24 February 2005) available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:068:0049:0051:en:PDF (accessed on 28.1.2013); European Commission, "Proposal for a Directive of the European Parliament and of the Council on the Freezing and Confiscation of Proceeds of Crime in the European Union," (2012/0036 (COD), Brussels, 12.3.2012) available at http://ec.europa.eu/home-affairs/news/intro/docs/20120312/1_en_act_part1_v8_1.pdf (accessed on 28.1.2013).

[204] Roger Bowles, Michael Faure and Nuno Garoupa, "Economic Analysis of the Removal of Illegal Gains," *International Review of Law and Economics* 20 (2000), 537-549.

Figure 6: The Proportion of Pecuniary Punishment out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own figure based on multiple sources.[205]

3.5.1 Law and Economics Analysis of Pecuniary Punishment

From the law and economics standpoint pecuniary sanction is considered as the superior method of punishment to other methods. In theory, it has low expected costs of administration, especially as compared to the implementation costs of other sanctions.[206] On the other hand, what the offender pays constitutes a state's revenue.[207] For instance, the amount of imposed fines in Finland in 2011 was around 84.6€ million.[208] Even partial compliance[209] would contribute to the state's budget. Nonetheless, as discussed above, regular fines have the disadvantage of potentially deterring only one group of society while having another group judgment proof. High fines might discourage wealthy offenders from

[205] Sentencing Tables December 2012, Table Q5.8. (England & Wales Statistics); Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics of the Netherlands); Strafverfolgung - Fachserie 10 Reihe 3 – 2012, Tables 2.3, 5.1 (Statistics of Germany); Syytetyt, Tuomitut ja Rangaistukset – 2012 (Statistics of Finland); Condamnations selon la nature de la peine principale en 2012 (Statistics of France). The data on the forfeiture in the Netherlands contains this method imposed as a sanction and as a measure (in Dutch: Verbeurdverklaring, Ontneming wvv, Onttrekking aan het verkeer). Either the illegally obtained property, or a property that served for a crime may be confiscated. In addition, the court can assess what is the value of the property in monetary sense and impose this on the perpetrator. See Peter J. Tak, *The Dutch Criminal Justice System* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008a), pp. 118-119.

[206] See for instance, *How to Use Structured Fines* (1996), *supra* note 190, p. 2. This is true for fine but might be more costly in case of forfeiture.

[207] See for example, Becker (1968), *supra* note 13; Polinsky and Shavell, (1984), *supra* note 118.

[208] Finnish Statistics Office, Review of Sanctions in 2011 (17.12.2012), available at http://www.stat.fi/til/syyttr/2011/syyttr_2011_2012-12-17_kat_001_fi.html (accessed on 9.4.2014).

[209] See Hillsman (1990), *supra* note 194, p. 68, reviewing papers which suggest that the compliance rates was high in Europe. For instance, in 1970s, the collection rate of fines in one of the Federal Republic of Germany *Länder* was around 80%. See also Hans-Jörg Albrecht, "Fines in the Criminal Justice System," in *Developments in Crime and Crime Control Research*, Klaus Sessar (eds.) (Spring-Verlag, New York, 1991), 150-169, p. 160.

committing crimes. Yet low-income perpetrators, who do not have sufficient assets to cover the imposed penalty, have nothing to lose (in the absence of imprisonment for fine defaulters), and may not be deterred by this sanction. On the contrary, low fines have the ability to deter poor criminals but not wealthy who can simply choose to pay for the benefits they gain from the offence. Therefore, already in the 19th century Bentham offered to use the day-fines.[210]

From a law and economics perspective, forfeiture is a special instrument to fight crime. As has been mentioned, according to the deterrence theory criminals commit crimes only when their benefits from the offence are higher than the expected costs. The enforcement authorities can change the costs of crime (either by increasing the severity or the probability of punishment). However, most of sanctions do not involve the benefits the delinquent derives from his violation. When referring to pecuniary punishment, fines constitute the costs of crime, yet forfeiture usually targets the proceeds from the illegal act, i.e. the benefits.

On the other hand, as some law and economics scholars demonstrate, forfeiture might be viewed as a complementary instrument to fines, thus, inserted in the costs element of the deterrence model. This choice of sentence might have an advantage in many respects. For example, adding forfeiture to the punishment of fines serves well as marginal deterrence device since it adds the element of variation in the punishments based on the gravity of the crime. Namely, the proceeds of a crime also reflect on the gravity of the crime, thus confiscating it in addition to the other sanction might achieve better marginal deterrence. Furthermore, the combination of fines and confiscation of illegal proceeds is a more adequate method to deal with attempted crimes. An equal fine would be imposed on the completed and the attempted offence. However, in the attempted offence there will not be forfeiture since there are no proceeds. Therefore, marginal deterrence might be achieved. In addition, there are legal limitations to impose the optimal punishment where the probability of detection is low, due to considerations such as human rights. In this case, the supplementary power of forfeiture might increase deterrence without violating the legal limits of punishment. Nevertheless, it should be kept in mind that this sanction has also potential costs, e.g. the costs of identifying the illegal proceeds.[211]

3.5.2 Empirical Evidence

The efficiency of fines in general, and day-fines in particular, can be measured on several dimensions. On the one hand, what is important is the deterrence effect of this sanction and its

[210] Bentham, *Theory of Legislation* (1840), *supra* note 67, p. 133.
[211] Bowles, Faure and Garoupa (2000), *supra* note 204, pp. 539-542.

influence on recidivism. On the other hand, since unlike incarceration the payment of fines is generally at the hands of the offender, the rate of compliance is essential as well. All the more so, when it is imposed in the lieu of imprisonment since the aim is to reduce imprisonment rates. The task of measuring these aspects empirically is difficult and the evidence is scarce. Nevertheless, the existing findings are promising, especially regarding the fines, as is presented in the following overview.

Michael Block and Vernon Gerety conducted an experiment on students and prisoners in order to investigate the differences in responsiveness to severity and probability of punishment. Since they used monetary penalties, their results may have an implication on fine effectiveness. The authors found that actual prisoners respond to pecuniary penalties, as long as the probability of being punished is sufficiently high.[212] Those results are reassuring since they demonstrate that fines can deter potential criminals as well, and not only by imprisonment. In addition, these findings are consistent with the law and economics underpinnings and with the independent deterrent effect presented in Section 3.2.2.2.

The efficiency of pecuniary measures was examined also using aggregated data. In the US, a study from 2001 presented the deterrent effect of fines and forfeitures using panel data of North Carolina counties. This study found that both fines and forfeitures have a deterrence effect and an increase in the monetary burden is associated with a decrease in property offences.[213] Another research that used panel data was conducted in Germany and exploited the variations between German *Länder*. The authors of this study explored the impact of different stages of the criminal justice system on crime. Based on their findings they reached the conclusion that the certainty of punishment plays a crucial role and that imprisonment does not have a higher deterrent effect than fines. Thus, the authors support the transformation to less punitive and less costly sanctions, though at the same time advice increasing the certainty of punishment in order to achieve deterrence.[214]

Reliable evidence on the efficiency of fines in reducing re-offending rates is hard to find. Although the statistical data is usually indicating in the direction of less recidivism succeeding imposition of fines, deriving any conclusion might be erroneous. The main reason for this is the tendency of judges to assign pecuniary penalties to offenders with lower risk of re-

[212] Block and Gerety (1995), *supra* note 21. The authors find these results in the context of a breach of anti-trust laws.
[213] Todd L. Cherry, "Financial Penalties as an Alternative Criminal Sanction Evidence from Panel Data," *Atlantic Economic Journal* 29(4) (2001), 450-458.
[214] Horst Entorf and Hannes Spengler, "Is Being 'Soft on Crime' the Solution to Rising Crime Rates? Evidence from Germany," IZA discussion paper (November 2008).

offending. Therefore, an alternative explanation for those findings might be a simple confirmation of the judges' ability to predict risk.[215]

Nevertheless, some attempts have been made to control for the characteristics of offenders in order to identify the impact of fines on recidivism. Two such studies have been conducted on the fine system in Germany. Those studies found that for some property crimes, e.g. theft and fraud, fines are more effective than imprisonment and probation in reducing reconviction rates. For other minor offences, i.e. repeated petty theft and traffic offences, fines are not less effective than other sanctions in preventing reconvictions.[216] Additional support for the effectiveness of fines may be found in a study that compared the rates of recidivism of offenders performing community service with those who were obliged to pay fines. The authors found that higher fines (and more community service hours) lead to a better deterrence as measured by the rate of consecutive re-offending. This study also found lower rates of recidivism after community service as compared to those sentenced to fines. However, these results should be treated cautiously due to the heterogeneity between the two groups and the exclusion from the model those who re-offended during the period of the community service.[217]

Some evidence might be found for the somewhat better rate of compliance with regard to day-fines as compared to summary fines. Those findings are derived from the controlled experiment conducted in Milwaukee (Wisconsin). In order to obtain randomness, the courts were imposing day-fines on some violators and fixed-fines on others, depending on the week of the hearing. Although violators punished by day-fines were only somewhat better in compliance with the sentence (59% of day-fines non-compliance rate compared to 61% of non–compliance rate under the fixed-fines), they tended to pay more often the full amount. However, the re-offending rates did not differ between the two groups. Based on the findings

---

[215] See for example, Ashworth (2010), *supra* note 155, p. 328.

[216] Hillsman (1990), *supra* note 194, p. 53, citing Albrecht, Hans-Jörg, *Strafzumessung und Vollstreckung bei Geldstrafen* (Duncker & Humblot, Berlin, 1980); Albrecht Hans-Jörg and Elmer H. Johnson, "Fines and Justice Administration: The Experience of the Federal Republic of Germany," *International Journal of Comparative and Applied Criminal Justice* 4 (1980), 3-14.

[217] Bouffard Washington and Lisa R. Muftic, "The Effectiveness of Community Service Sentences Compared to Traditional Fines for Low-Level Offenders," *The Prison Journal* 87(2) (2007), 171-194. Within the community service group, those who did not complete their sentence were those who re-offended the most, thus their exclusion might be problematic. In addition, the follow up period of the offenders sentenced to fine was around 18 months whereas those punished with community service were observed only for 10 months. Furthermore, the offenders sentenced to fines included only driving while intoxicated offenders and the community service group had more heterogeneity in the offences for which they were sentenced. Hence, the fine group might have had very specific characteristics (e.g. alcohol problem) which would make them incomparable with the second group.

the researchers concluded that the day-fines might be beneficial due to the savings in enforcement costs.[218] Nonetheless, they offered to improve the collection methods in order to further increase the payment rate.[219]

3.6 Community Service

The notion of assigned labour as a sanction emerged in the 12th century in some European countries. Already then it was offered to serve as an alternative to other sanctions. Moreover, since the 18th century, when incarceration was introduced as a penalty, labour punishment was discussed to possibly substitute prison. However, in the past neither the legislator nor society were ready for such an alternative, thus imprisonment of criminals became more and more prominent. Community service as known today developed only at the end of the 20th century.[220]

During the 1960s and the 1970s the narrowness of the criminal sanction system was felt. The crime rates were increasing and the penal options were limited to too severe or too lenient punishment, i.e. imprisonment versus fines and suspended sentence. However, since prison is costly and has disadvantages (recidivism), the European countries began seeking for "intermediate" sanctions that would fill the missing gap. This practice relied on the rehabilitation theory and promoted individualisation of the system so as to tailor the appropriate sanction to each offender. Under this notion, only recidivists should be imprisoned, and first-time offenders should be serving intermediate sentences. Despite this change, many countries witnessed an increase in prison population during the 1980s and 1990s. The reason for this phenomenon was a tougher approach towards certain crimes and criminals that, for example, led to longer imprisonment sentences.[221]

This situation led to the development of the modern labour sentence. Community service is unpaid work for the benefit of society. Since in the countries of interest forced labour is forbidden, one of the preconditions is the consent of the sentenced person. Although there are

---

[218] When a person is not paying a fine there are administration costs involved in the attempt to enforce the payment, e.g. warrants, detention.

[219] McDonald, Greene and Worzella (1992), *supra* note 197, pp. 61-78. Worth mentioning is that the subjects were first-time violators who were fined for lower-level criminal offences, which were regarded as a mere ordinance disturbance instead of being prosecuted criminally, e.g. carrying concealed weapons, vandalism, theft from retail shops.

[220] Hans-Jörg Albrecht and Anton van Kalmthout eds., *Community Sanctions and Measures in Europe and North America* (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), p. 5. (Hereinafter: "Community Sanctions").

[221] Hans-Jörg Albrecht and Anton van Kalmthout, "Intermediate Penalties: European Developments in Conception and Use of Non-Custodial Criminal Sanctions," in *Community Sanctions* (2002), *supra* note 220, p. 1-11.

general similarities between the characteristics of community service across jurisdictions, some differences exist. In the UK for instance, the act that introduced this sanction in the 1970s limited the scope to offenders older than 17 who were convicted for crimes punishable by custody. Once the sentence is imposed, the offender is obliged to be in contact with the community service organiser and to perform the task assigned to him at the set place and time. In the UK, as in other European countries, the hours of community service are chosen, as much as possible, in a way not to interfere with the criminal's employment, education etc.[222]

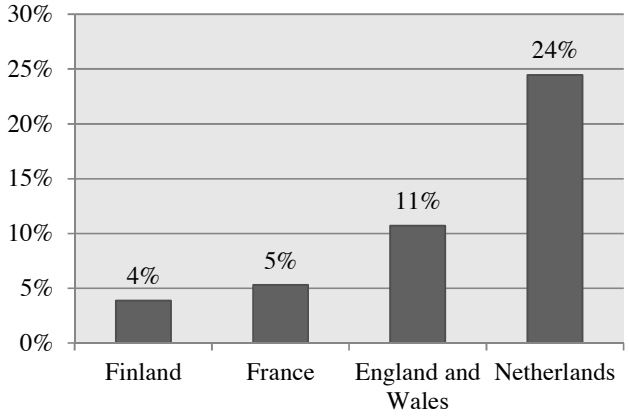
The highest growth in the practice of community service started during the 1980s and 1990s. Those countries that use this alternative as an independent sanction (e.g. the Netherlands) limited the working hours to 240, although in certain criminal systems this bound was increased.[223] On the other hand, Germany for instance, retains community service as a mere substitution of custody for fine defaulters or as a condition for a suspended sentence.[224] For the scope of implementation of community service as a sanction in selected European countries see Figure 7.

In the US, community service order was first introduced in the 1960s. It was developed as a condition under probation, rather than as an independent sentence, first imposed on traffic offenders. Convicted offenders were required to provide unpaid work in hospitals or schools. Through the years it emerged in nearly all American states and gained public support due to its benefits, i.e. unpaid work for the good of the public and lower costs of administration. Nevertheless, community service never became a significant part of the US sentencing system and, similarly to fines, it is rarely applied as a real alternative to imprisonment.[225]

---

[222] Warren Young, *Community Service Orders: the Development and the Use of s New Penal Measure* (Heinemann, London, 1979), 26-27.
[223] Albrecht and van Kalmthout (2002), *supra* note 221.
[224] Albrecht (2012), *supra* note 191, p. 35.
[225] Morris and Tonry, *Between Prison and Probation* (1990), *supra* note 177, pp. 150-155; Michael Tonry, "Community Penalties in the United States" in *Community Sanctions* (2002), *supra* note 220, 551-572, p. 560.

Figure 7: Proportion of Community Service out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own figure based on multiple sources.[226]

3.6.1 Law and Economics Analysis of Community Service

From a law and economics perspective, community service might be viewed as a deterrence mechanism and partial incapacitation. It is supposed to deter criminals, forasmuch as it imposes direct costs of performing unpaid labour and additional opportunity costs. Since the perpetrator is obliged to perform certain work, during this period his freedom is restricted. All the more so when the offender is supervised by a probation officer or other agents. Therefore, the delinquent is incapacitated and prevented from using his time for other activities. This method of sanctioning might be viewed as beneficial from the law and economics point of view since its relative administration costs as compared to prison are marginal (see Table 2)[227]. At the same time, contrary to imprisonment there is a transfer of wealth to society since the offender is performing unpaid labour for the public good. Thus, in theory, it has the benefits of both, imprisonment and fines. However, it should be noted that community service might impose costs through a different channel. It might be claimed that offenders performing unpaid work are decreasing the employment opportunities for law-abiding citizens.[228] Without empirical investigation of this statement, the existence of such a problem is arguable.

---

[226] Sentencing Tables December 2012, Table Q5.8. (England & Wales Statistics); Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics of the Netherlands); Syytetyt, Tuomitut ja Rangaistukset – 2012 (Statistics of Finland); Administration pénitentiaire en 2013 (Statistics of France).

[227] For an old study conducting a rare comprehensive account of the costs of community service see Martin Knapp, Eileen Robertson and Gill McIvor, "The Comparative Costs of Community Service and Custody in Scotland," *The Howard Journal* 31(1) (1992), 8-30. This study as well demonstrated that community service costs are significantly lower than custodial costs.

[228] Some jurisdictions limit the nature of community service work to specifically jobs that would not otherwise be performed, in order not to replace paid employment. Gill McIvor, Kristel Beyens, Ester Blay and Miranda

Table 2: Estimated Costs of Community Service in Selected Countries (Per Offender)

Country	Costs Per Day	Costs Per Year
Ireland	6€	2,242€(1996)
Finland	14€	4,934€(2012)

Source: own table based on multiple sources.[229]

3.6.2 Empirical Evidence

Similarly to other alternative sanctions, measuring the impact of community service on crime or recidivism rate is a difficult task. Since this sanction usually exists as an alternative to imprisonment, its imposition is not random. Offenders who receive community service might be essentially different from those who are confined. Therefore, finding lower rates of recidivism among this group cannot be solely attributed to the advantages of this sanction. An alternative explanation might be that offenders who are sanctioned to community service are initially less prone to recidivism (selection bias). Several studies managed to overcome these difficulties and provide empirical evidence for the effectiveness of community services.[230]

Martin Killias and co-authors conducted a randomised experiment in one of Switzerland's Cantons where they randomly assigned convicted persons to community service or short-term imprisonment. The authors found that offenders sentenced to short-term imprisonment were re-arrested more often than those assigned to community service.[231] In a follow-up study on

---

Boone, "Community Service in Belgium, the Netherlands, Scotland and Spain: a Comparative Perspective," *European Journal of Probation* 2(1) (2010), 82-98, p. 85.

[229] *Community Sanctions* (2002), *supra* note 220, p. 298 (Ireland, around £5 per day/£2,000 per year. For comparison, in the same period, the yearly costs per prisoner was 55,455€/£46,000); Criminal Sanctions Agency, "Criminal Sanctions Agency Statements and Annual Report for the Year 2012", 2013 [in Finnish], p. 4, available at http://www.rikosseuraamus.fi/material/attachments/rise/julkaisut-monisteetjaraportit/6FcvDvctb/1_2013_TP_ja_toimintakertomus_2012_korj220313VALMIS.pdf (accessed on 12.2.2014).

[230] For a meta-analysis of studies investigating the effects of community services, as compared to custodial sentences, on re-offending rates see Patrice Villettaz, Martin Killias and Isabel Zoder, "The Effects of Custodial vs. Non-Custodial Sentences on Re-Offending: A Systematic Review of the State of Knowledge," *Campbell Systematic Reviews* 13 (2006) available at https://utah.instructure.com/courses/102813/files/9697898?module_item_id=463142 (accessed on 15.01.2013). Whereas the overall results from the studies indicate that community services are better in regard with re-offending, examination of several robust studies show no significant differences.

[231] Martin Killias, Marcelo Aebi and Dennis Ribeaud, "Does Community Service Rehabilitate better than Short-term Imprisonment? Results of a Controlled Experiment," *The Howard Journal* 39(1) (2000), 40-57. "Re-arrest" in this context means newly recorded crimes of the subjects by the police since in Europe police usually does not arrest for this kind of crimes. In addition, it is worth mentioning that the prison and the community service sentences lasted merely 14 days.

the same subjects for the period of 11 years after the experiment, the differences in the re-offending rates between the two groups were shown to be statistically insignificant.[232]

Studies examining the benefits of community services were conducted also in the US. In 2002 a committee of the Oregon corrections department directed a study to identify the rate of re-offending among first time offenders who served the sentence of community-based sanctions. The authors found that ex-prisoners had significantly higher rates of reconviction than offenders who served community-based sanctions. The exceptions to this significance were sex-offenders and medium-risk offenders. In addition, they demonstrated that a longer imprisonment period is correlated with higher recidivism rate.[233]

In the Netherlands, Hilde Wermink and co-authors examined more than 4,000 offenders who performed community service or short-term imprisonment. In order to determine the recidivism rate of those offenders, the authors measured their re-offending behaviour for the period of eight years after the imposed sentence. With the aim of overcoming the selection bias problem, Wermink and co-authors controlled for a large number of possibly confounding variables. Their findings demonstrated that there is a large and significant difference between the recidivism rates after community service as compared to this preceding a prison sentence. To be precise, a reduction of 46.8% of recidivism was observed after the former relative to the latter.[234] Similarly, a difference in recidivism rate after community service as compared to prison sentence was found also in Finland. Albeit still favouring community service, this difference was smaller.[235]

Examination of the studies on recidivism rates of offenders performing community service demonstrates an advantage of this approach. Those studies support the notion that people re-

---

[232] Martin Killias, Gwladys Gilliéron, Françoise Villard and Clara Poglia, "How Damaging is Imprisonment in the Long-Term? A Controlled Experiment Comparing Long-Term Effects of Community Service and Short Custodial Sentences on Re-Offending and Social Integration," *Journal of Experimental Criminology* 6 (2010), 115–130. Whereas in the first five years after the experiment the group assigned to community services had a tendency to re-offend less, in the later stage this tendency overturned and they re-offended somewhat more than the ex-prisoners. In addition, short-term imprisonment did not harm social integration as compared to community service released.

[233] Oregon Department of Corrections, "The Effectiveness of Community-Based Sanctions in Reducing Recidivism," (2002) available at http://www.oregon.gov/DOC/OMR/CC/docs/pdf/effectiveness_of_sanctions_version2.pdf (accessed on 15.1.2013). Community-based sanctions include community service and work crew, house arrest, day reporting and work centers. In most counties in the study the community service and work crew sanction is the most used alternative to jail. In order to overcome the selection bias, the researchers compared between similar offenders.

[234] Hilde Wermink, Arjan Blokland, Paul Nieuwbeerta, Daniel Nagin and Nikolaj Tollenaar, "Comparing the Effects of Community Service and Short-Term Imprisonment on Recidivism: a Matched Samples Approach," *Journal of Experimental Criminology* 6 (2010), 325–349.

[235] Marja-Liisa Muiluvuori, "Recidivism among People Sentenced to Community Service in Finland," *Journal of Scandinavian Studies in Criminology and Crime Prevention* 2(1) (2001), 72-82.

offend less after community sanctions as compared to a prison sentence. Importantly, the abovementioned studies attempt to overcome the selection bias problem and to provide the independent effect of this sanction. Moreover, researchers who fail to find those results, at least present that there is no significant difference. On the other hand, it seems there are no studies that assert there is a significantly higher recidivism rate following community service.

3.7 Electronic Monitoring

Despite the rigorous attempts to introduce different alternatives to imprisonment across the European countries, a tougher approach to certain groups of criminals and crimes, i.e. sex offenders, drug and violence offences, prompted prison overcrowdings. Succeeding this phenomenon, in the late 1980s a new method had emerged in the form of electronic monitoring (EM)[236]. This is a surveillance devise which is attached to the detainee's ankle and sends signals through radio frequencies (RF) once the offenders leaves a certain range, usually his accommodation area.[237] This technique may be used in all the stages of the trial, i.e. as an alternative or addition to remand, condition to suspended sentence, part of a parole and as an alternative to a prison sentence.[238]

In Europe, the electronic monitoring was first introduced in the UK in the 1980s, and in the following two decades other European countries embraced this method as well. The most widespread use of electronic monitoring is in case of an early release (parole). Nevertheless, some countries, e.g. Sweden, Switzerland (some cantons) and France, use it as a stand-alone sanction.[239] In addition, in November 2011, Finland also introduced electronic monitoring as a sanction.[240] In Sweden for instance, an offender who receives a punishment of not more than six months of imprisonment, may apply for the alternative of intensive probation. Under this sentence the offender is detained in his house and constantly monitored by the electronic devise. The offender is allowed to leave the premises of his accommodation according to an

---

[236] Electronic monitoring and electronic tagging is used interchangeably through this chapter.
[237] Jan Bungerfeldt, "The Impact of Alternative Sanctions and the Electronic Monitoring," seminar in Vilnius, Lithuania (3 March, 2011), available at http://www.tm.lt/dok/Renginiai/Monitoringas20110303/Bungerfeldt.pdf (accessed on 22.1.2013). Other electronic monitoring techniques are GPS and voice verification.
[238] Rita Haverkamp, Markus Mayer and René Lévy, "Electronic Monitoring in Europe," *European Journal of Crime, Criminal Law and Criminal Justice* 12(1) (2004), 36–45. For more information on the different European programmes using electronic monitoring see Dick Whitfield, *The Magic Bracelet: Technology and Offender Supervision* (Waterside press, Winchester, UK 2001), pp. 41-60.
[239] Haverkamp, Mayer and Lévy (2004), *ibid*.
[240] See Statistics in Finland, http://www.stat.fi/til/syyttr/2011/syyttr_2011_2012-12-17_kat_001_fi.html [in Finnish] (accessed on 9.4.2014).

upfront-decided schedule of work, treatment or other activities.[241] The delinquents who are eligible for this programme, whether as a sentence or at other stages of the criminal justice system, are usually those who commit minor offences. Only in rare cases the programme includes riskier offenders, yet after a careful assessment. In addition, in some countries the monitored offenders are obliged to pay a fee for this method, e.g. Sweden.[242] For the scope of use of electronic monitoring in some European countries, see Figure 8.

In the US, the idea of electronic tagging initially emerged during the 1960s and was experimented with somewhat similar technology ("body-worn pulsing transmitter"). The main goal of this new method was to reduce crime through responsibility taking and therapy of the offender. However, it became popular only in mid-1980s when also the technology evolved and enabled the detection of an offender in more limited space. The rationale behind electronic monitoring was to avoid the costs of incarceration and to keep the culprit in his community while maintaining proper control over him. Similar to Sweden, the electronic monitoring was a part of an intensive probation (called "home confinement") and the offenders were required to pay a fee. Although it started with less serious criminals, with time more and more violent and property perpetrators were placed under home confinement with electronic monitoring. Also in the US this method may be used for pre-trial detention and a condition of parole.[243] However, in addition to the RF monitoring device, some American states use Global Positioning System (GPS). This devise enables an enhanced supervision since it detects the specific location of the monitored person.[244] There are no clear data on the scope of usage of this method in the US, but a survey of 148 correctional agencies in 1995 revealed that 88% of the surveyed agencies, i.e. parole and probation, used electronic monitoring.[245]

---

[241] Swedish Probation Centre (Kriminalvarden) available at http://www.kriminalvarden.se/Frivard/Fotboja/ in Swedish (accessed on 23.1.2013). The limited use of electronic monitoring as an alternative to prison sentence was true also in 2010, see Martin Killias, Gwladys Gilliéron, Izumi Kissling and Patrice Villettaz, "Community Service Versus Electronic Monitoring - What Works Better?" *The British Journal of Criminology* (50) (2010), 1155-1170.

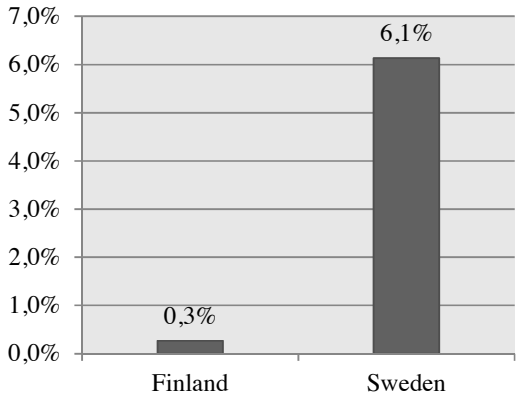
[242] Haverkamp, Mayer and Lévy (2004), *supra* note 238.

[243] Marc Renzema, "Home Confinement Programs: Development, Implementation, and Impact," in *Smart Sentencing* (1992), *supra* note 178, pp. 51-53.

[244] Kathy Padget, William D. Bales and Thomas G. Blomberg, "Under Surveillance: an Empirical Test of the Effectiveness and Consequences of Electronic Monitoring," *Criminology and Policy* 5(1) (2006), 61-92. In Florida for example, a salient case of a rape and a murder of a child in 2005 promoted legislation that obliged released sex offenders who molested children to wear the GPS devise for the rest of their life (p. 62).

[245] Mary Finn and Suzanne Muirhead-Steven, "The Effectiveness of Electronic Monitoring with Violent Male Parolees," *Justice Quarterly* 19(2) (2002), 293-312, p. 295.

Figure 8: Proportion of Electronic Monitoring Punishment out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own chart based on multiple sources.[246]

3.7.1 Law and Economics Analysis of Electronic Monitoring

According to the law and economics analysis house arrest or confinement under electronic monitoring may serve both the deterrence and the incapacitation goals. Although the offender is not physically restricted, he has the obligation to remain in a certain place and any violation can be detected. This measure restricts the freedom of the culprit and protects society from the harm he may impose. Similarly to imprisonment, this restriction of movement might deter the offender and others from committing similar crimes. Electronic monitoring is considered to be less costly than custodial sanctions,[247] yet this method entails not only the costs of the devise but also the expenditure on the probation service that complements the supervision (for costs in selected countries see Table 3). Nevertheless, it does not have the pecuniary benefits of fines and community service since, besides possible maintenances fees imposed on the offender, there is no transfer of wealth from the culprit to society.

[246] Syytetyt, Tuomitut ja Rangaistukset – 2012 (Statistics of Finland); Statistik Kriminalvarden, Intensivövervakning 2012 (Statistics of Sweden), for the number of sentencing decisions in Sweden the same year see http://www.bra.se/download/18.6b82726313f7b234a581e6b/1379677279048/2012_personer_lagf%C3%B6rda_f%C3%B6r_brott.pdf, p. 149 (accessed on 9.4.2014).

[247] In this context, only the tangible costs are considered. There might be some intangible costs for the family members who are living with the monitored offender.

Table 3: Estimated Costs* of Electronic Monitoring in Selected Countries 2010-2013 (Per Offender)

Country	Costs Per Day	Costs Per Year
Ireland	9€	3,285€
England & Wales	14.40€	5,256€
France	15.50€(RF) 30€(GPS)	5,657€(RF) 10,950€(GPS)
Austria	22€	8,030€
Germany (Baden-Württemberg)	30€	10,950€
Belgium	39€	14,235€
Netherlands	40€	14,600€
Sweden	55€	20,075€
Finland	60€	21,900€

Source: own table based on multiple sources.[248]

3.7.2 Empirical Evidence

The efficiency of electronic monitoring is measured by several results. The most obvious is the (individual) deterrence effect that might be measured through recidivism rates. In addition, this method may be considered efficient if the rate of violation, e.g. escaping the premises or re-offending while detained, is low. Since offenders are selectively placed under electronic monitoring based on their risk assessment, it is hard to estimate the efficiency of such a method. The following studies try to overcome the methodological issues and shed some light on these matters.[249]

In a recent study in Argentina, two authors used the disparity in sentencing ideology of judges, assuming that judged are randomly assigned to different cases, in order to estimate the recidivism rate of offenders supervised by electronic monitoring. One advantage of the

[248] Susana Pinto and Mike Nellis, "Survey of Electronic Monitoring in Europe: Analysis of Questionnaires 2012," 8th CEP Electronic Monitoring Conference (2012), p. 2. (England and Wales, France, Germany); Susana Pinto and Mike Nellis, "Survey of Electronic Monitoring in Europe: Analysis of Questionnaires," 7th European Electronic Monitoring Conference (2011), p. 7. (Austria, Ireland); Nellis, Beyens and Kaminski eds., *Electronically Monitored* Punishments (2013), *supra* note 119, pp. 150-153, 179-182 (Netherland and Belgium); Jan Bungerfeldt, "Electronic Monitoring in Sweden: The Past, Present and the Future," CEP Conference Stockholm 2012, slide 12 (Sweden 2012); Criminal Sanctions Agency, "Electronic Monitoring," (2014), available at http://www.rikosseuraamus.fi/en/index/sentences/monitoringsentence.html (accessed on 4.4.2014). (Finland). Notes: * Includes equipment, installation and monitoring costs. The countries with the higher rates account also for staff costs.

[249] For a study reviewing the empirical evidence and demonstrating its scarcity see Marc Renzema and Evan Mayo-Wilson, "Can Electronic Monitoring Reduce Crime for Moderate to High-Risk Offenders?" *Journal of Experimental Criminology* 1 (2005), 215–237.

Argentinian criminal justice system is that electronic monitoring is not attached to rehabilitation programmes. Thus, the investigation of this system allows capturing the independent effect of electronic monitoring on recidivism. In order to overcome the selection bias, the authors matched the electronic monitoring offenders to post-incarceration offenders. The treatment group included 386 individuals whose last period of supervision was under electronic monitoring. The average time spent under this type of supervision was 420 days. The control group included 1,140 individuals who were detained the entire period in prison. This study found significant negative effect of electronic monitoring on subsequent rearrest rates. The electronic monitoring reduced the recidivism rate by 11-16 percentage points.[250]

In 2000, electronic monitoring was introduced as a sanction in some of the Swiss cantons. The same year a randomised experiment was initiated in canton Vaud in order to examine the efficiency of this sanction (EM group) as compared to community service (CS group). This experiment provided a valuable opportunity to isolate the different effects of the electronic monitoring programme on offending behaviour. The delinquents in this study, who were assigned to the EM group had to stay at their house with the EM bracelet and were allowed to leave only for work or shopping (at a certain hour). In addition, both groups received some therapeutic assistance from the probation office. Both groups consisted of criminals who were sentenced to up-to three months imprisonment. Although the reconviction rates were comparable, the reoffending rates in the follow-up period of 3 years (the average number of committed offences) were higher for the CS group.[251]

Similarly, In the US, empirical studies tried to evaluate the effectiveness of electronic monitoring programmes compared to other measures. Some studies focused on the behaviour of offenders within the period of the confinement or probation. They demonstrated that supervision programmes, which included electronic monitoring, led to lower rates of re-offending. In addition, it seems that both methods of electronic monitoring, RF or GPS had the same impact on the violation and recidivistic behaviour.[252]

---

[250] Rafael Di Tella and Ernesto Schargrodsky, "Criminal Recidivism after Prison and Electronic Monitoring," *Journal of Political Economy* 121(1) (2013), 28-73.

[251] Killias, Gilliéron, Kissling and Villettaz (2010), *supra* note 241. The sample encompasses 232 subjects, and the follow-up period was three years starting from the random assignment. The sample consisted of convicted for relatively minor offences, i.e. minor theft, minor drug offences and DWI. It is important to notice that in order to be assigned to either of the sentences, the offender had to be eligible according to certain criteria. For instance, in order to be eligible for EM, a culprit has to have a stable accommodation with a telephone line.

[252] Also Padget, Bales and Blomberg (2006), *supra* note 244. John K. Roman, Akiva M. Liberman, Samuel Taxy and P. Mitchell Downey, "The Costs and Benefits of Electronic Monitoring for Washington, D.C.,"

Nevertheless, Mary Finn and Suzanne Muirhead-Steven demonstrated in their study on Georgia parolees that different groups of offenders vary in their response to electronic monitoring. The authors investigated the criminal behaviour of violent offenders who were supervised on parole, with or without electronic monitoring. The results of Finn and Muirhead-Steven indicated that in general parolees supervised with electronic monitoring had lower rates of re-offending (as measured by imprisoning rates) in the short-run. However, in the long run this difference was not significant. Yet, when controlling for the offence, the authors found differences among sex offenders. Parolees convicted for a sex offence had lower rates of reoffending, even in the long run, if they were electronically monitored as compared to those offenders who were not electronically monitored.[253]

Less positive findings can be found in a Canadian quasi-experiment. The researchers in this study investigated an electronic monitoring programme combined with an intensive treatment, which targeted different risk delinquents. The study compared offenders under this programme to similar convicts not electronically monitored but either receiving the intensive treatment or not. Their results demonstrated no significant difference in recidivism rates, within one year of completion of the treatment, between offenders under electronic monitor and those who are not. However, when controlling for the risk, high-risk offenders decreased their level of reoffending after treatment (whether they were electronically monitored or not).[254]

Besides the effectiveness of electronic monitoring as measured by reoffending rates, countries attempted to evaluate whether offenders comply with the imposed confinement and whether this measure is helpful in reducing prison overcrowding. An assessment of the European programmes yielded a positive result presenting a rather low rate of violations, although the

---

District of Columbia Crime Policy Institute (2012) available at http://www.urban.org/publications/412678.html (accessed on 28.1.2013).

[253] Finn and Muirhead-Steven (2002), *supra* note 245. No matching methods, besides controlling for criminal history and risk, were applied to reassure the treatment and the control groups are homogeneous. The chosen external shock was the mandatory placement of violent parolees on electronic monitoring in 1995 in the state of Georgia. The control group was simply the violent parolees who were released a year before the treatment group and before the mandatory rule (thus, not being electronically monitored). Due to this choice of the subjects, the results should be treated carefully. Since the groups are not equal, possible explanation for the results might be the fact that with the mandatory EM, authorities were more willing to parole more dangerous criminals than before, and the treatment group might have been more prone to recidivism.

[254] James Bonta, Suzanne Wallace-Capretta and Jennifer Rooney, "A Quasi-Experimental Evaluation of an Intensive Rehabilitation Supervision Program," *Criminal Justice and Behavior* 27(3) (2000), 312-329. It should be stressed that the initial motivation for the completion of the treatment was different since the group under EM had the treatment as a condition for not being imprisoned. On the other hand, the non-electronically monitored group participated in the treatment programme on a voluntarily basis. Therefore, one possibility may be that the EM group was ex-ante more prone to recidivism even if the groups were matched.

definition of a violation differs across countries.[255] This finding is reassuring since it implies there is an incapacitation element in practice.

3.8 Castration

Castration is a form of treatment that aims to diminish sexual desires. This purpose might be achieved through one of the two procedures, chemical or surgical castration (called bilateral orchiectomy). In the former treatment the subject is being injected with medication that is meant to reduce the level of testosterone[256]. In the latter procedure, the male testes (or female ovaries) are removed. Whereas the chemical castration is a reversible procedure, i.e. withdrawal from the medication might eliminate the treatment effect, the surgical castration cannot be undone.[257] It is important to stress that in the modern society, where castration is still used, it is not a punishment but a method of treatment.

The use of castration can be traced back to the ancient Greek times where slaves were sterilised for commercial reasons. Throughout history is was used against different groups and with various aims such as the prevention of self-indulgence of guards in the Middle East, castration of captive enemies during wars, preservation of soprano voices of young Italian boys, sterilisation of ethnic groups during the Nazi reign in Germany, and the castration of mentally ill people. From the described rationales, only the castration of mentally impaired people, although in a significantly more humanitarian manner, remains until today in some of the countries of interest.[258]

The notion of the modern castration and sterilisation emerged approximately at the same time in Switzerland and in the US at the end of the 19th century. In Switzerland, the first sex offender was castrated in a mental hospital in 1892. In the US a doctor in Indiana started performing a surgery on prisoners in order to cure them from their sexual misbehaviour in 1899.[259] Through the 20th century chemical castration was used in the US in order to control aggressive sexual behaviour, however, this method is not a widespread treatment.[260]

---

[255] Haverkamp, Mayer and Lévy (2004), *supra* note 238, p. 41. For low rates of violation of parolees with electronic monitoring in the US see Finn and Muirhead-Steven (2002), *supra* note 245, p. 301.
[256] Testosterone is a male hormone produced mainly by the testes and is responsible for male sex characteristics, available at http://www.nlm.nih.gov/medlineplus/mplusdictionary.html (accessed on 8.2.2013).
[257] Karia Vanderzyl, "Castration as an Alternative to Incarceration: An Impotent Approach to the Punishment of Sex Offenders," *Northern Illinois University Law Review* 15 (1994), 107-140, pp. 115-117.
[258] Stacy Russell, "Castration of Repeat Sexual Offenders: an International Comparative Analysis," *Houston Journal of International Law* 19 (1997) 425-459, pp. 438-439.
[259] Louis Le Maire, "Danish Experiences Regarding the Castration of Sexual Offenders," *Journal of Criminal Law, Criminology and Police Science* 47 (1956), 294- 310.
[260] Robert A. Prentky, "Arousal Reduction in Sexual Offenders: A Review of Antiandrogen Interventions," *Sex Abuse* 9 (1997), 335-347.

California is an example of a state having a strict chemical castration provision in its penal code. This provision provides that upon the court's decision a parolee would go through a chemical treatment if he was convicted of certain sexual offences against children. However, the measure is limited to a number of chosen severe offences, which for example, do not include the rape of minors without any aggravating circumstances.[261]

In Europe, although some countries were already performing surgeries to castrate sex offenders, the first to introduce a castration law was Denmark in 1929. The rationale behind the adoption of this law was the therapeutic benefits and not the deterrence or retribution of the criminal. The condition for castration was a sexual desire that imposes risk on the community or mentally harms the person. Between the years 1935-1967, the Danish law permitted forced castration, yet it was never applied in practice and this provision was amended in 1967. Nevertheless, the majority of people who were castrated in that period were serving their undetermined prison sentence and the surgery was the condition for their release.[262] Following Denmark, a number of other European countries adopted laws enabling castration of sex offenders, i.e. Germany (1933), Norway (1934), Finland (1935), and Sweden (1944). The regulation of castration is usually not a part of the criminal code but rather entrenched in medical laws, a fact that implies the therapeutic nature (as opposed to punitive) of the procedure. In some countries, i.e. Switzerland and the Netherlands, the castration of sex offenders in prison was practiced without any law regulating it.[263]

In the second half of the 20th century, the usage of surgical castration significantly decreased.[264] Nevertheless, some exceptions exist until today. Nowadays Germany and the Czech Republic are the only countries in the European Union allowing for voluntary surgical castration of sex offenders.[265] It is worth mentioning that there are very strict conditions in

---

[261] Provision 645 of *California Penal Code* (1996). Another example is the Oregon State Legislation of 1999, House Bill 2500.
[262] Le Maire (1956), *supra* note 363, p. 295.
[263] Nikolaus Heim and Carolyn Hursch, "Castration for Sex Offenders: Treatment or Punishment? A Review and Critique of Recent European Literature," *Archives of Sexual Behavior* 8(3) (1979), 281-304. Some East EU countries also adopted castration laws at that period, e.g. Estonia (1937), Latvia (1938) (p.282).
[264] Reinhard Wille and Klaus M. Beier, "Castration in Germany," *Annals of Sex Research* 2 (1989), 103-133, p. 105; Alison G. Carpenter, "Belgium, Germany, England, Denmark and the United States: The Implementation of Registration and Castration Laws as Protection against Habitual Sex Offenders," *Dickinson Journal of International Law* 16(2) (1998), 435-457, pp. 442-447.
[265] In Germany the law for such castration is the *Law on Voluntary Castration and Other Methods of Treatment* (*Gesetz über die freiwillige Kastration und andere Behandlungsmethoden*), 15. August 1969 (BGBl. I S. 1143), as amended in 17. December 2008 (BGBl. I S. 2586), available [in German] at http://www.gesetze-im-internet.de/kastrg/BJNR011430969.html (accessed on 28.1.2013). See also Friedemann Pfaefflin, "The Surgical Castration of Detained Sex Offenders Amounts to Degrading Treatment," *Sexual Offender Treatment* 5(2) (2010), available at http://www.sexual-offender-treatment.org/86.html (accessed on 28.1.2013).

Germany for the implementation of the surgical castration and only a few people are approved for this treatment. Even though not required by German law, the surgical castration is approved only if the person has previously undergone other treatments. This trend is criticised by the Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) of the Council of Europe. The committee argues this procedure impedes the rights of the offenders and is not compliant with the Standards of Care for the Treatment of Adult Sexual Offenders.[266]

Due to the sensitivity of this treatment and the strict requirements for confidentiality, data on the scope of use of this measure are hardly obtainable. Some estimation may, for example, be found in the data collected during the official visits of the CPT. According to a certain evaluation of the German data, during the period of 1998-2007 there were 38 applications for the surgical castration, six were rejected and 14 were approved.[267] However, according to the Council of Europe's investigation, during approximately the same period, there were in practice fewer than five surgical castrations in Germany. In addition, this practice does not exist in all *Länder*, in some of the German *Länder* no castrations were performed during this period.[268]

3.8.1 Law and Economics Analysis of Castration

From a law and economics perspective castration might be seen as a preventive measure. This treatment can be compared to incapacitation since the offender is physically prevented from committing the crime, especially when it concerns surgical castration. In theory, this measure might be viewed also as a deterring mechanism due to its severity and future implications. Other sex offenders might be disincentivised to commit such a crime if they know about the possibility of castration. However, since the target group is by definition undeterrable, it does

---

[266] Council of Europe, "Report to the German Government on the Visit to Germany Carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT)," (Strasbourg, 22 February 2012), pp. 58-60, available at http://www.cpt.coe.int/documents/deu/2012-06-inf-eng.pdf (accessed on 28.1.3013).
For the mentioned standards of the International Association for the Treatment of Sexual Offenders see http://www.iatso.org/index.php?option=com_phocadownload&view=category&id=4&Itemid=24 (accessed on 28.1.2013). A criticism of European Council targets the Czech Republic as well, even the more so in light of the limited cooperation of government officials during the visit of the committee, see Council of Europe, "Report to the Czech Government on the Visit to the Czech Republic Carried out by the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT)," (Strasbourg, 21 July 2010) available at http://www.cpt.coe.int/documents/cze/2010-22-inf-eng.htm (accessed on 28.1.2013). However, the Czech Republic is beyond the scope of the countries of interest dealt in this chapter, hence, further analysis is not provided.
[267] Pfaefflin (2010), *supra* note 265.
[268] Council of Europe (2012), *supra* note 266, p. 59. This can be viewed as a significant reduction of the use of castration over the years. For instance, during the period of 1970-1980, 770 people applied for the treatment and 400 were actually castrated. See Wille and Beier (1989), *supra* note 264, p. 111.

not serve the deterrence goal. Support to this claim may be found in the different individual cases of sex offenders who requested to be castrated claiming they cannot control their sexual desires.[269]

In terms of costs, the target group of this measure might resemble the target group of preventive detention. Society needs to be protected from these offenders by physical restrain since they are mainly undeterrable. As compared to preventive detention, it seems that the costs of castration, both surgical and chemical, can be expected to be lower. On the other hand, it has the potential to save high costs of crime (multiple sex offences, especially against minors).

3.8.2 Empirical Evidence

Although the ethical question surrounding the use of castration is important, the primary inquiry for this thesis is whether this measure is effective in achieving its goal. If the answer to this question is negative, the ethical discussion on this matter is redundant. In the context of criminal law, the primary aim of castration is the handling of chronic sex-offenders. This group is usually incontrollable with traditional methods of enforcement and they impose very high costs on society. Therefore, the empirical investigation focuses on the ability of castration to preclude the re-offending of sex delinquents. This task is not trivial, yet some evidence is presented in the following section, with a distinction between surgical and chemical castration. The majority of the studies on surgical castration are old. The scarcity of newer studies might be due to the higher frequency of implementation of this treatment in the past, which enabled the assessment of its effect.

One of the most cited studies, exploring the impact of castration, was conducted in Denmark. Based on the Danish law of 1929 (as amended in 1935), sex offenders could request for castration. Subsequent long-term assessment of those offenders' criminal behaviour revealed positive results in terms of significant reduction in recidivism rates.[270] Studies in other countries demonstrated similar results. In Germany for instance, most of the castrated men experienced reduction or elimination of sexual drives. Nevertheless, some offenders also

[269] See for example, the case of the pedophile Larry Don McQuay in Larry Don McQuay, "The Case of Castration," *The Washington Monthly* (May 1994), 26-28.

[270] Georg K. Stürup, "The Treatment of Sex Offenders at Herstedvester," *The Prison Journal* 46(2) (1966), 31-43, pp. 42-43. Worth mentioning is that sexual behavior such as homosexual relationships and prostitution did not constitute a punishable offence by the Danish law since 1933, hence, enabling the generalization of these results to the modern times.

experienced different side effects.[271] In Switzerland (Bern), a study on surgical castration demonstrated that the portion of recidivists decreased from 77% to 7%. And it was significantly lower than the control group that did not go through the castration procedure.[272] An examination of castration effect in Norway demonstrated a decrease of recidivism rate from 58% of the participants to 2.9%-7%.[273]

One of the most important and convincing empirical investigations on the effects of castration was conducted in Germany by Reinhard Wille and Klaus Beier. The current practice of surgical castration in Germany is primarily justified by these findings.[274] This study compared 99 voluntarily castrated sex offenders with 35 men who applied for this treatment, yet did not go through the operation.[275] The sample mainly included violent rapists and murderers, paedophiles and a small number of exhibitionists, and the follow-up period was on average 11 years. In the follow-up period[276], only 3% of the castrated sex offenders committed additional sex offences as compared to 46% of the non-castrated delinquents. This difference was found statistically significant.[277]

Additional support for the effectiveness of surgical castration in reducing sexual re-offending may be found in a careful meta-analysis of more recent studies, i.e. in the 1990s and 2000s. After reviewing 80 studies, which analysed different treatment programmes, the authors concluded that physical castration leads to the most significant reduction in recidivism rate of

---

[271] Heim and Hursch (1979), *supra* note 263, p. 286-288, citing Albrecht Langelüddeke, *Castration of Sexual Criminals* (de Gruyter, Berlin, 1963) [in German]. Another examination explored in this study compared the effect of surgical castration in Germany between the years 1934-1944. The author of the study found that although prior to castration the examined group of sex offenders had 84% rate of re-offending, after the treatment only 2.6% recidivated (sex offences). In addition, each of the recidivists committed only one sexual offence. On the other hand, an examination of a group of un-castrated sex offenders demonstrated re-offending rate of nearly 40% (pp. 284-285). This evidence and the once described in the text however, should be treated carefully among other reasons, due to the broad definition of a "sex offence" which also included non-deviant sexual behaviour, e.g. homosexual conduct.

[272] Heim and Hursch (1979), *supra* note 263, p. 288-293, citing F. Cornu, *Catamnestic Studies on Castrated Sex Delinquents from a Forensic-Psychiatric Viewpoint* (Karger, Basel, 1973) [in German].

[273] Heim and Hursch (1979), *supra* note 263, p. 293-296, citing J. Bremen, *Asexualization: A Follow-up Srudy of 244 Cases* (Macmillan, New York, 1959). Some of the castrated died during or after the operation but the majority of them belonged to the group of mentally impaired.

[274] See "Response of the German Government to the report of the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) on its visit to Germany from 25 November to 2 December 2010," (CPT/Inf (2012) 7, Strasbourg, 22 February 2012), p. 67, available at http://www.cpt.coe.int/documents/deu/2012-07-inf-eng.pdf (accessed on 8.2.3013).

[275] The 35 offenders were not operated either because they were not approved or due to the withdrawal of their application. The initial sample included 104 castrated and 53 non-castrated. However, in order to improve the methodological validity of the study some subjects were excluded from the sample.

[276] It was regarded as the 'valid follow-up period' that included only the time when the subject were free in order not to observe biased rates of re-offending (incarcerated prisoners cannot recidivate).

[277] Wille and Beier (1989), *supra* note 263. It should be mentioned that the two groups were similar in many respects. The differences in re-offending might have been even more striking if some of the non-castrated had not been incarcerated for the whole period, hence, prevented physically from recidivating.

sex offences.[278] However, since this method is highly controversial, other studies focus on the success of chemical castration.

A review of older studies from the 1960s and 1970s demonstrates that chemical treatment reduces sexual re-offending as well, in many occasions even after the treatment is completed.[279] A more recent study from 2006 exploited the law of Oregon that mandated sex offenders at high risk of reoffending to go through a chemical castration prior to their parole. This study compared released sex offenders who received chemical treatment (the treatment group) to those sex delinquents who were recommended to be treated and yet, were not treated (the control group). Whereas nearly 60% of the control group committed sexual offences after the release, none of the treatment group sexually reoffended, and this difference was found to be statistically significant.[280] Nevertheless, as was shown in a review of studies examining the usefulness of anti-androgen[281], motivation of the offender and the rate of compliance with the chemical treatment is an important element of success.[282]

3.9 Rehabilitation Programs

The goal of rehabilitation is to target the problem that leads the criminal to offend. It is not meant to deter potential offenders from committing crimes, but to treat the sources of their misbehaviour. According to the supporters of treatment, this may be achieved by psychological support, such as therapy for drug or alcohol abuse, socio-behavioural treatment, which would help the offender to reintegrate into the society, and other kinds of treatment.[283] Emphasis is often placed on keeping the offender's social ties, e.g. with his family members, believing that this method, together with improved educational and work opportunities, might reduce the chances of reoffending.[284] However, it should be kept in mind that this type of

---

[278] Friedrich Lösel and Martin Schmucker, "The Effectiveness of Treatment for Sexual Offenders: A Comprehensive Meta-Analysis," *Journal of Experimental Criminology* 1 (2005), 117–146, pp.129-136.
[279] John M.W. Bradford, "Organic Treatments for the Male Sexual Offender," *Annals of the New York Academy of Sciences* 528 (1988), 193-202. The evidence is regarding the Cyproterone acetate (CPA) and the reported side effects in some cases are tiredness, depression, gain of weight and occasionally gynecomastia.
[280] Barry M. Maletzky, Arthur Tolan and Bentson McFarland "The Oregon depo-Provera Program: A Five-Year Follow-Up," *Sex Abuse* 18 (2006), 303-316. Although not providing clear evidence on the long-term effect of the medication, the authors mention that the majority of the treated group have not been incarcerated for 2 years after release.
[281] Anti-androgen is a substance which constrains the effects of the male sex hormone.
[282] Prentky (1997), *supra* note 260.
[283] Andrew von Hirsch, Andrew Ashworth and Julia Roberts, *Principled Sentencing: Readings on Theory and Policy*, 3rd ed. (Hart Publishing, Oxford, 2009), pp. 3-4. (Hereinafter: "Principled Sentencing").
[284] Santiago Redondo, Julio Sánchez-Meca and Vicente Garrido, "Crime Treatment in Europe: A Review of Outcomes Studies," in *Offender Rehabilitation and Treatment: Effective Programmes and Policies to Reduce Re-offending*, James McGuire ed. (John Wiley & Sons Ltd, Chichester, England, 2002), 113-141, pp. 115-116. (Hereinafter: "Offender Rehabilitation and Treatment").

measure is not offered as a general policy, but limited to very specific group of offenders. Those are the offenders who can really benefit from the rehabilitation programs.[285]

The notion of rehabilitating offenders was not familiar until the 19th century since criminals were considered evil by nature. Crime was believed to be a sin and delinquents were perceived as immune to treatment. During the Enlightenment period society began beholding the potential offender as a rational and free person who chooses to commit crime in order to promote his interests. From this point on, punishment became relatively more humane, however, only at the end of the 19th century the penology philosophy introduced the idea of rehabilitation. Consequently, the focus shifted to the needs of the offender and the proper instruments to assist him in his rehabilitation and integration in the society. In those times, the rehabilitation programmes were available inside the correction institutions and only later on it was made available also in the communities.[286]

In the US, until the 1960s, rehabilitation was the stated goal of imprisonment punishment. Prisons were referred to as "correctional institutions" and the length of incarceration depended on the progress of the offender in rehabilitating. During the 1960s the criticism was mainly directed to the quality of the rehabilitation programmes in custody and there was a belief that the lack of the effect can be attributed to poor quality of the treatment. By the late 1970s the public trust in the rehabilitation ideal had significantly dropped, following, among others, the extensive research published by Robert Martinson[287] who concluded there is no empirical evidence that this method works. Consequently, the new justification of punishment (imprisonment), which replaced rehabilitation, was incapacitation.[288] This transformation might explain the growing rates of incarceration from there on.

In Europe, following a decline of confidence in the rehabilitation idea during the 20th century, the Council of European offered new recommendations for offenders' treatment in custody. The purpose is to rehabilitate the offender prior to his release to the community by offering him different individualised support, increasing his self-responsibility sense, and keeping his connections outside prison.[289] Many European countries adopted this recommendation into

---

[285] Anthony Bottoms, "Empirical Research Relevant to Sentencing Frameworks: Reform and Rehabilitation," in *Principled Sentencing* (2009), *supra* note 283, pp. 16-17.
[286] Susan E. Martin, Lee B. Sechrest and Robin Redner eds., *New Directions in the Rehabilitation of Criminal Offenders* (National Academy Press, Washington D.C., 1981), pp. 4-6.
[287] Robert Martinson, "What Works?: Questions and Answers about Prison Reform," *The Public Interest* 35 (1974), 22 – 54.
[288] Zimring and Hawkins (1995), *supra* note 74, pp. 6-12.
[289] Council of Europe, "Recommendation No. R (87)3 Of the Committee of Ministers to Member States on the European Prison Rules," (12 February 1987), paragraphs 67-70.

their national legislation.[290] Moreover, treatment programmes are also available in the community, which are frequently supervised by the probation[291] office.[292]

3.9.1 Law and Economics Analysis of Rehabilitation Programmes

Rehabilitation is not a classical law and economics instrument to prevent crime. Although it includes the aspect of incapacitation since during the treatment programme the offender's freedom is limited, incapacitation is not its goal. However, this method might improve future deterrence by 'correcting' the criminal's perception of incentives. For instance, deterrence might be improved by changing the perception of costs and benefits of a drug addict who commits property crimes in order to sponsor his addiction. A rehabilitation programme that treats the addiction successfully reduces the benefits of the crime by eliminating the dependence on drugs. Moreover, an offender who recovers from drug addiction might find legal opportunities more attractive than crimes.

3.9.2 Empirical Evidence

It is very difficult to obtain meaningful and robust empirical evidence for the effectiveness of rehabilitation programmes. Intuitively, it seems as if treating the features in the offender that drive him to commit crimes (e.g. addiction) is a promising way to reduce offending behaviour. This effect might also be found in many recent and older meta-analyses of different treatment programmes.[293] However, there are some inherent difficulties with these findings. First, the size of the effect varies tremendously between different studies. Second, most of the studies do not use randomised assignment either to the treatment or the control group. Since most of the treatment programmes are voluntarily, the motivation of the offender is a key element. Therefore, when a study presents significant improvement of offenders after treatment as compared to non-treated delinquents, it might be due to their inner motivation rather than to the success of the rehabilitation programme. Third, even if the design of the study is randomised, there is a problem of attrition, i.e. the tendency of some subjects to withdraw from the programme prior to its completion. This phenomenon might harm the internal validity of the results.

---

[290] Redondo, Sánchez-Meca and Garrido (2002), *supra* note 284, p. 115.
[291] For detailed discussion on probation see *supra* Section 3.4 of this Chapter.
[292] See for example Articles 56c-56d of the *German Criminal Code* (*Strafgesetzbuch*, StGB) that empowers the courts to assign convicted offenders to treatment programmes during their probation period.
[293] See for example *Offender Rehabilitation and Treatment* (2002), *supra* note 284; Lösel and Schmucker (2005), *supra* note 278; Friedrich Lösel, "Rehabilitation of the Offender," in *International Encyclopedia of the Social & Behavioral Sciences* (Elsevier Science Ltd., 2001), 12988-12993; Santiago Redondo Illescas, Julio Sánchez-Meca and Vicente Garrido Genovés, "Treatment of Offenders and Recidivism: Assessment of the Effectiveness of Programmes Applied in Europe," *Psychology in Spain* 5(1) (2001), 47-62.

There are not many randomised studies and the reason might be the undesirability in preventing motivated criminals from receiving treatment. Nevertheless, one meta-analysis, which includes two randomised studies, indicates that as compared to other studies, the randomised trials did not yield a significant effect size for the treatment group.[294] Another study, which was partially randomised, reached similar results. In this study Janice Marques and co-authors investigated the effectiveness of treatment for sex-offenders in California. For this purpose they created three groups (around 100 subjects in each group): (1) "treatment group" which included randomly chosen volunteers, (2) "volunteer control group" which consisted of offenders who did not receive the treatment although volunteered for it, and were matched to the treatment group, (3) "non-volunteer control group" which comprised of offenders who qualified for the treatment but refused to participate in it and were matched to the treatment group. The treatment group participated in the cognitive-behavioural programme for two years on average in a hospital and an additional year in the community. The re-arrest rates were assessed in the five years follow-up period after release. Due to dropouts from the treatment group the results are somewhat complicated. If considering the full treatment group, the results present a lower probability of this group to commit sex offences than the non-volunteer control group. On the other hand, if considering only those who completed the programme, it seems they had lower re-arrest rates than the volunteer control group as well. In addition, those who withdrew from the treatment group had very high reoffending rates.[295]

Regarding drug-abuse programmes, different studies were reviewed in the 1997 report prepared for the US congress on different methods to combat crime. This review demonstrated that these programmes are useful in reducing criminal behaviour. An important conclusion is that these findings are true for those who volunteered for the treatment and those who were 'forced' to go true it, thus in theory, overcoming the problem of motivation as a confounding factor. However, these studies did not take into account the attrition issue and as a result do not allow attributing the whole effect to the treatment rather than to the motivation of the offender to rehabilitate.[296]

---

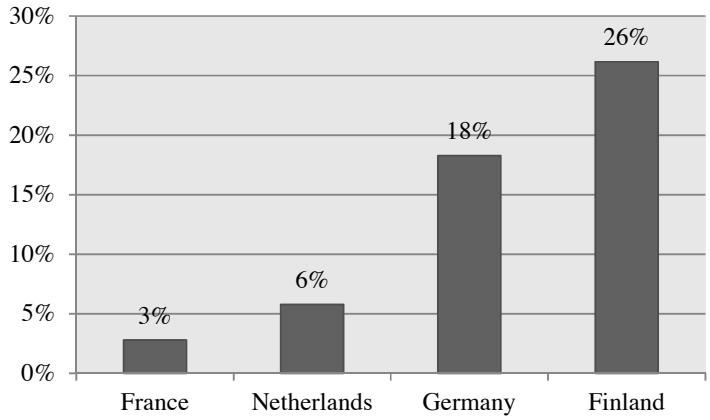
[294] Redondo, Sánchez-Meca and Garrido (2002), *supra* note 284, p. 130.
[295] Jenice K. Marques, David M. Day, Craig Nelson and Mary Ann West, "Effects of Cognitive-Behavioral Treatment on Sex Offenders," *Crime Justice and Behavior* 21(1) (1994), 28-54. It should be noted that these results are preliminary and were presented after seven out of 15 years of this project.
[296] *Preventing Crime* (1997), *supra* note 183, chapter 9.

The present state of the art suggests more research is needed using improved empirical methods. However, even with the current evidence it seems rehabilitation might be useful for certain offenders. Nevertheless, it is not an independent measure, but might be combined with other sanctions.

3.10 Suspension or Revocation of Driving License

The sentence or measure of suspending or revoking a driving license is mainly used in the context of driving while intoxicated. Since the Scandinavian countries were the pioneers of the drunken-driving laws,[297] it seems as if they are also the ones to initiate the use of this method to prevent the behaviour of drinking and driving. Suspension of a driving license might be used as a sentence imposed by the court, e.g. in Finland, or as an administrative measure imposed immediately by the police (called also as the administrative suspension or revocation of a driving license). While the former requires a conviction prior to removing the driving license, the latter usually enables the police to suspend the license for a limited period if the driver is found above a certain level of BAC (blood alcohol concentration) or refuses to provide with a breath test.[298] Nowadays, almost all the countries of interest use this method either as a sanction or a measure. For selected countries see Figure 9 bellow.

Figure 9: Proportion of Driving License Suspension out of all Criminal Sanctions in 2012 (Selected Countries)



Source: own figure based on multiple sources.[299]

[297] Johannes Andanaes, "Drinking and Driving Laws in Scandinavia," *Scandinavian Studies in Law* (1984), 12-23; Michael D. Laurence, John R. Snortum, Franklin E. Zimring eds., *Social Control of the Drinking Driver* (The University of Chicago Press, Chicago, 1988), pp. 85-86.
[298] See for example Articles 13353(a) and 13353.2(a)(1) of the *California Vehicle Code*.
[299] Condamnations selon la nature de la peine principale en 2012 (Statistics of France); Criminaliteit en rechtshandhaving 2012, Table 6.7 (Statistics of the Netherlands); Strafverfolgung - Fachserie 10 Reihe 3 – 2012,

3.10.1 Law and Economics Analysis of Licence Suspension

From the law and economics perspective suspending a driving license might be viewed as having a deterrent and incapacitation effects. This sanction is usually imposed on drivers who committed severe violations of the traffic rules. In order to protect society from the reckless behaviour of those drivers, the criminal system "incapacitates" the offender's right to drive, thus limiting his freedom. At the same time, it might have a deterrent effect if the driver has high opportunity costs from losing his driving license, e.g. employed as a driver. The advantage of such a sanction is that it exactly targets the offence. The person violates the rules of driving and in turn his right to drive is restricted. The costs of suspending are not high forasmuch as they involve only the administrative action of confiscating the license. Nevertheless, the monitoring costs to ensure the offender is not violating this suspension might be high. However, as it is shown in the next section, even though there is a tendency to violate the suspension by the drivers, it seems they drive more carefully during this period.

3.10.2 Empirical Evidence

Apart from imprisonment, a suspension of a driving license might be perceived as one of the most severe punishments for traffic offences. Consequently, it is imposed on the offences that are believed to inflict the highest costs on society. Those costs usually arise in the form of harm from road accidents. Therefore, it should not come as a surprise that the majority of the empirical evidence, which investigates the effect of this sanction, focuses on the drunk-driving offences. In order to estimate the effect of this sanction, authors usually proxy the rate of violations with the rate of drunk-related accidents. The following sections review some of the available evidence for the effectiveness of driving license suspension.

One empirical study from 2007 that used data from the US compared the alcohol-related fatal accidents in 46 states across the period of 1976-2002. The authors of this study were interested to estimate the effect of the sanction of suspending a driving license on alcohol-related accidents. Moreover, they examined whether there is a difference between systems, which suspend the license immediately after detecting the impaired driver as an administrative measure (pre-conviction) and those who impose the punishment only after conviction (post-conviction). This additional question enables to measure the impact of celerity of punishment that was mentioned in Section 3.1.2. In order to estimate the independent effect of suspension of the driver's license on the number of accidents, the

---

Tables 2.3, 5.3.5.4 (Statistics of Germany); Annual Review, Finnish Statistics 2013, available at http://www.stat.fi/til/syyttr/2012/syyttr_2012_2013-12-16_tie_001_fi.html (9.4.2014).

authors controlled for the legal changes in those states, including other penal policies that might have affected the results. In addition, this study controlled for road accidents unrelated to drinking in order to exclude other reasons for the changes in alcohol-related accidents, e.g. quality of the roads. The results demonstrated a deterrent effect of pre-conviction suspended license by showing around 5% reduction of the fatal alcohol-related accidents following the introduction of the relevant laws. The magnitude of this effect is estimated to be around 800 fewer fatalities per year in the US. On the other hand, the effect of post-conviction suspended license is not significant in most of the states, thus, implying that celerity is an important element in deterring drunk-drivers.[300]

Another study assessing the effectiveness of administrative license revocation was conducted in Canada. The authors of this study measured the fatality rates following the introduction of a new law that allowed for the suspension of a driving license for 90 days. The justifications for this measure were the refusal of the driver to provide a breath sample or a BAC level over 80mg%. The findings in the following year suggest that the introduction of this law was associated with a reduction in fatality and injuries of drivers above the stated BAC. However, the changes in the fatalities vary across different months.[301]

Support for this evidence regarding other traffic offences might be found also in older studies. During the 1970s a programme for habitual traffic offenders was introduced in the state of Oregon. According to the new law, an offender was defined as a 'habitual offender' if he committed three or more traffic offences in the period of five years and his license was revoked. After the second traffic offence, a warning was sent to the offender stating that an additional offence would result in his classification as a habitual offender and the revocation of his driving license. However, due to procedural deficiencies, in 1984 the content of the warning was changed and some drivers received a second warning. In order to assess the effectiveness of license revocation, the author of the study used this change to create a control group (n=522). Namely, drivers whose license should have been revoked, but avoided this

[300] Alexander C. Wagenaar and Mildred M. Maldonado-Molina, "Effects of Drivers' License Suspension Policies on Alcohol-Related Crash Involvement: Long-Term Follow-Up in Forty-Six States," *Alcoholism: Clinical and Experimental Research* 31(8) (2007), 1399-1406. It is worth mentioning that although the authors controlled for variety of variables that might explain the effect, they did not control for alcohol policies such as alcohol tax excise.

[301] Robert E. Mann, Reginald G. Smart, Gina Stoduto, Douglas Beirness, Robert Lamble, and Evelyn Vingilis, "The Early Effects of Ontario's Administrative Driver's Licence Suspension Law on Driver Fatalities with a BAC > 80 mg%," *Revue Canadienne De Santé Publique* 93(3) (2002), 176-180. It should be considered that this study, although using the empirical ARIMA model, fails to control for other policies, e.g. alcohol related taxes, which might have an effect on the road fatalities. In addition, it cannot exclude the possibility that the probability of enforcement was increased as well and might have had the more dominant effect.

sanction due to the technical problems described above. This group was compared to the treatment group (n=594), which included habitual offenders whose licence was *de facto* revoked in a comparable period. The results demonstrated that after a year, the treatment group had significantly lower rates of conviction for non-major traffic offences than the control group. The treatment group had also lower rates of conviction for other major offences but this difference was not significant. The difference in accidents rates was also not significant. However, since the notification of the sanction (license revocation) was delivered by mail, it appeared that only around 50% of the offenders received this notification. Once only this part of the treatment group is compared to the control group, the findings demonstrated significantly lower accident rates within the treatment group. This part of the treatment group also had significantly lower rates of conviction for non-major and major violations.[302]

3.11 Disenfranchisement

Disenfranchisement is the restriction of a citizen's voting right. Most countries that exercise disenfranchisement apply it on prisoners, but some expand it to non-incarcerated offenders. Nowadays it is not clear whether this is a punishment which aspires to achieve deterrence or retribution, a civil regulation which protects the electoral procedure or a combination of both.[303] Regardless this debate, disenfranchisement is usually not a separate sentence and is only imposed on those offenders who were otherwise sentenced.

In the US some states began disenfranchising felons already in the late 18th century. In the past this method was believed to constitute retribution and deterrence and was limited to severe crimes or crimes such as perjury, bribery and betting on elections. The disenfranchisement laws expanded after the civil war and it is asserted that those laws targeted crimes that were known to be committed more frequently by African-American offenders.[304] Therefore, even though it was not explicitly a discriminatory law, in practice it mainly restricted the voting rights of one population in particular. Already in the 19th century disenfranchisement concerned not only prisoners but also offenders on parole, probation and

---

[302] Barnie Jones, "Oregon's Habitual Traffic Offender Program: An Evaluation of the Effectiveness of License Revocation," *Journal of Safety Research* 18 (1987), 19-26.
[303] Alec Ewald and Brandon Rottinghaus eds., *Criminal Disenfranchisement in an International Perspective* (Cambridge University Press, Cambridge, UK, 2009), pp. 1-2. (Hereinafter: 'Criminal Disenfranchisement').
[304] Alexander Keyssar, *The Right to Vote: The Contested History of Democracy in the United States* (Basic Books, NY, 2000), pp. 63, 162.

ex-felons. However, starting from the late 1950s there was a trend of decreasing the number of laws that disenfranchise ex-felons.[305]

Nowadays, most of the states in the US have laws that restrict the voting rights of felons. Only two states, i.e. Maine and Vermont, allow even incarcerated felons to vote. Consequently, by 2010 around 5.85 million people were disenfranchised and could not practice their right as citizens.[306] It is one of the few countries (some states) that disenfranchise also non-incarcerated felons and even those who had completed their sentence. One of the greatest concerns regarding this tendency is the unequal treatment disenfranchisement creates, even if not intentionally. Since the majority of felons are African-Americans, the restriction of the voting right affects this population more than others.[307]

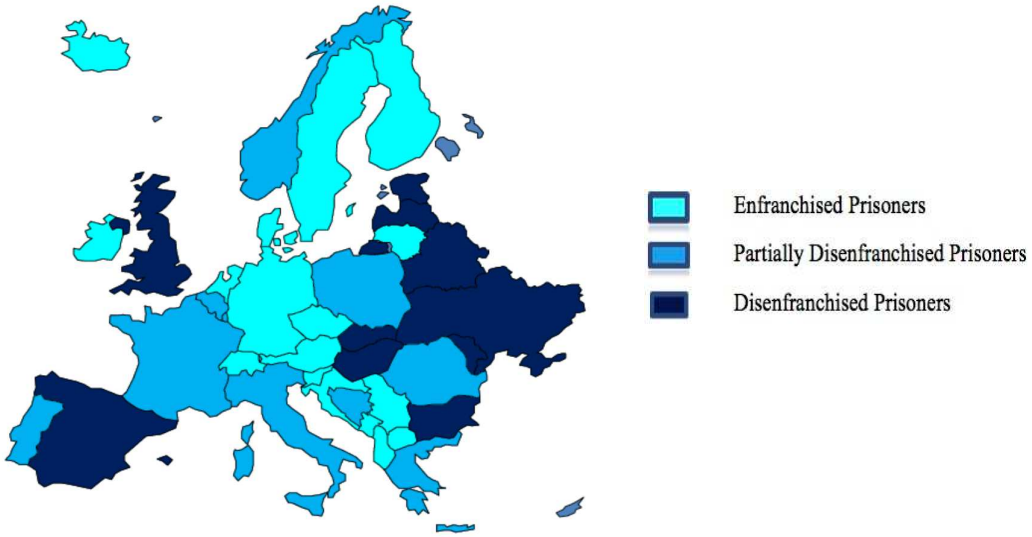
Disenfranchisement is also well known to the European history. It was already practiced in ancient Rome and Greece where offenders were losing different civil rights. In the medieval Europe the loss of civil rights was even more extreme and was called a 'civil death'. Those offenders who lost their citizenship rights were exposed to the mercy of the society since any person was allowed to harm them without being punished. This method continued to exist for centuries as a sentence in England.[308] In modern Europe, disenfranchisement is usually viewed as a punishment and meant to be imposed as an additional sanction by a judge.[309] The most common use of this limitation is for incarcerated prisoners (see Figure 10). However, in some countries it is prescribed to be imposed not within the custodial period. For instance, in Germany disenfranchisement might be levied for a limited period of time as a punishment for certain offences such as crimes against peace, terrorism, or offences related to elections. This sentence begins only after (if any) a custodial punishment was served and the incarceration period is not calculated for the disenfranchisement term.[310] The use of this sentence is very rare. Between the years 2005-2012, only 11 offenders in Germany lost their voting right (or the right to be elected and hold a public office) as part of their criminal sentence.[311] Another

[305] Jeff Manza and Christopher Uggen, "Punishment and Democracy: Disenfranchisement of Nonincarcerated Felons in the United States," *Perspectives on Politics* 2(3) (2004), 491-505.
[306] Christopher Uggen, Sarah Shannon, and Jeff Manza, "State-Level Estimates of Felon Disenfranchisement in the United States, 2010," *The Sentencing Project* (2012).
[307] Manza and Uggen (2004), *supra* note 305.
[308] *Ibid*., p. 492.
[309] Nevertheless, the relevant provision limiting the right to vote in some countries is enshrined in election legislation. See for example, Article 3 to the *Representation of the People Act 1983* that disenfranchises prisoners in the UK.
[310] Articles 45(5), 45a, 45b(2)(2), 129a, 107, 107a, etc. of the *German Criminal Code* (StBG).
[311] Strafverfolgung - Fachserie 10 Reihe 3: 2005-2012, Table 5.1.

country with a similar practice is the Netherlands.[312] Other countries, i.e. Belgium, Greece, Italy and Luxemburg, relate disenfranchisement to the length of the sentence and sometimes even allow extending it to the post-incarceration period.[313]

An important ruling on the matter of criminal disenfranchisement was given by the European Court for Human Rights in the case of *Hirst v. United Kingdom* in 2005. In this case a convicted prisoner claimed that a 'blanket ban' on prisoners' voting rights is against the Convention for the Protection of Human Rights and Fundamental Freedoms ("the Convention"). The court asserted that a state has a right to disenfranchise certain people, thus, not turning this practice to unacceptable *per se*. However, when a state decides on its disenfranchising rules, it has to take into consideration matters such as the aim of this rule and its proportionality. Therefore, an automatic blanket ban on the voting right of prisoners, which is a general rather a tailored restriction, is a violation of the Convention.[314]

Figure 10: Prisoners' Disenfranchisement in Europe (Majority of Countries)



Source: own figure based on a table from Laleh Ispahani, "Voting Rights and Human Rights: A Comparative Analysis of Criminal Disenfranchisement Laws," in *Criminal Disenfranchisement* (2009), *supra* note 303, p. 27.

3.11.1 Law and Economics Analysis of Disenfranchisement

From the law and economics perspective disenfranchisement might be seen as the "incapacitation" of a voting right. In addition, in theory it might serve as a deterrent effect due to its limiting force on the ability of citizens to design the political scene in their country. Its

[312] Article 28 of the *Dutch Penal Code*.
[313] Laleh Ispahani, "Voting Rights and Human Rights: A Comparative Analysis of Criminal Disenfranchisement Laws," in *Criminal Disenfranchisement* (2009), *supra* note 303, pp. 25-58.
[314] *Hirst v. United Kingdom* (No. 2), 681 Eur. Ct. H.R. (2005).

costs of administration are expected to be marginal. However, its practical effect is not so straightforward. It might deter potential offenders from committing future crimes only forasmuch as it imposes sufficient expected costs. In that case, a question arises whether potential offenders exercise this right when it is not limited. If not, the incapacitation of this ability has zero expected costs for them. All the more so, in countries that have mandatory voting rule with a sanction for not voting, e.g. Belgium[315], where disenfranchisement might even constitutes a benefit. In addition, even if it is assumed that potential offenders practice this right, a general disenfranchisement may not serve as a deterrent element. The reasoning behind this argument is that different crimes have different benefits, thus requiring different expected costs in order to deter. Furthermore, unless the offence in question was committed by exercising the voting right (which is rarely the case), or there is a concern it might be exercised for this purpose in the future,[316] from the law and economics point of view, there is no real rationale for incapacitating this ability. Following this argumentation, the usage of this sanction may be justified only regarding offenders who act against the state or the voting system in order to protect the society from their negative use of the democratic process.

3.11.2 Empirical Evidence

The focus of empirical studies regarding disenfranchisement is on the impact it has on electoral turnout[317] and electoral outcomes rather than its deterrent effect. Possible explanation for that might be the apparent obstacles to assess the independent effect of this method on future crimes. It seems as if disenfranchisement is imposed only as an additional sanction or a measure and never as a primary one. Therefore, any ostensible reduction of crime may not be attributed to the limitation of the offenders' voting right. The following section first demonstrates the difficulty to infer a reliable conclusion regarding the impact of disenfranchisement on criminal behaviour, and consequently focuses on the second question, i.e. whether disenfranchisement have an effect on elections.

In 2004, two sociologists, Jeff Manza and Christopher Uggen, made an attempt to investigate empirically whether there is a correlation between the rates of voting and criminal behaviour. In their study they found that those people who did not vote were more frequently arrested

---

[315] Although mandatory *de-jure*, this obligation is not enforced *de-facto* already for years. See http://www.7sur7.be/7s7/fr/1502/Belgique/article/detail/1067652/2010/02/15/Vers-la-fin-du-vote-obligatoire.dhtml (accessed on 19.6.2014).

[316] There is an argument that ex-convicts might use their vote to revenge against the authorities that punished them or to weaken the criminal justice system. However, this situation does not seem plausible since a real effect would require the cooperation of many felons for this particular purpose. See Thomas J. Miles, "Felon Disenfranchisement and Voter Turnout," *Journal of Legal Studies* 33 (2004), 85-128, pp. 119-120.

[317] "Election turnout" - the proportion of people who actually voted out of all voting-eligible people.

and incarcerated.[318] There is an intrinsic difficulty to infer any impact disenfranchisement might have on criminal behaviour from these results. Since the direction of the causality is not clear, these findings might simply imply that non-felons tend to vote more than felons. In this case, disenfranchisement does not even constitute a possible infringement of rights (as discussed in Section 3.11) since offenders tend to exercise this right to a lesser extent than law-abiding citizens.

In a study from 2002, Uggen and Manza estimated the expected effect disenfranchisement might have had on the US elections between the years 1972-2000. In order to predict the voting behaviour of the disenfranchised felons, they matched their characteristics (social and demographic) to voting-eligible population. Based on this analysis, the authors demonstrated that around 35% of the felons would have participated in the presidential election and 24% in the Senate election. In addition, they showed that the majority of these potential voters would have elected Democratic candidates. Using this estimation, Manza and Uggen demonstrated that some close Senate and presidential elections where the Republicans had won might have been overturned.[319]

On the one hand, the prediction of the potential felons' turnout might be conservative since the authors match the socio-demographic characteristics of incarcerated disenfranchised felons. This class of offenders are plausibly in a worse situation than non-incarcerated felons who constitute a major portion of disenfranchised population, thus, understating the ex-felons' voting rate. On the other hand, the abovementioned study from 2004 implies that felons vote less than non-felon population, or at least less than those with lower rates of offending. Therefore, a voting prediction, which is based on a matching method between non-felon voters and disenfranchised felons, might overestimate the potential election turnout of the latter group.

Since the reliability of the above findings depends on the accuracy of the predicted voting rates, it might be assessed using the empirical study by Thomas Miles on felons' turnout. In his study, Miles investigated cross-state turnout rates during the period of 1986-2000 while controlling for race, gender and the existence of ex-felons disenfranchising laws. This empirical design enabled to disentangle the causal effect of disenfranchisement on turnout rates from the effect of other important factors such as race and gender. The findings of this

[318] Christopher Uggen and Jeff Manza, "Voting and Subsequent Crime and Arrest: Evidence from a Community Sample," *Columbia Human Rights Law Review* 36(193) (2004).
[319] Christopher Uggen and Jeff Manza, "Democratic Contraction? Political Consequences of Felon Disenfranchisement in the United States," *American Sociological Review* 67 (2002), 777-803.

study suggest that although African-American men are disenfranchised most frequently, disqualification of ex-felons from voting has no impact on the election turnout rates of African-American males. These results are consistent with other studies that suggest that ex-felons abstain from voting. In other words, even when enfranchised, ex-felons chose not to exercise their voting right.[320]

3.12 Restorative Justice or Mediation

The idea of direct communication and compensation of the victim is an old notion and was already practiced in Europe in the 10th century. In those times in England for example, the offender was obliged to pay a *bot* to the victim of his crime and a *wite* to the victim's lord.[321] Restitution in ancient times meant to replace the vengeance system which was practiced before that, and consequently to reduce the violence of the private retribution. Contrary to the modern penal system, the focus was placed on the liability of the wrongdoer and his obligation to compensate the victim, rather than the offender's moral blame and the reasons for his behaviour.[322] Consequently, crimes were dealt more under a system of torts rather than the criminal justice system. A couple of centuries later the king replaced this direct system of compensation into more centralised sentencing regime controlled by the state. Due to the greed of the lords in Europe, the victims were crowded out of the sentencing system, the compensation was transferred to the state and additional punishments, e.g. torture, were introduced. Consequently, restitution became a part of civil law.[323]

The notion of restorative justice or mediation was revived at the 20th century. However, its role in the criminal justice system is significantly more limited than it was originally and in many jurisdictions often applied mainly to juveniles.[324] In the US, restorative justice programmes were introduced in the 1970s, and currently focus on diverging non-violent juvenile delinquents from the criminal justice system. These programmes are mainly managed

---

[320] Miles (2004), *supra* note 316.
[321] *Principled Sentencing* (2009), *supra* note 283, p. 163.
[322] *Restorative Justice* (2002), *supra* note 76, pp. 36-43.
[323] Stephen Schafer, *Restitution of Victims of Crime* (Stevens & Sons Limited, London, 1960), pp. 3-12.
[324] Interestingly, there are still communities nowadays outside the countries of interest, which are practising restorative justice. One example is the institution of '*Sulha*' practiced by Israeli Arabs. Although there is an official criminal justice system, Israeli Arabs simultaneously exercise their customary law. Under this customary system, if a murder occurs for example, the victim's family is entitled to revenge the death by taking the life of the perpetrator or his adult male family members. However, the parties may participate in a '*sulha'* which is a mediation process managed by the community members. During this meeting the perpetrator and the victim's family members may reach an agreement that the offender will pay a compensation for the murder. Other conditions can be included in the agreement. Once the conditions are fulfilled, the victim's family has no longer a right for revenge and the dispute is ended. See Nurit Tsafrir, "Arab Customary Law in Israel: *Sulha* Agreements and Israeli Courts," *Islamic Law and Society* 13(1) (2006), 76-98.

by private non-profit organisations.[325] In Europe, the practice of this institution is broader, and sometimes includes also adult offenders and more severe crimes. Some countries use restitution and compensation of the victim as a signal of a good will and a way to avoid prosecution in certain offences. In this sense, modern restorative justice might be viewed as a dispute resolution mechanism. For instance, In Finland, the idea of mediation was revived in the 1970s, and in the early 1980s some areas in Finland started experimenting with this procedure. At the beginning it was managed outside the criminal justice system with the purpose to resolve the problem before it reaches the justice system. With time the authorities became more involved and enabled the spreading of this procedure. Nowadays, it is managed by social workers and it is on a voluntarily basis. The cases are referred by the police to the mediation office and it usually concern juveniles under the age of 18.[326] From the legal point of view, Section 7 to the *Finnish Criminal Code* enables the waiver of prosecution in the case where the offender compensated the victim for the harm he caused, and this amount may be considered as a sufficient punishment.[327]

Other countries use restitution in the pre-sentencing stage and allow considering it as a mitigating factor. For example, Section 46a to the *German Criminal Code* provides that restitution by the offender, where he fully or significantly compensates the victim, may result in a mitigation of the punishment or even a full discharge (in certain circumstances).[328] Similarly, article 74(8) to the *General Penal Code of Iceland* provides a possibility of punishment mitigation, below the prescribed minimum by the law, in case of restitution initiated by the offender.[329]

Another model of restorative justice might be found in Belgium. In 1993, pre-conviction mediation was initiated in one city and later on expanded to other cities. This process is independent of the justice process though managed with close relationship with the prosecutor and the judge. In this process a professional mediator is in charge of the communication between the offender and the victim and prepares the document for the restoration. This non-governmental institute of mediation (named *suggnomè*) is sponsored by the Ministry of Justice. In addition to this institute, in 1998 another mediation program was introduced on the

---

[325] Leena Kurki, "Restorative and Community Justice in the United States," *Crime and Justice* 27 (2000), 235-303, pp. 268-273.
[326] Terttu Utriainen, "Community Sanctions in Finland" in *Community Sanctions* (2002), *supra* note 220, pp. 202-205.
[327] Section 7 - Waiver of measures (769/1990) of the *Finnish Criminal Code*.
[328] Section 46a - Reconciliation; restitution of the *German Criminal Code* 1998.
[329] Article 74(8) of *General Penal Code of Iceland* 1940.

police level and focused on financial restitution related to minor offences such as property crimes. Those mediations are usually not made face-to-face.[330]

3.12.1 Law and Economics Analysis of Restorative Justice

From the law and economics point of view the purpose of restorative justice is to reinstate the equilibrium to the society. Any crime imposes costs on the victim (or the society as a whole). This might involve the tangible costs of damaged property for example, and the intangible costs of moral harm. In the process of restitution the offender is expected to take responsibility over his acts, apologise and to transfer the victim pecuniary compensation to cover the losses. This process is not only believed to recover all the costs of the misconduct and to restore the pre-crime equilibrium, but to deter future crime. A possible channel of deterrence in this case is the 'shaming' element of restorative justice. On the other hand, since restorative justice also intends to restore the social status of the offender, the expected costs of this sanction for the offender decrease (weakened stigma). In these circumstances, it seems that the crime might be attractive *ex-ante* since the punishment is only to return what was taken by the offender, and the probability of detection is incomplete. Therefore, the expected costs of the crime are lower than the benefits. The costs of administering this sanction are not negligible since it involves the employment of third parties to facilitate the process.[331] To enhance the effectiveness of this sanction/measure, it may be combined with other forms of punishment.

3.12.2 Empirical Evidence

It is a very challenging task to measure the effectiveness of restorative justice in decreasing reoffending rates. First, this procedure is rarely used as a primary sentence, thus hindering the possibility to investigate the independent impact of mediation. Second, in many countries restorative justice is mainly reserved for juvenile offenders who are not the focus of the current analysis. Third, there is an apparent selection bias. The process of mediation is usually voluntarily, thus the participating offenders might be more motivated than other offenders. This inner motivation, rather than the procedure of restorative justice itself, might have the primary effect on future reoffending. Due to these difficulties there are not many studies that can provide the required evidence. Nevertheless, the present section describes several studies

[330] Ivo Aertsen and Katrien Lauwaert, "Community Sanctions and Measures in Belgium" in *Community Sanctions* (2002), *supra* note 220, pp. 55-56.
[331] For costs of different schemes see for example, Barry Webb ed., *An Exploratory Evaluation of Restorative Justice Schemes* (Home Office, UK, 2001), pp. 61-74.

that attempt to overcome these obstacles and provides some estimation of restorative justice's effects.

In the UK, an extensive study was conducted in order to assess whether the restorative justice process has an effect on following reconviction rates. One part of the study examined a sample of 232 offenders who were referred to mediation in West Yorkshire in the period of 1993-1997. The treatment group consisted of delinquents who participated in mediation, and the control group included offenders who did not take part in the mediation, mainly due to a refusal by the victim. The characteristics of the offenders and the offences between the two groups were somewhat similar. In addition, the risk level of reconviction according to risk estimation score revealed similar results for the two groups. Nevertheless, the control group had on average more prior offences (not statistically significant difference), and the treatment group was more often referred to the mediation subsequent to violent offences. The findings of this study demonstrated that the offenders who participated in the mediation had lower rates of reconviction in the following two years, than those who did not participate, and this difference was statistically significant. The effectiveness of the restoration process appeared to be stronger for low-risk offenders.[332]

A more recent study in England and Wales used several groups of adult offenders to test the level of reoffending following a restorative justice process. In two of the projects, the treatment group consisted of offenders who participated in restorative justice. The control group included offenders who did not, but were matched to the treatment group on traits that are believed to influence criminal behaviour. Nevertheless, those groups were not matched on criminal history, but standard risk assessment showed no statistically significant difference between the groups. In the third project, a randomised experiment was conducted. After receiving consent from both parties (offenders and victims), people were randomly assigned either to the restorative justice group, or to the control group that was not exposed to this process. In order to assess the effect of restorative justice, the rate of reconvictions of all participants was assessed over a two-year period after receiving a sentence or dealt by the restorative justice process. The result of this study demonstrated that the treatment group had

[332] Webb (2001), *ibid*., pp. 42-48. It should be noted that a conviction rate is only a proxy for re-offending. A bias in the results might exist due to the fact that not all the committed offences (not even the majority) are resolved with a conviction.

fewer reconvictions during the examination period as compared to the control groups. Those results are statistically significant, and did not depend on the type of offences.[333]

Another study, conducted in Australia, assigned randomly 900 drunk-driving offenders either to court or to conference (restorative justice process). The results demonstrated higher reoffending rates in the following year for the conference group. Yet, this difference disappears in the long run. It should be noted that a conclusion could not be reached from this study for the reason that the court had the power to impose suspension of driving license, which might explain the lower rates of reoffending in the short run. Although not relevant for the current chapter, this study found lower reoffending rates after the restorative justice procedure for juvenile violent crimes, but no difference for property crimes.[334]

A more recent study reviewed existing evidence on the effectiveness of restorative justice on subsequent reoffending. This study thoroughly selected research projects that used sound methods to reassure reliability of results. The review of the existing research illustrates that the process of restorative justice can reduce reoffending rates, or at least not to increase it, as compared to the criminal justice process. However, this effect depends on the type of offenders and offences. Contrary to the conventional belief, this survey of studies found that restorative justice has a larger and more consistent effect on serious crimes (violent crimes), rather than minor offences (property, drunk driving).[335] Recidivism-reducing effect of restorative justice can be also found in a comprehensive survey of practices and research in different EU member states and the US. Interestingly, the findings in this study suggest that restorative justice has a larger effect on less experienced and low-risk offenders.[336]

4. Concluding Remarks

The evident development of the sanction system demonstrates that there is no single justification or goal of punishment. Past sentencing policies were characterised as more cruel

[333] Joanna Shapland, Anne Atkinson, Helen Atkinson, James Dignan, Lucy Edwards, Jeremy Hibbert, Marie Howes, Jennifer Johnstone, Gwen Robinson and Angela Sorsby, *Does Restorative Justice Affect Reconviction? the Fourth Report From the Evaluation of Three Schemes* (Home Office, Ministry of Justice Research Series 10/08, 2008).
[334] Lawrence W. Sherman, Jerry Lee, Heather Strang and Daniel J. Woods, "Recidivism Patterns in the Canberra Reintegratiove Shaming Experiments (RISE)," (2000) available at http://www.aic.gov.au/criminal_justice_system/rjustice/rise/recidivism.html (accessed on 18.3.2013).
[335] Lawrence W. Sherman and Heather Strang, *Restorative Justice: the Evidence* (The Smith Institute, 2007).
[336] Isabella Mastropasqua and contributors, *Restorative Justice And Crime Prevention: Presenting a Theoretical Explanation, an Empirical Analysis and the Policy Perspective* (European Forum for Restorative Justice in co-operation with Department of Juvenile Justice, Italy, European Forum for Restorative Justice (Belgium), Psychoanalytic Institute for Social Research (Italy), University of Leeds and Catholic University of Leuven, 2010).

and a larger emphasis was put on the retribution of crimes. Repeatedly the punishment was by itself reflecting the pain of the crime. As time passed, Western society adopted the idea of criminal law as a deterrence mechanism. New notions, such as incapacitation and rehabilitation, were developed and changed the face of the sentencing system. More emphasis was put on the offender or the victim rather than on the offence. Furthermore, the criminal systems began using also measures rather than sanctions, in order to avoid future crimes. Finally, the criminal systems in the countries of interest became more "humane" and concerned with the offenders' rights and wellbeing. Nowadays, although occasionally pronounced, retribution and desert play less of a role. The main goal is to prevent crime with forward-looking methods.

This chapter presented the expansion of the sentencing system. Not long time ago prison and fines were the prominent methods of punishment. However, the 20th century witnessed a rapid development of the sentencing policies. New forms of sanctions were introduced in order to give an answer to the problem of increasing prison population. Since different crimes impose dissimilar costs on the society, the new system may be better adjusted to provide proportionality in sentencing. This tailoring of punishment to the offence and the offender may serve as a better deterrence mechanism (especially marginal deterrence) and imposes lower costs of administration. For instance, as presented in this chapter, in Finland imprisoning an offender in custody costs 167€ per day; monitoring him at home using an electronic device costs the state around 60€ per day; and finally imposing community service on the criminal results only in 14€ per day. Fines and suspended sentence are expected to be even less costly sanctions. Thus, if a culprit may be deterred by less costly methods, there is no reason to impose on him severe and costly punishments. Expansion of the sentencing continuum provides flexibility and costs-effective system.

A range of empirical evidence shown in this chapter suggests that there are different levels of effectiveness among the diverse categories of punishment. However, most of the sanctions or treatments demonstrate positive results. Nevertheless, there is still a room for improvement in the implementation of the punishments and the possibilities to expand their use. From a law and economics perspective other sentences besides prison and fine may achieve the goals of deterrence and incapacitation, and possibly in a less costly manner.

The following chapters focus on the main sanctions, i.e. fines, community service, electronic monitoring and prison. Most of the offenders receive (or should receive) one or a combination

of those sanctions, thus their implementation strategy has a strong impact on the cost-effectiveness of the whole sentencing systems.

Appendix 1

Table 4: The Abolition of the Death Penalty in the Schengen Area (Selected Countries)

Country	Date of complete abolition	Date of abolition for ordinary crimes	Date of last execution
Austria	1968	1950	1950
Belgium	1996	--	1950
Finland	1972	1949	1944
France	1981	--	1977
Greece	1994	1993	1972
Portugal	1976	1867	1847
Luxemburg	1979	--	1949
Italy	1994	1947	1947
Germany	1949/1987[1]	--	1949
Denmark	1978	1930	1950
Netherlands	1983	1870	1952
UK	1998	1965[2]	1964
Ireland	1990	--	1954
Spain	1995	1978	1975
Sweden	1973	1921	1910
Norway[3]	1979	1905	1948
Switzerland[3]	1992	1937	1945
Iceland[3]	1928	--	1830
Cyprus	2002*	1983	1962
Malta	2000	1971	1943
Czech	1990	--	1989
Estonia	1998	--	1991
Latvia	2012**	1999*	1996*
Lithuania*	1998	--	1995
Bulgaria	1998	--	1989
Romania	1990	--	1989
Slovenia	1989	--	1957
Hungary	1990	--	1988
Poland	1997	--	1988
Slovakia	1990	--	1989

Source: table based on Roger Hood, *The Death Penalty: A World-wide Perspective* (Clarendon Press, Oxford, 1996), pp. 241-247; Roger Hood, "Capital Punishment: A Global Perspective," *Punishment & Society* 3 (2001), 331-354. (Selected countries).
Other sources:
* http://www.capitalpunishmentuk.org/europe.html (accessed on 28.1.2013).
** Amnesty International http://www.amnesty.org/en/death-penalty/countries-abolitionist-for-all-crimes (accessed on 28.1.2013).
Notes:
[1] West Germany (FRG) abolished the death penalty in 1949. East Germany (GDR) abolished the death penalty in 1987. The last execution in West Germany was in 1949, there is no information on the date of the last execution in East Germany. See Hood (1996), p. 243.
[2] In Northern Ireland the death penalty was abolished in 1973. See Hood (1996), p. 244.
[3] Those countries are not EU member states but are in the Schengen area.

Table 5: The Abolition of the Death Penalty in the US

States which have the death penalty	States which abolished the death penalty	Date of abolition
Alabama	Alaska	1957
Arizona	Connecticut	2012
Arkansas	Hawaii	1957
California	Illinois	2011
Colorado	Iowa	1965
Delaware	Maine	1887
Florida	Massachusetts	1984
Georgia	Michigan	1846
Idaho	Minnesota	1911
Indiana	New Jersey	2007
Kansas	New Mexico	2009
Kentucky	New York	2007
Louisiana	North Dakota	1973
Maryland	Rhode Island	1984
Mississippi	Vermont	1964
Missouri	West Virginia	1965
Montana	Wisconsin	1853
Nebraska		
Nevada		
New Hampshire		
North Carolina		
Ohio		
Oklahoma		
Oregon		
Pennsylvania		
South Carolina		
South Dakota		
Tennessee		
Texas		
Utah		
Virginia		
Washington		
Wyoming		

Source: Death Penalty Information Center, available at http://www.deathpenaltyinfo.org/states-and-without-death-penalty (accessed on 18.12.2012).

Appendix 2

Table 6: Probation Services' Activities

	Austria	Belgium	Denmark	England & Wales	Finland	France	Germany	Ireland	Italy	Luxemburg	Netherland	Norway	Portugal	Spain	Sweden	Switzerland
Supervising/organizing, etc. community service/corrective labour	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
Preparing social inquiry/pre-sentence reports		X	X	X	X	X	X	X	X	X	X	X	X		X	X
Supervising, etc. sanctions /conditions of probation		X	X	X		X		X	X	X	X	X	X	X	X	X
Supervising, etc. suspended /conditional sentences	X	X	X	X	X	X	X	X			X	X	X	X		
Supervising, etc. drug/alcohol or other treatment programmes			X	X		X	X			X	X	X	X	X		X
Supervising/organising training/ learning projects or educational measures			X	X		X	X	X		X	X	X		X	X	
Supervising, etc. conditional/ provisional release/parole	X	X	X	X	X	X	X				X	X	X	X	X	
Providing mediation/victim support	X	X	X	X			X	X				X	X			
Primary and secondary prevention	X	X	X	X	X	X							X		X	X
Assistance/support to prisoners in prison, preparation and support of prison leaves, etc.: elaboration and management of individual detention plans		X					X	X	X	X				X		
Supervising etc. special measure for drug addicts				X		X		X		X	X		X	X		X
Providing advisory reports with respect to amnesty/pardon or conditional release/parole		X	X			X	X			X	X		X	X		
Providing supervision assistance to offenders whose pre-trial detention has been conditionally suspended	X		X				X			X	X	X	X			
Supervision, etc. mentally ill or retarded offenders (in patient /outpatient orders)	X		X	X		X					X		X	X		X
Supervising/assisting, etc. offenders whose cases have been conditionally waived		X	X	X		X	X				X				X	X
Supervising, etc. electronic monitoring	X	X	X	X		X	X			X			X		X	X
Supervising, etc. semi-liberty						X		X	X	X				X		
Providing assistance to persons who have been pardoned/granted amnesty			X				X			X	X					
Early help/intervention/social care, support and information		X		X							X					
Providing assistance/support to offenders during home detention			X						X			X				

	Austria	Belgium	Denmark	England & Wales	Finland	France	Germany	Ireland	Italy	Luxemburg	Netherland	Norway	Portugal	Spain	Sweden	Switzerland
Other activities:																
Post release after-case	X						X									
Day centre/attendance centre activities				X												
Compulsory address registration				X												
Restriction of liberty or deprivation of the right to hold certain positions				X												
Supervising, etc. semi-detention									X					X		
Supervising, etc. special treatment orders, sex offences prevention orders, risk or sexual harm orders replacing incarceration			X								X					
Providing supervision/assistance to pre-trial detainees											X					
Providing family support										X						
Supervising enforcement of freedom restriction sentence											X					
Coordinating volunteer prison visitors										X						

Source: Anton M. van Kalmthout and Ioan Durnescu eds., *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), pp. 19-20 (selected countries).

Chapter 3 Day-Fines and the Secondary Enforcement System: Should the Rich Pay More?[337]

1. Introduction

> *"…in the ideal world fining would be so precise in relation to income and wealth that default rates would be uniform across social class. That is not the case now, where both the rich and the poor present problems; the rich because of the dismissive ease with which they may pay fines, and the poor because they cannot pay fines."*[338]

It might be said that rich people can put a price on offences. Especially the offences that are not considered by most people criminal and stigmatising, e.g. traffic violations. In most jurisdictions the fine for this kind of offences are uniform and thus the wealthier the person is, the more attractive it is for him to "purchase' the pleasure of violation. However, the result may be different in a system of price discrimination such as day-fines. Under this structure not only the severity of the offence is considered, but the financial ability of the violator to pay as well. As a result, the attractiveness of committing an offence is the same for all potential violators. To illustrate this, in 2007 a €112,000 fine was imposed on a driver who exceeded the permitted speed limit in Finland.[339] Similarly, in 2001, the Finnish criminal system inflicted a fine of around €35,300 on a driver who drove through a red light.[340] The yearly income of these two drivers was assessed in millions, thus the high fine.

The day-fine system is based on a two-stage process. In the first stage the court[341] assesses the severity of the offence and imposes the number of *day* fines based on this assessment; the severer the crime, the higher the number of days. In the second stage, the court estimates the financial state of the offender and sets the daily *unit* of the fine equal to a certain fraction of the person's daily income. The total fine inflicted on the offender equals the number of days

---

[337] This chapter is partially based on my paper "Day-Fines: Should the Rich Pay More?" *Review of Law and Economics* (forthcoming). I would like to thank Michael Faure, Christoph Engel, Louis Visscher, and Paul Mevis for their valuable comments. In addition, I am grateful to the participants of the guest lecture in Max-Planck Institute for Research on Collective Goods in Bonn; the 1st Topics Workshop in Criminology at Erasmus University Rotterdam; the Mid-Term-Meeting workshop in Erasmus University Rotterdam, and faculty seminars at Bologna University and at Erasmus University Rotterdam for their useful suggestions. Lastly, I would like to express my gratitude to Jaroslaw Kantorowicz for all his comments and support. All possible mistakes remain, however, my own.

[338] Ken Pease, "Community Service Orders," *Crime and Justice* 6 (1985), 51-94, p. 74.

[339] See http://www.hs.fi/english/article/-/1135244082566 (accessed on 16.5.2013).

[340] See http://www.iltasanomat.fi/kotimaa/art-1288335939159.html [in Finnish] (accessed on 28.5.2013).

[341] In some systems, other enforcement authorities (e.g. prosecution, police) are empowered to impose day-fines, therefore, when it is mentioned "court" it is referred to these authorities as well.

(which is the same for all offenders committing the same crime) multiplied by the daily unit (which differs between offenders). Consequently, although the nominal amount differs across offenders who committed the same crime, the relative burden of the punishment is the same.[342] In the example of the Finnish drivers the daily unit of fine was the same as for low-income offenders in terms of portion from the income. Yet the nominal amount was larger due to a significantly higher salary.

As has been discussed in the previous chapter, the fine is an important form of sanction from the law and economics perspective, and in practice. In many countries, the fine is the main punishment that is imposed on a large portion of offenders. Therefore, it is of a great importance to find the most cost-effective form of fines. Since the seminal work by Gary Becker in 1968, scholars attempt to develop a model for the optimal fine that would achieve deterrence in the least costly manner.[343] There are different models of pecuniary sanctions describing the optimal fine that should be imposed on offenders. One model, which is derived from tort law, suggests equalling the fine to the harm caused by the offence.[344] Another theoretical suggestion is to equal the fine to the wealth of the offender.[345] However, the most practiced model of pecuniary punishment is the "fixed-fine"[346] which sets the fine based on the severity of the offence and the blameworthiness of the offender.

This chapter analyses the system of day-fines from the law and economics perspective.[347] Based on this approach it is asserted that the day-fine system is a superior model to other pecuniary sanctioning methods. First, contrary to the other models, day-fine enables the enforcement authorities to use this penalty as a sole punishment for many offences without resorting to imprisonment. The reason for this possibility is that the fine takes into consideration the offender's capacity to pay. Second, due to the special structure of the day-fine system, it may be tailored to the offence (i.e. severity) and the offender (i.e. financial state), thus potentially achieving general deterrence without harming marginal deterrence. Furthermore, a structured sentencing system such as the day-fine is attractive from the legal

---

[342] This kind of fine was already suggested by Bentham (1931), *supra* note 11, p. 353.
[343] Becker (1968), *supra* note 13, 169-217.
[344] See for example, Becker (1968), *ibid*., pp. 191-192; Mitchell Polinsky and Steven Shavell, "The Optimal Tradeoff between the Probability and Magnitude of Fines," *The American Economic Review* 69(5) (1979), 880-891, p. 880.
[345] See discussion in Section 3.1.
[346] Under this system, there is a fixed maximum fine in the law and the court is allowed to impose any fine up to this limit, based on the severity of the crime.
[347] For an economic model depicting different virtues of a "wealth-dependent" fine see Moshe Bar Niv and Zvi Safra, "On the Social Desirability of Wealth-Dependent Fine Policies," *International Review of Law and Economics* 22 (2002), 53-59.

perspective since it improves uniformity across judges, thus increasing legal certainty, and ensures equal treatment of offenders.

Nevertheless, there are factors that impede the efficient use of the day-fines. One such factor is the asymmetric information problem. Data on the financial state of the offender is an essential element for setting the correct fine. Yet, it is private information of the criminal and collection of it by the authorities is costly. Under these circumstances, some courts are driven to rely on the declaration of the offender regarding his financial capacity. Due to the fact that increased wealth leads to a higher fine, culprits are incentivised to underreport their wealth. In order to increase the flow of correct information between the offender and the enforcement authorities, this chapter offers the "secondary enforcement mechanism" as a possible solution.

According to the suggested secondary enforcement system, offenders should be notified prior to declaring their wealth, that their statement might be *randomly* investigated and that an additional punishment would be inflicted on them in case of deception. The expected sanction should be announced in advance as well. This system might enhance deterrence of misreporting and improve the flow of information for the purpose of setting the correct fine. The rationale behind such a policy is built on the insights from behavioural law and economics. First, people are believed to be ambiguity averse. Second, due to the vagueness of the probability, the punishment itself might be more salient and serve as an "anchor" for the offender's perceived punishment.

This chapter is divided as follows. Section 2 describes the system of day-fines, its structure and use in different jurisdictions. The advantages of the day-fine over other fine systems are analysed in Section 3. Section 4 examines the problem of information that might harm the effectiveness of the day-fine. The suggested secondary enforcement system is described in Section 5. Finally, Section 6 provides concluding remarks.

2. Day-Fines

Day-fines, named also unit-fines, are a two-step monetary sanction procedure. The court first decides upon the severity of the offence and based on this ranking, it sets the number of *day*-fines to be imposed on the offender. In the second stage, the court sets the daily *unit* based on the income of the offender and multiplies this amount by the previously defined number of days.[348] It should be noted that certain basic expenses and financial support for dependants are usually deducted from the imposed daily unit. Consequently, two offenders who committed

[348] *How to Use Structured Fines* (1996), *supra* note 190, p. 1.

the same crime would be sentenced to the same relative punishment, yet, to a different nominal amount of fine. Thus, the relative burden imposed by the sentence is the same for all criminals committing similar crimes regardless of their wealth.

To illustrate, a numerical example may be of use. Two similar offenders (in terms of criminal history) X and Y committed very similar crime of theft. However, the daily income of offender X is 100€ and the daily income of offender Y is 20€. In the first stage the judge will decide on the number of days, which needs to be paid, based on the severity of the crime, for instance, 15 days. In the second stage, depending on the daily income of each offender, the court will determine the daily unit of the fine. The daily portion of the fine may be 50% of the income (to allow the offender to finance his daily basic needs). In this case, the daily unit of the fine for offender X is 50€, and 10€ for offender Y. Finally, the court needs to multiply the number of days by the daily unit. As a result, the imposed fine on offender X is 15*50=750€. Yet, offender Y is required to pay for the same crime 15*10=150€. This example demonstrates that the nominal fine is different for the two offenders. Yet, the relative burden imposed on them by this sanction is equal, i.e. 50% of their 15-days income, so 25% of their monthly income.

The theoretical concept of this fine was already offered in the 19th century by Jeremy Bentham. The scholar suggested adjusting the fine to the wealth of the offender. According to his proposal, the relative and not the absolute amount of the fine should be fixed depending on the severity of the offence. Consequently, comparing to a low-income offender, the wealthier delinquent would pay for the same offence equal fine in the relative measures but higher fine in absolute terms.[349] However, this innovative approach was implemented in practice only in the 20th century. The first country to introduce day-fines was Finland in 1921. Other Scandinavian countries followed this practice (e.g. Sweden in 1931 and Denmark in 1939). However, only several decades later, other European countries adopted the day-fine, i.e. Germany and Austria in 1975; Hungary in 1978; France and Portugal in 1983; Spain in 1995; Poland in 1997; and lastly, Switzerland in 2007. Nevertheless, to this date there are still countries that maintain the fixed-fine system, e.g. The Netherlands,[350] Norway, Italy, Belgium

[349] Bentham (1931), *supra* note 11, p. 353.

[350] Although there are no day-fines for individuals in the Netherlands, a recent law allows, in certain circumstances, to impose an income-dependent fine on corporations. To be precise, if the regular fine is too low to deter a specific corporation, the law permits to impose a fine that would constitute 10% of the corporation's income. See Staatsblad van het Koninkrijk der Nederlanden, Jaargang 2014, "Wet van 19 november 2014 tot wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Wet op de economische delicten met het oog op het vergroten van de mogelijkheden tot opsporing, vervolging, alsmede het voorkomen

and Iceland.[351] The UK legislator adopted the new day-fine system in 1991, yet due to the judicial resistance, it was abolished after a few months. Despite that, there is an on-going discussion in the UK to reintroduce the day-fine.[352] Although the basic model of day-fines in all countries applying it is the same, the way it is implemented varies significantly (for a summary see Table 7).

The day-fines are used in the US as well, but not in all jurisdictions and not to the extent of European criminal justice systems. The first local jurisdiction to introduce the day-fine was Richmond County in Staten Island, New York in 1988. At first, the day-fines were imposed as part of an experiment to assess the success of transplanting the European model to American courts. The results of this experiment were positive and later on other counties adopted this system as well.[353]

The *Finnish Criminal Code* is a good example of a day-fine system. Finland has gone through many reforms in general, and with regard to the day-fines in particular. According to the current Finnish Criminal Code, the number of day-fines that may be imposed on a perpetrator is limited to 120 days for one offence[354] and 240 days[355] if the offender is sentenced for more than one offence. The daily amount of the fine should equal 1/60 of the offender's average monthly salary less taxes and deductions. This is roughly 50% of the offender's daily net income.[356] The initial reduction for basic needs is 255€.[357] Interestingly, the law does not provide the upper limit for the day-fine amount. As a result, the fines for relatively light offences are occasionally very high (as illustrated in the introduction). Furthermore, Finland is unique for providing detailed guidelines in the law (and supplemented sources) for the calculation of the financial state and the fine.

Germany, on the other hand, is special for using the day-fine extensively. The minimum number of day-fines that may be imposed is five and the maximum is 360 days. Furthermore,

---

van financieel-economische criminaliteit (verruiming mogelijkheden bestrijding financieel-economische criminaliteit)".

[351] Albrecht (2012), *supra* note 191, pp. 33-34; Door Lorena Bachmaier and Antonio del Moral García, *Criminal Law in Spain* (Kluwer Law International, the Netherlands, 2010), p. 164.

[352] Andrew Ashworth, *Sentencing and Criminal Justice* (Cambridge University Press, Cambridge UK, 2010), pp. 330-331.

[353] *How to Use Structured Fines* (1996), *supra* note 190, p. 3-4.

[354] § 1(1), Chapter 2a of the *Finnish Criminal Code* (39/1889, amendments up to 940/2008 included). (Hereinafter: "Finish Criminal Code").

[355] § 3(2), Chapter 7 of the *Finnish Criminal Code*.

[356] § 2(2), Chapter 2a of the *Finnish Criminal Code*. See also, Tapio Lappi-Seppälä, "Imprisonment and Penal Policy in Finland," in *Scandinavian Studies in Law*, vol. 54, Peter Wahlgren ed. (Stockholm Institute for Scandinavian Law, Stockholm, 2009), 333-379, p. 336.

[357] Statistics Office Finland, "Review of Sanctions in 2011," (2012), available at http://www.stat.fi/til/syyttr/2011/syyttr_2011_2012-12-17_kat_001_fi.html [in Finnish] (accessed on 26.5.2014).

the daily unit of the fine is limited to 30,000€. The German criminal sentencing system exercises only two types of sanctions, i.e. day-fines and imprisonment (including suspended).[358] However, most of the convicted offenders are dealt with fines. For instance, in 2012, approximately 82% of all sentences given by the German courts were fines.[359] This situation is possible since not only minor offences are punished by the day-fine but also more severe crimes such as assault, property crimes, fraud, and drug offences.[360] In addition, according to the *German Criminal Code* the day-fine is the default choice in all cases adequate for less than six months imprisonment, unless special circumstances justify otherwise.[361] Interestingly, due to decreasing prison population some German *Länder* sell unused prisons to private investors who convert them to other purposes.[362]

Table 7 demonstrates that only two countries do not place an upper bar to the amount of the imposed fine, i.e. Finland and Denmark. Differences may be found in the maximum number of *days* of fine, Denmark having the lowest and Spain having the highest limit. However, the most common upper limit of days is 360 (5 jurisdictions). There are variations also in the *de-jure* prescribed amount of the daily units. All criminal codes state that prison is a substitute for a fine, yet the ratio between the number of "day-prison" to day-fines differs across countries. Finally, the scope of the wealth, which is included in the calculation of the daily unit, also varies across jurisdictions.

[358] Hans-Jörg Albrecht, "Sentencing in Germany: Explaining Long-Term Stability in the Structure of Criminal Sanctions and Sentencing," *Law and Contemporary Problems* 76 (2013), 211-236, p. 215.
[359] German Statistics Office, Strafverfolgung - Fachserie 10 Reihe 3 – 2012.
[360] Albrecht (1991), *supra* note 209, p. 153.
[361] Section 47 (Short terms of imprisonment as the exception) of the *German Criminal Code* (StBG).
[362] Stephan Degenhardt, "Jailhouse Chic: Investors Remake Germany's Disused Prisons," (Der Spiegel, December 3, 2013), available at http://www.spiegel.de/international/germany/disused-prisons-in-germany-turned-into-hotels-and-apartments-a-936949.html (accessed on 23.4.2014).

Table 7: Day-Fines in Europe (in days and €)

Country	Year	Max. No. Days	Min. No. Days	The daily Unit limit[363]	The Result of Default	Ratio Day Fines to prison[364]	Scope of Wealth
Finland	1921	120	1	-	Prison	3:1	Income
Sweden	1931	150	30	3.50 - 117	Prison	-	Wealth and income
Denmark	1939	60	1	0.27 -	Prison	1:1	Income and wealth
Germany	1975	360	5	1 - 30,000	Prison	1:1	Income and assets
Austria	1975	360	4	4 -5,000	Prison	2:1	Economic capacity
Hungary	1978	540	30	0.30 - 69	Prison	1:1	Income and "financial situation"
France	1983	360	1	- 1,000	Prison	1:1	Income
Portugal	1983	360	10	1 - 490	Prison	1:2/3	Economic and financial conditions
Spain[365]	1995	730	10	2 - 400	Prison	2:1	Financial situation incl. assets
Poland[366]	1997	540	10	2.38 - 477	Prison[367]	2:1	Income and assets
Switzerland	2007	360	1	- 2,410	Prison	1:1	Income and capital

Source: own table based on the national criminal codes.

3. The Superiority of Day-Fines from the Law and Economics Perspective

The day-fine has advantages from the law and economics point of view that make it superior to other models of fine. The following sections describe other theoretical and practical methods to set the proper fine and illustrate the supremacy of the day-fine by comparing it to the other models.

3.1 Fines Equal to the Wealth of the Offender

One of the most common models proposed by the law and economics scholars offers to set the fine equal to the wealth of the offender. Although the first to mention the benefits of a maximal fine was Gary Becker[368], other scholars developed the explicit discussion of this

[363] In order to convert non-Euro currency, the following URL is used http://themoneyconverter.com/EUR/SEK.aspx (accessed on 20.5.2013). The amount is rounded.
[364] For example, 3:1 means that 3 days of fine equal to one day in prison.
[365] Article 50 of the *Spanish Penal Code* makes a distinction in the main day-fine provision between fines in the regular context and fines for "legal persons" (e.g. corporations). For legal persons the maximum length is five years, and daily unit is €30 – 5,000.
[366] Although the maximum number of *day*-fine for ordinary crimes is 540, it is raised to 3000 days for fraud offences. See, Article 296 § 3, Article 297 § 1 or Article 299 of the *Polish Criminal Code*.
[367] This is based on Article 46 of the *Criminal Enforcement Act* (Kodeks karny wykonawczy).
[368] Becker (1968), *supra* note 13, p. 183.

fine. In their paper from 1979, Mitchell Polinsky and Steven Shavell offered a model in which they show that the optimal fine for risk neutral violators is a maximum fine, i.e. equal to their wealth. The probability on the other hand, should be set as low as possible.[369] The explanation for this conclusion rests on the different expected costs for imposing a fine and for increasing the probability of detection. Whereas fines are assumed to be costless, apprehending offenders is pricey. Therefore, if the fine does not equal the offender's wealth it is not yet optimal since there is still a possibility to reduce the costly probability on the expense of raising the fine.[370]

When it is assumed that offenders differ in wealth, scholars propose that the optimal fine will equal the entire wealth of only the lower-income offenders. For other individuals (with higher income), this fine will be lower than their entire wealth. The reasoning behind this argument is that a fine equalling the wealth of the highest-income offender combined with low probability will optimally deter him. Yet it will have a weaker deterrent power on many others who are incapable of paying such a fine. Therefore, it is optimal to raise the probability and lower the fine.[371] Alternatively, those with higher wealth should receive a higher fine, yet, not equal to their wealth. The reasoning behind this argument is that a fine equal to the wealth of the low-income offender under-deters both the poor and the rich. Whereas it is impossible to raise the fine further for the low–income criminal, it is still manageable to increase the fine for the wealthy without imposing further costs on the society. However, this fine should not reach the maximum wealth of the high-wealth offender since in this case, they might be over-deterred.[372]

The first theoretical difficulty[373] with the suggestion of a fine that equals the wealth of the person is the fact that it overlooks marginal deterrence. It was suggested already by Cesare Beccaria and Jeremy Bentham that proportionality should be maintained between the severity of the offence and the harshness of the punishment. The rationale behind this suggestion is to incentivise the undeterred offenders to at least commit the least serious crimes. In order to achieve marginal deterrence the most severe sanction should be imposed on the gravest crime.

---

[369] Polinsky and Shavell (1979), *supra* note 344, p. 883. It is assumed that violators are identical, also with respect to their wealth.
[370] Polinsky and Shavell (1984), *supra* note 118, p. 93.
[371] Polinsky and Shavell (1991), *supra* note 17, p. 618.
[372] Polinsky and Shavell (1984), *supra* note 118, pp. 96-97.
[373] Of course, there is also a practical resistance to this rule as can be seen by its absence in the criminal justice systems. No person is usually fined to the extent of his wealth. One reason might be the unconstitutionality of such a sanction.

As the severity and the harmfulness of the offence diminish, the harshness of the punishment should decrease.[374]

A maximum fine might achieve general deterrence but does not reach the marginal deterrence objective.[375] For instance, a driver under the influence of alcohol causes an accident with his vehicle and injures another person. If the sanction is maximal for all offences (the entire wealth), this offender is incentivised to escape from the scene in order to avoid detection and punishment. The costs of committing one crime (injuring a person as a result of driving under intoxication) equal the expected costs of committing multiple crimes (the additional "hit and run" offence). The latter crime is severer since it is believed that the offender who remains in the crime scene may call for help and save the victim's life. Therefore, increasing the punishment for the "hit and run" offence as compared to "just" injuring will achieve marginal deterrence. In this case, the offender might choose to take a risk of being punished for injuring another person, which is lower than the additional sanction for leaving the scene. Another example is the case of a fraud. This crime is punishable by fines in some European countries. If the sanction is always the offender's wealth, then he is incentivised to commit a fraud of a greater scale, with more victims and higher gains.

In his paper from 1991, Steven Shavell indeed suggests that the fine might be lower for less harmful acts. Although this approach is in line with marginal deterrence, the author's rationale for this sanction is that less severe crimes may simply be deterred by a lighter sanction, and therefore there is no need to impose a maximum fine.[376]

One solution for the deficiency of marginal deterrence might be the manipulation of the probability of detection and punishment. Forasmuch as the total fine has two components, severity and probability, the expected fine can be changed by increasing or decreasing the probability. For instance, offender A commits a petty theft, and offender B steals a car. The fine for both of them would be their wealth, however the probability of offender B to be detected and punished is higher than for A, thus, having higher expected costs of crime. Consequently, marginal deterrence may be achieved. However, in practice, contrary to a fine,

---

[374] Bentham (2007), *supra* note 68, pp.178-179; Beccaria (1983), *supra* note 66, Chapter 6, p. 28; George J. Stigler (1974), *supra* note 12; Shavell (1992), *supra* note 12.

[375] See Mitchell Polinsky and Steven Shavell, "Public Enforcement of Law," Encyclopedia of Law and Economics (1999), 307-344, p. 321, available at http://encyclo.findlaw.com/tablebib.html (accessed on 16.5.2013). The authors suggest that keeping marginal deterrence on the other hand, requires setting very low sanctions for certain offences (the least harmful) and as a result fail to deter them.

[376] Steven Shavell, "Specific versus General Enforcement of Law," *Journal of Political Economy* 99(5) (1991), 1088-1108, p. 1090-1091.

probability of detection may not be precisely tailored to the offence. To be precise, it is possible to increase or decrease the amount of the fine to perfectly fit different offences. Yet, the investment of resources for the purpose of increasing the probability of detection does not correlate in a perfect linear way. It cannot be assumed that each additional policeman would increase the apprehension rate by a constant fraction.

Furthermore, an increase of probability of detection has also non-tangible costs, which may provoke public resistance in democratic systems. If the enforcement budget is infinite, it is possible to place police and surveillance[377] everywhere. This type of policy might serve to detect and prevent all crimes. However, it is reasonable to assume that the legitimacy of such policy would be challenged on the grounds of privacy and personal freedom. Thus, the probability may not be increased limitlessly even for the most severe crimes.

3.2 Fines Equal Harm

Another model of pecuniary sanctions is the fine that equals the harm.[378] This system is considered to be efficient in deterring undesirable behaviour. Yet, the effectiveness of this rule is conditioned on maximum probability of detection and conviction, forasmuch as any probability lower than unity would lead to an incomplete compensation of the loss. In practice, increasing the probability of detection and conviction is costly and rarely, if not never, it equals one.[379] In order to solve this problem, it was suggested that the optimal fine should equal the harm, yet inflated by the probability of detection.[380] To be precise, since the probability of being caught is lower than one, the imposed fine should be higher, by the proportion of the given probability. For example, if the harm equals €100, and the probability of detection is 0.2, then the optimal fine which is expected to achieve deterrence is 100/0.2 = €500.

---

[377] Surveillance might include cameras on the streets and in closed locations, inspection of e-mails, wiretapping, etc.

[378] Another similar theoretical model of pecuniary sanctions, which is discussed and rejected by Polinsky and Shavell, offers to impose a fine equal to the gain. Mitchell Polinsky and Steven Shavell, "Should Liability be Based on the Harm to the Victim or the Gain to the Injurer?" *Journal of Law, Economics, & Organization* 10(2) (1994), 427-437. However, the arguments presented with regard to the model of "fine equal harm" are also relevant for this model of fine. For instance, if the fine is inflated by the low probability of punishment, the low-income offenders might not be able to repay this fine.

[379] Becker (1968), *supra* note 13; Polinsky and Shavell (1979), *supra* note 344, p. 880.

[380] Mitchell Polinsky and Steven Shavell, "Enforcement Costs and the Optimal Magnitude and Probability of Fines," *Journal of Law and Economics* 35(1) (1992), 133-148, p. 133.

In theory such a fine solves the problem of marginal deterrence since harm may serve as a proxy to severity. The larger is the harm, the severer is the sanction.[381] Therefore, this sanction would at least deter the graver offences. Nevertheless, if the offender has a very limited wealth, he might not be able to repay the fine for many offences, thus not even be marginally deterred. In addition, this type of a fine might be inefficient in achieving general deterrence of different groups. If the harm is low, wealthy offenders may still choose to offend.[382] On the other hand, if the harm is very costly, low-income offenders may not afford compensating for it, thus may not be punished solely by the fine.

3.3 Fixed-Fines

Fixed-fines are the most commonly used financial penalties in Western society. The amount of the fine usually depends on the gravity of the offence and the extent of blameworthiness of the offender.[383] This fine does not take into consideration the offender's wealth in a systematic way.[384] The disadvantage of this kind of system is the inability to use fines as a sole sanction for all offenders since they have different financial capacity. Therefore, those culprits who are not able to pay the fine are defined as fine-defaulters and imprisoned for a limited period of time. In practice, such a system introduces two different sanctions for criminals committing the same crime. That is to say, a wealthy offender can pay his debt to society by covering his fine. On the contrary, a low-income offender will need to serve a prison time for the same offence due to limited financial recourses.

From the law and economics perspective a uniform fine for all offenders committing similar offences might lead to a constant under-deterrence of some groups in the population. For instance, the fine may be set high enough to discourage low-income people from committing crimes. However, for wealthy offenders this fine may constitute insufficient burden to deter them from committing the crime. On the other hand, too high fine, in the absence of imprisonment for fine-defaulters, impedes marginal deterrence of low-income offenders. Once the fine exceeds the wealth of the low-income offender, he has no incentives not to

[381] Although harm often serves as a proxy for the severity of the crime, in some cases minor offences might result in great losses. The opposite case is when actual harm might not exist but the punishment is severe, e.g. attempted murder.
[382] For the purpose of tort law or regulatory fines this might not matter. The goal might be simply internalising the costs by the offender. However, as stated in the introduction of this thesis, the assumption is that criminal law intends to prevent behaviour and not just reach to a certain optimal level of activity.
[383] See Ashworth (2010), *supra* note 155, p. 327.
[384] *How to Use Structured Fines* (1996), *supra* note 190, p. 1.

commit severer crimes. The expected costs of grave crimes are the same for him as for the lighter offence.

Nevertheless, in practice, even the countries that prefer this form of fine do not entirely disregard the income of the person. For instance, in the Netherlands the system of "fixed sum fines" is practised where the main variable in setting the fine is the severity of the offence. Yet, at the same time the law directs the courts to consider the financial state of the offender in order to take his ability to pay into account.[385] Similarly, in England and Wales the *Criminal Justice Act 2003* states explicitly that a court should inquire the offender about his financial state and consider this information when setting the fine.[386]

This practice might be explained by the attempt to better discourage criminals from committing crimes while avoiding the costly sentence of prison. To achieve this goal it is required, however, to systemise the consideration of the offender's financial state. According to the deterrence theory, the criminal justice system prevents crime by creating expected costs for the criminal. However, when the guidelines for calculating the fine are general, it is not known *ex-ante* what the punishment will be. Therefore, potential offenders cannot take it into account. This concern might be found in practice. There is evidence for a considerable variation in the interpretation of guidelines by the different courts. As a result, fines for similar crimes and offenders vary depending on the sentencing court.[387] It is not a surprise that without guidelines for a systematic consideration of the offender's financial state, judges will differ in their pecuniary sanctions. In these circumstances, the fundamental requirement of "equality before the law" is harmed as well. The location of the trial should be irrelevant to the decision on the severity of the punishment. Otherwise, offenders facing "harsher" judges are discriminated as compared to other criminals. From the law and economics perspective differences in imposed fines on similar criminals committing the same crime might distort incentives. Namely, if courts in one city impose lower fines than in other cities, crime might be displaced to the former area.

3.4 The Day-Fine

The day-fine may be considered as superior to the abovementioned models from the law and economics point of view. Criminal law usually consists of a great range of offences that vary

[385] Peter J. Tak, "Sentencing and Punishment in the Netherlands," in *Sentencing and Sanctions in Western Countries*, Michael Torny and Richard S. Frase eds. (Oxford University Press, New York, 2001), 151-187, p. 161; Tak (2008a), *supra* note 205, pp.115-116.
[386] §164, Part 12, Chapter 1 to the *Criminal Justice Act 2003*.
[387] Andrew Ashworth (2010), *supra* note 155, p. 332.

in their severity and harm. Similarly, society consists of many potential offenders who differ in their income and their blameworthiness while committing the wrongdoing. Therefore, in theory, a system that is able to tailor the sentence in a systematic way to fit all the features described above, may achieve a better general and marginal deterrence.

The maximum fine might achieve efficient general deterrence from committing crimes since it threatens the offender's entire wealth. Nevertheless, it misses the marginal deterrence as explained in Section 3.1. Fines that equal the harm and fixed-fines may achieve marginal deterrence, but only of part of the population. With this type of fine there is always a trade-off between weaker general deterrence and marginal deterrence. On the one hand, with lower fines there may be marginal deterrence of the low-income offenders, but weaker general deterrence of wealthy offenders. On the other hand, the fine may be set high enough to achieve general deterrence of wealthy criminals but on the expense of marginal deterrence of low-income offenders as explained before.[388]

The day-fine combines the advantages of the above-mentioned models. On the one hand, it considers the severity of the crime by changing the number of *day* fines accordingly. On the other hand, it takes into account the financial capacity of the offender through the *unit* of fine. Those two steps reassure that the fine is high enough to generally deter potential offenders from committing crimes, irrespective of their wealth. Furthermore, in case some criminals are not entirely deterred from committing crimes, it sets different expected costs for different offences to prevent the commission of severer crimes.

3.5 Fines Compared to Taxes

The variations between the different models of fines may also be illustrated by comparing fines to diverse models of personal income taxation (PIT). Clearly, the restrictive goal of fines differs from the distributional aim of the income tax. Therefore, this Section uses taxation models *only* as an instrument to demonstrate the way the different models of fine operate.[389]

3.5.1 Fixed-Fine as a Regressive Tax

A fixed-fine, which is based only on the severity of the offence, may be compared to the lump-sum tax. Under this system, all people are taxed with an equal fixed amount, with zero

[388] See for example, Cyrus C.Y. Chu and Naville Jiang, "Are Fines More Efficient than Imprisonment," *Journal of Public Economics* 51 (1993), 391-413, p. 392.

[389] Of course, fines could be compared to taxes in terms of the goals they attempt to achieve. For example, the regulatory tax has the aim to restrict the level of activity in order to deal with externalised costs. However, this analysis is a topic for another paper and is not dealt in this chapter. For the purpose of this chapter, the tax models are used only to illustrate the structure of the different fines.

marginal tax. In economics, the lump-sum tax is considered the most efficient system.[390] First, it does not distort incentives to work since the tax is not influenced by the person's income. Second, the administrative costs are minimal since the amount is unified per capita and there is no need to calculate the rate based on the income.[391] However, in terms of income proportion, this tax system may be considered as a regressive taxation. Namely, the higher is the income the lower is the proportion of the tax. For instance, with the fixed-tax of €1000 and personal income of €100,000 the tax amounts to 1% of earnings. In contrast, a person with an income of €10,000 pays 10% of his income. In practice, no country is using a lump-sum income tax system.[392]

Forasmuch as the classical fixed-fine works in a similar manner, i.e. a fixed sum of money is imposed on all criminals committing the same crime, it may be coined as a "regressive fine". Under this system, the portion of the income the offender is obliged to pay for committing his offence is decreasing with the increase of his wealth.[393]

This system might be viewed as an efficient one when the target is not to dis-incentivise people from work. However, the aim of the criminal justice system is to decrease criminal activity, thus, imitating the lump-sum system might create distortion of a different kind. In theory, if there is a negative relation between the portion of the fine and the income, it means that the burden of the penalty is lower for the wealthy offenders and thus, wealthier culprits might be incentivised to commit more crimes. This distortion becomes even stronger due to the necessity to impose a lower fixed-fine in order to enable the low-income offenders to pay the penalty.

---

[390] For a study advocating the supremacy of a progressive tax (rather than a lump-sum tax system) see Walter J. Blum and Harry Kalven, Jr., "The Uneasy Case for Progressive Taxation," *The University of Chicago Law Review* 19(3) (1951), 417-520.

[391] Gregory Mankiw and Mark Taylor, *Economics* (South-Western Cengage Learning, Singapore, 2011), p. 254.

[392] Although PIT is not used in this structure, many other taxes have this character, e.g. garbage, water tax. In the Netherlands there is a system of different subsidies for those taxes therefore, not all people pay the same sum. However, it is still a lump-sum tax.

[393] One might suggest that the gap is even larger between the portion the poor offender pays as compared to a wealthy offender due to the possibility to influence the probability of punishment. In theory, the probability of punishment should be independent from the wealth of the person. However, in practice, a high-income offender would invest more money in his defence and as a result, would decrease the probability of being punished. See for example, John R. Lott Jr., "Should the Wealthy Be Able to "Buy Justice"?" *Journal of Political Economy* 95(6) (1987), 1307-1316. In this case, the expected fine (which is the result of the fine multiplied by the probability of detection and conviction) for the same offences is larger for the poor than for the wealthy. Nevertheless, this argument is not necessarily correct since the costs of decreasing the probability by the wealthier offender should be taken into account in his expected fine, which might decrease the abovementioned gap in the expected fine.

3.5.2 Day-Fines as a Flat Tax Rate

The flat tax, or the proportional tax, imposes the same *rate* of tax on all people.[394] Under this model people with different wages pay the same portion of their income. For instance, a state decides on a uniform personal income tax of 15%. In these circumstances, it does not matter whether individuals earn €100,000 or €10,000. In any case they pay a constant fraction of their income, i.e. 15%. However, under this system the state revenue from the first individual would be €15,000 and from the second individual €1,500. Whereas the nominal amount differs, the relative tax burden is the same due to identical portion of the income.

In the US this system was first suggested by two scholars in 1981 as a simpler PIT system.[395] Although it was welcomed shortly after, as the time passed, more and more tax brackets were introduced in the US Nevertheless, many countries around the world have adopted the flat personal income tax, e.g. Estonia (1994), Latvia (1995), Lithuania (1995) Russia (2001), Serbia (2003), Ukraine (2004), Slovak Republic (2004), Georgia (2005), Romania (2005).[396]

The day-fine may be compared to the flat personal income tax system. The daily unit of the fine, which accounts for the offender's income, constitutes a unified portion of the wealth. For instance, as mentioned in Section 2, in Finland the daily unit equals 1/60 of the offender's average monthly salary. This means that regardless the wealth of the offender, delinquents who are fined under this system would pay a daily unit that equals approximately to 50% of their income. The severity of the offence is captured by the number of days, and it is an independent decision from the financial state of the offender. This fining system inflicts an equal relative burden on the offenders, even though the nominal amount of the fine differs between the fined individuals as a function of their wealth. Consequently, in theory, this system of fines should achieve the same level of deterrence from all offenders regardless of their wealth.[397]

3.5.3 Assessment of Fines based on the Comparison to Taxes

The above analysis illustrates once again the advantage of the day-fines over the fixed-fines. Similarly to criminal fines, in the context of personal income taxation the variation in wealth is an important issue. Even though the lump-sum income tax is considered more efficient

---

[394] See Mankiw and Taylor (2011), *supra* note 391, p. 255.
[395] Robert Hall and Alvin Rabushka, "A Proposal to Simplify Our Tax System," *The Wall Street Journal* (December 10, 1981).
[396] Robert Hall and Alvin Rabushka, *The Flat Tax*, 2nd ed. (Hoover Institution Press, California, 2007),viii-ix.
[397] It should be mentioned that according to the classical flat tax rate suggestion, the poor should not pay a tax at all. Of course, since the main goal of fining is not redistribution but deterrence, this element should not apply in the context of fines.

from the point of view of incentives, it is not applied in practice. On the other hand, the flat income tax is gaining popularity in different countries.

The comparison of fines to PIT assists in challenging one of the arguments against day-fines. In some jurisdictions the fixed-fines are preferred over the day-fine due to the proportionality requirement. In most (Western) criminal systems a basic legal requirement is that the harshness of the sanction does not exceed the severity of the crime. Under the structure of day-fines, the magnitude of the fine increases in proportion to the wealth as well as the severity. As a result, in case of very wealthy people, the magnitude of the fine might be disproportionate to the severity of the offence (see the example of Finland in the introduction). Therefore, some jurisdictions reject the day-fine partially based on the argument it breaches the requirement of proportionality.[398]

Nevertheless, another fundamental caveat in all democratic criminal justice systems is equality before the law. Namely, that all offenders deserve equal treatment. A system of fixed-fines, which attempts to capture proportionality alone, misses this requirement by disregarding the different financial circumstances of the offenders. On the other hand, the underlying strength of the day-fine is that it considers the burden of the fine on the offender, i.e. the proportion of wealth, and not the nominal amount.

Furthermore, due to income disparities in the population, without this structure (day-fines), it is impossible to use fines extensively to different ranges of offences. As have been discussed before, fixed-fines would always be either too high or too low, thus not achieving the desirable deterrence.

3.6 Legal Provisions Necessary for the Success of Day-Fines

Although day-fines may be an efficient tool to achieve general, as well as marginal deterrence, some conditions should be met. First, the criminal code ought to allow for payment of the fine by instalments. If the total amount of the fine must be paid at once, the day-fine would lose the advantage of potentially increasing the payment rate since low-income offenders might not have the full amount. Indeed, many of the jurisdictions practicing

[398] See for example, Vermogensstraffen: Interim-Rapport van de Commissie-Vermogensstraffen. Commissie, Ingesteld bij Besluit van der Minister van Justitie van 9 mei 1966 Stafafdeling Wetgeving Publiekrecht nr. 178/666, (Staatsuitgeverij, 's-Gravenhage, 1969), p. 50. ("Power Penalties: Interim Report of the Committee Power Penalties. A Commission, established by decision of the Minister of Justice of May 9, 1966 Legislation Division Public Law No. 178/666"). (Hereinafter: "*Vermogensstraffen"*). This is a commission report of the Dutch government discussing the pros and cons of day-fines.

the day-fine permit payment in instalments (e.g. France, Germany, Austria, Switzerland, Poland, Portugal, and Spain).[399]

The second essential provision for an efficient application of day-fines should include sufficiently detailed guidelines for calculating the fine. In order to prevent the undesirable situation of non-uniform fines across different judges, the law ought to provide precise instructions of what should be taken into account in calculating the day-fine. One example of detailed guidelines may be found in the Finnish law.[400] In addition, to avoid under-deterrence (as explained in Section 4.3) the unit of the fine should encompass the entire wealth of the offender and not only his personal income.

The third legal element is the lack of an upper bound of the daily unit. Whenever the law sets a limit to the daily unit that may be imposed on the offender, it allows for under-deterrence of certain high-income offenders. This practice introduces the disadvantage of the fixed-fine, even though the model of day-fines strives to encompass all offenders regardless of their wealth. Nevertheless, currently only two jurisdictions comply with this condition, i.e. Finland and Denmark.[401] The reason for that might be the concern of countries to impose too high sanctions on rich people who commit light crimes.[402] For instance, the example of the Finnish driver who received €112,000 fine for speeding might surprise and evoke resistance. However, from the law and economics point of view, if this is the necessary amount that might achieve general deterrence without harming the marginal deterrence, it is an efficient fine. In addition, there is an argument that the absence of an upper bound of the daily unit increases the discretionary power of the judges and leaves this decision completely in their hands.[403] This objection is not entirely correct since the day-fine system provides guidelines of what should be the *portion* of the daily unit. Thus, there is an upper bound of the proportion that limits the judges' discretion.

Lastly, in order to achieve an efficient usage of financial information regarding the offender, the legal system should allow access to this information. Some legal systems limit the

[399] National Criminal Codes.
[400] §2(5), Chapter 2a of the *Finnish Criminal Code* instructs to issue a detailed Decree for the guidelines.
[401] Interestingly, although Germany still has an upper bound of the daily unit, it was increased from €5,000 to €30,000. This might suggest that indeed a low bound is inefficient.
[402] *Vermogensstraffen* (1969), *supra* note 398, p. 50.
[403] *Ibid*.

authorities in obtaining certain fiscal data, thus, hindering the possibility to assess correctly the offender's wealth.[404]

Nevertheless, even if all the above-mentioned provisions are included in the law, there is an inherent problem that ought to be solved in order to optimise the use of day-fines. To be precise, one of the major difficulties in applying the correct day-fine is the high costs of collecting the necessary information. Therefore, the following sections elaborate on this problem and offer a possible solution to it.

4. The Problem of Calculating the Appropriate Fine

The key element in the sanction of day-fines is accurate information. To achieve the desired deterrence through the usage of this penalty there should be an appropriate tailoring of the sentence to the crime and the offender. However, whereas the severity of the offence is usually observable, the financial state of the offender is private information. The following sections examine the problems of limited financial information and their implications on deterrence.

4.1 Asymmetric Information and the Costs of Gathering Information

In the context of using day-fines there is asymmetric information between the enforcement authorities and the offender. Whereas the delinquent possesses full knowledge regarding his income and assets, the authorities may not obtain this information without costs. Nevertheless, this information is essential for the decision regarding the daily unit of the fine. Without this information, the decision regarding the magnitude of the fine may be based solely on the severity of the crime, and in this case equal the fixed-fine.

Some of the criminal codes in the countries practising day-fines include the sources of information that may be used by the courts to assess the financial state of the offender. For instance, in Finland the courts ought to use the most recent tax report.[405] In Switzerland and Denmark, the penal code provides a general obligation for relevant authorities to provide the courts with the necessary information.[406] Yet, in some countries the source of information is not mentioned in the criminal code.

Whatever the case may be, it seems that the costs of gathering this information are non-negligible. In order to properly obtain the needed elements for the daily unit of fine, the courts

[404] Hillsman (1990), *supra* note 194, p. 77.
[405] §2(3), Chapter 2a of the *Finnish Criminal Code*.
[406] Article 34(3) of the *Swiss Criminal Code*; § 51(4) of the *Penal Code of Denmark*.

(or other authorities) need to collect information on the income of the offender, his assets, savings, and expenses that might be deducted from the daily unit. Those are different elements of the criminal's financial state and usually require the assistance of variety of authorities. Thus, the collection of this information regarding a high number of convicted persons is a time consuming and costly endeavour. For instance, in the Spanish criminal justice system the day-fines were welcomed, yet perceived as inefficiently used. There was a sense that the investigation of the financial capacity of the offender becomes more costly than the investigation of the crime itself. As a result, courts used intuition to set the daily unit of fine, which led to fines closer to the minimum boundary.[407] Moreover, the Netherlands has discussed the possibility to adopt the day-fine system, yet rejected this proposal partially due to high expected costs of identifying and gathering the necessary information. One of the main arguments was that this system is too complicated. Calculating the financial capacity of offenders would turn the enforcement authorities to tax services and draw the attention from examining the relevant factors to the crime.[408]

Consequently, authorities might view it more efficient to transfer the information costs to the offender who is the "cheapest" information provider. One example is Germany, which uses day-fines as the main sanction. Due to the substantial number of criminals who need to be processed by the criminal justice system, the offenders' financial information, which is provided by the police and the public prosecutor, is limited. Most frequently, the information regarding the offender's personal and socio-economic circumstances is gathered through a questionnaire filled by the delinquent himself. As a result, the offender is the primary source of information regarding his income. Since this is the most vital information for the second step of day-fines, the German judges developed relatively uniform estimation of income based on the profession of the offender.[409] The reliance on the offender as the source of information regarding his financial state is not practiced only in Germany, but in other jurisdictions as well.[410]

Nevertheless, using an average estimation of income for all offenders in the same profession impedes the advantage of day-fines i.e. tailoring the fine exactly to the offender and the offence in order to achieve general and marginal deterrence. Not all people in the same

[407] Bachmaier and García (2010), *supra* note 351, p. 164.
[408] J. Simonis "Is Ons Strafrecht Gebaat bij de Invoering van een Dagboetestelsel," DD 31(5) (2001), 476-494, p. 480. ["Does Dutch Criminal Law Profit from the Introduction of a Day Fine System"].
[409] Albrecht (1991), *supra* note 209, pp. 157-158.
[410] Hillsman (1990), *supra* note 194, p. 77.

profession earn an equal income. The earnings of a person may increase or decrease depending on different factors, e.g. extra working hours, excessive illness days. It is safe to assume that in the case where the offender earns less than the average income in his profession, he would invest in convincing the court to reduce his fine. However, by the same token it is safe to assume that rational offenders would not correct the court if their true income were higher than the average in their profession. In these circumstances there is under-deterrence of offenders who have higher than the average income.[411]

Another example of using the information provided by the offender may be found in Sweden. Although the Swedish law allows for a very broad access to the financial information of the offender, it is not done in practice. Recently, a motion was filed to the Swedish parliament requesting to abolish day-fines altogether. One of the main justifications for the motion was the complaint that the financial information of the offender is rarely verified. Therefore, it is expected that many offenders underreport and the punishment is not deterring enough.[412]

4.2 Incentives to Misreport and Under-deterrence

The courts might want to rely on the offender's declaration of income. Nonetheless, in the absence of expected costs for misrepresenting, based on the deterrence theory, rational offenders would always misreport their wealth. Forasmuch as the magnitude of the fine is positively correlated with the person's wealth, there is a strong incentive to report an income below the true earnings of the offender. Setting the daily unit of the day-fine based on underestimated income of the offender will potentially result in under-deterrence.

The usage of tax reports as a basis for the financial information of the criminal might actually create an additional distortion. The incentive to evade taxes lies usually in the gain derived from a higher net income. However, if the magnitude of the fine is based on the reported income to the tax authorities, there is an additional motivation to evade tax reporting. The system of day-fines might essentially increase the benefits that offenders gain from deceiving tax authorities. In this case, the expected costs of evading taxes are only the expected penalty for this offence. Yet, the benefits are twofold, first, the increased disposable income due to

---

[411] One of the seminal papers on the distortions of asymmetric information in the market is by George Akerlof, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84(3) (1970), 488-500. However, unlike in that paper where the distortion is the driving out of products (decreasing market activity), in the current context the expected result is the increase of criminal activity due to under-deterrence. For elaboration, see *infra* Section 4.3.

[412] See, Motion to the Swedish Parliament, "Cancel Daily Fines as Punishment," (November, 2014), in Swedish, available at http://www.riksdagen.se/sv/Dokument-Lagar/Forslag/Motioner/Avskaffa-dagsboter-som-straffp_H202451/?text=true

unpaid taxes, and second, a lower fine (expected punishment) in case of committing a crime and being fined.

4.3 Income versus Wealth

Criminal justice systems that practice day-fines differ in the scope of wealth that is counted for the daily unit. Some jurisdictions include only the income of the offender, e.g. Finland, whereas others take into consideration also assets and capital, e.g. Sweden. Encompassing only the employment income might distort incentives and cause under-deterrence. For instance, if a major portion of the offender's wealth is not his income but revenues from assets or dividends, a unit fine which is based solely on his employment income, even if the information is accurate, would lead to under-deterrence. The fine would constitute a "proper" portion of his income but not his wealth, therefore setting the expected costs of crime as too low. Therefore, it is suggested to base the daily unit of fine on the entire wealth of the offender.

5. Possible Solution – The "*Secondary Enforcement System*"

As explained in the previous sections, complete information regarding the wealth of the offender is the key element to the imposition of an efficient day-fine. Yet, collecting this information is not an easy task. The costs of doing so are higher for the authorities than for the offender forasmuch as it is his private information. Thus, transferring these costs to the convicted culprit rather than imposing them on the state is a more cost-effective way.[413] Nevertheless, the offender needs to be motivated to provide this information. In order to incentivise offenders to reveal their true income, prior to entering criminal activity (e.g. to the tax authorities), or during the sentencing procedure, the criminal system needs to create expected costs of misreporting. Therefore, this section suggests creating a "secondary

[413] This situation is similar to the self-compliance programmes for corporations. Under many jurisdictions, a corporation is held liable for criminal offences committed by its employees. This strategy transfers the costs of monitoring to the corporation, which has a better access to such information. For literature on self-compliance programmes see for example, Charles J. Walsh and Alissa Pyrich, "Corporate Compliance Programs as a Defense to Criminal Liability: Can a Corporation Save its Soul?" *Rutgers Law Review* 47 (1995), 605-691; Vikramaditya Khanna and Timothy L. Dickinson, "The Corporate Monitor: The New Corporate Czar," *Michigan Law Review* 105(8) (2007), 1713-1755; Kevin B. Huff, "The Role of Corporate Compliance Programs in Determining Corporate Criminal Liability: A Suggested Approach," *Columbia Law Review* 96(5) (1996), 1252-1298; Louis Kaplow and Steven Shavell, "Optimal Law Enforcement with Self-Reporting of Behavior," *Journal of Political Economy* 112 (1994), 583-606; Sharon Oded, *Corporate Compliance: New Approaches to Regulatory Enforcement* (Edward Elgar, Cheltenham UK, Massachusetts US, 2013).

enforcement mechanism" which would impose an independent punishment for misreporting the financial information.[414]

5.1 The Probability of Secondary Enforcement

Since the collection of information regarding the financial circumstances of the offender is costly, the probability of the secondary enforcement should be low. There are two ways to "compensate" the low probability of detection in order to achieve deterrence from misreporting. One way is just to raise the severity of punishment for the deception.[415] However, in light of empirical evidence that suggests criminals are more responsive to probability of punishment rather than its severity,[416] this solution is problematic. Thus, the second option, which is suggested in this chapter, is to use insights from behavioural law and economics to increase the deterrent power of a low probability. To be precise, this chapter relies on the findings that people are ambiguity averse in certain circumstances and thus, deterred more by a random probability of detection and punishment. The following sections elaborate on the rationale behind the suggested policy, discuss empirical evidence supporting its potential success and expand on the design of the secondary enforcement probability.

5.1.1 Ambiguity Aversion

5.1.1.1 Ambiguity versus Risk

The distinction between risk and uncertainty (the latter named in this thesis as "ambiguity") can be traced back to Frank Knight.[417] Whereas in the former the probabilities of the occurrence of an event are known, and the uncertainty only applies to the outcome, in the latter, the precise likelihood is not given. For instance, a toss of a coin is a risky event since there is a probability of 50% of heads or tails. On the contrary, deciding on which player to place a bet on in tennis game is an ambiguous decision if the decision-maker has no prior

---

[414] An alternative solution to the asymmetric information problem is transferring the burden of proof to the offender, who is the cheapest information bearer. In other words, the presumption may be that the offender has a high income and based on this presumption the court issues the day-fine. However, the offender has the opportunity to provide evidence that his wealth is lower than the presumed one. Although this suggestion is appealing in terms of costs there are two difficulties. First, there still might be individuals whose wealth is higher than the presumed one and inevitably they will not challenge the presumption. In this case, those offenders will be under-deterred. Second, it might be unconstitutional to transfer the burden of proof in criminal cases to the offender who usually has more limited resources than the state to prove his arguments. Third, some passive offenders might not prove their wealth is lower, even though it is, and as a result default on their fine payment.

[415] Becker (1968), *supra* note 13.

[416] For a meta-analysis of studies supporting this claim see Dölling, Entorf, Hermann and Rupp (2011), *supra* note 20.

[417] For the distinction between risk and ambiguity see Frank Knight, *Risk, Uncertainty and Profit* (Houghton Mifflin Company, Boston and New York 1921). Ambiguity may be in the sense of complete ignorance regarding the probabilities, or knowing only ranges of probabilities. Hillel J. Einhorn and Robin M. Hogarth, "Decision Making under Ambiguity," *The Journal of Business* 59(4) (1986), S225-S250.

knowledge about the previous performance of both players. The reason for this is that it is difficult to assign any probability that player A or B would win without knowing his and his opponent's prior game records.

5.1.1.2 Empirical Evidence for Ambiguity Aversion

Ambiguity aversion is an empirically well-established phenomenon. The best-known experiment is that of Daniel Ellsberg (Ellsberg Paradox). The experiment was designed in the following way. People were presented with two urns, A and B, which contain black and red balls. Following this, they were asked about their preferences regarding the urn and the ball. They were offered $100 if the drawn ball is the one they bet on. The subjects were told that urn A contains 100 balls yet, the proportions of red and black balls were not known and could range from zero red balls and 100 black balls, and *vice versa*. In urn B there were 50 black balls and 50 red balls. The majority of people preferred to bet on balls from urn B, regardless whether they bet on a red or a black ball. If the subjects' choice reflects their perception of probabilities, for them the probability of a red ball from urn B is higher than the probability of a red ball from urn A. At the same time however, the results suggest that the probability of drawing a black ball from urn B is also higher than the probability of drawing a black ball from urn A. This choice is confusing since it implies that $P(B_B)+P(R_B) >1$, where $P(B_B)$ is the probability to draw a black ball from urn B, and $P(R_B)$ is the probability to draw a red ball from urn B.[418] Those results suggest that people are averse to ambiguous choices.[419]

Following Ellsberg's finding, many scholars conducted experiments seeking to replicate his results. Those attempts demonstrated ambiguity aversion in different contexts and thus, increased its validity.[420] The effect of ambiguity aversion was shown in the context of losses as well as gains.[421] Moreover, some studies presented evidence that people not only refrained from choosing an ambiguous choice, but they were even willing to pay a premium to avoid this prospect.[422]

---

[418] If there are a total of 100 balls, red and black, then the bets are mutually exclusive. Thus, the perception of $P(B_B) > P(B_A)$ should be followed by the assumption that $P(R_B) < P(R_A)$.

[419] Daniel Ellsberg, "Risk, Ambiguity, and the Savage Axioms", *The Quarterly Journal of Economics* 75(4) (1961), 643-669, pp. 650-51.

[420] Colin Camerer and Martin Weber, "Recent Developments in Modelling Preferences: Uncertainty and Ambiguity," *Journal of Risk and Uncertainty* 5 (1992), 325-370.

[421] See for example, Gideon Keren and Leonie E.M. Gerritsen, "On the Robustness and Possible Accounts of Ambiguity Aversion," *Acta Pdychologica* 103 (1999), 149-172.

[422] Selwyn W. Becker and Fred O. Brownson, "What Price Ambiguity? Or the Role of Ambiguity in Decision-Making," *Journal of Political Economy* 72(1) (1964), 62-73.

Furthermore, the notion of "boundary effect" was developed, according to which when facing losses, ambiguous low probabilities are over-weighted and ambiguous high probabilities are underweighted.[423] Thus, people tend to express ambiguity-averse behaviour when dealing with low probabilities, and ambiguity–seeking behaviour when dealing with high probabilities. Criminal sanctions are perceived as losses, thus, ambiguity aversion should be observed with regard to low expected probabilities of detection and sanction. Since the investigation of the financial capacity of the offender is costly, keeping the probability of the secondary sanction low decreases the costs of enforcement.

The secondary enforcement system resembles tax auditing to prevent tax evasion. Therefore, the findings regarding random auditing may shed a light on the expected efficiency of the suggested system. Jeff Casey and John Scholz conducted an experiment to examine how a random probability of auditing and fining affects subjects' decision whether to deceive the Internal Revenue Service (IRS). In their experiment they presented the subjects with a situation where they ought to pay $1,000 tax, but may avoid this by applying for a deduction. However, in this scenario the accountant claimed the deduction might be illegal and there was a chance the IRS would audit and imposes a fine exceeding the tax due. The probability of auditing and the fine magnitude was unknown, but a guess was provided by the accountant (different variations of the probability and fine were presented across the experimental problems). The findings demonstrated that non-compliance was less attractive when there was an ambiguous low probability of auditing and punishing. Therefore, the authors concluded that increasing vagueness would increase compliance at low probabilities of auditing.[424] Support for increased tax compliance under an ambiguous probability of auditing can be found in other empirical studies as well.[425]

---

[423] Einhorn and Hogarth (1986), *supra* note 417. The authors discuss a mirror situation as well, i.e. when people face gains they tend to under-estimate ambiguous low probabilities and over-estimate ambiguous high probabilities.

[424] Jeff T. Casey and John T. Scholz, "Beyond Deterrence: Behavioral Decision Theory and Tax Compliance," *Law and Society Review* 25(4) (1991b), 821-844, pp. 837-839.

[425] See for example, James Alm, Betty Jackson and Michael McKee, "Institutional Uncertainty and Taxpayer Compliance," The *American Economic Review* 82(4) (1992), 1018-1026. It should be noted that these results do not hold when the decision regarding tax evasion is linked to a public good which derives from government revenues; Dipankar Ghosh and Terry L. Crain, "Structure of Uncertainty and Decision Making: An Experimental Investigation," *Decision Sciences* 24(4) (1993), 789-807. For contradicting results, see Michael W. Spicer and Everett J. Thomas, "Audit Probabilities and the Tax Evasion Decision: an Experimental Approach," *Journal of Economic Psychology* 2 (1982), 241-245.

5.1.1.3 Ambiguity Aversion and the Secondary Enforcement System

This chapter suggests to build on the abovementioned empirical evidence of ambiguity aversion and to enhance the deterrence effect of a generally low probability of detection and punishment. This policy on the one hand, would avoid the costs of keeping the probability of detection and sanction high. On the other hand, it would not lose the deterrence effect by keeping the probability low.[426]

The mechanism of ambiguity aversion works through the person's awareness of the vague information he has regarding the situation. If this awareness is missing, the offender may believe he knows the risk of being detected and choose to commit the crime assuming the risk to be caught is low. Therefore, in the first stage, prior to inquiring the offender regarding his financial state and prior to his decision whether to misreport, the authorities, i.e. courts, police or prosecutors, should inform him of the secondary enforcement system. Furthermore, his expected punishment for misreporting should be announced. This system might reduce the willingness of criminals to misreport their wealth through two possible channels. The first incentive not to misreport is ambiguity aversion. Namely, the criminals might be reluctant to take the risk of being punished more severely without knowing the probability of such an outcome. Second, the deterrence effect might be enhanced by the "anchoring effect".

The name "anchoring" was coined by Daniel Kahneman and Amos Tversky. This is a cognitive bias that refers to people's tendency to give too much weight to initial information in their decision making even if it is irrelevant. In one famous experiment the authors first gave the subjects to observe a wheel of fortune that stopped either on 10 or 65. In the next stage, the subjects were asked to assess the percentage of African countries in the United Nations. To be precise, they were asked to state if the number they see is higher or lower than the portion of African countries, and then to state the exact portion. The median percentage presented by the subjects who observed the number 10 on the roulette was 25%. However, the median percentage given by the subjects who observed the number 65 was 45%. The explanation for this phenomenon is that the initial number observed by the subjects served as their anchor from which they adjusted the percentage of African countries in the UN.[427]

---

[426] See for example, Block and Gerety (1995), *supra* note 21. The authors in this paper illustrate that low probability of detection have a weak deterrent effect on criminals.

[427] Amos Tversky and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," in *Judgment under Uncertainty* (1982) *supra* note 34, 3-20, p. 14. Although Kahneman and Tversky were the ones to coin the term "anchoring", other scholars demonstrated this phenomenon beforehand using experiments. See for example, Sarah Lichtenstein and Paul Slovic, "Reversals of Preference between Bids and Choices in Gambling Decisions," *Journal of Experimental Psychology* 89 (1971), 46-55.

In the context of the suggested policy, before the offender is made aware of the secondary enforcement system, his anchor is the possible gain he may derive from under-reporting his wealth. This gain is the lower unit of the day-fine, which results in a lower total fine for the primary crime. At this stage the costs of misreporting are not salient. On the other hand, if the offender is informed about the possibility of being punished for misreporting, his new anchor is the given punishment. Since the probability of receiving this sanction is vague yet the sanction itself is given, this anchor is more salient and the perceived punishment may be adjusted to it.

The American IRS's suggested policy from the 1990s illustrates the idea of creating ex-ante incentives for correct reporting. Under this suggested policy, named the "self-conducted audits", after filing the tax reports, "suspicious" taxpayers would be told that they might go through a tax audit. However, they would be given an opportunity to correct their previous report and any self-correction would not result in a punishment. It was believed that such a policy would reduce the costs of auditing and increase tax compliance.[428] Casey and Scholz suggested in their paper that this kind of policy might succeed precisely for the reason that the new anchor for the noncompliant taxpayers is the expected punishment rather than the gain.[429]

In the second stage of the secondary enforcement mechanism, either after the declaration by the delinquent or subsequently to sentencing, the authorities choose randomly which convicted offenders should be investigated. Those who would be found misreporting should be immediately punished. The ambiguity should be kept at all times by varying the probability of detection since it may be calculated *ex-post*.[430] Forasmuch as the main sanction for deception (as suggested in Section 5.2) is pecuniary the costs of the random enforcement might be partially covered by the increased revenues from fines.

5.2 The Sanction under the Secondary Enforcement System

The special structure of the day-fines may serve to deter misreporting without immediately resorting to a prison sentence. Moreover, it enables to set the penalty for misreporting independently from the decision regarding the fine for the primary offence. In order to

[428] Thomas Hemmer, Christopher H. Stinson and Igor Vaisman, "Self-Audits, Penalties and Taxpayer Compliance," in 1993 University of Illinois Tax Research Symposium, 29-30, p. 29.
[429] Casey and Scholz (1991b), *supra* note 424, p. 832.
[430] Even when offenders are chosen randomly, ex-post, at the end of a certain period it is possible to assess the actual probability of detection. Therefore, the randomisation should be maintained in order to create different *ex-post* probabilities and increase the sense of uncertainty.

simplify the explanation of the secondary sanction, the following section first derives a theoretical construction of the suggested policy and further provides a numerical example.

The notations:

w = the true wealth of the offender (e.g. income, assets).
$\widetilde{w}$ = the reported wealth of the offender, which is assumed always to be $\widetilde{w} < w$
$n(s)$ = the number of *day*-fines as a function of the severity of the primary offence. $n'(s) > 0$
$u(w)$ = the daily (fine) *unit* as a function of the offender's wealth. $u'(w) > 0$
p = the probability of detecting and punishing misreporting (positive, $p < 1$).
f_c = fine for the committed primary offence (based on correct information).
$\tilde{f}_c$ = fine for the committed primary offence (based on misreported information).
f_d = fine for deception (misreporting the wealth) and the primary offence together.

Since the fine for the original offence is positively correlated with the wealth of the offender (i.e. the higher is the wealth, the higher is the total fine), in the absence of the secondary enforcement, a rational offender would always misreport his wealth. To illustrate why see Equation (1).

(1) $n(s)u(w) = f_c > \tilde{f}_c = n(s)u(\widetilde{w})$

In order to create expected costs of misreporting and deter this behaviour, a secondary punishment should be introduced and imposed with a random probability as explained in Section 5.1. This sentence decision has a two-step approach.

<u>First step: Correction of the penalty for the original offence</u>

See Equation (2) denoting the penalty for the original offence if the offender misreports.

(2) $\tilde{f}_c = n(s)u(\widetilde{w})$

If after investigation it appears to be that the offender has a higher income than he reported, his corrected sanction would include a higher unit of the fine accordingly. For this see Equation (3).

(3) $(f_d) = f_c = n(s)u(w)$

This step is not sufficient to deter from misreporting ones wealth. Increasing the unit of fine to fit the offender's true financial state is only a correction to reach the initial fine. However, since the probability of the secondary enforcement is never unity (due to the high costs),

setting the fine for deception equal to the fine for the primary offence incentivises deception. The reason for that lies in the expected costs it creates. Namely, the expected fine with misreporting is lower than the fine for the primary offence with correct information, as illustrated in Equation (4).

$$(4) \qquad f_d = \ pf_c + (1-p)\tilde{f_c} = \ p[n(s)u(w)] + (1-p)[n(s)u(\tilde{w})] < \ f_c$$

Second step: the additional sanction for deception

The deception itself may be criminalised and treated as an additional offence. In this case, the daily unit remains the same (as in (3)). This way, the secondary fine also depends on the offender's wealth. However, the number of day-fines, i.e. $n(s)$, is raised due to the increase in the severity of crime. Since there is usually a maximum bound of number of days, the classification of deception as a new offence, might allow exceeding this bound. In Finland for example, whereas the maximum number of day-fines is 120, when punishing for more than one offence, the law increases the maximum bound to 240 days.[431] Similarly, in Germany the maximum bound of day-fines for more than one offence increases from 360 to 720 days.[432] In addition, the *Finnish Criminal Code* criminalises misreporting in this context, thus making deception an independent offence.[433] Therefore, the fine for misreporting the wealth is as illustrated in Equation (5).

$$(5) \qquad n(\hat{s})n(w) = \ f_d > \ f_c = n(s)u(w)$$

Where $n(\hat{s})$ is the increased number of *day*-fines, which makes the total fine for deception and the primary offence to exceed the fine only for the primary offence. In theory, it is possible to know the *ex-post* probability of detection and to satisfy the following condition $f_d = \ pn(\hat{s})u(w) + (1-p)n(s)u(\tilde{w}) > \ f_c = n(s)u(w)$. Namely, the penalty for the deception might be inflated by the probability of detection to constitute higher expected costs for misreporting. However, since *ex-ante* the probability is not known, the offender may not take this into account, thus, there is no reason to fulfil this condition. The assumption is that since the possibility of the offender to be detected and punished is ambiguous, he would focus on the *announced* sanction for the deception rather than on the *expected* sanction and

[431] § 3(2), Chapter 7 of the *Finnish Criminal Code*.
[432] See § 54(2) of the *German Criminal Code*.
[433] Section 6 - Fine deception (808/2007) of the *Finnish Criminal Code states*:
"*A person who in order to obtain economic benefit provides a public authority, for the purpose of imposing a fine, essentially false or misleading information on his or her income, maintenance liability or other circumstance affecting his or her solvency, shall be sentenced for fine deception to a fine or to imprisonment for at most three months*." (Original emphasis).

consequently, avoid deception. Therefore, it is suggested to set the punishment for deception sufficiently high[434] in order to deter this behaviour under the circumstances where the offender is not able to calculate the probability. For example, the number of *day* fines in case of deception may be three times larger than the fine in case of correct reporting.[435]

To illustrate this punishment in a numerical form, this chapter uses the Finnish criminal system. Assuming the offender's true daily income is €100, and for his primary crime the judge assigns 10 days of fine. In Finland, the daily unit is around 50% of the offender's daily income, thus, his true daily unit is €50. In this case, $f_c = 10 \times 50 = €500$. If the offender decides to misreport his income and declares that his daily income is €50, then $\tilde{f} = 10 \times 25 = €250$. If he is detected misreporting, in the first stage his fine should be corrected by the true daily unit to equal $f_c = 10 \times 50 = €500$. However, since the probability of detection is never unity, this fine is not enough to *ex-ante* deter misreporting. The reason for that is that with any given $p < 1$, the expected fine with misreporting is lower than with correct reporting. For example, if the probability of detection is 0.2 then,

$$f_d = p(f_c) + (1-p)(\tilde{f_c}) = 0.2 \times 500 + 0.8 \times 250 = €300 < f_c = €500$$

The same is true even if the probability of detection is high, e.g. 0.9. In this case

$$f_d = 0.9 \times 500 + 0.1 \times 250 = €450 < f_c = €500$$

Therefore, the second step of increasing the number of day-fines is necessary. If the punishment for the deception is set on a triple number of *day*-fines then,

$$n(\hat{s}) = 3n(s) \text{ and } f_d = 30 \times 50 = €1500 > f_c = €500$$

The advantage of this system is the significant range of available sentencing in day-fines to punish misreporting without turning to other methods of sanctioning. Worth mentioning is that in many criminal justice systems which are currently using the day-fine, the average number of day-fines is significantly lower than the permitted maximum bound. For instance,

[434] According to the classic law and economics argumentation, a constant portion of day-fines for deception may lead to over-or-under deterrence, depending on the actual probability of detection. However, since the main idea of the suggested policy is to create vague probability, the severe announced sanction would be more salient to the offender. As a result, due to ambiguity aversion and anchoring effect, the offender might be deterred by the announced expected sanction.

[435] In theory, it is possible not to set a fixed number of days for misreporting, but to vary it based on the extent of misreporting. This practice would improve the marginal deterrence, i.e. those who would still choose to misreport, would at least declare on a financial state which is closer to the truth. However, this kind of calculations is complicated and not discussed in this thesis. Nevertheless, this idea is developed in a paper of mine "Day Fines: Asymmetric Information and the Secondary Enforcement System," Working paper (2015), which I co-authored with Maximilian Kerk.

in 2012, the German courts imposed up to 30 *day*-fines in 45% of the fine cases, and between 31-90 days in 48% of the cases.[436] This practice was despite the upper bound of 360 days. Therefore, there is an option to significantly increase the costs of misreporting. However, even in case where the upper bound of day-fines is reached, alternative sanctions, i.e. community service or electronic monitoring, may be used prior to referring the offender to the costly sanction of prison. Furthermore, in theory the imposition of a higher number of day-fines is costless for the state, therefore it is feasible to triple the number of days as a sanction for deception.

In the context of fixed-fines, Mitchell Polinsky discussed the option of auditing offenders where wealth may not be observed and the punishment for the offence is a fine. In these circumstances, the problem arises in a later stage. The financial state is not detrimental for the punishment but is important for the ability of the offender to comply with the sanction. Therefore, the auditing system suggested by Polinsky refers to the situation where the offender claims that he lacks the means to pay the fine. Based on modelling results the author asserted that the optimal fine for misreporting would be higher than the fine for the offence. Moreover, the probability of auditing should be positive and increasing as the costs of auditing are reduced. However, under his scheme, the optimal fine for the primary offence is suggested to be lower than in case of perfect information, and therefore, there is general under-deterrence. The reasoning behind setting the fine for the offence lower than optimal is the decrease in the costs of auditing. If the initial fine is lower, more people are willing to pay it and there is no need to audit them.[437]

Nevertheless, it is not clear whether in general the costs of the enforcement system are saved based on the mentioned results. Namely, if the initial fine for the primary offence is lower, this leads to an increased number of offenders who are now willing to commit the crime.[438] Whether the reduction in the costs of auditing offsets the increased costs of the additional crime is not clear. Furthermore, the results of Polinsky' model are not adequate for the case of day-fines. In case of day-fines, the financial information is not only needed to measure the payment capacity of the offender, but mainly for the purpose of setting an efficient fine.

---

[436] Strafverfolgung - Fachserie 10 Reihe 3 – 2012, Table 3.3 (Statistics of Germany).

[437] Mitchell Polinsky, "Optimal Fines and Auditing When Wealth is Costly to Observe," *International Review of Law and Economics* 26 (2006) 323–335.

[438] This point is mentioned by Polinsky (2006), *ibid*. The rationale behind this result is that according to the deterrence theory potential criminals would commit the crime if their expected benefits from this activity exceed their expected costs. Once the fine is reduced, the expected costs are decreased thus, allowing more potential offenders to benefit from the crime.

6. Possible Limitations of Day-Fines

6.1. High Error Costs

The system of day-fines, especially without an upper bound of the unit fine, risks high error costs. The criminal justice system is not perfect and there is always a chance of mistakenly convicting the wrong person. Most jurisdictions use the procedural rule of "beyond reasonable doubt" to prove guilt in order to minimise this risk, yet it still exists. When the punishment is severe, the costs of this possible error increase. In case of an extreme pecuniary penalty, the obligation to pay this fine may impose an extreme burden on the innocent individual. Although this is a possible weakness of day-fines, this punishment, relative to other sanctions, has the advantage of being reversible. A person who was executed may not be returned to the living in case his innocence is discovered. Even an individual who is wrongfully imprisoned may not regain his lost years of freedom if proven innocent. On the contrary, a person who was wrongfully convicted and paid a high fine may, in most cases, be fully compensated. The state may even redeem this individual for any associated losses endured by him due to the execution of the sentence.

6.2. Preventing Efficient Breach

Another challenge to the day-fine system is that it impedes an efficient breach. In some circumstances the costs of compliance might be higher than the fine. Thus, the individual may decide to violate the rule and pay the fine for it. This is considered a socially efficient result. Opponents of day-fines may claim that an efficient breach is possible under the fixed-fine but limited in case of a tailored fine. There are several replies to this objection.

First, criminal law (as treated in this thesis) deals with a prohibition of activity *per-se* and not with the regulation of its level. Thus, when certain behaviour is criminalised, the purpose is to eliminate it and there is no space for efficient breach. If the aim is to regulate the level of activity, the behaviour should be dealt via tort law or a regulative tax. In this case people are simply obliged to internalise the costs of the externalities their activity produces. Therefore, they may choose to act upon an efficient breach when compliance is more costly than the "penalty".

Second, even if efficient breach is recognised in the criminal law, there are ways to promote it under the day-fine system. It seems that all of the Western jurisdictions bestow upon the courts at least some discretionary power to consider special circumstances. Therefore, they may mitigate the sanction of a person who violated the rule due to an efficient breach. For

instance, a wealthy man was speeding to rush his delivering wife to the hospital and was detected violating the traffic rules. He might be subject to a high fine due to the violation and his level of wealth. Yet, his behaviour might have been justified based on the efficient breach concept, and even common sense. A too high fine might deter him from rushing to the hospital and reaching it on time. However, the court might take into consideration the blameworthiness of this individual, and mitigate his punishment due to the special circumstances.

Third, the day-fine is not simply a high pecuniary penalty that may prevent an efficient breach. It is a proportional fine that imposes an equal relative burden on all offenders. Therefore, the violator may still decide it is efficient for him to breach certain rules. On the other hand, low fixed-fines simply create a world where compliance with the law might be less efficient in general for the wealthy population, and thus, lead to under-deterrence.

6.3. Corruption and Selective Enforcement

First, the high fines for wealthy offenders might incentivise corruption. When the fine is significantly high, there is a large scope for bribery. For instance, in the example of the Finnish speeding driver who received 112,000€, he may be incentivise to pay a lower sum to avoid trial and fine. This sum is very high and might create strong temptation for the officer to release the criminal. The corruption argument is valid, yet the cases of such high fines are quite rare. Furthermore, in countries where strong mechanisms for fighting corruption are in place, this argument should not constitute the justification for not using the day-fines. Finally, the sanction for corruption may also be adjusted and be especially severe for those cases.

Second, police may target the rich offenders since the fines they need to pay are higher. Such behaviour would discriminate wealthy offenders. At the same time, it would reduce the police's attention devoted to apprehend other criminals. Consequently, the less wealthy offenders will face lower probability of detection and will be more incentivised to commit crimes. Nevertheless, this problem is not expected to be prominent since police officers are evaluated on the base of clearance rates. If they disregard the less wealthy criminal population, they will face very low clearance rate, since the majority of offenders are not wealthy. Furthermore, the revenues from the collected fines are not transferred to the police officer but to the state budget. Thus, they do not have direct incentives to pursue the wealthy offenders more rigorously.

7. Concluding Remarks

Fines are perceived as a desirable method of sanction, from the legal perspective as well as from the point of view of law and economics. First, it has lower costs of administration than other sanctions. Second, fines are transferred to the state budget and may be used for public spending. Third, this sanction avoids the negative effects that prison causes and reduces prison overcrowding. However, a question remains what is the proper fine and how to use it. For a pecuniary punishment to be considered efficient and constitute a significant alternative sanction to custody it should meet a number of requirements. It should have a general deterrent effect on criminals. Furthermore, it should also achieve marginal deterrence, i.e. reduction of the severest crimes. And finally, the fine ought to be set in a way that enables the offenders to pay it, otherwise it may not be used as a sole sanction for many offences.

There are different models of fine, yet only the day-fines have the potential to meet all the above-mentioned conditions at the same time. (1) Forasmuch as day-fines impose the same relative burden of the sanction it should serve to deter all (non-judgment proof) criminals regardless of their wealth. (2) Since day-fines may be tailored to the offence and the specific circumstances of the offender, it allows for a great range of different magnitudes of the fine. Consequently, the day-fine may achieve marginal deterrence by setting an increasing amount of the penalty as a function of the increasing severity. (3) Inasmuch as the unit of the daily fine constitutes only a fraction of the offender's daily income, it reassures the offender has the capacity to pay the fine. Consequently, starting from the second half of the 20th century this model is gaining popularity, and there are more and more European countries that adopt day-fines.

Nevertheless, the day-fine faces significant obstacles to efficiency. One of these hurdles is the cost of collecting the required financial information. The data on the wealth of the offender is essential to set the proper fine. However, the offender who has no incentives to reveal it, possesses this information. The enforcement authorities are able in theory to acquire this information, yet in a costly manner. As described in Section 4, in extreme cases the collection of this information turns the financial investigation to a more burdensome than the investigation of the crime. Therefore, courts are driven to rely on the declaration of the offender regarding his financial capacity.

This chapter asserts that without sufficient expected costs for misreporting ones wealth, the offender is always incentivised to under-report his income. Therefore, it is suggested to create a secondary enforcement system, i.e. punishment for deception, which would increase the

flow of information between the offender and the criminal justice authorities. However, since it is costly to investigate the great number of offenders processed by the criminal justice system, this chapter offers a way to enhance the deterrent effect of a low probability of detection and punishment.

Behavioural studies predict that people are averse to ambiguous probability of events, especially when they are facing losses with low probability. Therefore, this chapter proposes to keep the probability of investigating the offender's financial circumstances as random. In view of the fact that ambiguity aversion works through the awareness of people, the possibility of a random investigation ought to be stressed to the offender prior to his decision whether to misreport his wealth. In addition, to draw his attention to the expected penalty, the sanction (sufficiently high) for misreporting should be announced at the same stage.[439] It is suggested that this structure of the secondary enforcement system would decrease the incentives to misreport and increase the available financial information for setting the proper day-fine.

[439] Ambiguity aversion and the lack of awareness to policy changes are discussed more generally in Chapter 6.

Chapter 4 The "Net-Widening" Problem and Possible Solutions: the Case of Community Service and Electronic Monitoring[440]

1. Introduction

The need to reduce the use of short-term imprisonment has been discussed for many decades. The main argument to support this goal was the criminogenic effects of socialising with the prison population and the ineffectiveness of short-term incapacitation in deterring criminals. However, the necessity to find alternatives to short-term imprisonment is important now more than ever. The current prison crisis in Belgium is one example. The prison-overcrowding problem, which was worsening over the years, resulted in shortage of prison cells. In the aftermath of this, prison punishments of up to eight months ceased being executed in Belgium.[441] From the law and economics perspective, it is clear that such a crisis would lead to under-deterrence and, thus, to the increase of crime. On the one hand, offenders derive benefits from committing offences. On the other hand, the costs of crime (i.e. the punishment) are reduced to zero once a sentence is imposed yet not executed.[442] The shortage of prisons drove Belgium to rent cells from the neighbouring Netherlands.[443] Nevertheless, the Netherlands, as other European countries, is currently also searching for methods to cut prison costs. Recent reforms attempt to meet the target reduction of €340 million in prison costs by 2018.[444]

In order to overcome the constant increase in prison population, many European countries introduced alternative sanctions at the end of the 20th century. The two main recent alternatives are community service and electronic monitoring. The former refers to the

---

[440] This chapter is partially based on my paper "Cognitive Biases and Procedural Rules: Enhancing the Use of Alternative Sanctions," *European Journal of Crime, Criminal Law and Criminal Justice* 3 (2015, forthcoming). I would like to thank Gerard Mols, Michael Faure, and Paul Mevis for their valuable comments. In addition, I am grateful to the participants of the Future of Law and Economics Conference at Maastricht University. Lastly, I would like to express my gratitude to Jaroslaw Kantorowicz for all his comments and support. All possible mistakes remain, however, my own.

[441] Kristel Beyens and Marijke Roosen, "Electronic Monitoring in Belgium: a Penological Analysis of Current and Future Orientations," *European Journal of Probation* 5(3) (2013), 56-70, p. 63.

[442] This assumption holds if the costs of trial and its punitive effects for the offender are not taken into account.

[443] René van Swaaningen and Jolande uit Beijerse, "Bars in Your Head: Electronic Monitoring in the Netherlands," in *Electronically Monitored* Punishment (2013), *supra* note 119, 172-190, pp. 185-186.

[444] See http://www.iamexpat.nl/read-and-discuss/expat-page/news/major-reforms-to-dutch-prison-system (accessed on 3.12.2013). Similar austerity targets may be found in other European countries. For example, in England and Wales prison service budget cuts led to a proposal to halve the penalty for criminals who plead guilty in the earliest stage. See http://www.bbc.co.uk/news/uk-politics-19630614 (accessed on 3.12.2013).

sanction of unpaid work, and the latter depicts the use of technology to remotely monitor a person in a place outside prison.[445]

The sanction of community service has the potential to substitute imprisonment, especially short-term custody. There are several advantages of this alternative over prison. First, it avoids the negative effects prison has on offenders. Second, forasmuch as prisons are costly, it reduces the costs of punishment for the society. Third, this sanction in particular increases social welfare through the unpaid work performed by the offender for the public benefit. This work may be translated to money that may be invested in crime prevention policies and further decrease the use of the enforcement budget.[446] These types of policies bring the criminal justice system closer to a self-sustainable system. Another positive element of this sentence is that the offenders might acquire work moral and skills. A series of interviews in Israel with people involved in the execution of community service demonstrated this benefit. The interviewees reported that some of the ex-offenders continue to volunteer even after finishing their duty since they see there is a vulnerable population whom they might assist (old people, mentally and physically disabled, etc.). In addition, some of the employers are so satisfied with the offenders' work that they employ them after the sentence was completed.[447] Similar experience was observed in Scotland.[448]

Electronic monitoring has the advantage of transferring the criminal from custody to the community. Consequently, the offender avoids the criminogenic effects and keeps his family and social ties. This in turn, might decrease the recidivism rates.[449] In addition, this form of detention is less costly than prison,[450] and may also reduce the need of building new prisons.

---

[445] See chapter 2. Different countries sometimes use different terms for these instruments. However, for the simplicity, these terms are used throughout the chapter. In addition, the notion "sanctions in the community" refers to both, community service and electronic monitoring. The terms electronic monitoring and electronic tagging are used interchangeably.

[446] See for instance, The Scottish government, *Community Payback Order: Scottish Government Summary of Local Authority Annual Reports 2011-12* (The Scottish Government, Edinburg, 2012). "*Many of the reports included "before" and "after" photographs of unpaid work projects which they had completed. Some translated this into the number of hours and equivalent financial benefit (for example in one local authority a total of 78,695 hours of unpaid work was completed in 2011-2012 which they estimate was, based on a living wage of £7.20, worth £566,604). Others mention proceeds from the sale of goods produced by those doing unpaid work raising money for charity (one authority raised £4000)*" (p. 8).

[447] Bilha Sagiv, *Community Service - As an Alternative to Custody*, PhD dissertation (Hebrew University in Jerusalem, Jerusalem 1997), pp. 224, 229 [In Hebrew].

[448] Knapp, Robertson and McIvor (1992), *supra* note 227, p. 29.

[449] See for example, Di Tella and Schargrodsky (2013), *supra* note 250. For other empirical studies, see Chapter 2.

[450] See Section 3.2. Nevertheless, there are intangible costs of this particular sanction. Unlike in other sanctions, under the electronic monitoring the offender often spends entire days at home. If his family members live with

Despite the potential and the ambitious goals set for these two alternatives, many countries experienced a different result. The most prominent goal in introducing alternative sanctions is to substitute a prison sentence. However, in practice these sanctions are often used to substitute other non-custodial punishments, e.g. probation. This phenomenon is termed the "net-widening effect". Consequently, the costs of the criminal sentencing system increase. The net-widening effect may cause inefficiency in two ways. First, the new sanctions fail to reduce the prison population, which imposes the highest costs on the society. Second, even though these instruments are less costly than prison, they entail more expenses than the traditional non-custodial sanctions, e.g. fines. Thus, a system that imposes community service or electronic monitoring on lighter offenders unnecessarily increases the sentencing costs.

The aim of this chapter is to analyse the net-widening effect from the law and economics perspective, to identify its causes and to propose a solution. One possible reason why community service and electronic monitoring are prone to the net-widening problem is their current structure.[451] In order to constitute an alternative to prison, the new sanction needs to impose sufficient punishment costs on the offender. Otherwise, these costs may be lower than the benefits of committing this crime. In addition, any new sanction that aspires to replace prison, needs to be perceived as legitimate by the public and the sentencing authorities. This chapter suggests a new structure of community service (the substantive solution) that would reduce the net-widening effect, yet at the same time allow expanding the sentencing continuum. In addition, clear goals and ways of implementation are offered in order to properly identify the target groups for community service and electronic monitoring. Finally, it is suggested in this chapter that in order to optimise the use of the alternative sanctions, the substantive solution needs to be supplemented by a procedural one. To this aim, insights from behavioural law and economics are used.

The chapter is structured as follows. Section 2 defines the net-widening problem and analyses it from the law and economics perspective. The current use of community service and electronic monitoring is reviewed in Section 3.[452] In addition, this Section identifies possible problems in the implementation of these alternatives, which may explain the net-widening

---

him, it is a burden on them. Moreover, in theory the stressful situation may even increase the probability for domestic violence.

[451] There are differences across jurisdictions in the applied model and structure of community sanctions. Nevertheless, there are some important similarities as illustrated in Section 3 that may explain the net-widening effect.

[452] This chapter analyses the situation in Western Europe. However, the suggestions presented here, with adjustments, might be extended to all the Western criminal justice systems.

effect. The Israeli model of community service is discussed in Section 4. The substantive solution for the net-widening problem follows. Section 5 presents and discusses the procedural solution. Some limitations of the suggested policy are mentioned. Lastly, Section 6 offers concluding remarks.

2. The Problem of "Net Widening"

The notion of net widening was first introduced by the sociologist Stanley Cohen decades ago to illustrate the dangers in new criminal reforms.[453] In this context, "net-widening" refers to the problem of expanding the social control over individuals through different new programmes. Although the initial goal of these reforms is usually to divert people from the criminal justice system, sometimes exactly opposite occurs. The net of social control may be wider, stronger and newer. The underlying idea behind this criticism is that the new alternative sanctions, which are introduced in order to divert offenders from custody, in practice, constitute "new alternatives to old alternatives".[454] In other words, alternative sanctions such as community service are usually introduced with the intention to be imposed on offenders who would otherwise be sentenced to prison. Instead, in many cases this sanction is used to punish convicted individuals who would be sentenced to a less strict sanction if this alternative was not available. This criticism is referred to diversion programmes as well. These programmes initially targeted young offenders and aspired to divert them from the criminal justice system. However, in practice it led to the situation that juveniles who would otherwise be released without any treatment from the enforcement authority, were sent to different programmes.[455] The net-widening is not only a sociological problem but may be also viewed as an inefficient structure of the sentencing system from the law and economics perspective. If people may be deterred by less expensive means, it is not cost-effective to impose on them more restrictive and costly sanctions. The following sections present empirical evidence for the existence of the net-widening problem in different criminal justice systems. Subsequently, this problem is analysed from the law and economics point of view. Forasmuch as this chapter discusses only the alternative sanctions, i.e. community service and electronic monitoring, net-widening in the context of this chapter

[453] Stanley Cohen, *Vision of Social Control* (Polity Press, Cambridge, 1985), pp. 41-42.
[454] James Austin and Barry Krisberg, "Wider, Stronger, and Different Nets: the Dialectics of Criminal Justice Reform", *Journal of Research in Crime and Delinquency* 18 (1981), 165- 196, p. 44.
[455] *Ibid*., pp. 169-172; Stanley Cohen, "The Punitive City: Notes on the Dispersal of Social Control," *Contemporary crises* 3 (1979), 339-363, pp. 346-349.

refers solely to the problem of penalties which are not used efficiently to divert offenders from prison. Diversion programmes from the criminal system are not discussed.

2.1 Empirical Evidence for the Net-Widening Effect

The net widening problem was observed in different countries that apply alternative sanctions. In England and Wales community service was introduced in the 1970s following concerns regarding negative effects of custody, prison overcrowding and the costs of imprisonment. Initially the relevant act stated that this sanction should be available only for imprisonable[456] offences. Following this the Home Office issued guidelines that it may only occasionally be used to substitute non-custodial punishment. Nevertheless, in about 50% of the cases, community service was imposed on offenders who would not otherwise be sent to prison.[457] Moreover, some studies suggested that judges perceive this sanction more as an alternative to non-custodial sanctions.[458]

In Scotland, similarly to England and Wales, this sentence was introduced in times of growing prison population and was considered to constitute a "cheaper" sentence. Therefore, the primarily aim was to impose community service on offenders who faced a sentence of custody. However, based on his research in Scotland, Gill McIvor found that less than 50% of the offenders who are sentenced to community service would otherwise be sent to prison.[459]

A research on the net-widening effect was also conducted in the Netherlands. Community service in this country was introduced during the 1980s and meant to substitute short-term imprisonment. As in other countries, the reform was based on the belief that this alternative sanction may avoid the negative effects of short-term custody and reduce prison costs. It was promoted in times of increasing prison population with the hope to invert this trend. Nevertheless, in practice this sentence was subject to the net-widening effect and often community service was imposed on offenders who would otherwise receive a less restrictive punishment.[460]

---

[456] This term refers to offenses for which a prison sentence may be imposed.
[457] Pease (1985), *supra* note 338, pp. 59-63; Ken Pease, S. Billingham and Ian Earnshaw, *Community Service Assessed in 1976,* (Home Office Research Study no. 39, 1977), pp. 3-9.
[458] See for example, Pease, Billingham and Earnshaw (1977), *ibid*., p. 9.
[459] Gill McIvor, *Sentenced to Serve* (Billing and Sons Ltd, Worcester, 1992), pp. 8-14, 134-139.
[460] E.C. Spaans, "Community Service in the Netherlands: Its Effects on Recidivism and Net-Widening," *International Criminal Justice Review* 8 (1998), 1-14, pp. 1, 9-11; Peter J. Tak, "Netherlands Successfully Implements Community Service Orders," in *Sentencing Reform in Overcrowded Times*, Michael Tonry and Kathleen Hatlestad eds. (Oxford University Press, New York, Oxford, 1997), 200-203, pp. 200, 203; Tak (2001), *supra* note 385, p. 168.

The net-widening problem was discussed also in the context of using electronic monitoring as a sanction. After its introduction in different countries, electronic monitoring is used for home confinement and may be imposed as a sentence, as a parole condition or as a pre-trial confinement.[461] Similarly to community service, there is evidence suggesting that this sanction is also subject to the net-widening effect. This method is imposed not only as an alternative to prison, but also often on offenders whose freedom would otherwise be less restricted.[462] Consequently, the prison population is not decreasing and more people find themselves under a strict (and costly) penal supervision.[463]

The net-widening effect may be found also in other countries.[464] In the United States for example, this problem applies to different alternative sanctions such as community service, boot camps, intensive supervision programmes, electronic monitoring, etc.[465] Moreover, this is not merely an old problem, but continues to persist nowadays when alternatives are used for minor offences and do not sufficiently divert offenders from prisons.[466]

2.2 Law and Economics Analysis of the Net-Widening Effect

From a law and economics perspective the net-widening effect may be detrimental for efficiency. Cost-effective crime control policy requires a range of sentences that may be tailored to the offender and the offence. In the scale of sentences, a harsher punishment should not be imposed if the criminal may be sufficiently deterred using lighter and/or less expensive methods. Alternative sanctions such as community service and electronic monitoring are important in reducing sentencing costs while maintaining an acceptable level of deterrence. Those sanctions are meant to be imposed on offenders for whom a fine or conditional

---

[461] See *infra* Section 3.2.

[462] Karl F. Schumann, "Widening the Net of Formal Control by Inventing Electronic Monitored Home Confinement as an Additional Punishment: Some Issues of Conceptualization and Measurement" in *Will Electronic Monitoring Have a Future in Europe*, Markus Mayer, Rita Haverkamp and Réne Lévy eds. (Edition Iuscrim, Freiburg, 2003), 187-197, p. 192; Christopher Baird and Dennis Wagner, "Measuring Diversion The Florida Community Control Program," *Crime & Delinquency* 36 (1990), 112-125, pp. 122-123; Michael Tonry and Mary Lynch, "Intermediate Sanctions," *Crime and Justice* 20 (1996), 99-144, pp. 122-123.

[463] *Electronically Monitored Punishment* (2013), *supra* note 119, p. 9.

[464] See for example, Josine Junger-Tas, *Alternatives to Prison Sentences: Experiences and Developments*, Ministry of Justice (Kugler Publications, The Hague, 1994), p. 56; United States: Joan Petersilia, *Expanding Options for Criminal Sentencing* (RAND Corporation, Santa Monica, 1987), pp. 86-87; Morris and Tonry, *Between Prison and Probation* (1990), *supra* note 177, p. 158; Ireland: Bill Lockhart and Colette Blair, "Community Sanctions and Measures in Ireland," in *Community Sanctions* (2002), *supra* note 220, 285-326, p. 299; Norway: Tapio Lappi-Seppälä, "Penal Policies in the Nordic Countries 1960–2010," *Journal of Scandinavian Studies in Criminology and Crime Prevention* 13 (2012b), 85–111, p. 92.

[465] Tonry and Lynch (1996), *supra* note 462, pp. 101-103, 109, 116, 125.

[466] Miranda Boone, "Only for Minor Offences: Community Service in the Netherlands," *European Journal of Probation* 2(1) (2010), 22-40, p. 36; McIvor, Beyens, Blay and Boone (2010), *supra* note 228, p. 89; Rod Morgan, "Thinking about the demand for probation services," *The Journal of Community and Criminal Justice* 50(1) (2003), 7–19, p. 18.

imprisonment is too lenient, however, unnecessary. Therefore, a situation where community service and electronic monitoring are imposed on offenders other than those who are expecting a prison sentence may lead to financial waste. First, net-widening means that some offenders, who may be deterred using less costly alternative sanctions, are imprisoned. Second, alternative sanctions are used, to some extent, to punish low-risk offenders. Those delinquents may be deterred by less costly sanctions such as a fine or conditional imprisonment, thus, inducing unnecessary costs of sentencing. In order to minimise the costs of the sentencing system without compromising deterrence, a scale of punishment (in terms of costs and level of restriction) should be used. The most used punishment should be fines and conditional imprisonment. These sanctions are reserved for offenders who do not pose a high risk to the public and have lower chances to reoffend (low-risk offenders). If this sanction is not sufficient to deter the perpetrator, e.g. higher risk level, community service may be imposed. Nevertheless, in case this sanction still fails to deter, a more restrictive method, i.e. electronic monitoring, should be employed. Finally, if no other sanction may deter the offender from committing crimes, a custody sentence should be used.

Furthermore, the net-widening problem impedes marginal deterrence. Alternative sanctions enable to create a gradual scale of sentencing that considers the deterability of the offender as well as his offences. This way, each criminal who is not deterred entirely, is at least deterred from committing severer crimes. For instance, if the scale of a fraud is positively correlated with the sentence, i.e. the larger the scale, the harsher the punishment, culprits are incentivised to commit a "lighter" fraud. However, if these alternatives are not used properly, and too many eligible offenders for community sanctions are instead sent to prison, marginal deterrence diminishes. In other words, the costs of different offences are too similar to prevent potential offenders from choosing the harsher crime.

Some jurisdictions, e.g. the Netherlands, no longer state that the discussed alternative sanctions should serve as a substitute for prison, but allow it to be used instead of other non-custodial sanctions.[467] This chapter suggests that community service and electronic monitoring should be imposed on offenders who would otherwise be sent to prison.[468] First, as discussed earlier, these sanctions were introduced due to the increasing prison population and meant to replace custody, improve rehabilitation and make the punishment more

[467] See for example, Boone (2010), *ibid*.
[468] There is a possibility to introduce a form of community service to substitute prison, alongside with another form of community service which would be a part of the sentencing continuum. This suggestion is discussed at length *infra* in Section 4.2.1.

human.[469] Imposing these sanctions instead of lighter non-custodial punishments would miss its goals.

Second, not imposing these alternative sanctions on prison-bound offenders might lead to distorted results. Community service for instance, is usually carried out in lieu of imprisonment. Namely, the penalty for breaching the conditions of this sanction is prison. Therefore, imposing this punishment on a person who would be otherwise sentenced to a lighter sentence might result in an increase of his initial punishment in case of a breach.[470] This result would increase prison population[471] and the costs of sentencing. In addition, from the retributivist perspective this outcome might be perceived as unjust since an offender committing a light offence is punished harshly. On the other hand, if the penalty for breaching the conditions of community sanctions is lighter, e.g. a fine[472], there is an incentive not to complete the sentence. For the offender, this is an "efficient breach" since the costs of the breach are lower than the costs of compliance. This in turn, leads to waste of resources, i.e. the costs of evaluating the suitability of the offender and assigning to community sanctions might be spent in vain. However, if the alternative sanctions are imposed on prison-bound offenders, imprisoning them in case of violation is the appropriate response. The offender receives an opportunity to serve a lighter sentence, if he does not exploit this opportunity, the original punishment would be imposed on him.

Moreover, the net-widening effect means that scarce resources are not used optimally. The number of places of unpaid work is limited, especially due to the restriction of not harming fair competition in the market. With respect to electronic monitoring, this sanction entails a usage of technology that imposes non-negligible costs on the society. Therefore, these sanctions ought to be used only in those cases where potential offenders may not be deterred using less intrusive sanctions. Imposing community service and electronic monitoring on "light" offenders leads to a waste of these resources and limits its implementation on the harsher offenders who may be diverted from prison.

[469] See Boone (2010), *supra* note 466, p. 27; Tonry and Lynch (1996), *supra* note 462, p. 99; Pease (1985), *supra* note 338, p. 59.
[470] McIvor (1992), *supra* note 459, pp. 142-143.
[471] Similar results are found in the context of electronic monitoring. Offenders supervised by this method are caught more often than those under regular probation. Consequently, offenders who would otherwise be on regular probation are now sent to prison. See for example, Tonry and Lynch (1996), *supra* note 462, p. 101.
[472] For example, in Spain, see McIvor, Beyens, Blay and Boone (2010), *supra* note 228, p. 86.

3. The Current Use of Community Service and Electronic Monitoring

Prior to suggesting a way to overcome the net-widening problem, one should understand the current implementation and the problems of the relevant sanctions. Community service is a fairly widespread form of punishment in Europe. Albeit based on the same fundamental elements, there are differences in the implementation of this penalty across jurisdictions. Electronic monitoring is a more recent alternative form to prison that is applied less frequently than community service. These forms of control and punishment are used as a "front-door" strategy or as a "back-door" strategy. The front-door strategy refers to a reduction of prison population by introducing other sanctions or forms of detention in the sentencing or pre-trial stage of the criminal justice system. On the other hand, the back-door scheme denotes the reduction of the prison population by releasing offenders from custody prior to the completion of their sentences.[473] The following sections review these two alternatives in selected European countries and raise the problems in their implementation, which may explain the net-widening effect. Not all the western European countries are covered since these sections are only meant to illustrate the common difficulties. The reviewed countries are chosen based on interesting reforms they had with regard to community service or electronic monitoring.

3.1. Community Service: Countries' Experience

3.1.1. England and Wales

England and Wales were the first countries to introduce the Community Service Order in Europe in the *Criminal Justice Act of 1972*. Initially this sanction was imposed on offenders convicted for imprisonable offences with the intention to divert them from prison. The court could impose a number of hours of unpaid work that ranges between 40-240 hours and was meant to be performed during leisure time within one year.[474] In 2000, the name of this sanction was changed to "Community Punishment Order" and in 2003 the *Criminal Justice Act* increased the maximum number of unpaid work hours to 300.[475]

This sanction was not successful as an "alternative to custody" since it was not perceived as a proper substitute to prison in the form it was offered. Therefore, the idea of substitution was abandoned already in the 1990s. Looking at the characteristics of the offenders may lead to

[473] Tonry and Lynch (1996), *supra* note 462, p. 103.
[474] Pease (1984), *supra* note 338, p. 54. The tradition of imposing this sanction during leisure time remains today as can be seen in the guidelines provided by the UK government, see https://www.gov.uk/community-sentences/community-payback (accessed on 12.11.2013).
[475] Section 199(2) of *Criminal Justice Act 2003*.

the conclusion that unpaid work is imposed as an alternative to probation rather than to imprisonment. As compared to probation offenders, community service offenders have fewer previous convictions and they are less frequently convicted for more than one offence.[476] Furthermore, it is explicitly stated in the government's guidelines that this sanction is reserved for first-time offenders.[477]

3.1.2. Scotland

Scotland was the next country to implement community service as a sanction in 1979,[478] with the intention to create a "cheaper" substitute for prison. The law stated that this sanction ought to be imposed on imprisonable offences. Similar to other countries, only around 45% of the offenders serving this sanction were diverted from custody.[479] Consequently, the explicit requirement to impose this sanction as a substitute to prison sentence was introduced in 1991.[480] In addition, the number of hours that may be imposed has increased from 40-240 to 80-300.[481] The sentence needs to be performed during leisure time. Furthermore, the nature of the work should assure fair competition, thus only tasks that would not be otherwise performed by paid workers, may be assigned to community service offenders. This sentence was expanded over time to be imposed on fine defaulters and by prosecutors as an alternative to criminal procedure. In case of an established breach the court may fine the offender, change the number of community service hours or re-sentence the offender for the original offence.[482] By 2012, the use of this sanction expanded so that currently it constitutes around 5% of all sanctions imposed on convicted offenders.[483]

Following the increasing use of short-term prison sentences in the late 2000s there was a demand for a broader implementation of community sanctions. However, since community measures were perceived as too soft to replace prison, a new reform was suggested. This reform intended to make the community service more punitive while treating different aspects

[476] Ashworth (2010), *supra* note 155, pp. 319, 342. See also Morgan (2003), *supra* note 466, p. 18.
[477] See https://www.gov.uk/community-sentences (accessed on 12.11.2013).
[478] *Community Service by Offenders (Scotland) Act 1978*.
[479] Gill McIvor, "Paying Back: 30 Years of Unpaid Work by Offenders in Scotland," *European Journal of Probation* 2(1) (2010), 41-61, pp. 42-43.
[480] Section 61(3) of the *Law Reform (Miscellaneous Provisions) (Scotland) Act 1990*.
[481] Section 3 of *The Community Service by Offenders (Hours of Work) (Scotland) Order 1996*.
[482] McIvor (2010), *supra* note 479, p. 43-46.
[483] The Scottish Government, *Crime and Justice Statistics 2002-2012*, 2013 available at http://www.scotland.gov.uk/Topics/Statistics/Browse/Crime-Justice/TrendData (accessed on 2.11.2013).

of the offender's misbehaviour.[484] Consequently the new "Community Payback Order" was introduce in the *Criminal Justice and Licensing (Scotland) Act 2010*. Under this order the offender may be sentenced to perform unpaid work (with or without other activities) between 20-300 hours.[485] The work must be completed within six months if the order is more than 100 hours and within three months if the order is shorter than 100 hours.[486] This order is an explicit substitute for imprisonment as the act specifies "[…] *the court may, instead of imposing a sentence of imprisonment, impose a community payback order on the offender*."[487]

A recent assessment by the Scottish Government demonstrated that the number of community sanctions has increased between 2010 and 2012, as opposite to the trend of reduction in the preceding years. In addition, the average number of hours imposed under the community service has increased (from 145 hours in 2007 to 155 hours in 2012).[488] The nature of the unpaid work is mainly littering cleaning, gardening and maintenance.[489] With regard to the prison population it seems that the new reform led to some changes. Whereas the number of sentenced to up to three months imprisonment have decreased, the number of offenders sent to custody for a period of 3-6 months has increased.[490] In Scotland three months of imprisonment should by default be imposed as a community sanction.[491] Therefore, the opposite trend for three months and longer sentences might imply that courts impose longer prison sentences to avoid community service. If this is the case, one explanation may be that judges still do not perceive this sanction as a proper substitution for prison.

3.1.3. The Netherlands

In the Netherlands the sanction of community service was introduced into the *Dutch Penal Code* in 1989 after a period of experimentation. Since then it went through several modifications, with the most recent one in 2012. Currently, the maximum number of unpaid

---

[484] Graham Ross, *Criminal Justice and Licensing (Scotland) Bill Community penalties in Scotland* (The Scottish Parliament: the Information Centre, 2009), p. 3. More than 80% of all prison sentences in Scotland in the period of 2006-2007 were for the period of six months or less.
[485] Article 14 referring to Section 227I(4), the *Criminal Justice and Licensing (Scotland) Bill 2010*. The part referring to sentencing in this law amends the *Criminal Procedure (Scotland) Act 1995*.
[486] Article 14 referring to Provision 227L, the *Criminal Justice and Licensing (Scotland) Bill 2010*. Other requirements such as treatment may also be imposed under this sanction in order to tailor the punishment to the offender. See Ross (2009), *supra* note 484, p. 3.
[487] Article 17 adding provisions 3A-3B, the *Criminal Justice and Licensing (Scotland) Act 2010*.
[488] The Scottish Government, *Criminal Justice Social Work Statistics for 2011-12* (The Scottish Government, Edinburg, 2012).
[489] The Scottish government, *Community Payback Order: Scottish Government Summary of Local Authority Annual Reports 2011-12* (The Scottish Government, Edinburg, 2012), p. 3.
[490] The Scottish Government, *Prison Statistics and Population Projections Scotland: 2011-12* (The Scottish Government, Edinburg, 2012), Table A.3, p. 26.
[491] Article 15 adding provisions 3A-3B, *the Criminal Justice and Licensing (Scotland) Bill 2010*.

work hours, which may be imposed on the convicted offender, is 240 and it has to be performed within a year (Article 22c of the *Dutch Penal Code*). In case of breaching the conditions of the sanction, the offender may be sent to detention for up to four months (Article 22d of the *Dutch Penal Code*).

The sanction of community service was explicitly introduced in order to replace custody and reduce the prison population. As was stated in the Penal Code, it was meant to be imposed on offenders who would otherwise receive up to six months unconditional prison. Moreover, the judges were instructed to state in their judgment the length of the prison sentence that the community service order replaces. At that point it was not allowed to impose community service instead of conditional prison, fine or on fine defaulters.[492] During a short period in the 1990s this sanction was in practice imposed for serious offences due to a shortage of prison cells.[493]

However, in 2001 a substantial reform was made. The term "task sentence" was adopted and signified the expansion of the sentence to replace other non-custodial sanctions as well. Consequently, the judges were no longer obliged to impose this sanction as a substitute for a certain period of imprisonment. In recent years, community service sanctions are not used to their full range. The average number of imposed hours is decreasing and the sanction is used for minor offences. For instance, in 2008 the average number of imposed hours was around 69 as compared to the prescribed maximum of 240 hours.[494] Furthermore, the 2012 reform has limited the judicial sentencing discretion by prohibiting the imposition of this sanction on certain offenders (e.g. offenders who committed sex offences against minors or certain recidivists).[495] These changes are in line with the public opinion that community sanctions are not severe enough to be imposed on more serious offenders and offences.[496]

3.1.4. Spain

In Spain, community service was introduced in the *Criminal Code* of 1995. It was created in order to be imposed on first-time offenders who commit less severe offences and explicitly

[492] Tak (2001), *supra* note 385, pp. 166-167.
[493] Boone (2010), *supra* note 466, p. 36.
[494] *Ibid*., pp. 24-25, 32, 36. Besides unpaid work, community service in the Netherlands also includes training orders. However, this type is not discussed in this chapter.
[495] This change has entered into force in 2012. The relevant article mentions that community service may still be imposed in these cases if they are supplemented by unconditional imprisonment. In addition, in the Netherlands the prosecutor can impose community service instead of criminal prosecution.
[496] Boone (2010), *supra* note 466, p. 36.

replace weekend imprisonment.[497] Initially this sanction was used rarely since the judges did not believe it is an effective sanction. Consequently, different reforms were introduced in the 2000s that expanded the use of this penalty beyond the sole purpose of substituting imprisonment. The reforms in fact created two systems of unpaid work. One in which community service is an independent and direct sanction for certain offences. The second system is a direct substitute for a prison sentence of up to two years (Article 88 of the *Spanish Criminal Code*).[498]

The *Spanish Criminal Code* prescribes this sanction in days rather than in hours. Therefore, the offender may be required to perform an unpaid work up to 180 days.[499] However, article 88 of the *Spanish Criminal Code* states that in some cases a sentence of up to two years imprisonment may be substituted by a fine and community service.[500] This sanction is rarely imposed as a substitute for custody (under article 88 of the *Spanish Criminal Code*). The reason for this phenomenon is that the unpaid work penalty is reserved for the same target population as the suspended prison sentence. Thus, the prison sentence of these offenders is usually suspended and there is no need for community service. On the other hand, community service orders are quite frequently used as a direct sanction for traffic and minor domestic violence offences.[501]

The punitive element of community service is only the limitation on the liberty of the offender during his leisure time. To be precise, the sanction ought to be imposed in a way that does not interfere with other obligations of the offender, e.g. work, education, family. Inevitably this requirement burdens the placement task since in practice most of the unpaid work may be performed only during the evenings and weekends. Furthermore, this limitation makes it difficult to complete long orders within the prescribed one-year limit.[502]

The maximum number of hours the offender may be required to work per day is eight, and it depends on his other obligations. Offenders under community service order usually perform

---

[497] M. Dolores Valles Port, "Community Sanctions and Measures in Spain and Catalonia," in *Community Sanctions* (2002), *supra* note 220, 511-534, pp. 517. Similar to other countries, community sanctions can also be imposed in the form of training or rehabilitation however this chapter focuses on the unpaid work.
[498] Ester Blay, ""It Could Be Us": Recent Transformation in the Use of Community Service as a Punishment in Spain," *European Journal of Probation* 2(1) (2010), 62–81, pp. 64-67. The "independency" of the sanction in the first system is limited. Forasmuch as the consent of the offender to the community service order is required, this sanction still constitutes an alternative to another sanction (prison or non-custodial sanctions).In addition, another channel through which community service may be imposed is on fine defaulters.
[499] Article 33(3)(k) of the *Spanish Criminal Code*.
[500] Blay (2010), *supra* note 498, p. 65. The author suggests that this option in the law leads to rare cases where courts impose a sentence of 400-700 days of community service.
[501] *Ibid*., pp. 67-68.
[502] *Ibid*., p. 65.

work of maintenance, gardening, assistance in elderly houses, etc. In 2008 this sanction constituted 26% of all imposed sanctions. Most of the orders were up until 30 days and less than 4 hours of work per day. Furthermore, the majority of community service orders were imposed on traffic offenders (around 76% as compared for example to less than 4% property crimes). As a result, the reform, which introduced this sanction for traffic offences, was criticised for extending criminal intervention for a population that is not really in need of it.[503]

The consequence of a breach depends on the way the community service sanction was imposed. If it was imposed as a substitute for custody, then the offender is required to complete the remaining prison term. However, if this sanction was imposed as an independent sanction, the breach becomes a new offence for which the penalty is a fine, and the original offence remains unpunished.[504] This type of a system stresses the problem in using community service to replace other non-custodial sanctions. It increases the offender's incentives to breach the order and might lead to a waste of resources (see Section 2).

3.1.5. Summary and Identification of Common Problems

The following table summarises the main features of community service in the reviewed countries (Table 8).

Table 8: Community Service in Selected European Countries

Country	Year of Introduction	Prescribed Hours	Average Imposed Hours*	To be Completed Within	Completion Rates
England and Wales	1972	40-300	-	One year	-
Scotland	1979	20-300	155	< 100: 3 months >100: 6 months	65%
Netherlands	1989	40-240	69	One year	75%
Spain	1995	180 days (or up to 2 years)	30 days or less < 4 hours a day	One year	-

Source: own table based on the reviewed literature in Sections 3.1.1 – 3.1.4.
Notes: * Scotland - 2012; Netherlands - 2008; Spain - 2008.

The abovementioned overview stresses several problems in the implementation of community service. These difficulties impede the sanction's potential to substitute a significant portion of custody sentences. First, the prescribed maxima of hours for community service are too low and lead the judges to perceive this penalty as a "favour" to the offender. Furthermore, in recent years there is a public demand in different jurisdictions to make the community service

[503] *Ibid*., p. 67-72, 76; Ester Blay, "Work for the Benefit of the Community as a Criminal Sanction in Spain," *Probation Journal: The Journal of Community and Criminal Justice* 55(3) (2008), 245-259, p. 252.
[504] Blay (2010), *supra* note 498, pp. 66-68.

more punitive and a criticism that it is too soft and unsuitable for certain offenders.[505] Therefore, it is imposed mainly in cases of non-serious crimes such as traffic offences and property crimes. This may also explain the merely partial substitution of prison sentences (net-widening effect).[506] Second, this sanction mainly restricts the leisure time of offenders, especially when the offender is employed (unpaid work during evenings or weekends). This feature of the sanction makes community service comparable to fines rather than to prison. "The European model"[507] of community service often allows the offender to maintain the way of life he had before being sentenced. The offender may keep his current job continue his education, etc. Certainly, this kind of punishment may not be genuinely considered as a substitution to imprisonment. A prison sentence usually means a significant restriction of the person's liberty and a substantial change in his way of life. On the other hand, performing the unpaid work during leisure time may be considered as a "fine on time"[508]. Instead of giving away a portion of a person's wealth, he gives away a portion of his time. In other words, the hours of work may be translated to opportunity costs and in turn, to a fine. In order to place community service above fines and closer to a prison sentence on the sentencing scale, the opportunity costs of this sanction for the offender should be substantially higher than the monetary equivalent of a fine. The punishment costs the offender experiences from community service should be more similar to his costs of prison.

The third problem of implementation is that the community service sanction is often not used to its full extent. Courts tend to impose sentences that are significantly shorter than the prescribed maximum number of hours. The lower the number of unpaid work hours imposed on the offender, the weaker the restriction on his liberty. Thus, not using this sanction to its full extent decreases its potential to substitute a prison sentence. A support for this argument may be found in a study conducted on community service in the Netherlands. This study demonstrated that only when the upper bound of community service hours was used (150-240 hours), the net-widening problem was minimised.[509]

---

[505] McIvor, Beyens, Blay and Boone (2010), *supra* note 228, p. 88.
[506] See Anton Van Kalmthout, "Community Sanctions and Measures in Europe: a Promising Challenge or a Disappointing Utopia?" in *Crime and Criminal Justice in Europe* (Council of Europe Publishing, Strasbourg, 2000), 121-133, p. 127.
[507] As stated before, European countries do not use the same structure of community service, yet there are many similarities. Therefore, this paper uses the term "European model" to illustrate those similarities.
[508] Pease (1985), *supra* note 338, p. 74.
[509] Spaans (1998), *supra* note 460, p.13.

Another difficulty raised in some countries is the delay in the execution of orders (e.g. Spain, Belgium).[510] In most of the jurisdictions the criminals are required to carry out work which otherwise would not be performed. This condition was introduced in order to avoid unfair competition in the employment market. However, this restriction constitutes one of the factors that brings about the shortage of placement opportunities. Delays in the execution of a punishment undermine the credibility of the criminal justice system. Moreover, celerity of enforcement is an important element in crime prevention.[511] Therefore, prolonging the period between the crime and the punishment might lead to under-deterrence.

In order to exploit the potential of community service as a substitute for custody, the costs of this punishment for the offender ought to be raised to resemble better the costs of custody. Due to respect for human rights, these costs should not be raised by imposing on the offender a more burdensome work by nature. Instead, the costs might be raised by increasing the incapacitating element of community service, e.g. longer periods of unpaid work. A more incapacitating nature of the community service would raise the confidence of the public and the sentencing agents in this alternative sanction and allow for a genuine substitution of custody.

3.2. Electronic Monitoring: Countries' Experience

Electronic monitoring is used in Europe in different stages of the criminal justice system. Almost in all jurisdictions this measure was introduced in times of overcrowding prison population with the aim of having a less costly yet credible substitute for prison (or remand[512]). The most commonly used monitoring technology in Europe is the Radio Frequencies (RF). Under this equipment a monitoring device is put around the ankle of the offender. This device sends signals through a phone line whenever the individual is absent from a certain defined area (usually his home). This may be used also to exclude a person from certain areas. Another technology is voice verification. This is the least costly option since no device is installed. The offender is supervised by phone calls with voice verification made to the location where he is ordered to be. Finally, some countries apply, or discuss the possibility of using the Global Positioning System (GPS). This technology is more advanced

[510] McIvor, Beyens, Blay and Boone (2010), *supra* note 228, p. 85.
[511] Beccaria (1983), *supra* note 66, Chapter 19, p. 51.
[512] Pre-trial and during trial arrest.

and allows following the whereabouts of the offender at any given time.[513] Therefore, this technology is also more expansive than RF and voice verification.

3.2.1. England and Wales

England and Wales were the first in Europe to introduce electronic monitoring in the 1980s, after adopting it from the Unites States. This new measure was explored in times of growing prison population and as a response to the net-widening problem of other alternatives such as community service. Following the experimentation with electronic tagging it was introduced in the *Criminal Justice Act 1991*. Electronic monitoring was perceived negatively both by the sentencing authorities and by the Probation Office and was rarely implemented. Eventually, in 1999 due to a 50% increase in the daily prison population the Home Detention Curfew (HDC) programme was initiated. Under this scheme, eligible prisoners serving a sentence of three months to four years could be released to home confinement 60 days prior to the completion of their sentence. Subsequently, the number of individuals under electronic monitoring significantly increased. At this stage the programme was perceived positively and an estimation of its effects indicated that this policy saved around 2000 prison places, which economised around £36 million. As a result, the period of HDC was extended from 60 to 90 days.[514]

Electronic monitoring in England and Wales is used at the stage of early release, pre-trial, and as a requirement attached to other community penalties. As compared to other European countries, this jurisdiction has the highest number of electronically monitored offenders. In 2011, there were around 23,000 offenders under this scheme at any given day. RF is the main technology used for the surveillance and the maximum hours the offenders may be confined per day is 12. The completion rates are quite high, however this may be attributed to the fact that only low-risk offenders are found to be eligible for this option. The estimated daily costs of the programme per offender are around €14.40 (£12.10)[515] and they include all the monitoring, service, equipment, installation and breach expenses.[516]

Nevertheless, the lack of clarity with regard to the target group for this sanction is a persistent problem in England and Wales, and might be the cause of its underuse. In addition, its ability to constitute a cost-effective mechanism is criticised in recent years in the course of internal

[513] Nellis, Beyens and Kaminski (2013), *supra* note 119, pp. 5-6.
[514] George Mair and Mike Nellis, "'Parallel Tracks': Probation and Electronic Monitoring in England, Wales and Scotland," in *Electronically Monitored Punishment* (2013), *supra* note 119, 63-81, pp. 64-69.
[515] Converted based on http://www.xe.com/currencyconverter/ (accessed on 8.12.2013).
[516] Mair and Nellis (2013), *supra* note 514, p. 73; Pinto and Nellis (2012), *supra* note 248, pp. 2, 5.

discussions on budget cuts. When imposed by the court, it is mainly applied to delinquents who would not otherwise be imprisoned, thus causing the net-widening effect. Consequently, albeit being less costly than prison, electronic monitoring is becoming an expensive sanction[517] when substituting other non-custodial sentences such as fine.[518]

3.2.2. Sweden

Sweden was one of the first European countries to introduce electronic monitoring as an alternative sentence for short-term imprisonment in the 1990s. The main justification for this reform was to avoid the negative effects of prison by offering a proper alternative to it. In addition, it was meant to constitute a less costly sanction as compared to custody. Sweden began piloting the programme in a limited number of regions in 1994 within a scheme named Intensive Probation with Electronic Monitoring (ISEM). The new sanction combined intensive control with rehabilitation. Therefore, the offender had to stay under home confinement (with RF electronic monitoring) and leave the premises only according to a schedule for work, treatment and other agreed activities. The programme was finally introduced in the *Swedish Penal Code 1999* and extended to the whole county. It was used to replace prison sentences of up to three months upon the request of the offender and his eligibility. One of the conditions for receiving this alternative was to have employment. In addition, this scheme was used for an early release. In 2005, the target group of offenders was extended to cover sentences of prison up to six months, and a wider range of early releases.[519] Although the private sector is dealing with technical supervision, the Probation Service is entirely in charge of implementing and supervising this sentence. The hours of confinement range between 8-23 hours, and the offender is usually obliged to pay a daily fee of around €6 (50SK)[520] to a victim's fund.[521] According to an assessment conducted in 2011, the daily expenditure on electronic monitoring per offender is around €3.50 but it includes only the costs of equipment and installation.[522]

---

[517] For example, the costs of a fine is expected to be lower. Even if there are costs of enforcing and collecting the fine, these costs are conditional on the lack of compliance by the offender. In other words, as long as some offenders comply with their sentence and pay their fines, the costs of enforcing the fine are zero. On the other hand, the expenses on electronic monitoring are always required, even when the offender is in compliance. First, the electronic device and its installation have costs. Second, a staff of supervisors needs to be employed in other to monitor the offender.

[518] Mair and Nellis (2013), *supra* note 514, pp. 73-74.

[519] Inka Wennerberg, "High Level of Support and High Level of Control: An Efficient Swedish Model of Electronic Monitoring?" in *Electronically Monitored Punishment* (2013), *supra* note 119, 113-127, pp. 113-114.

[520] Converted based on http://www.xe.com/currencyconverter/ (accessed on 8.12.2013).

[521] Wennerberg (2013), *supra* note 519, pp. 115-116.

[522] Pinto and Nellis (2012), *supra* note 248, p. 4.

Even though the use of this sanction reached its peak in 1998, later its application decreased due to the introduction of community service with a suspended sentence, which targeted the same offenders group. A number of evaluations of ISEM were conducted and found to be positive. The programme was announced as a success in terms of programme completion, costs, prison diversion (half of the sentenced to three months custody served it under ISEM) and offenders' satisfaction. However, this alternative sanction is mainly imposed on drunk drivers and low risk offenders who in general have a better social background as compared to prisoners. A study on recidivism rates demonstrated that there is no significant difference between offenders under ISEM and comparable offenders in prison. Nevertheless, drunken driving delinquents perform somewhat better on the above-mentioned criteria after ISEM.[523]

3.2.3. France

France is another European country that implements electronic monitoring also in the stage of sentencing. This measure was first discussed in France in 1989 as an instrument to solve the prison-overcrowding problem. In 1997 electronic tagging was introduced in the *French Penal Code* and allowed to substitute a sentence of up to one year, or enable early release a year prior to custody completion. For several years it was not implemented, possibly due to the increasing use of other alternatives. However, at the beginning of 2000s this situation changed. Electronic monitoring was introduced in all stages of the trial, i.e. pre-trial detention, court sentencing and post-trial release. In 2009, the period of home confinement for early released offenders was expanded to two years, enabling releasing a larger portion of offenders. Finally, the tracking system (GPS) was introduced and applied to dangerous offenders after serving their prison sentences.[524]

The condition to impose electronic tagging as a substitution for short-term imprisonment is the existence of work, family obligations, education etc.[525] This option is used mainly for drunk-drivers, other traffic offences, drug and some violence offences, usually only during the week-days. Those delinquents have on average more favourable characteristics than prisoners (employment, family, education). The completion rates are high, with only around 5% withdrawing from the programme. When observing sentencing distribution during the 2000s, it does not seem that this alternative had an effect on the growing prison population. In 2011,

[523] Wennerberg (2013), *supra* note 519, pp. 114-122. The strength of this study lies in the reliable control group. Since initially the policy was implemented only in certain areas, it was possible to match the treatment group to a control prison group in another area where ISEM was not available.
[524] René Lévy, "From Tagging to Tracking: Beginnings and Development of Electronic Monitoring in France," in *Electronically Monitored Punishment* (2013), supra note 119, 128-149, pp. 128-132.
[525] Article 132-26-1 of the *French Penal Code*.

less than 8,000 individuals were under electronic surveillance as a sentence and early release. The estimated daily expenses on electronic tagging are €15.50 for RF and €30 for GPS. These costs include equipment, installation and monitoring.[526]

3.2.4. The Netherlands

In the Netherlands the discussion on electronic monitoring began during the 1980s. The primary goal of considering introducing this method was to resolve the scarcity of prison cells and reduce the penalty costs. The first experimentation with electronic surveillance was initiated in 1995 in a couple of Dutch provinces. Following that electronic monitoring was introduced in different stages of the criminal justice system.[527]

The Penitentiary Principles Act of 1999 regulates a back-door policy. Under this Act, selected prisoners are chosen to serve the remaining period of their prison sentence outside prison. During this period they are electronically monitored (the first third of this programme) and obliged to participate in different activities that would assist them to integrate into the society.[528] In addition, electronic tagging may be used in the remand phase, and the prosecution regulates this form.[529] Finally, electronic monitoring may be imposed also as a front-door scheme. This form of control may be combined with a suspended sentence or other non-custodial sanctions for the period of 6-12 months.[530] This option was rarely used. For instance, during the period of 2002-2003 this sentence constituted only 3% of all the forms in which electronic monitoring was used. However, electronic monitoring was implemented also as a way to execute a prison sentence of up to 90 days, i.e. "Electronic Detention" (and later on "Electronic House Arrest"). This was introduced by the Ministry of Justice in 2004 and administered by the Prison Department. The offenders under this scheme may keep their work and the rest of the time ought to remain under home arrest. The unemployed offenders are required to remain 22 hours a day under home confinement and they have two hours of free time. An evaluation of this programme was positive. Around 93% of the offenders completed their sentence. Furthermore, the daily expenditure for electronic monitoring was €40 per person, which constitutes one third of the costs of a prison cell in low-security prison. This scheme was discussed for several years as a potential sanction to be introduced in the law. However, in 2011 the State Secretary of Security and Justice eventually rejected it with the

[526] Lévy (2013), *supra* note 524, pp. 136-137; Pinto and Nellis (2012), *supra* note 248, pp. 2, 6.
[527] Van Swaaningen and uit Beijerse (2013), *supra* note 443, pp. 172-175.
[528] Peter J.P. Tak, "Prison Policy, Prison Regime and Prisoners' Rights in the Netherlands under the 1998 Penitentiary Principles Act" in *Prisoners' Rights* (2008b), *supra* note 119, 457-492.
[529] Van Swaaningen and uit Beijerse (2013), *supra* note 443, p. 186.
[530] Tak (2001), *supra* note 385, p. 170.

assertion that it does not constitute a credible alternative to prison.[531] Moreover, a recent draft had offered to introduce electronic monitoring as a way to execute part of the imprisonment sentence. To be precise, offenders who were sentenced to more than six months, who served at least half of their sentence, and expressed good behaviour, could serve the remaining of their punishment under electronic monitoring.[532] Nevertheless, this proposal was recently rejected as well.[533]

3.2.5. Belgium

In Belgium, electronic monitoring was first discussed in 1996 and the first pilot programme took place in 1998. The need for custody alternative emerged in times of overcrowding prison population. Namely, 116% of the prison capacity was used during this period. In 2000, the implementation of electronic monitoring was extended to the whole country through regulatory documents (Ministerial Circular Letters). Albeit being introduced with a rehabilitative aim, alongside the controlling goal, as of 2006 electronic monitoring became merely a cost-effective substitute for custody. The daily cost of this measure is €39, which is three times less than the daily expenditure on one prisoner, i.e. €126.[534]

Currently electronic surveillance is used as back-door and front-door scheme. The former is available for offenders who are serving a prison sentence of more than three years. In these circumstances, they may be released to home confinement six months prior to their eligibility to parole. The latter scheme, the front-door option, is used for prison sentences of up to three years. In this case, the prison governor almost automatically converts a court-ruled prison sentence to home detention. In addition, since 2012 Belgium is using voice verification technology as a home surveillance. This method reduces significantly the expenditure on electronic monitoring since its daily operation costs are only around €5.50 per person. Offenders without meaningful activity may leave their house only for four hours per day, in order to search for a job, medical treatment, etc. This "time-window" may be extended to

---

[531] Van Swaaningen and uit Beijerse (2013), *supra* note 443, pp. 179-182.
[532] Gewijzigd Voorstel Van Wet, "Wijziging van de Penitentiaire beginselenwet en het Wetboek van Strafrecht in verband met de herijking van de wijze van de tenuitvoerlegging van vrijheidsbenemende sancties en de invoering van elektronische detentie" (24 April 2014).
[533] Erste Kamer der Staten-Generaal (30 September 2014), available at https://www.eerstekamer.nl/wetsvoorstel/33745_invoering_elektronische (accessed on 20.1.2015).
[534] Beyens and Roosen (2013), *supra* note 441, pp. 57-59; Kristel Beyens and Dan Kaminski, "Is the Sky the Limit? Eagerness for Electronic Monitoring in Belgium," in *Electronically Monitored Punishment* (2013), *supra* note 119, 150-171, pp. 150-153. The Act of 17 May 2006 created the Sentence Implementation Court that is in charge of the early release process, and regulated the use of electronic monitoring as a way to execute a custodial punishment. Since until recently electronic monitoring was not discussed and introduced by the Parliament in a regular legislative procedure, there was no clear instruction and criteria of the target group for this measure (p. 154).

eight or even twelve hours if the offender has employment or other important activities. In 2009, around 72% of sentences under electronic monitoring lasted up until 150 days. However, some offenders spent more than two years under this surveillance. The rate of compliance that year was around 76%. Furthermore, the current Minister of Justice announced that a GPS system would be introduced in the pre-trial phase in January 2014.[535] Finally, the law of February 7, 2014, introduced electronic monitoring as a penalty that may be imposed by the courts. Once the law is in force, judges may impose home confinement combined with electronic surveillance as a replacement to imprisonment punishment up to one year.[536]

The use of electronic monitoring in Belgium is increasing over the years (from less than 300 at the beginning of 2000s, to around 1318 offenders in 2013). On the one hand, it seems that the problem of prison overcrowding has not been resolved. Whereas in 2006 around 116% of prison capacity was exploited, by 2013 it was already 123%. On the other hand, there are almost no short-term (up to one year) prisoners in Belgium, which implies electronic monitoring is a real alternative to custody. The explanation for this may be that until 2013 prison sentences of up to eight months were not executed due to prison cells shortage. Hence, the new technology enabled to execute prison sentences of offenders who before went unpunished.[537]

3.2.6. Summary and Identification of Common Problems

The following table summarises the main features of electronic monitoring implementation in the discussed countries (Table 9).

[535] Beyens and Roosen (2013), *supra* note 441, pp. 59-64; Beyens and Kaminski (2013), *supra* note 534, p. 162.
[536] Federale Overheidsdienst Justitie, [C – 2014/09072], 7 Februari 2014 — Wet tot invoering van het elektronisch toezicht als autonome straf; see also http://www.ordeexpress.be/artikel/59/543/elektronisch-toezicht-als-autonome-straf [in Dutch] (accessed on 17.6.2014).
[537] Beyens and Roosen (2013), *supra* note 441, p. 65; Beyens and Kaminski (2013), *supra* note 534, p. 165.

Table 9: Electronic Monitoring in Selected European Countries

Country	Year programme (P)/ (I)*	Stage of the Criminal Justice System	Prescribed Period	Max. no. daily Hours	Completion Rates
England & Wales	1980s(P) 1991(I)	Pre-trial; Early release; Requirement to other community penalties	90 days (early release)	12	-
Sweden	1994(P) 1999(I)	Sentence; Early release	6 months (sanction)	23	High
France	1997(I)	Pre-trial; Sentence; Early Release	1 year (sentence); 2 years (early release)	-	95%
Netherlands	1995(P) 1999(I)	Remand; Supplement to a suspended imprisonment; Way to execute a prison sentence; Early release	6 months (supplement); 90 days (executed prison sentence)	22	93%**
Belgium	1998(P) 2000(I)	Way to execute a prison sentence; Sentence; Early release	3 years (prison execution) ; 1 year (sentence); 6 month (early release)	20	76%

Source: own table based on the reviewed literature in Sections 3.2.1 – 3.2.5.
Notes: * "P" indicates the year in which a pilot programme commenced. "I" refers to the introduction of the programme on the country level. ** Refers to the Electronic House Arrest programme.

The above-mentioned overview suggests there are significant differences across jurisdictions in the way of implementation and the stages in which electronic monitoring is dominant. Nevertheless, some common problems might be identified. First, often there is no clear understanding and uniformity with regard the target population for this method. All the more so when other alternative sanctions such as community service are also available. Second, when imposed as a punishment, it seems there is a net-widening effect, and it is often used to deal with minor offenders.[538] Finally, despite the potential of electronic monitoring to substitute a prison sentence, not many countries use it as a sanction (or as a way to entirely execute a prison sentence).

Similar to community service, electronic monitoring may constitute a credible substitution to a prison sentence. This solution can be cost-effective when properly used. However, those two alternative sanctions often overlap in the sense of their target groups. Therefore, the goals and the structure of their implementation ought to be clear. The following sections discuss possible substantive and procedural solutions. First, the Israeli model is presented in order to assist in designing the substantive structure of community service. Second, the structure, goals and the target group of both community service and electronic monitoring are discussed. Lastly, a procedural solution, which must complement the substantive suggestion, is offered.

[538] Those were also partially the reasons in the past not to introduce electronic monitoring in Belgium in the sentencing phase. See Beyens and Roosen (2013), *supra* note 441, p. 61. See also Mair and Nellis (2013), *supra* note 514, pp. 73-74, for the persistent problem of identifying the right target group.

4. Substantive Solution

Based on the law and economics approach, in order to design sanctions in the community which may be truly used as an alternative to prison it has to impose similar costs of punishment on the criminal as the costs of custody. Namely, the penalty has to be burdensome. The idea behind deterrence is the imposition of higher expected costs of crime as compared to the benefits the criminal derives from it.[539] Therefore, in order to deter behaviour that was previously punished by prison the alternative sanctions must impose sufficiently high costs. Support for this argument may be found in the common criticism that these sentences are too soft and incapable of replacing custody.[540] Hence, in order to legitimise and promote these sanctions as a substitute to custody, they have to be perceived by the enforcement authority and the public as punitive and deterring. The Israeli model of community service is presented since it imposes sufficient costs of punishment. In addition, the structure of this punishment in Israel provides clarity and assists in using community service for the "right" population. Therefore, it may assist in designing a model of community service that would deal with the identified problems.

4.1. Community Service: The Case of Israel

In the Israeli criminal justice system there are two sanctions that entail an unpaid work in the community, i.e. “Community Service” and “Service for the Public Benefit Order” (SPBO). They differ in the severity of the punishment, their implementation and the characteristics of the target population.

The SPBO was introduced as a criminal sanction in Israel in 1979 in certain municipalities and in 1994 it was expanded to the whole country. The nature of this punishment significantly resembles the “European model” of the community service order. It is imposed in the form of a number of unpaid work hours and intended to be performed by the offender during his leisure time. The SPBO must be performed within one year and the probation office is the body in charge of this penalty. Initially the SPBO was introduced as an alternative to custody.

---

[539] Becker (1968), *supra* note 13.

[540] See for example, Paul Larsson, “Punishment in the Community: Norwegian Experiences with Community Sanctions and Measures,” in *Community Sanctions* (2002), *supra* note 220, 393-419, p. 402; Whitfield (2001), *supra* note 238, p. 47; Boone (2010), *supra* note 466, p. 22; Tonry and Lynch (1996), *supra* note 462, p. 112; The Scottish Government, *2010/11 Scottish Crime and Justice Survey: Main Findings* (The Scottish Government, Edinburgh, 2011), p. 107.

However, similar to the European experience (as presented in Section 3), it served more often as an alternative to other non-custodial sanctions.[541]

The current Israeli Penal Code explicitly states that the SPBO is not an alternative to prison.[542] According to the law, the SPBO may be chosen as a sanction by the court *only* if a prison sentence was not imposed. This sanction may be combined with other sanctions or be inflicted as a single punishment. As stated before, the unpaid work is imposed in hours and intended to be performed during the leisure time of the offender. In case of a breach, the court may cancel the order and impose on the culprit a new sentence for the original offence.[543]

Community service was introduced as a penalty into the *Israeli Penal Code* in 1987. As stressed in the explanation for the Bill Proposal, the main reason for adopting this sanction was to reduce prison overcrowding and to avoid the harmful effects of short-term imprisonment.[544] This sanction is an explicit alternative for a prison sentence as expressed in its name and its relevant provisions in the law.

The full name of this punishment is "Serving Prison in Community Service". Thus, already suggesting it is not an independent sanction, but a form of carrying out a prison sentence. In addition, the sanction of community service is considered as a custody penalty in the criminal record of the offender. Furthermore, Article 51b(a) to the *Penal Code* states the following "*the court which sentenced the defendant to a prison term of not more than six months, may decide that the sentenced defendant would serve the prison sentence, in whole or in part, in community service […]*".[545] Therefore, the law explicitly requires that this sanction would be imposed solely on offenders who were sentenced to prison. Similarly to European countries, the execution of community service is conditioned upon the offender's consent.[546]

---

[541] Bilha Sagiv, *Service for the Public Benefit Order in Jerusalem January 1982-July 1985*, Thesis Manuscript (Hebrew University Jerusalem, Jerusalem 1988) [In Hebrew].
[542] Article 71a(a), *The [Israeli] Penal Code, 1977*.
[543] Article 71d, *The [Israeli] Penal Code, 1977*. Which sanction should be imposed on the offender in case of a breach is not specified, thus, it is subject to the discretion of the court.
[544] *Bill Proposal 1766* (14.1.1986), p. 76. The introduction of community service came as a replacement to the *Penal Labour Act of 1927*. Under this act, police could convert a prison sentence of up to three months to a work punishment outside the prison. In practice, only few of the offenders were actually referred to this option and the work was mainly performed at police stations without any rehabilitative value.
[545] Nevertheless, in practice, since prison is considered as a harsher sentence than community service, *ceteris paribus*, the community service term might be longer than a prison term, and not one-to-one. See for example, C"A (Criminal Appeal) 537/89 *State of Israel v. Abrahmein* (17.12.89), pp. 772-773, suggesting that the court should receive the community service administrator's opinion regarding the suitability of the offender for unpaid work prior to sentencing since it might affect the length of the sentence.
[546] Article 51b(b)(2), *The [Israeli] Penal Code, 1977*. When the law was discussed in 1987, some of the parliament members offered to increase the prison term which may be substituted to nine months. Due to the novelty of the sanction, the parliament agreed to introduce six months, assuming in the future the discussion of

The nature of the work according to the law is for the public benefit, without remuneration,[547] in state institutions, or other bodies.[548] In the past, the sanction of community service was divided into two types, i.e. sector work and public work. The former work was intended to be performed in non-state bodies. In addition, the private employer was obliged to pay a wage to the prison that would then transfer the money to the offender after deducting administration expenses. In order not to create unfair competition and create unemployment, only the "unwanted" jobs could be assigned to community service offenders.[549] The public work, on the other hand, was unpaid work performed in state bodies.[550] In practice, over the years no distinction was made between the two types of work and wages were never paid to the offenders.[551] Consequently, in 2009 the law was amended and currently all the work is unpaid and for the public benefit, however, it may be performed in state and non-state bodies.[552] Currently, there are around 450 work places[553] which include hospitals, community centres, rehabilitation institutions, museums, gardens, municipalities, police stations, prisons, centres for disabled children, elderly houses, schools, homeless shelters, etc.[554]

There are no prescribed limitations on the type of offences and offenders who may be sentenced to community service. The length of the community service equals the length of the prison term with subtracted weekly rest days and sabbaticals by law. Furthermore, the period of community service decided by the court must be completed in a sequential manner. The structure of community service is eight and a half hours of work per day, five days a week. In exceptional cases the court may reduce the daily quota of hours, but not below six hours.[555] In case of unjustified breach of this sanction, generally the offender would be obliged to serve

---

prolonging this term would resume. See Parliament Discussion (1.4.1987) on the *Penal Bill Proposal (Amendment no. 21) – 1987,* (Second and Third Voting) [In Hebrew].

[547] Forasmuch as community service is a full-time employment some of the offenders do not have income during the period of the sentence. Therefore, under certain conditions, the Israeli law entitles these offenders to social security benefits to provide their basic needs. The monthly payment in these cases is around €300, which constitute approximately 16% of the average wage in Israel. See First addition, Article 16, and Second addition, *Income Support Law, 1980*. This amount is for a single offender, and may be increased if the offender has dependents. Nevertheless, the conditions for receiving the benefits are very strict and not all offenders are found to be eligible. For example, at the beginning of the 1990s, only 34% of those serving the community sentence received social welfare. See Sagiv (1997), *supra* note 447, p. 236 [In Hebrew].

[548] Article 51a of *The [Israeli] Penal Code, 1977*.

[549] Article 51a of *The Penal Bill Proposal (Amendment no. 21)-1987*. Parliament Discussion (1.4.1987) on the *Penal Bill Proposal (Amendment no. 21)-1987,* (Second and Third Voting) [In Hebrew].

[550] Article 51a, *The Penal Bill Proposal (Amendment no. 21), 1987*.

[551] HCJ (High Court of Justice) 114/06 *Ganot and others v. The Prison Service* (20.9.2007), para. E. [In Hebrew].

[552] Amended Article 51a of *The [Israeli] Penal Code (Amendment no. 102), 2009*.

[553] Prison Service, *Yearly Report 2012*, p. 172, available at http://ips.gov.il/Web/He/News/Publications/Reports/Default.aspx (accesses on 16.11.2013) [In Hebrew].

[554] An official reply by the Prison Service to an administrative court order 24952-06-11 (17.12.2012).

[555] Article 51f of *The [Israeli] Penal Code, 1977*.

the remaining of his sentence in prison.[556] The body that is in charge of the administration of the sanction is the Prison Service.

The most extensive study on the Israeli community service was completed in the 1990s. It compared four groups of offenders: (1) defendants who were sentenced to community service after the 1987 law, (2) offenders who were sent to prison of up to six months before the introduction of community service, (3) offenders who were sent to prison of up to six months after the introduction of community service, (4) criminals who received the SPBO.[557] The following main characteristics were found with regard to the offences and the offenders serving community service. The majority of the offenders were male; convicted for violence offences (more than 50%); with a criminal record[558] (74%, on average 7 offences) and about 24% of them committed drug offences in the past; were convicted in the past (79%, on average 4.8 offences); did not serve prison sentence (71%); received between 4-6 months[559] of community service (61%) with additional penalties such as fine, suspended prison, etc. (97%). Around 13%[560] of these offenders committed additional offences during their community service, and 22% within a year and a half after completing the sentence. In terms of criminal record and past convictions, the community service offenders resemble more the group of prisoners than the SPBO offenders. However, in terms of recidivism rates, community service offenders are closer to SPBO offenders. Interestingly, the offenders who were sent to prison after the introduction of the community service sanction have a "richer" criminal record than those who were imprisoned before the amendment. This might imply that "lighter" offenders were diverted from prison and made place for "harsher" offenders.[561]

The main three elements for the assessment of community service's success are the level of prison substitution, the rate of completion and the rate of recidivism. The first element refers to the question of net-widening effect. The trend of imprisonment in Israel after the introduction of community service presents evidence for the reduction of prison sentences up

---

[556] Articles 51i-j of *The [Israeli] Penal Code, 1977*.
[557] Sagiv (1997), *supra* note 447, pp. 78-79.
[558] Criminal record in this context contains the number of cases in which the offender is/was suspected of a crime. This is different from the number of convictions that refers to cases in which the offender was found guilty.
[559] Among prisoners there is a higher portion of offenders who receive less than five months imprisonment. See Sagiv (1997), *supra* note 447, p. 110.
[560] This estimation is similar to the portion of offenders committing crimes during their community service order in England and Wales and in New York City. See Morris and Tonry, *Between Prison and Probation* (1990), *supra* note 177, pp. 161-162. It should be noted, that prisoners, albeit incapacitated, occasionally commit crimes during the prison time as well. For instance, the above-mentioned study found that around 5%-7% of prisoners commit crimes while serving their sentence. See Sagiv (1997), *supra* note 447, p. 125.
[561] Sagiv (1997), *ibid*., pp. 98-143.

to six months. At the same time, the number of prison sentences longer than six months increased. Nevertheless, the trend of prisoners per 100,000 inhabitants was reversed and began decreasing. These findings imply that the new alternative sanction - albeit not entirely avoiding the net-widening effect - indeed diverted a portion of delinquents from short-term imprisonment.[562] Therefore, it may be concluded that the community service in Israel is not reserved only for first-time offenders who commit "light" crimes and would otherwise receive non-custodial sanctions.

The second factor that should be considered when assessing the success of an alternative sanction is the rate of compliance. If the delinquents are diverted from prison, but do not serve their sentence in full, the alternative sanction may not be regarded as an appropriate response of the criminal justice system. Examining the Israeli completion rates reveals a promising result. Between the years 2005-2012 the number of sentenced to community service per year was mostly more than 4,000 offenders. The completion rates of this sanction during this period ranged between 77%-94%.[563] To place this finding in perspective, it may be compared to the completion rates in some European countries. For example, in Scotland only 65% of the offenders completed their sentence between the years 2007-2008.[564] During the same period, around 76% of delinquents completed community service orders in the Netherlands.[565] The Israeli findings are especially important since its community service is substantially more burdensome than the "European model" in terms of time. The majority of the community service orders in Israel are of 5-6 months, full-time employment. Certainly, such a sentence requires higher commitment from the offender. Furthermore, the profile of the Israeli community service offenders is not "lighter" than in Europe. In fact, in recent years, almost 60% of those offenders were incapacitated in their past in one way or another (served a prison sentence, community service, or spent some time in pre-trial detention).[566]

With respect to recidivism, in the above-mentioned research it was found that delinquents after community service reoffend twice less than ex-prisoners (22% versus 42% respectively).[567] Certainly, a plausible argument is that these findings might be attributed to

---

[562] Sagiv (1997), *ibid*., pp. 217-220. This diversion is not absolute since the portion of reduced short-term prisoners is lower than the increase in community service offenders.
[563] Prison Service, *Yearly Report – 2005-2012*, available at http://ips.gov.il/Web/He/News/Publications/Reports/Default.aspx (accesses on 16.11.2013). [In Hebrew].
[564] McIvor (2010), *supra* note 479, p. 51.
[565] Boone (2010), *supra* note 466, p. 34.
[566] Prison Service, *Yearly Report – 2009-2012*, available at http://ips.gov.il/Web/He/News/Publications/Reports/Default.aspx (accesses on 16.11.2013). [In Hebrew].
[567] Sagiv (1997), *supra* note 447, p. 212.

the selection bias. In other words, those results might simply suggest that the courts impose prison sentences on more risky offenders. Nevertheless, a counter argument might be the characteristics of the Israeli community service offenders. A criminal record is usually a good predictor of reoffending. Therefore, the fact that the majority of delinquents receiving the sanction of community service possess criminal records (74%), suggests they are not low-risk offenders. In addition, even if the difference in reoffending rates between those two groups is smaller or even non-existing, community service may be viewed as a cost-effective policy for the following reasons. First, prisons are considered as a more expensive method of punishing than community service. Second, under the latter sanction, offenders are potentially producing benefits for the society through unpaid work.[568] Therefore, community service may be regarded as a success in terms of subsequent reoffending as well.

4.2. Suggested Structure of the Alternative Sanctions

Sections 2 and 3 of this Chapter identified several problems that might decrease the cost-effectiveness of the sentencing system. First, the alternative sanctions, i.e. community service and electronic monitoring, suffer from the net-widening effect. This in turn, may increase the costs of the sentencing system since too costly sanctions are imposed on offenders who may be deterred more "cheaply". Possible reasons of the net-widening effect are the softness of the alternative sanctions; lack of public support; the need for intermediate sanctions that are not only substituting prison; and difficulty in identifying the cases in which these sanctions should be used. The second problem with the use of alternative sanctions is the delays in their execution due to limited placement opportunities. Third, with the current “European model” of community service and electronic monitoring it is not clear in which cases and on what population it should be imposed. The suggested design of the community service and electronic monitoring in the following sections may potentially resolve these problems.

As mentioned before, the underlying suggestion is to increase the offender’s punishment costs of these alternatives. In addition, it is recommended to introduce clear goals and structure of these sanctions. The latter would assist in placing the community service and electronic

[568] This argument might not hold if the prison serves as a better incapacitation method and prevents crimes during the execution of the punishment. This is true if the rate of reoffending during the community service is significantly higher than during the prison term. In the example of Israel, this does not seem to be the case, see *supra* note 560 and the accompanying text, suggesting that the probability of reoffending under community service is more probable only by 7 percentage points than prisoners during their sentence. In addition, as explained by Morris and Tonry, *Between Prison and Probation* (1990), *supra* note 177, pp. 161-163, it is too expensive endeavour to incapacitate all offenders who pose some risk of reoffending, and the benefits might not justify it.

monitoring on the sanction continuum. In order to minimise the net widening effect of the new structured sanctions, this chapter encourages combining the substantive solution with the procedural rules discussed *infra* in Section 5.

4.2.1. Community Service: The Double-Track System

As has already been discussed, the sanction of community service has many benefits. First, it has the potential to divert offenders from custody. This in turn, might avoid the negative effects of prison on the offenders in terms of socialising with delinquent population; reduce the costs of punishment; avoid isolation of the offender from his family and the society; enable the delinquents to acquire work skills; increase the benefits for society through performing an unpaid work, etc. An additional advantage is the expansion of the sentencing system in order to better suit the different offences and offenders. This would assist to tailor the punishment to the severity of the crime and the characteristics of the offender and thus, achieve better marginal deterrence. However, in order to achieve these goals, the community service sanction must be implemented efficiently. Therefore, based on the law and economics approach, this section proposes a model that might achieve the abovementioned goals.

On the one hand, community service should be perceived as severe enough in order to truly legitimise it as a substitution for a prison sentence. On the other hand, a similar sanction should be available in the continuum of sanctions as an independent penalty. There are cases that are too "light" to be dealt with imprisonment or its alternatives, yet too severe to be dispensed with merely a fine or a suspended sentence. Therefore, it is suggested to create a "double-track system" of community service sentence based on the Israeli model.

The first punishment would be called the "Public Penalty" and resemble the above-described Israeli model of community service. In other words, sentences of up to six months of prison might be converted to the same period of unpaid work. A week of this sanction would include 5 days of unpaid work, 8 hours per day. After a period of implementation, this sanction might be extended to substitute a longer prison sentence (e.g. one year). Such punishment imposes on the offender sufficient costs of incapacitation[569], while diverting him from prison. Hence, the public and the courts might perceive it as an appropriate alternative for a prison sentence

[569] The classical meaning of incapacitation is the physical restriction of the offender in order to prevent him from committing crimes. The sanction of community service restricts the freedom of the offender during the working hours, thus, decreasing his opportunities of committing crimes.

and use it more often for the "right" population.[570] Consequently, community service would not be reserved only for first-time offenders committing light crimes. This in turn, would reduce the burden on prisons. In addition, a system that directly translates a prison term to work periods assists in creating uniformity in the sentencing decision-making. When the law is merely providing the maximum bound of hours that may be imposed on the offender, it is difficult for different courts to impose similar sanctions in comparable cases.[571] This might impede deterrence since the expected costs of a crime are not clear. On the other hand, when the sanction of unpaid work is imposed in the same way as imprisonment, it is simpler to achieve unity.

The second punishment in the double-track system would be called "Social Benefit Service" (SBS). This sanction of unpaid work should resemble the "European model". However, it should clearly be an independent sanction that does not substitute a prison sentence. The SBS should be used on offenders who may not be deterred only by fines, or those who committed crimes that are too severe to be punished by fines. Like in Europe, the Social Benefit Service would be imposed in hours to be performed during a certain period. Nevertheless, since it is not intended to be used in cases of offenders who would otherwise be sent to prison, the upper limit does not have to be high. This sanction should be placed on the scale of sentencing below the Public Penalty and above fine and suspended sentence.

Creating a dual system with two different sanctions[572] might better achieve the goals of both, reducing imprisonment and creating a more diversified sentencing system. The names of the sanctions have a purpose as well. It expresses their different punitive "bite". Nevertheless, the two sanctions would not differ in the nature of the performed work, but only in its length. As prison terms vary in their length and not in their conditions, the Public Penalty should not impose a more burdensome work than the Social Benefit Service. This separation might assist the courts to use it optimally imposing it on the right population. It would prevent confusion with regard to the goal of the sanction and the ways to properly implement it. The SBS provides the courts with an intermediate sanction which may be imposed on the offenders and

---

[570] Some evidence for the decrease of the net widening effect when imposing harsher community service may be found in the Netherlands. Spaans (1998), *supra* note 460, found that the offenders who received the maximum range of community service hours (151-240 hours) resembled the prison population (p. 13).

[571] For this problem see for example, McIvor (1992), *supra* note 459, p. 147.

[572] The closest example of such system is Spain. see Section 3.1. However, community service as a direct substitution to prison (under article 88 of the Spanish Criminal Code), is rarely used. In addition, the majority of community service orders in Spain are imposed on traffic offenders. The Israeli model, on the other hand, diverts "harsher" criminals and a larger range of offenses. Furthermore, both forms of community service in Spain (direct community service, and the substitution for prison) can replace prison, thus making this system inherently different from the suggested double-track system.

offences which are too serious for a fine but not serious enough for prison. Therefore, this system minimises the temptation of using the Public Penalty on those offenders and widening the net.

The introduction of a double-track system solves also the problem of the response to a breach. In case the breach is of the Public Penalty, the offender is sent to complete the remaining prison term. However, if the SBS is breached, there should be a separate sanction for the primary offence and for the violation. For instance, in criminal justice systems that use the day-fine, the breached SBS would be translated to a comparable fine. Yet, in addition, the number of the imposed days, which expresses the severity of the crime, would be increased in order to capture the response for the breach. This is possible since a breach of the original sanction may be viewed as a violation of a court order. Consequently, the double-track system avoids two problems. On the one hand, contrary to the current model of community service, it does not impose a prison sentence on people who without the existence of community service would receive non-custodial punishment. On the other hand, it does not create incentives for an efficient breach of the original sanction.[573] The additional sanction for the mere violation of the SBS increases the costs of breaching and prevents it from being efficient for the offender.

Different criminal justice systems often impose a prison sentence on fine defaulters.[574] The less punitive systems impose community service sanctions. This chapter suggests imposing the SBS sanction on fine defaulters. The fine default population should not immediately receive a prison sentence since the costs of this punishment are much higher than a fine, both for the offender and for the society. The severity of the offence usually does not justify imprisonment and the fine is often not paid due to inability rather than a choice. Similarly, the Public Penalty also should not be a default response for failing to pay a fine. This sanction is an alternative for prison, thus, imposing similar high costs of punishment on the offender. On the other hand, the SBS punishment might accurately substitute a fine for offenders who do not pay it. First, it is the next sanction on the scale of sentencing, thus being a legitimate substitute for a fine. Second, the fine may be easily translated to a number of working hours. For instance, if the offender received a fine of 500 euro, and the minimum wage per hour is

[573] As discussed in Section 3.1 in Spain for instance, in case of a breach the offender is sanctioned for it but the original offense remains unpunished.
[574] See for example Blay (2008), *supra* note 503, p. 251, for Spain.

10 euro, he would be required[575] to complete 50 hours of SBS. Such a system would simply impose "fine on time" and allow offenders to choose the way to repay their fine.

Another suggestion concerns the nature of the work that should be imposed on offenders performing either the Public Penalty or the SBS. A substantial problem that arises in different European systems is the lack of suitable work places. One of the reasons for this phenomenon is the limitation on the nature of the work (i.e. places which are not occupied by paid workers to protect fair competition). This in turn, leads to delays in executing the punishment.[576] As previously discussed, late implementation of a sanction prevents celerity of the criminal justice system, which is important for deterrence. This problem might arise in the double-track system since potentially it would increase the number of the offenders performing unpaid work. Therefore, it is suggested to relax the limitation on the nature of the work. All the services that are provided by the state and projects that are financed from the state budget should be available for unpaid work sanctions. The rationale behind this suggestion is that the saved money may be "injected" back into the private market to produce new places of employment.[577] Thus, the workers who are not employed in the state projects due to unfair competition may find work in the private market. This type of policy would significantly increase the opportunities to impose the unpaid work sanctions on offenders while at the same time would not increase the unemployment rate. In addition, the expansion of types of work might allow imposing this sanction on a population that was previously excluded.[578] Nevertheless, the places that were available until now for those offenders (tasks which otherwise would not be performed) should remain in the pool of community service work.

Furthermore, the administrating authorities should optimise the placement of the offenders. To be precise, each delinquent should be matched, as much as possible, to the place of work based on his skills. This strategy of allocation might improve the performance of the offenders, increase the benefits derived from their work and improve the satisfaction of the sentenced individuals. Notwithstanding, offenders without prior skills should also be allocated to different work places in order to allow them to acquire expertise for the future.

---

[575] Of course, the same rules with regard the offender's consent as in community service sanctions would apply in this case.
[576] McIvor, Beyens, Blay and Boone (2010), *supra* note 228, p. 85.
[577] One option may be reducing the social security contributions by employers. This policy is believed to increase the employees' recruitment. See for example, OECD, "Supporting Employment through Reduced Social Security Contributions," *International Labour Office* (2011). Another possibility is to offer tax benefits for new enterprises that would create job opportunities.
[578] Boone (2010), *supra* note 466, p. 36.

Lastly, the courts should be allowed to combine these community sentences, Public Penalty in particular, together with other sanctions when necessary. This would enable better matching of the punishment to the specific circumstances. Moreover, combination of different sanctions might increase their strength, and expand the continuum of sentencing.

4.2.2. Electronic Monitoring

The Public Penalty should be the default alternative to replace a short-term prison sentence. As opposed to electronic monitoring, the Public Penalty does not require a special technology, which reduces the costs of its implementation. In addition, as discussed before, the offender provides benefits for the society by performing an unpaid work. These benefits may be used to cover the costs of executing the punishment. On the contrary, electronic monitoring involves the installation and maintenance of electronic devises that have costs. Furthermore, the offender under home confinement does not perform unpaid work, thus, does not provide any tangible benefits. Nevertheless, electronic monitoring is advantageous as compared to prison. The daily costs of confinement are lower than prison costs even though it has an incapacitating element; it reduces the need to build new prisons; it allows the offender to maintain family and social contacts and avoids the negative effects of prison. Thus, this option may be implemented wherever the Public Penalty is not available, e.g. when the offender is unable to perform an unpaid work, yet his risk assessment allows executing his sentence in the community (as a "front door" option).

Research has shown that some offenders are significantly underrepresented in the community service alternative due to disability, substance addiction, etc.[579] Those offenders may be suitable to serve their sentence outside the prison walls but do not receive this opportunity as a result of their inability to perform work or due to a higher risk of reoffending. The Dutch experience demonstrates the other side of the coin. Courts sometimes impose community service on offenders who may not really perform it, thus those delinquents often breach the conditions. The justification for this practice is that sometimes the severity of the crime does not justify prison but also not the lighter non-custodial sanctions.[580]

Therefore, this chapter suggests that in the sentencing stage electronic monitoring ought to be reserved for the cases that do not fit community service. To be precise, in the first stage the court imposes Public Penalty where applicable (following the consent of the offender). This decision is made based on the severity of the crime and the risk assessment of the criminal.

[579] Van Kalmthout (2000), *supra* note 506, pp. 131-132.
[580] Boone (2010), *supra* note 466, p. 30.

However, if later on the offender is found as unfitting to perform the unpaid work, his prison sentence should be executed in home confinement under electronic monitoring.

In order to constitute a credible alternative to prison, similar to the Public Penalty, the costs of punishment for the offender should be closer to those of prison. Namely, the offender's liberty should be meaningfully restricted. Under the suggested structure of electronic monitoring the delinquent should be required to spend his time at home. He may receive a number of hours per day (between 2-4 hours) of free time in order to perform necessary activities (shopping for groceries, medical treatment, sport, etc.). In this "window" of free time the offenders ought to participate in different treatment programmes (e.g. rehabilitation from addiction). In order to improve the credibility of confining offenders with alcohol problem, the "remote alcohol monitoring" (RAM) may complement the RF system. This technology enables to randomly check alcohol use from a remote location.[581] As in prison, good behaviour may be rewarded by increasing the free time, or even providing "days off" (prison furlough). Unlike in the common "European model", those individuals should not be allowed to work. The rationale behind this limitation is that this punishment ought to be imposed only on prison-bound offenders who would otherwise lose their employment and be imprisoned. Hence, to make the alternative credible and gain the public support, the incapacitation power should be closer to imprisonment. Moreover, this restriction would not be burdensome due to the above-presented rule of making the community service a default punishment. Therefore, the offenders which are sentenced to home confinement under the suggested structure are those who were anyway found unfit to perform work.

Offenders detained with electronic monitoring devices are incapacitated to a larger extent than Public Penalty offenders. For instance, the former group is required to stay under the same "monitoring" conditions during the weekends. On the contrary, those delinquents performing unpaid assignments are incapacitated only while working. Thus, their weekends and after-work hours are free. This differentiation avoids distorted incentives. If the level of incapacitation would be equal under both sanctions this would mean that some offenders work and others have leisure time at home. Consequently, delinquents would be incentivised to fail their suitability examination to convert the Public Penalty to home confinement with electronic monitoring. Increasing the incapacitation level of home confinement "compensates" the lack of work. On the other hand, this increased constrain on the liberty of the person may not be viewed as a discrimination as compared to the Public Penalty group.

[581] Nellis, Beyens and Kaminski (2013), *supra* note 119, p. 5.

Forasmuch as those offenders are chosen from the pool of individuals who are found not to fit work, the alternative they are facing is prison. Certainly, home confinement with free time may be viewed as imposing lower costs of incapacitation than prison.

The length of home confinement should be up to six months like the Public Penalty (or up to one year in jurisdictions which are willing to prolong it). Prisons usually consist of individuals with commitment problems. In fact, the lack of self-restrain is one of the reasons for an individual to commit crimes in the first place. Electronic monitoring acts through the threat of detection and punishment and not through physical restriction as prisons. Inevitably, it requires the offender to self-commit to tough conditions of limited freedom. Thus, prolonging home confinement to several years (e.g. Belgium) may result in too high incidents of a breach.

To extend the sentencing continuum and to enable a larger diversion from prison, electronic monitoring may be combined with the Public Penalty. To be precise, offenders can be required (with their consent) to perform an unpaid work during the day, and stay at home under electronic monitoring during the night. The surveillance device may be also installed in the place of work in certain cases. This sanction should be reserved for those offenders who are found to be fit for Public Penalty, yet their level of risk does not allow for complete freedom outside the working hours. Consequently, this option would allow including in the target group more serious offenders who committed harsher crimes without compromising the public safety. In addition, electronic monitoring may be combined with a suspended sentence for those who would otherwise be too risky for only a suspended sentence.

Due to its non-negligible costs and restrictive character this chapter suggests not including electronic monitoring in the sentencing continuum beyond the abovementioned structure. The tangible costs of the net-widening problem are higher in case of electronic monitoring than in case of the Public Penalty. The implementation of this sanction entails the usage of technology. Therefore, imposing these conditions on offenders who would otherwise receive a fine or probation would increase the general costs of sentencing. Nevertheless, electronic monitoring should be used also as a "back-door" strategy. As the European experience demonstrates, this allows prolonging the period of early release. In turn, offenders have more time to adjust to life outside prison, i.e. to reintegrate, and the state saves costs of punishment. In addition, the target group for early release is expanded.

This chapter suggests that this sanction would be managed by the prison administration. Electronic monitoring, as the Public Penalty, should be complemented with sporadic human

supervision. In order not to significantly increase the costs of these alternatives, the supervisors should make unexpected random home/work visits to assure the offender is complying with the conditions.[582]

5. Procedural Solution

The substantive solution discussed above needs to be supplemented by a procedural change. The first step in achieving more efficient use of alternatives was to introduce sanctions that potentially may substitute prison and expand the sentencing continuum. The second step is to assure this system is implemented properly in order to achieve its goals. Namely, the decision makers need to impose the alternative sanctions on the "right" population. Offenders who may be deterred by less costly sanctions than prison should be punished by the alternative sanctions. However, those sanctions should not be expanded to cover the culprits who may be sufficiently deterred by fines, probation or conditional imprisonment. Imposition of community service and electronic monitoring on such offenders increases in vain the costs of the sentencing system. This goal might be realised by designing better procedural rules for the sentencing decision-making using insights from the behavioural law and economics.

If judges are assumed to act as fully rational actors, these procedural rules are not necessary. One of the assumptions of the rational choice theory is the "independence of irrelevant alternatives". Given this assumption, the desirability of a choice X over Y should not depend on the introduction or the elimination of choice C.[583] Thus, under these conditions courts are expected to impose the Public Penalty and electronic monitoring according to the intention of the legislator. However, studies from cognitive psychology demonstrate that in many circumstances this assumption is violated and the choice does depend on the available (relevant or irrelevant) alternatives. The following sections explore how these biases may assist in designing more efficient procedural rules. Efficiency in this context refers to rules which direct judicial decision-making into the desirable implementation of the substantive solution.

---

[582] In cases where the offender, who is sentenced to community service or electronic monitoring, has no sources of living, some minimal social benefits should be provided to him. This would increase the costs of those sanctions. However, it seems the costs of those alternatives would still remain lower than the costs of prison. One reason is that the benefits would be given only to certain offenders, and the amount would be minimal.

[583] See for example Kenneth J. Arrow, *Social Choice and Individual Values*, 2nd ed. (John Wiley and Sons, Inc. New York, 1963), p. 28, suggests that the superiority of X over Y depends only on the individual's preferences between these two options.

5.1. The Two-Step Procedure

The first suggestion is to set in the criminal law the procedure to impose the alternative sanction. This procedure would consist of two steps. In the first stage, based on the severity of the crime and other relevant factors, the judge may impose a prison sentence on the offender. In the second stage, the court is allowed to decide that this sanction would be executed in the community (either under the Public Penalty or electronic monitoring).[584]

The rationale for this suggestion is the existence of an anchoring effect in judicial sentencing. This term was coined by Daniel Kahneman and Amos Tversky in 1974. Anchoring effect refers to the tendency of people to adjust their estimation to some initial value. This value may for instance, derive from the formulation of the problem.[585]

This phenomenon was explored in the area of judicial sentencing. In a series of experiments, Birte Englich and Thomas Mussweiler demonstrated that judges were influenced in their sentencing decision by the initial sentence demand put forward by the prosecutor. This effect remained even when this initial information was rated as irrelevant by the subjects, and when decided by more experienced judges. In other words, judges who were exposed to a lower requested sentence, imposed on average a shorter prison term than judges who read a higher demanded sanction.[586] A later study with legal professionals as subjects (judges, prosecutors and lawyers) presented evidence that the anchoring effect persist even when the initial value is explicitly random. In this study, the authors conducted three experiments in which they found the influence of anchoring. In the first experiment the subjects were influenced by a suggested sentence presented by a journalist, which is clearly irrelevant. In the second experiment, the participants were affected by a demanded punishment of the prosecutor that was stated to be random. The most striking results were presented in the third experiment. In this experimental design the judges were instructed to set the demanded sanction by rolling a dice. The results demonstrated that this number had an impact on the length of the judged sentence.[587]

---

[584] This procedure must not be available with regard to the Social Benefit Service which is not meant to be imposed on offenders who would otherwise receive a prison sentence.
[585] Amos Tversky and Daniel Kahneman (1982), *supra* note 427, p. 14. The anchoring effect and the experiment conducted by the authors to demonstrate this phenomenon is described *supra* in Chapter 3.
[586] Birte Englich and Thomas Mussweiler, "Sentencing under Uncertainty: Anchoring Effects in the Courtroom," *Journal of Applied Social Psychology* 31(7) (2001), 1535-1551.
[587] Birte Englich, Thomas Mussweiler and Fritz Strack, "Playing Dice with Criminal Sentences: The Influence of Irrelevant Anchors on Experts' Judicial Decision Making," *Personality and Social Psychology Bulletin* 3 (2006), 188-200.

A different type of study on the sentencing decision-making examined how the framing of the problem affects the verdict. The subjects in this experiment acted as jurors. The design of the problem relied on the American system where in murder cases the jurors are instructed to put forward their decision in a gradual scaling. Namely, first they ought to decide whether the defendant is guilty of first-degree murder. If they do not agree on this verdict, next they need to deliberate whether the defendant is guilty of a second-degree murder, and so forth.[588] In case there is no agreement on any of the verdicts, the defendant is acquitted. The first group in this study was required to state their decision after deliberating from harsher-to-lenient verdict (as described before). The second group was requested to perform a similar task, however, the order of the possible verdicts that had to be decided was reversed, this being from lenient-to-harsh.[589] The results demonstrated that the verdict was harsher in the first group (harsh-to-lenient) than in the second group (lenient-to-harsh).[590] This might suggest that the first verdict the subjects were required to deliberate served as an anchor to which the final verdict was adjusted.

The anchoring effect may be a useful instrument in the context of alternative sanctions. In order to strengthen the effectiveness of the substantive solution, the judges need to implement it in the way the legislator intended. Therefore, to minimise even more the temptation for net-widening, the cognitive biases can be used. To be precise, when judges decide independently on the implementation of alternative sanctions, they might (and as Sections 2 and 3 demonstrate, sometimes do) impose it on the "wrong" population. However, if the sentencing procedure is framed as a two-step approach, there is a helpful anchor. First, the offender is sentenced to prison. Thus, this sets the initial "value" of his sanction and avoids other information to serve as an irrelevant anchor. Next the judge may adjust the sentence according to the relevant information and decide whether this sentence should be served in the community. Due to the anchoring effect, it is expected that the offenders who would be sentenced to the Public Penalty would be closer to the prison-bound offenders rather than to those delinquents who would otherwise be sentenced to a non-custodial punishment.

The nature of the Public Penalty as described in Section 4.2.1 increases the costs of this sanction for the offender to resemble the costs prison incapacitation imposes. This in turn,

---

[588] The options are first degree murder, second degree murder, voluntarily manslaughter, involuntary manslaughter, acquittal.
[589] Thus, the subjects started with the option of 'not-guilty' and went on with the scale of harshness to first degree murder.
[590] Jeff Greenberg, Kipling D. Williams and Mary K. O'brian, "Considering the Harshest Verdict First: Biasing Effects on Mock Juror Verdicts," *Personality and Social Psychology Bulletin* 12(1) (1986), 41-50.

legitimises this sanction to constitute a substitution to custody. In the next stage, using a "proper" anchor the judge may evaluate whether the offender should be sent to prison or to perform an unpaid work.

A similar procedure may be found in the Spanish criminal justice system. According to the *Spanish Criminal Code* a judge may impose a prison sentence and in the next stage, convert it to community service (or a fine, or both). In practice, this process is rarely realised.[591] The underuse of this alternative may be explained by ideological resistance of judges. Moreover, the contradictions in the Spanish Criminal Code create confusion among the sentencing agents. On the one hand, there is a limit of 180 days when imposing community service order. On the other hand, a prison term of up to two years may be substituted by the community sentence. In theory, this means the judges are allowed to impose up to 730 days of community service orders. Inevitably, this kind of sanction is tremendously difficult in terms of administration.[592] In addition, there is a lack of confidence in this sentence due to the absence of a proper administrative body, low completion rates and long delays in executing this sanction. Furthermore, although the judge is imposing the sentence in days, the correctional social services[593] are those who decide on the number of unpaid work hours per day. Their decision is usually based on the work and family obligations of the offender rather than on criminal law criteria. Therefore, in practice most of the offenders work less than four instead of eight hours a day.[594] Once reducing the working hours, this sentence ceases to be an equivalent of a prison term and becomes a mere limitation on leisure time. In order to legitimise community service as a true alternative to custody, the costs of incapacitation ought to be comparable. Under the Public Penalty, the offender may still keep his family and social ties, which in turn, may prevent the negative effects of isolation. However, the limitation on the offender's time should be meaningful.

In the Netherlands, until the 2000s reforms, a similar practice to the suggested two-step procedure existed. According to the (then) *Dutch Criminal Law* the judge had to state in his verdict the prison term that is replaced by the community service order.[595] Although, as in other countries, the Netherlands witnessed a net-widening effect, it does not necessarily implicate on the ineffectiveness of anchoring. An important fact about the Dutch community

[591] Blay (2010), *supra* note 498, p. 67.
[592] Blay (2008), *supra* note 503, p. 254.
[593] This body is in charge of implementing the sentence.
[594] Blay (2008), *supra* note 503, p. 252-254.
[595] Tak (1997), *supra* note 460, p. 201.

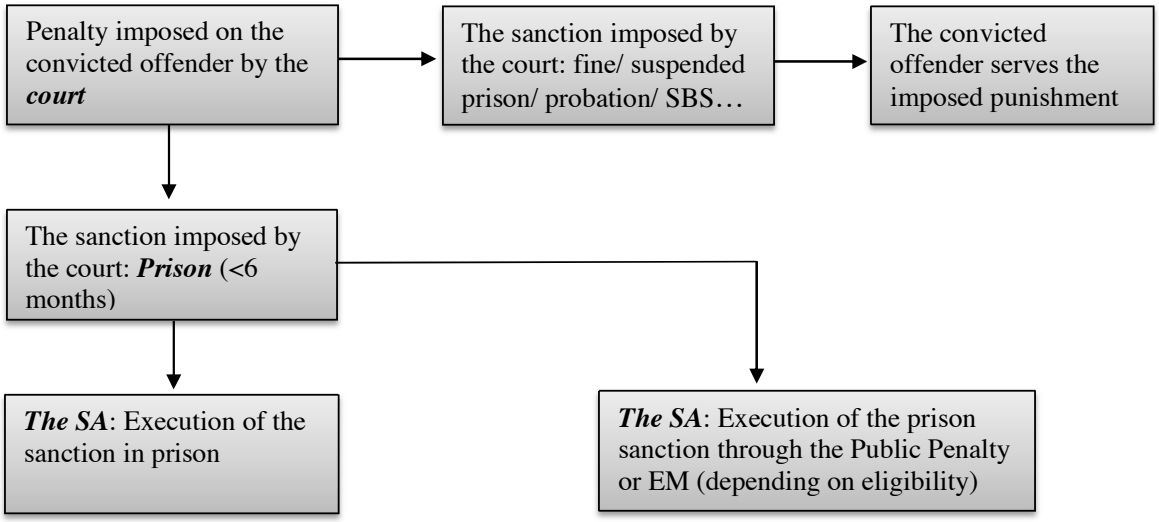
service order is that it is accepted as an additional punishment in the sentencing continuum. However, this sanction rather lacks the public support as a true alternative to a prison sentence.[596] This may partially explain the reluctance of the judges to substantially implement it instead of prison.[597] Nevertheless, it seems that supplementing the two-step procedure with the suggested substantive solution might raise the public and judicial confidence in this sanction as a true alternative to custody.

5.2. The Two-Authority System

The second suggestion is to transfer the power to convert a prison sentence to a Public Penalty or electronic monitoring to a different authority. All the current sanctions, apart from the Public Penalty and electronic monitoring, would be available for the trial courts. In the first step, the trial courts would sentence the offenders to one of these punishments. The Public Penalty and electronic monitoring would be available sanctions for the additional authority, which may be called the "Sentencing Administrator" (SA). This body ought to have legal education, preferably it should be a judge and would have an authority over the prisoners. The sentencing administrator would be allowed, under specified conditions, to convert the prison sentence into Public Penalty, electronic monitoring or both. The prison administrator may decide whether to convert the whole prison sentence of up to six months (or one year) to the alternative sanction, or only in the early release stage. Since the SBS is still available for the court judges, it may be efficiently used in the continuum of sentencing. On the other hand, the Public Penalty and the electronic monitoring should be viewed only as a way of serving a prison sentence rather than a punishment on itself. Figure 11 illustrates this structure.

[596] Boone (2010), *supra* note 466, p. 36.
[597] It was more relevant in the past since nowadays there is no obligation to use this sanction only as a substitution to custody.

Figure 11: The Two-Authority System



Source: own figure.

The reason to expect that the two-authority system would increase the efficiency of the alternative sanctions is the existence of a 'Contrast Effect'. Things or events are not valued absolutely, but in relative terms. For instance, a discount of €20 is valued higher when purchasing an item costing €30 than when buying a €1000 item. The contrast effect refers to a situation where a decision is changing depending on the reference point. This effect was investigated for decades in different areas.

One study examined the perception of weight with and without the existence of an anchor. The authors of this study found that when an item is compared to a heavier object, it is perceived as lighter than when weighted independently. This finding is the result of the contrast effect, which changes the perception of things due to a reference point.[598] Another study found similar results in the context of perceived beauty. In a series of experiments the authors requested the subjects to rate on a given scale the level of attractiveness of a woman on a picture. The treatment group was exposed to a highly attractive woman prior to making their decision. The control group on the other hand, was not exposed to any image. Their findings demonstrated that, *ceteris paribus*, participants in the treatment group rated the woman in the picture as less attractive than the control group. The authors concluded that due

[598] Muzafer Sherif, Daniel Taub and Carl I. Hovland, "Assimilation and Contrast Effects of Anchoring Stimuli on Judgments," *Journal of Experimental Psychology* 55(2) (1958), 150-155.

to the contrast effect, the exposure to the beautiful woman decreased the perceived attractiveness of the "average" woman.[599]

The investigation of the contrast effect was extended to the area of criminal sentencing decisions. Albert Pepitone and Mark DiNubile conducted a series of experiments to assess whether the order of the cases, which are judged, has an impact on the results. To be precise, the authors investigated whether the level of severity and the length of the prison sentence would be affected by the anchor case. They found that when a murder case was judged after an assault case, the participants rated its severity as higher than when the murder case was judged after another murder case. In addition, the prison sentence, which was imposed for the murder, was significantly higher when this case was judges after an assault case as compared to a different murder case.[600] Therefore, even in this context the anchor (the assault offence) increased the perceived severity and the punishment for murder. This may be explained by the contrast effect. The murder is perceived even harsher when the decision maker is previously exposed to a lighter offence.

In the context of this chapter, the contrast bias might serve as one possible explanation for the net-widening problem. Judges who are expected to impose the community service orders on prison-bound offenders are exposed to many other lighter crimes and delinquents. The lighter offences and the less dangerous offenders judged by the courts might serve as an anchor. Hence, the medium ranked offences may be perceived as more serious compared to this anchor than they actually are. Consequently, delinquents who would otherwise receive a non-custodial sentence might be perceived as prison-bound offenders and be sentenced to community service. On the other hand, the suggested sentencing administrator is exposed only to the pool of prisoners. Thus, this authority may choose the "lighter" prisoners to serve their sentence in the community, and in turn, impose this sentence on the "right" population. Since only the prisoners are assessed, there is no danger of net-widening. Accordingly, the alternative sanctions would be used as an actual substitution to custody and potentially reduce the prison population.

---

[599] Douglas T. Kenrick and Sara E. Guiterres, "Contrast Effects and Judgments of Physical Attractiveness: When Beauty Becomes a Social Problem," *Journal of Personality and Social Psychology* 38(1) (1980), 131-140.

[600] Albert Pepitone and Mark DiNubile, "Contrast Effects in Judgment of Crime Severity and the Punishment of Criminal Violators," *Journal of Personality and Social Psychology* 33(4) (1976), 448-459. The results of the opposite case, when the assault case was judged after a murder case, should be mentioned. In this situation the assault offense was rated as less severe than in the situation of judging this offense after a different case of assault. The punishment for the assault was lower when imposed after a murder than after an assault case. However, the latter results were not statistically significant. One explanation for this might be the limited lower bound of punishment (the minimum sentence had to be 3 years) which prevented more significant differences (p. 456).

The best example of such a procedure may be found in Belgium. Electronic monitoring was not available (until recently) in Belgium as a sentence that may be imposed by the courts. Instead, it was perceived as a way to execute a prison sentence. Candidates for electronic monitoring were chosen from the pool of prisoners sentenced to a prison term of up to three years. In addition, the authority in charge of converting the prison sentence to home detention with electronic monitoring was the prison governor and not the trial court.[601] In terms of diverting offenders from prison, this policy may be regarded as a success. In 2009, around 85% of prisoners sentenced to up to three years, served their sentence under electronic monitoring.[602]

Another example for this procedure is the Dutch "Electronic Detention". This scheme constitutes a way to execute a prison sentence of up to 90 days. Similar to Belgium, the candidates for this scheme are chosen from the pool of prisoners. Furthermore, the Prison Department is the body in charge of converting the sentence and not the trial court.[603]

This chapter suggests making the two-authority system available for both sanctions - Public Penalty and electronic monitoring. Therefore, the sentencing administrator should assess the prisoners sentenced to six months of prison (or one year if prolonged), and decide whether the prison sentence may be executed through one of the alternatives.

5.3. Default Rules

The last suggested procedural option is the default rule. Under this structure the law should provide that any sentence of up to six months (or one year) imprisonment should be converted to the Public Penalty. In case the person is not eligible for unpaid work, the sentence should be carried out in home confinement. Nevertheless, the court may impose a custodial sanction on the offender providing there are circumstances that substantially impede the effectiveness of community sanctions in the particular case. For instance, if the judge concludes the offender is dangerous to society. In this case, the court must justify his decision. Thus, the default rule is community sanctions and the exception to the rule is short-term imprisonment.[604]

---

[601] Beyens and Roosen (2013), *supra* note 441, p. 59.
[602] Beyens and Kaminski (2013), *supra* note 534, p. 165. The option of substituting a prison punishment to home confinement with electronic monitoring still exists in Belgium. However, in addition, as mentioned in Section 3.2.5, this year (2014) electronic monitoring was introduced also as a court penalty.
[603] Van Swaaningen and uit Beijerse (2013), *supra* note 443, p. 179.
[604] Another exception is of course when the offender refuses to perform unpaid work. In that case, the prison sentence remains as a custody sanction.

The justification for the expected efficiency of this rule may be found both in the economic analysis and in the behavioural insights. The most prominent example of default rules in the law and economics literature may be found in the context of contract law. It is believed that creating default rules that satisfy the majority of the contracting parties may decrease the transaction costs. Parties to a contract may not negotiate on all possible contingencies due to significantly high costs of a "complete contract" and future uncertainties.[605] In the context of this section the economic rationale for default rules in sentencing decision-making lies in the decision costs. The suggested structure introduces zero decision costs for imposing community sanctions. The judge in this case is simply required to choose the prescribed option. On the other hand, if the court wishes to send the offender to prison, he needs to incur some decision costs. In order to impose a custodial sentence the judge is required to write down arguments to justify his deviation from the prescribed option. Those costs might be justified only in the presence of exceeding costs of the alternative. For instance, if the court is convinced that sending the offender to serve a community sentence would harm the society, which in turn, might affect his reputation. Therefore, based on the rational choice theory, it is expected that the default rule would be chosen more often and deviation from it would occur only in exceptional cases.

The behavioural law and economics approach may also explain the expected efficiency of the suggested rule. To be precise, the reason to predict that more judges would impose community penalties lies in the "Status Quo Bias". This effect refers to the tendency of people to "stick" to default rules, even when the transaction costs of the change are low or non-existing. This bias was investigated in the seminal work of William Samuelson and Richard Zeckhauser in 1988. In their paper, the authors offered a rich set of empirical and anecdotal evidence for the existence of this effect. To examine its existence and conditions Samuelson and Zeckhauser conducted laboratory experiments where the subjects were required to choose among different alternatives. The treatment group had a default option and the control group did not and had to choose between "neutral" options. The paper demonstrated that each given option was selected more often if it was the default, less often in the neutral condition, and the least frequent when constituted an alternative for the default option. In addition, the authors found the existence of the status quo bias in field experiments where people were choosing their health care or a pension scheme. The authors provided different explanations for this

[605] See for example, Hans-Bernd Schafer and Claus Ott, *The Economic Analysis of Civil Law* (Edward Elgar, London, 2004), pp. 278-280; Russell Korobkin, "The Status Quo Bias and Contract Default Rules," *Cornell Law Review* 83 (1998), 608-687, pp. 613-617.

phenomenon, however, they asserted that the best explanation is the anchoring effect. Furthermore, their empirical evidence suggests that the status quo bias is weaker when the individual has a strong preference for the alternative.[606]

In the context of this chapter, the status quo bias may assist in "nudging" judges in the direction of reducing short-term prison sentences. The term "nudging" was coined by Richard Thaler and Cass Sunstein. It refers to the possibility to improve people's choices by using the knowledge on the behavioural biases.[607] For instance, universities are often interested in reducing the number of printed papers. In order to find the most effective way to reduce the printing costs, an experiment was conducted. Regular persuasion methods were ineffective. Therefore, in the next stage, the authors changed the settings of the printing to a default option of double-side printing. Consequently, the number of printed papers was reduced by 15% daily. The explanation for this finding is the status quo bias. People simply printed with the default option and did not change it to one-side printing.[608] Similarly, nudging may be applied in the sentencing decision-making. Namely, setting the community penalties as a default option for six months prison sentence would enhance the choice of this option due to the existence of the status quo bias. In turn, this might reduce the use of short-term custody. Nonetheless, the nudge is light and does not limit the judge in imposing prison where appropriate. As stressed before, this bias is weaker when there is a strong preference for the alternative. Therefore, in cases where the offender is not suitable for sanctions in the community, the judge would experience a stronger preference for a prison sentence. Consequently, in these cases a prison term would be imposed and only the "right" population would be diverted from custody.

A good example of default rules in sentencing may be found in Germany in the context of suspended prison sentence. In order to reduce the usage of short-term prison sentences Germany went through a reform that introduced the following rules:

> *"(1) Sentences not exceeding 6 months must be suspended, if the offender's prognosis is positive.[...]*
> *(2) Sentences between 6 and 12 months must also be suspended, unless the "protection of the legal order" [...]"*[609]

---

[606] William Samuelson and Richard Zeckhauser, "Status Quo Bias in Decision Making," *Journal of Risk and Uncertainty* 1 (1988), 7-59.
[607] Thaler and Sunstein (2008), *supra* note 47.
[608] Johan Egebark and Mathias Ekström, "Can Indifference Make the World Greener?", working paper (2014).

[609] Albin Eser, "Germany," *The American Journal of Comparative Law* 21(2) (1973), 245-262, p. 255. (Emphasis added).

The number of prison sentences less than six months significantly fell in the aftermath of the new reform. While in 1969 a total of 64,073 offenders were sentenced to short-term custody, by 1976 this number dropped to 10,704. Although the default rule was not the sole reason for the following reduction in prison sentences, it might have been a contributing factor.[610] Over the years the prison term, which by default should be suspended, has been increased and currently it stands on one year.[611]

Default rules may be found in the context of community penalties as well. In Finland for instance, community service was introduced as a sanction in 1992 in some regions and then expanded to the whole country. This sanction is the default alternative for a prison sentence of up to eight months. The wording of the *Finish Criminal Code* is the following:

> *"(1) An offender who is sentenced to a fixed term of unconditional imprisonment of at most eight months shall be sentenced instead to community service, unless unconditional sentences of imprisonment, earlier community service orders or other weighty reasons are to be considered bars to the imposition of the community service order."*[612]

However, this procedural rule is not supplemented by a similar structure as the suggested substantive solution, i.e. increasing the incapacitating power of the Public Penalty in order to legitimise it as a substitution to a prison sentence. In fact, the maximum number of hours, which may be imposed instead of eight months prison sentence, is 200 hours.[613] A simple calculation of the maximum number of working hours (200) and the maximum prison sentence (eight months) it shall replace, yields the following results: 200/(4 weeks)*(8 months)=6.25 hours of work per week. In terms of limiting liberty, an offender serving a community sentence is incapacitated less than 4% of his time each week. This is significantly weaker incapacitation than in prison. Moreover, this calculation is based on the assumption that the maximum number of hours is imposed, which is rarely the case as have been presented in Section 3.1. Therefore, community service in this form might not truly constitute an alternative for imprisonment.

Another example is Scotland. In the *Criminal Justice and Licensing (Scotland) Bill of 2010* the "presumption against short periods of imprisonment" was introduced. This presumption

---

[610] Robert W. Gillespie, "Fines as an Alternative to Incarceration: The German Experience," *Federal Probation* 20(44) (1980), 22-26.
[611] Section 56 of the *German Criminal Code*.
[612] Section 11 of the *Finnish Criminal Code*. (Emphasis added).
[613] Tapio Lappi-Seppälä, "Criminology, Crime and Criminal Justice in Finland," *European Journal of Criminology* 9(2) (2012a), 206-222, p. 218. The community service sanction in Finland is imposed in 5% of the cases. The median length of an unconditional prison sentence is 4 months and the average is 10 months. The difference between these measures of the central tendencies is due to the sensitivity of the average to less frequent long term prison sentences (p. 219).

makes the alternative sanctions as a default penalty instead of three months' imprisonment and requires justification from the court when exceptionally imposing up to three months imprisonment.[614] Following the introduction of this default rule (combined with other changes) the number of prison sentences below three months decreased, yet sentences of three to six months increased.[615] Since only the prison sentence under the default rule was affected in the desired direction, this might imply on its effectiveness. One explanation for this phenomenon may be that judges tried to avoid the default rule. It seems that such a result may be prevented if the default rule would be supplemented by the substantive solution. The Public Penalty might be perceived as a more reliable substitute for prison and gain judicial support, which in turn, would minimise their avoiding behaviour.

5.4. What is the "Right" Procedural Rule?

The abovementioned instruments are mostly mutually exclusive. Their expected costs and benefits may assist different criminal justice systems to choose the most appropriate instrument for them. In any case, this chapter suggests that at least one of the procedural rules needs to supplement the substantive solution in order to be effective. The current section compares the three procedural rules in terms of decision costs, expected efficiency and system costs. "Decision costs" refer to the time judges spend on sentencing decisions in terms of opportunity costs. Namely, the time that is devoted for making the given decision may not be used for adjudicating other cases. The relevant costs concern only the decision whether to impose a prison sentence or sanctions in the community.[616] Efficiency in this context is the ability to divert offenders from prisons and avoid the net-widening problem. Finally, "system costs" denote the need for expanding the criminal sentencing system, i.e. additional decision makers.

The two-step approach has some decision costs. In a regular procedure, the court is able to impose sanctions in the community directly. Therefore, there are no additional costs of decision after assessing the suitability of a certain criminal to the chosen punishment. Under the two-step system on the other hand, the court is always required to impose a prison sentence first. Thus, even in the situation where the judge might consider a sanction in the community as appropriate, he may impose it only after deciding that a prison sentence is

[614] Article 15 adding provisions 3A-3B, *the Criminal Justice and Licensing (Scotland) Bill 2010*.
[615] The Scottish Government (2011-2012), *supra* note 446.
[616] The costs of assessing whether the offender is suitable to perform an unpaid work or should he alternatively be placed under home detention are not taken into account. In any case, the Probation Office is usually the organ in charge of inquiring the offender and his surroundings and assessing his suitability.

justifiable in this case. Although this time constitutes opportunity costs for the judge, who may use this additional time for other cases (or leisure time), this procedure may reduce the net-widening effect. As explained in Section 5.1 the first step sets the "right" anchor. Nevertheless, courts still may impose the Public Penalty or electronic monitoring on the "wrong" population. The decision costs of the first step are not markedly high. Thus, courts might simply state a prison sentence is justifiable for the formality after already deciding (in their mind) that the person would receive a sentence in the community. Consequently, this system is more efficient than no system, but is expected to be less efficient than the other procedural rules. Finally, there are zero system costs under the two-step procedure since the requirement involves only the sentencing judge.

The two-authority system has zero decision costs. The Public Penalty and electronic monitoring are not available as sanctions for the trial court. Thus, the judge may only send the offender to prison and does not need to decide between custody and alternatives. The expected efficiency is high in general and the highest among the proposed procedural rules. The sentencing administrator – the body responsible for converting the prison sentence – chooses from a pool of prisoners, thus having no risk of net-widening. As mentioned in Section 5.2, in Belgium, where a similar procedural rule is applied, more than three quarters of the target group of prisoners serve their sentence under electronic monitoring.[617] Nevertheless, the system costs are high. First, the trial court assesses the crime and the offender and sentences him to prison. In the next stage, a separate body needs to assess the offender once again and decide whether he is suitable for an alternative punishment. In order to improve and legitimise the decision with regard to the final sentence, the sentencing administrator needs to be a judicial body. Thus, the two-authority system increases the system costs and imposes an additional burden.

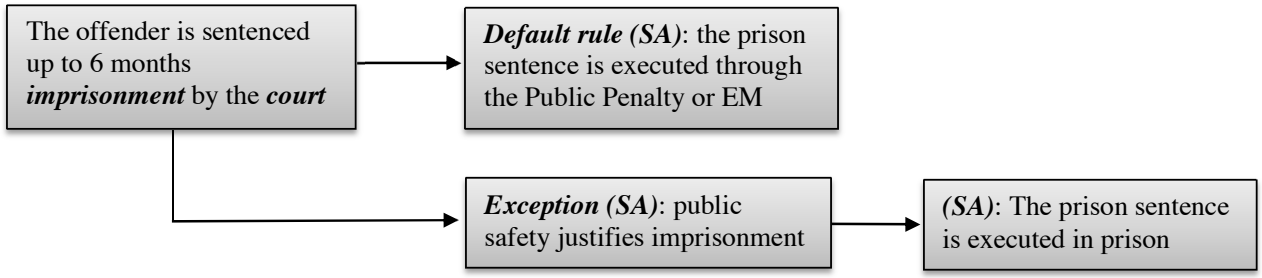
The default rules have zero decision costs if the court chooses the penalty in the community, i.e. Public Penalty or electronic monitoring. This option is prescribed by the law. However, there are decision costs in case the court wishes to impose a prison sentence. In this situation the court has to write down the arguments to justify his choice of the exception rather than the rule. Nevertheless, the efficiency of this procedural rule is exactly derived from these costs. The higher are the opportunity costs in this case, the higher is the expected efficiency of the rule. The default rule scheme is expected to deal better with the net-widening problem than the two-step system, but worse than the two-authority system. Finally, there are zero system

[617] Beyens and Kaminski (2013), *supra* note 534, p. 165.

costs since the trial court makes the decision and there is no need to expand the sentencing structure.

Another option is to combine the two-authority system with a default rule. In other words, a sanction in the community might be prescribed to all prisoners receiving up to six months (or one year) of imprisonment. The exception to this rule is where the sentencing administrator decides that public safety or other concerns justify a prison sentence. This combination is expected to achieve the highest efficiency in terms of diverting offenders from prison. The costs of this system would not differ substantially from the costs of the two-authority system. For illustration of this system see Figure 12.

Figure 12: The Two-Authority System with Default Rules



Source: own figure.

5.5. Possible Limitations of the Procedural Rules

5.5.1. The legitimacy of the Two-Authority System

One might argue that the two-authority system lacks legitimacy since the judges are deprived of their sentencing power.[618] A possible response to the concern of constitutionality of the two-authority system may be found in its structure. The sentencing administrator does not have to be an administrative body but may be a judge (or a former judge) himself. Consequently, the discretion power regarding the conversion of the prison sentence remains in professional hands and does not jeopardise the constitutionality of the decision. Nevertheless,

[618] See for example, the discussion on parole and the body that needs to be in-charge of it in Belgium. For a long period the Minister of Justice was the authority deciding on parole of prisoners. This practice was criticised and the opponents claimed that the authority should be in the hands of an independent judicial body. Following the infamous Dutroux case of an offender who kidnapped, raped and murdered girls while being on parole, the authority to early release offenders was transferred to the Sentence Implementation courts. Nicola Padfield, Dirk Van Zyl Smit and Frieder Dünkel eds., *Release from Prison: European Policy and Practice* (Willan Publishing, Cullompton Devon, UK, 2010), pp. 79-86.

such a system might increase the costs since the case is examined twice by the judicial body.[619]

5.5.2. The Distorted Incentives under the Two-Authority System and the Default Rules

Another concern with the two-authority system and the default rules is that it might incentivise judges to impose longer sentences in order to avoid them being converted to the alternative sanction. This is a plausible situation and requires further research. However, since the mechanism is similar to early release, these distorted incentives should exist already in the current systems. Nevertheless, it does not seem to constitute a significant problem. In addition, the creation of a more credible alternative for prison, as provided by the substantive solution, might convince judges to impose it and not to seek methods to avoid it. Evidently, the reforms made by the legislators have to enjoy the support of the judicial system that needs to execute them.

6. Concluding Remarks

Sanctions in the community have a potential to constitute a proper replacement for the short-term imprisonment. They may completely change the face of the criminal sentencing system. Penalties may be more human, more rehabilitative and less costly. A proper structure and implementation of these alternative sanctions might almost entirely eliminate the need for short-term imprisonment. The effectiveness of a short custody is doubtful. This method does not keep the criminal away from society for a sufficient time to expect a significant reduction due to incapacitation. Its deterrent power does not seem to be significantly higher than the deterrence effect of the alternatives. And it may even increase recidivism due to negative environment and the isolation of the criminal from his family and the society.[620] Community service and electronic monitoring, on the other hand, are cost-effective alternatives. Under these sanctions the criminals may be punished without imposing a heavy financial burden on the society.

The net-widening problem is an obstacle to the success of these alternatives to substitute short-term custody. The tendency to impose community sanctions or electronic monitoring on offenders who would otherwise receive a lighter punishment increases the costs of the criminal justice system. However, at the same time it does not increase its efficiency. If an

[619] There are pros and cons for choosing an administrative or a judicial body as the sentencing administrator. However, due to the limited scope of this chapter, it is not further discussed here.

[620] See for example, Killias, Gilliéron, Villard and Poglia (2010), *supra* note 232; Nieuwbeerta, Nagin and Blokland (2009), *supra* note 144; Bayer, Hjalmarsson and Pozen (2009), *supra* note 142.

offender may be punished and deterred using a "cheaper" method, this path ought to be chosen.

This chapter identifies several problems in the current implementation of community service and electronic monitoring. First, these sanctions usually are not restrictive enough. Thus, they are not perceived by the public and the sentencing authority as a suitable replacement for custody. Consequently, there is no strong justification to impose them on prisoners. Second, often there is confusion with regard to the target population of these instruments, all the more so, in jurisdictions that implement both alternatives. Community service and electronic monitoring target similar populations since they are intended to replace a short-term prison. In addition, there is no clear understanding of how to translate the prison term to a period (usually hours) of the alternative sanctions. This in turn, leads to lack of uniformity between judges and reduces legal certainty. Third, the limitation on the nature of the unpaid work under community service causes delays in the execution of the punishment. This problem is even stronger when the "wrong" population occupies these places and prevents the system from being used for the "right" population.

The current chapter offers a new structure of the alternative sanctions. Community service should be the default sentence to replace short-term prison. Only in case this sanction is not sufficient or if the offender is found unfit to perform the unpaid work, should home detention with electronic monitoring be used. This ranking solves the problem of overlapping target groups. In addition, it optimises the use of the alternatives since community service is a less costly punishment and offers more benefits, both for the society and for the rehabilitation of the offender. Furthermore, the chapter suggests creating a double-track system of the community service. The Public Penalty is the sanction that would replace directly short-term prison. Its level of restriction on the liberty of the offender would be similar to that of prison, thus, establishing sufficient costs of punishment for the offender. This penalty constitutes a legitimate substitution for custody. Due to the clear structure of the Public Penalty, it resolves the confusion of translating a prison sentence to this alternative. The second punishment in the double-track system is the Social Benefit Service. The unpaid work is imposed in hours which should be performed during the leisure time of the offender. Including this punishment expands the sentencing continuum and offers a better scaling of sanctions to match the individual criminal and the crime. The underlying idea behind the Social Benefit Service is to act as a "fine on time". The offender is paying for his crime through unpaid work rather than a fine. This method also offers a proper and "cheap" response for fine defaulters.

Changing the structure of the alternative sanctions is only the first step. The second step is to create efficient procedural rules of implementing the sanctions by the sentencing authority. This chapter offers three procedural rules that use behavioural biases or overcome them in order to prevent a net-widening problem. The rules are the "two-step" approach, "two-authority" system and the default rules. Different countries apply one or more of these rules, but it seems that none of them supplements it with the substantive change of the alternative sanctions. It is asserted that only the combination of the two would significantly reduce the net-widening effect. In addition, this chapter presents the channels through which the procedural rules operate. This understanding may assists in choosing the proper rule. It seems that the most efficient way to reduce the use of short-term imprisonment is the two-authority system that splits the sentencing decision-making between two bodies. Combining this procedural rule with the new structure of community service and electronic monitoring is expected to significantly reduce the net-widening effect. In turn, the cost-effectiveness of the criminal sentencing system may increase.

Chapter 5 Reducing the Costs of Imprisonment[621]

1. Introduction

Imprisonment is the most expensive method of punishing or deterring criminals in the western countries as compared to other alternatives. For instance, it costs the state 167€ per day to imprison an offender in Finland. On the other hand, the costs of supervising him at home using the electronic monitoring devise is only 60€, and imposing on the offender community service is around 14€ per day.[622] Prison costs are undisputedly associated with the number of incarcerated prisoners and the length of their imprisonment. Therefore, increasing prison population amplifies the need to search for cost-reducing policies. One direct method of decreasing such costs is to introduce alternative sanctions to custody. Those possibilities were explored in the previous chapters. However, incarceration is an inevitable result for some groups of offenders, i.e. judgment proof and dangerous criminals. Hence, there is a need for policies that may affect the prison costs without abolishing this institution.

The present chapter discusses two possible ways to achieve the abovementioned goal. First, the state may privatise prisons. The term "privatisation" should not mislead. It does not refer to the transfer of prisons entirely to the free market. Rather, it denotes the practice of contracting with private parties to build and manage services inside prisons. The responsibility for the inmates and the punishment administration remains under the government's[623] authority. Therefore, the state remains accountable for choosing adequate private providers, designing a proper contract and assuring satisfying results of the private prisons.

The term "prison privatisation" encompasses different models of contracting. Those models range from full privatisation, i.e. construction, ownership and operation of correctional facilities, to limited outsourcing of different prison services. In contribution to the existing literature on the matter, this chapter provides law and economics arguments to justify public

---

[621] This chapter is partially based on my paper "Can Imprisonment be Cheaper? The Law and Economics of Private Prisons," *European Journal of Law Reform* (2016, forthcoming). I would like to thank Michael Faure, Paul Mevis, and Jaroslaw Kantorowicz for their very valuable comments. All possible mistakes remain, however, my own.

[622] Criminal Sanctions Agency, "Criminal Sanctions Agency Statements and Annual Report for the Year 2012", 2013 [in Finnish], p. 4, available at http://www.rikosseuraamus.fi/material/attachments/rise/julkaisut-monisteetjaraportit/6FcvDvctb/1_2013_TP_ja_toimintakertomus_2012_korj220313VALMIS.pdf (accessed on 12.2.2014) (Finland-average); Criminal Sanctions Agency, "Electronic Monitoring," (2014), available at http://www.rikosseuraamus.fi/en/index/sentences/monitoringsentence.html (accessed on 4.4.2014).

[623] The notions "government" and "state" are used interchangeably in this this chapter.

prisons. However, using bureaucracy and political science literature, it asserts that those prisons should not be owned by the state, but only subsidised by it. In other words, due to inefficiencies of publicly owned entities, this chapter advocates for the contracting-out of prisons. Furthermore, it applies the principal-agent model to explain possible inefficiencies in the private prisons, and offers some solutions. Finally, this chapter discusses possible explanations why this method is not widespread in the continental Europe.

The second method to reduce incarceration costs is the improvement of the prison industry. States may use the human capital that the prison accommodates and derive benefits from inmates' work. This method may not only reduce prison expenses, but has the potential to benefit the prisoners by providing them with a meaningful occupation during their sentence, and work experience for their future. The present chapter uses the law and economics analysis in order to argue that the profit goal should be given a larger weight in structuring the prison labour. The reasons for that and the methods to improve prison labour efficiency are discussed, and partially rely on behavioural law and economics insights.

The Chapter is structured as follows. Section 2 discusses the benefits, problems and possible solutions of prison privatisation. Prison labour and the future of the prison industry are explored in Section 3. Finally, Section 4 offers some concluding remarks.

2. Private Prisons

> *"A Government could print a good edition of Shakespeare's works, but it could not get them written."*[624]

A potential method to reduce the costs of prison is its privatisation. Operating prisons by contracting out the services with private parties is not a novelty. It was practiced centuries ago in different countries around the world. After a period of stagnation and dominancy of the public sector in the ownership and operation of correctional institutions, privatisation re-emerged in the US in the 1970s-1980s.[625] Following the practice of the US, other countries introduced different models of private prisons, yet this phenomenon is significantly less widespread as compared to prison labour.[626]

---

[624] Alfred Marshall, "The Social Possibilities of Economic Chivalry," *The Economic Journal* 17(65) (1907), 7-29, p. 22.

[625] Richard F. Culp, "The Rise and Stall of Prison Privatization: An Integration of Policy Analysis Perspectives", *Criminal Justice Policy Review* 16 (2005), 412-442, pp. 412-421.

[626] See discussion *infra* Section 3. Although some outsourcing of prisons' services is practiced in different countries around the world, only a handful of countries really privatise prisons. Those are: The US, Australia,

There are different potential benefits of prison privatisation. First, proponents of prison privatisation argue that profit-motivated companies may construct prisons more swiftly and less costly. In addition, private providers may reduce the operational costs of prisons through innovation. Second, prison privatisation introduces competition in a market that was monopolised by public providers. In turn, the quality of practices and services provided by correctional institutions may be improved. On the other hand, there are also some risks voiced by the opponents of prison privatisation. The costs reduction may be achieved at the expense of the prison quality. In addition, the profit-maximisation interest incentivises corporations to lobby for increased incarceration. Furthermore, contracting with private parties reduces accountability of the prison operators.[627]

The following sections first provide a brief review of prison privatisation in selected countries and attempt to understand whether their experience justifies the optimism or the abovementioned concerns. Subsequently, publicly owned prisons and prison privatisation are analysed from a law and economics perspective to identify possible channels for problems. Finally, some suggestions for improvement are discussed.

2.1. Private Prisons: Countries' Experience

Prison privatisation is uncommon in Europe. England and Wales were the first to adopt the American practice of contracting with private parties to operate prisons. They were followed by Scotland. However, continental Europe witnessed very limited prison privatisation, both in terms of the number of adopting countries and in terms of the applied model. To the best knowledge of the author, only France, one Land in Germany (Hessen)[628] and Denmark[629] adopted to some extent the semi-private model of prison. In order to understand better the essence of prison privatisation, its benefits and risks, the following sections briefly review the practices of the US, England and Wales and France.

2.1.1. United States

The United States were the first to reintroduce prison privatisation into their criminal justice system. Although some half-houses, and immigration detention centres were already

Scotland, England and Wales, New Zealand and South Africa. See Cody Mason, "International Growth Trends in Prison Privatization", *The Sentencing Project* (2013), p. 2.

[627] For a comprehensive depiction of possible costs and benefits of prison privatisation see Charles H. Logan, *Private Prisons: Cons and Pros* (Oxford University Press, NY, 1990).

[628] See http://www.serco.com/media/internationalnews/sercotorunfirstprivateprisoningermany.asp (accessed in 18.3.2013).

[629] Public Services International Research Unit (PSIRU), *Prison Privatisation Report International No. 60* (London, 2004), available at http://www.psiru.org/justice/PPRI60.htm#DENMARK (accessed on 21.5.2014).

contracted-out during the 1970s, only in the mid-1980s the first adult prison was privatised. Prior to this, private companies were already providing certain services to the correctional institutions. However, those services were limited, to e.g. health care, vocational training programmes, food services.[630] In 2012, the US housed around 128,300 inmates in privately operated prisons, which constituted around 7% of the American prison population.[631]

There were several reasons for reintroducing private prisons in the US. The prison population started growing from the mid-1970s. This phenomenon increased the demand for new prisons. However, construction of new correctional institutions by the state lasted too long (around four to five years) and could not keep up with the increasing demand for prison cells; financing new prisons often required a passage of a bill and the public was not always supportive of this initiative; and the operational costs of prisons grew due to a larger number of sentenced offenders to custody. Moreover, the conditions in public prisons deteriorated as a result of overcrowding. Consequently, courts intervened and pressured the prison authorities to reduce its prison population.[632]

The US practices three models of prison privatisation: (1) the private sector owns and operates the prison; (2) the prison is state-owned but the operator is a private party; (3) the private company owns the correctional institution and the public sector leases and operates it. Under the last model, the contract usually enables the government to purchase the facility after a fixed number of years.[633] The prison services are contracted out after a procedure of bidding. The private bid has to offer at least the same tasks performed by the public prisons, yet for a lower price.[634] In Florida, for instance, when the private contracting commenced in the 1990s, the private bidders were expected to demonstrate that they are able to provide services at least as good as the public sector, but with a reduction of at least 7% in costs.[635]

The payment scheme for the services provided by the private prisons is typically per-prisoner per-day. Thus, the revenue of the private companies depends on the number of prisoners and the length of incarceration. Generally the state assures a minimum quota of prisoners.[636] The contracts usually state certain standards the private companies are expected to meet (with

---

[630] Douglas C. McDonald, "Private Penal Institutions," *Crime and Justice* 16 (1992), 361-419, pp. 361-362.
[631] Lauren E. Glaze and Erinn J. Herberman, *Correctional Populations in the United States, 2012*, Bureau of (2013), p. 10, available at http://www.bjs.gov/index.cfm?ty=pbdetail&iid=4843 (accessed on 19.3.2014).
[632] Culp (2005), *supra* note 625, pp. 419-410.
[633] McDonald (1992), *supra* note 630, pp. 364-365.
[634] Richard Hardin, "Private Prisons," *Crime and Justice* 28 (2001), 265-346, p. 300.
[635] Lonn Lanza-Kaduce, Karen F. Parker and Charles W. Thomas, "A Comparative Recidivism Analysis of Releasees from Private and Public Prisons," *Crime & Delinquency* 45 (1999), 28-47, p. 30.
[636] Emilio C. Viano, "America's Prison System," in *Prisoners' Rights* (2008), *supra* note 119, 139-184, p. 142.

regard to safety and rehabilitation programmes for example). In addition, the contracts often require the presence of a public official on site to monitor the performance of the private provider. Yet in practice, it is rarely exercised due to the costs of monitoring.[637] Nevertheless, the contract is publicly available, hence, enabling different interested parties to litigate and challenge the contract and the performance of the private sector.[638]

Many attempts were made to assess the quality of the private prison management and the savings in costs. However, this task is not easy. First, the costs are not comparable since public and private prisons have different accounting methods. Thus, elements that are accounted in one sector are often neglected in the other. Furthermore, private contracts still require the state to bear some costs (e.g. administration of the bidding process, monitoring) that are not taken into consideration. On the other hand, when accounting for the costs of private prisons, the revenues from this enterprise are not being considered. A private provider is paying taxes for e.g. land, profit, and employment. Those taxes should be subtracted from the costs of private prisons in order not to overestimate them. In addition, the facilities and the prisoners are different, therefore, requiring dissimilar investments.[639] Second, it is hard to measure and compare quality and not many systematic quantitative studies have been conducted.[640] For those reasons, the findings on costs and quality are inconclusive. Some studies find that private prisons succeeded in reducing costs and the quality is at least as good as or even better than the regime provided by the public companies.[641] Others demonstrated that indeed there is cost-saving achieved by the private prisons, yet at the expense of reduced quality.[642] Finally, some studies assert that privatisation of prisons does not guarantee either cost savings nor improved quality[643] and that other factors predict cost savings (i.e. age of the facility, number of prisoners and the security level).[644] More rigorous research is needed.

---

[637] Hardin (2001), *supra* note 634, pp. 301-302, 306.
[638] David E. Pozen, "Managing a Correctional Marketplace: Prison Privatization in the United States and the United Kingdom," *Journal of Law & Politics* XIX (2003), 253- 284. pp. 277-278.
[639] Logan (1990), *supra* note 627, pp. 104-105; Hardin (2001), *supra* note 634, pp. 283.
[640] Hardin (2001), *supra* note 634, pp. 324.
[641] See for example, Charles H. Logan, "Well Kept: Comparative Quality of Confinement in Private and Public Prisons," *The Journal of Criminal Law & Criminology* 83(3) (1992), 577-613.
[642] See for example, Sandro Carbral and Stéphane Saussier, "Organizing Prisons through Public-Private Partnership: a Cross-Country Investigation," *Brazilian Administration Review* 10(1) (2013), 100-120, pp. 106-107.
[643] Brad W. Lundahl, Chelsea Kunz, Cyndi Brownell, Norma Harris and Russ Van Vleet, "Prison Privatization: A Meta-analysis of Cost and Quality of Confinement Indicators," *Research on Social Work Practice* 19 (2009), 383–394.
[644] Travis C. Pratt and Jeff Maahs, "Are Private Prisons More Cost-Effective than Public Prisons? A meta-Analysis of Evaluation Research Studies," *Crime & Delinquency* 45 (1999), 358-371.

Another field of study assessing the success or failure of private prisons investigates the reoffending rates of released prisoners. Here as well the results are inconclusive and point in different directions.[645] Furthermore, those studies are scarce and mainly focus on Florida.

2.1.2. England and Wales

In England and Wales the discussion about prison privatisation re-emerged at the end of the 1980s. Following a debate, the *Criminal Justice Act 1991* was introduced which regulated the bidding of contracts with the private sector for running newly opened remand prisons. In 1992, for the first time, the operation of HMP (Her Majesty Prison) Wolds was contracted out to a private company. Subsequently, the law was expanded and starting from 1994, all prisons in England and Wales can be designed, constructed, financed and operated by the private sector.[646] As of January 2014, a total of 14 prisons is privately managed in England and Wales (for the list of prisons and the type of private involvement see Appendix 3). The UK has the largest number of private prisons in the whole Europe. In 2013, around 13,027 inmates were held in private prisons in England and Wales and they constituted 16% of the country's prison population.[647]

The motivation for privatisation in England and Wales was the belief that the private sector may improve the quality of prisons, introduce innovation and reduce costs.[648] Similar to the US, increasing prison population and overcrowding were in the background of prison privatisation reform. Nevertheless, the characteristics of contracts for private prisons in the UK differ from the US. The Home Office provides considerably prescriptive contracts, with clear and measurable outcomes.[649] It poses higher demands for vocational and rehabilitation programmes than those practiced in public prisons. In order to increase accountability, the personnel in private prisons has to be authorised by the Home Office. In addition, supervisors from the state are present on-site to assure appropriate performance. They are also the authority to deal with disciplinary measures imposed on inmates. In case of not meeting the

[645] Lanza-Kaduce, Parker and Thomas (1999), *supra* note 635, provide evidence for lower rates of recidivism in private prisons; Willian D. Bales, Laura E. Bedard, Susan T. Quinn, David T. Ensley and Glen P. Holley, "Recidivism of Public and Private State Prison Inmates in Florida," *Criminology & Public Policy* 4(1) (2005), 57-82, find no significant difference between the recidivism rates of inmates from private prisons to those from public prisons; Andrew L. Spivak and Susan F. Sharp, "Inmate Recidivism as a Measure of Private Prison Performance," *Crime & Delinquency* 54(3) (2008), 482-508, find that in Oklahoma state inmates released from private prisons reoffend more than offenders released from public prisons.
[646] Nehal Panchamia, "Competition in Prisons," *Institute for Government* (2012), p. 2.
[647] Prison Reform Trust (2013), supra note 119, p. 72.
[648] Will Tanner, "The Case for Private Prisons," *Reform Ideas No. 2* (2013), pp. 3-4.
[649] See for example, Prison Reform Trust, "Private Punishment: Who Profits?," (2005), pp. 10-11, for the prescribed portion of violence, drug use, etc. allowed by contracts in private prisons.

targets, the private providers may be penalised. There are examples over the years where the Home Office withheld performance-linked-fees for non-satisfactory performance.[650]

One of the major criticisms towards the British system of private contracting is the lack of transparency. In the UK, the private contracts enjoy the "commercial-in-confidentially" practice, thus, being away from the public eye and not subject to scrutiny. The rationale of the state behind this secrecy is that companies have the right to protect their price base and other relevant features of their activity (e.g. performance and standards) from their competitors. Some anecdotal evidence of the extreme approach taken by the state may be found in the first assessment study of private prisons. In this study, the Home Office withheld the contract details even from the researchers it appointed to compare the efficiency of the first private prison to a public prison.[651] This practice inhibits the possibility of private parties and organisations to challenge the contracts and the private prisons' compliance.[652]

Due to the confidentiality, it is hard to understand the payment scheme practiced in England and Wales, however, it seems that a fixed price is paid in each contract. The fee is for full performance, and sums may be deducted from this fee in case of incomplete compliance with the contract.[653] However, in effect, it is similar to the US model of per-prisoner-per-day fee.[654] In 2011, England and Wales began piloting with a new form of payment, Payment by Result (PbR). However, this is not the dominant model (for a comprehensive depiction of the model see Section 2.2.3).[655]

The performance and costs of private prisons in England and Wales were measured on different occasions. It seems that most studies support the cost-reduction advantage of private prisons. Furthermore, some studies assert that the quality of services provided under contracts is at least as good as the public sector, and in some fields even better. Nevertheless, it seems that the security is somewhat better in public prisons.[656] The source of savings in private prisons comes mainly from the reduction of the staff members and their salaries/benefits. Personnel costs usually account for around 2/3 of prison expenditure, thus, providing an

---

[650] *Ibid*., pp. 6-7; Pozen (2003), *supra* note 638, pp. 263, 279-281.
[651] Hardin (2001), *supra* note 634, p. 308.
[652] Pozen (2003), *supra* note 638, p. 279.
[653] Hardin (2001), *supra* note 634, pp. 305-306.
[654] Pozen (2003), *supra* note 638, p. 283.
[655] Max Chambers, "Expanding Payment-by-Results: Strategic Choices and Recommendations," *Policy Exchange* (2012).
[656] Gary L. Sturgess, "The Sources of Benefit," in *Prison Contracting by in Delivering Justice: The Role of the Public, Private and Voluntary Sectors in Prisons and Probation,* Vicki Helyar-Cardwell ed. (Criminal Justice Alliance, London, 2012), 31-40, pp. 32-33; Panchamia (2012), *supra* note 646, p.4; Tanner (2013), *supra* note 648, pp. 8, 11-12.

opportunity to significantly reduce the costs. Since the private employees are not subject to the national payment rules, the providers usually adjust their wages to the market. In addition, employees in private facilities work longer hours and enjoy fewer benefits (holidays, pension, etc.).[657]

2.1.3. France

In continental Europe, the state is perceived as more than just a "service institution".[658] Therefore, prison privatisation is not common, and delegation of significant custody authority fails to exist. France is the country that adopted a private-public model that is the closest to prison privatisation in continental Europe.

In 1987 France actually considered to adopt the American model of prison privatisation by privately building and operating a new prison containing 13,000 beds (i.e. "The Programme 13,000"). Similar to other countries, prison overcrowding and budget constrains were in the background of this suggestion. However, a political discussion subdued this idea. Instead a "hybrid management" model was introduced. Under this model, the bidding involves only the building of the prison, yet the management remains the prerogative of the public sector. In addition, some ancillary services are contracted out (e.g. food, vocational programmes, health care), but the warden duties ought to be performed exclusively by public employees.[659]

The first hybrid prison was built in 1990, and by 2009 around 40 prisons operated under this model. In this year 36% of the French prison population was accommodated in these prisons. The prediction for 2012 was that 50% of the prisons population would be accommodated in hybrid prisons or public prisons using private services.[660]

The payment scheme in France is a fixed amount for the provided services, and above that some expected profit (i.e. cost-plus contract[661]). If the prison's capacity increases, the state has to increase the paid amount. There are no incentives to reduce costs since all the costs are covered by the state. For instance, the wages of the private sector workers are comparable to the public sector. Nevertheless, the quality of the services is higher since practices from private management are adopted.[662] The lack of incentives and the higher quality led to higher

[657] Tanner (2013), *ibid.,* pp. 15-17.
[658] Hardin (2001), *supra* note 634, p. 273.
[659] Carbral and Saussier (2013), *supra* note 642, p. 107.
[660] *Ibid*., pp. 107-108.
[661] For the explanation of "cost-plus contract" see Patrick Bajari and Steven Tadelis, "Incentives versus Transaction Costs: a Theory of Procurement Contracts," *RAND Journal of Economic*s 32(3) (2001), 387–407, p. 388.
[662] Carbral and Saussier (2013), *supra* note 642, p. 112.

costs of the hybrid prisons as compared to public prisons. In 2006 the French Court of Auditors compared the costs of hybrid prisons to comparable public prisons and found that in the years 1999-2003 the costs of hybrid prisons were between 8%-33% higher than the public prisons (see Table 10).[663]

Table 10: Costs Per Day of Detention € – France 1999-2003

	1999	2000	2001	2002	2003
Hybrid Prison	53.81	60.17	NA	56.41	53.27
Public Prison	43.73	45.12	NA	52	45.83
% Difference	23.05%	33.36%	NA	8.48%	16.23%

Source: Cour des Comptes, *Garde et Reinsertion: La Gestion des Prisons*, (Rapport public thématique, 2006), p. 175.

2.1.4. Summary

The following table summarises the main features of prison privatisation in the reviewed countries.

Table 11: Prison Privatisation – Selected Countries

Country	Year of Privatisation	Type of Privatisation	Payment Scheme	% of prison pop. in private prisons[664]	Contract Transparency
USA	1980s	Design, construction, ownership and operation	Per-diem, per prisoner	7%*	Yes
England & Wales	1992	Design, construction, ownership and operation	Per-diem, per-prisoner (fixed performance-linked-fee). PbR pilot	16%*	No
France	1990	Construction, provider of ancillary services	cost-plus contracts	36%*	-

Source: own table based on Sections 2.1.1 – 2.1.3 and the accompanying literature.
Notes: * US: 2012, England & Wales: 2013, France: 2009.

The countries' review suggests that prison privatisation offers some advantages, yet it is not free from potential risks. There is room for further improvement of the privatisation model in order to make the criminal justice system more cost-effective. For instance, it seems that variations in the contract design might increase innovation and cost-reduction through different methods aside from shrinking the prison personnel. The following section analyses, from the law and economics perspective, the inefficiencies in publicly owned prisons which may be addressed by contracting-out the prisons to private parties. Furthermore, potential problems in private prisons are identified and possible solutions are discusses.

[663] Tanner (2013), *supra* note 648, p. 20.
[664] Private prisons include here all the models of privatisation (i.e. privately owned and operated, privately operated, hybrid-model).

2.2. The Law and Economics of Prisons

2.2.1. Public Prisons: Why State Intervention?

In the economic literature services and goods may be optimally allocated through the operation of a free market. The question arises then why prisons, a commodity that provides services, are public. The same literature states that intervention in the market may be justified in the event of a market failure. The four main failures are: (1) limitations to market competition, i.e. monopolies, (2) externalities, (3) public goods and (4) asymmetric information.[665] At first glance, the strongest argument for state prisons is the public good notion.

For a commodity or a service to be considered a public good it has to have *nonrivalrous* consumption and *nonexcludability*. First, consumption of a public good does not reduce its quantity for other consumers. Second, the provider of the good may not exclude (or it is too costly) non-paying consumers from using it. When a good is public, all individuals may benefit equally from this commodity, regardless the question whether they paid for it or not. Therefore, there is an incentive for individuals to free ride on paying consumers. Consequently, there will be a shortage of suppliers.[666] Another way of looking at the public good problem is through positive externalities.[667] The supplier of the good provides a service that may benefit people who did not pay for it. Thus, the private marginal benefit curve facing the supplier is lower than the marginal benefit curve of the society. As a result, the supply is lower than the social demand. The state may correct this market failure by either providing the good by itself or by subsidising private firms to provide the good. The most cited example for a public good is national defence. It provides protection for all citizens, whether they pay for the service or not.[668]

Prisons may be regarded as a public good. From the law and economics perspective, the goal of this institution is to protect the society from crime by constraining the freedom of certain offenders and deterring other potential criminals from committing crimes.[669] The benefits some citizens derive from the existence of prisons (protection from crime) do not reduce the

---

[665] For the explanation of the market failures which justify state regulation see Anthony Ogus, *Regulation: Legal Form and Economic Theory* (Hart Publishing, Oxford, 2004), pp. 30-41.
[666] Robert Cooter and Thomas Ulen, *Law and Economics*, 4th ed. (Addison Wesley, Boston, 2003), pp. 46-47.
[667] Ogus (2004), *supra* note 665, p. 268.
[668] Cooter and Ulen (2003), *supra* note 666, p. 47.
[669] Other goals might be to provide rehabilitation for offenders. The quality of a prison regime is also an important factor and fundamental for its legitimacy. Nevertheless, regardless of the methods used in different prisons to deal with prisoners, the end of all custodial sanctions is to protect the society from crime. This might be done through incapacitation, deterrence, rehabilitation, etc.

quantity of those benefits for other individuals. In addition, non-paying consumers may not be excluded from enjoying the prisons' benefits. Once the offenders are in prison, they may not harm the people outside irrespective of the question whether those people paid for the protection or not. This situation is expected to lead to free riding where not all consumers are paying for the good. Consequently, the private marginal demand facing the provider would be lower than the social marginal demand and if supplied by the private market, there would be a shortage of prisons. To correct this market failure the state may build and operate prisons by itself, using the resources collected from taxes. Indeed, most prisons in the western countries are owned and managed by the state. However, governmental intervention may be minimised while still correcting for the abovementioned market failure. The private market may provide the prisons and its services while being paid from the state budget to avoid shortage of prisons. This is the essence of prison privatisation that is advocated in this chapter.

2.2.2. Possible Inefficiencies of State Owned and Operated Prisons

Following the conclusion that prison is a public good and state intervention in this market is necessary, the next question arises whether public ownership and operation is efficient. There are several characteristics that may impede the efficiency of public owned enterprises. Those features may be learned from the bureaucracy and political science literature.

2.2.2.1. Politicians

According to the public choice theory, politicians, as other rational individuals, maximise their utility function. Politicians' main interest is to maximise their re-election odds.[670] Therefore, it is argued that politicians use the budget to promote their political goals rather than increase efficiency of the services they provide. Through transfers of benefits to their supporters they assure their future position in the power. One example is the satisfaction of employees and labour unions. Politicians overinvest in employment in order to secure votes for the future elections. This results in excessive employment and inefficient investment in remunerations. The explanation of such behaviour is that the benefits politicians derive from these actions are internalised (securing votes). Yet, the costs of overinvesting in employment are mainly externalised to the Treasury and the public.[671]

---

[670] William A. Niskanen, "Bureaucrats and Politicians," *Journal of Law and Economics* 18 (1975), 617-643; Ogus (2004), *supra* note 665, p. 59.

[671] Maxim Boycko, Andrei Shleifer and Robert W. Vishny, "A Theory of Privatisation," *The Economic Journal* 106(435) (1996), 309-319, pp. 309-312.

The easiest way for politicians to secure support is through publicly owned and operated corporations since they decide on the size of the employment and financial benefits that can be given through different projects.[672] This problem may be illustrated in the following way: "*politicians are likely to be more responsive to the interests of groups which benefit from productive inefficiency (employees, managers, and other input suppliers) than those which must bear the losses (taxpayers and consumers), because the financial stake of the former per individual is greater, and they are better organized*."[673] In other words, the collective action problem of taxpayers drive politicians to neglect the interests of this group, and to promote on their expense other well-organised and influential interest groups. A good example for this behaviour may be found in post-WWII Britain. The government at that time maintained the inefficient coalmine industry for the reason the miners' union could bring down the government.[674]

Another way to satisfy support is by hiring or nominating managers of the public institutions based on loyalty rather than merits.[675] Inevitably, this might preclude an efficient management since those managers may lack the skills and the proper incentives to operate the institutions efficiently. In addition, inasmuch as politicians are replaced every couple of years (or more in case of re-election), there might be a high turnover of the managers. This situation has a potential to result in a loss of experience and instability in the institutional management.

In the context of prisons, when the correctional institution is publicly owned and operated, politicians may overinvest in employment of the prison staff, nominate managers who are loyal to them, and provide excessive benefits (e.g. vacation, pensions). Those actions will potentially secure the future support and votes of the employees and the unions. Since labour costs constitute 2/3 of all prison costs,[676] the scope for inefficient resource allocation is significant and the "losers" are the taxpayers. Indeed, as shown in Section 2.1.2, in England and Wales the source of savings in private prisons came mainly from the reduction of the staff members and their salaries/benefits.

Another source of overinvestment might be entrenched in the conflicting goals and different costs politicians face. In his recent paper, Gerrit De Geest presented a model of immunity

---

[672] Andrei Shleifer, "State versus Private Ownership," NBER Working Paper 6665 (1998), 1-33, pp. 15-16.
[673] Ogus (2004), *supra* note 665, p. 277.
[674] Shleifer (1998), *supra* note 672, pp. 16-17.
[675] Steven O. Richardson, *The Political Economy of Bureaucracy* (Routledge, New York, 2011), p. 27; Logan (1990), *supra* note 627, p. 51.
[676] Oliver Hart, Andrei Shleifer and Robert W. Vishny, "The Proper Scope of Government: Theory and an Application to Prisons," *The Quarterly Journal of Economics* (1997), 1127-1161, p. 1148.

where he demonstrated that officials who externalise precaution costs will overinvest in them if their actions are not subject to immunity.[677] This situation may be translated to the context of prisons. Politicians need to balance between different goals. For instance, between imposing restrictive conditions on the prisoners in order to maintain safety on the one hand, and maintaining those prisoners' human rights on the other hand. Although they might be formally immune to liability for prisoners' escape, in practice they pay a very high political price for such events. There are examples from different countries where ministers had to resign from their public position following a publicised escape case of a convicted prisoner.[678] Moreover, some empirical evidence presents a "chilling effect" in public institutions resulting from similar events. For instance, one study investigated the effect of a negligence lawsuit against members of a state psychiatric hospital. The defendants were accused for negligently releasing a patient who later on committed a murder. The authors of the study found that following this lawsuit, the number of released patients had significantly decreased.[679]

This situation may be analysed using the immunity model. The politician internalises the costs of a prisoner's escape. Yet he may externalise the costs of precaution, i.e. the financial burden of over-restrictive measures on the prisoners, and the non-tangible costs of violating their human rights. The financial costs are borne by the taxpayers. The costs of violating the inmates' human rights are borne by the prisoners or by the taxpayers in case the court rules compensations in favour of the prisoner. Under these circumstances, the public officials are

---

[677] Gerrit De Geest, "Who Should Be Immune from Tort Liability?" *The Journal of Legal Studies* 41(2) (2012), 291-319. The example provided by the author is that of fire fighters. A fire fighter needs to balance between the damage that can be caused due to excessive usage of water on the one hand, and a fire damage of the property due to insufficient action on the other hand. In a situation where the fire fighter may be held liable for the water damage, avoiding this measure is a precaution. Since the precaution costs are mainly externalised to the society (a burning house), while the harm is internalised by the fire fighter, he is expected to choose to overinvest in precaution costs, i.e. to avoid action. This result explains why some officials have immunity from liability, e.g. police officers (p. 292).

[678] For example, following an escape of a notorious child-molester and a murderer Marc Dutroux, two Belgian ministers (the Minister of Interior and the Minister of Justice), along with the police chief, had resigned. See http://www.bendevannijvel.com/andere/dutroux_inleiding.html, [in Dutch] (accessed on 12.5.2014). Another example may be found in Sweden where following the escape of a Swedish spy, a Justice Minister had resigned. See http://www.nytimes.com/1987/10/20/world/a-swede-resigns-over-spy-s-escape.html (accessed on 12.5.2014). See also Logan (1990), *supra* note 627, p. 71, asserting that public officials are more responsive to political losses rather than economic losses since the latter can be externalised to the tax-payers. As a result, politicians will overspend on internal prison security.

[679] Norman G. Poythress and Stanley L. Brodsky, "In the Wake of a Negligent Release Law Suit: An Investigation of Professional Consequences and Institutional Impact on a State Psychiatric Hospital," *Law and Human Behavior* 16 (1992), 155-173.

strongly incentivised to over-spend the prison budget on internal safety measures, even where it is excessive and inefficient.[680]

2.2.2.2. Bureaucracies

In 1967, Anthony Downs provided a definition of a bureaucrat suggesting that one of his unique features is that his output may not be evaluated in the market. In the private market, consumers' behaviour is a signalling device for the company to assess whether they act efficiently. If consumers are willing to pay a higher price for the firm's output than the costs of its input, the firm knows its products are valued in the market. In this type of organisation, employees may also be valued based on their performance. In a bureaucratic organisation on the other hand, the products and services are not evaluated in the market. Thus, it is difficult to measure whether the financial burden the taxpayer carries in sponsoring the input of the organisation matches the utility (output) he receives from the actions of this organisation. Consequently, the budget or the income the bureaucratic organisation receives is not related to the quality of its performance.[681] So what then determines the budget?

William Niskanen analysed bureaucratic behaviour through public choice theory. He suggested that bureaucrats, like any other individual, maximise their utility. Their utility function includes the desire for salary, prerequisites, reputation and power. Those goals may be achieved through the increase of the bureau's budget. Therefore, what bureaucrats maximise is the budget. As a result of this structure, Niskanen predicts that the output and the budget of a bureau would exceed the output of a private firm that faces the same costs and demand.[682]

Larger budgets increase the prominence of the agency and the influence of the bureaucrat. Consequently, bureaucratic organisations resist changes that may lead to the decrease of their budget and the importance of their offices. Innovation which may reduce the costs of the provided service is therefore unwelcomed, unless the office may retain the saved resources.[683] In the context of public prisons, this preference suggests that there are no incentives in seeking methods to reduce the prison costs. On the contrary, reduction of incarceration costs

---

[680] For example, in one high security prison in the Netherlands there are currently 5 prisoners around 60 guards. This ratio seems excessive and inefficient. See Bunt, Henk G. van de, Edwin W. Bleichrodt, Sanne Struijk, P.H.P.M. de Leeuw, and D. Struik, *Gevangen in de EBI. Een empirisch onderzoek naar de Extra Beveiligde Inrichting (EBI) in Vught* (Boom Lemma uitgevers, Den Haag, 2013).
[681] Anthony Downs, *Inside Bureaucracy* (Little, Brown and Company, Boston, 1967), pp. 25-30.
[682] William A. Niskanen, Jr., *Bureaucracy and Representative Government* (Aldine Atherton, Chicago, 1971), pp. 38-39.
[683] Richardson (2011), *supra* note 675, pp. 25-26; Downs (1967), *supra* note 681, p. 196.

would result in decreased future budget for prisons, thus, it might be perceived as unbeneficial by the relevant public officials.

The overspending might be controlled through limiting the budget and defining targets. However, due to different social goals and limited information in the hands of the ministries, it is hard to set clear targets. In addition, increasing efficiency is not a necessary result of limited budget. Costs might be saved by reducing the quality of the good rather than minimising the employment for example.[684]

Another source of inefficiency in the public sector might be explained by the structure of bureaucracies. One important method of improving the quality of services or goods in private companies is through innovation.[685] The differences between the public and the private sectors might shed some light on the reasons why private providers are more prone to innovation than public.

An economic goal of an organisation is productive efficiency, i.e. minimising production costs (maximising output compared to the input). The structure of the private market induces incentives to achieve this goal. First, shareholders are the residual owners of the firm. They have interest in increasing the value of the firm, therefore they would impose pressure on the managers to maintain efficient production. In publicly owned entities, there are usually no shareholders who would pressure the officials to act efficiently. The tax-payers might be regarded as the residual owners of the public property. However, due to the collective action problem, i.e. too dispersed and bear too minor individual costs, they are not incentivised to intervene in the public policy. A second instrument to increase efficiency is market control. Inefficient firms face the risk of take-over that usually results in the replacement of the incompetent management. This kind of market control does not exist in the publicly owned and operated enterprises since they are usually serve as a monopoly. Third, the remuneration of managers may be attached to the performance of the firm, thus, increasing his incentive for efficient production. Managers of public organisation do not have a financial interest[686] in the performance of the organisation. The Ministry and the Treasury usually set their salaries. Fourth, inefficient corporations face the risk of going bankrupt. This may constitute a strong motivation to constantly improve. On the contrary, due to soft budget constraint public entities do not face the risk of being shutdown due to bankruptcy. The managers of such

[684] Ogus (2004), *supra* note 665, pp. 277-278.
[685] *Ibid*., p. 286.
[686] Of course they have other interests such as status, power, promotion, etc. However, those interests do not necessarily lead to productive efficiency.

institutions know they may be bailed-out by the government. Thus, they are not strict enough with their fiscal discipline and effectiveness of spending.[687] Finally, market competition drives the private firms to innovate and improve their production efficiencies. Inefficient companies are forced to increase prices in order to cover their costs. As a result, consumers may change their preferences to substitute products and purchase them from other providers.[688] On the contrary, since the public entity is usually a monopoly, there is no competition and the "purchaser" of the good may not turn to a different supplier in case of productive inefficiency.[689]

The performance of public prisons as compared to private prisons is a particular case of the above-mentioned analysis. In a situation of contracted-out correctional institutions, the private provider is the residual owner of the prison and this institution's saved costs. Therefore, the managers would be pressured by the shareholders to increase productive efficiency. On the other hand, the residual owner of public prisons is the taxpayer. Since the "ownership" is dispersed, and the individual cost of inefficient performance of a public prison is not high, taxpayers do not have strong incentives to act against the prison policy. Furthermore, soft budget constraints remove the risk of bankruptcy in public prisons, therefore, decreasing their incentives to operate efficiently. Finally, in the absence of prison privatisation, public prisons are not subject to competition and are not incentivised to improve their performance. This argument relies on the "yardstick competition" notion.[690] The monopolised public prison market has no benchmark of efficiency. As a result, the taxpayers may not evaluate whether this public organization operates efficiently or wasting their contributions. Moreover, these public services are irreplaceable hence there is usually no threat of closure of inefficient prisons.

Prison privatisation in England and Wales serves as a good example for the importance and the significant benefits of yardstick competition. One important advantage of private contracting which was observed in the UK is the "spillovers" of competition. Besides having a stimulating effect on the private sector to innovate and improve performance through introduction of new technologies, competition had a positive externality on the public sector. It was suggested that following the bidding process in England and Wales, some of the public

---

[687] János Kornai, Eric Maskin, and Géard Roland, "Understanding the Soft Budget Constraint," *Journal of Economic Literature* 41 (2003), 1095-1136; Logan (1990), *supra* note 627, pp. 181-182.
[688] Ogus (2004), *supra* note 665, pp. 272-273.
[689] Gordon Tullock, *The Selected Works of Gordon Tullock: Bureaucracy*, vol. 6 (Library Fund, Inc., Indianapolis, 2005), p. 283.
[690] Andrei Shleifer, "Theory of Yardstick Competition," *The RAND Journal of Economics* 16 (1985), 319-327.

prisons improved their performance and reduced their costs. This improvement was further influenced by the Market Testing idea. In England and Wales, there are biddings that are opened both for the private and the public sectors. Through this process, some of the private prisons returned to the Prison Service responsibility. This proved that with clear targets, and free competition, the public sector might also improve.[691] Therefore, adding a new advantage of opening the prison market to private companies.

An additional obstacle for innovation in the public sector is the hierarchical structure of the bureaucratic organisation. If a low-ranked agent desires to offer an innovative change, which might improve the performance of the organisation, he needs to exert a significant effort in filling different reports and waiting lengthy periods for a decision from superiors. The larger is the organisation, the higher is the number of the decision-makers who need to approve this change. The multiplication of decision-makers reduces the probability the change will be approved. Furthermore, bureaucratic organisations have a tendency to retain the status quo, and express risk-averse behaviour since changes usually do not guaranty higher benefits than costs.[692] As a result of this structure, the low-ranked agents, who do not internalise the benefits of their innovation but bear the costs of offering it, are not incentivised to propose innovations.[693]

Furthermore, since there is no market evaluation of the employees' performance, there is no clear indicator for a "right" behaviour. Behaviour in bureaucratic organisations is not shaped based on outcomes. Nevertheless, there is a need to assure the agents are promoting the tasks of the bureau. Consequently, the focus is on the actions rather than on the outcomes. This explains why bureaucracies usually have a large number of rules and procedures the employees must follow in order to complete their tasks.[694] Prescribed rules rather than clear targets with discretional activity hinder the possibility to innovate since innovation means changing the behaviour in order to reach the same outcome using more efficient method.

Although privatisation of prisons may correct for some inefficiencies induced by the characteristics of a public organisation, it faces its own problems. Kenneth Avio nicely presents a paradox of prison privatisation: "*private prisons are socially superior to public prisons because the former seek efficiencies in the drive to maximize profits; public prisons*

[691] Hardin (2001), *supra* note 634, pp. 333-334; Tanner (2013), *supra* note 648, pp. 12-13; Panchamia (2012), *supra* note 646, p. 5; Sturgess (2012), *supra* note 656, pp. 33-40.
[692] Downs (1967), *supra* note 681, pp.160, 195.
[693] Hart, Shleifer and Vishny (1997), *supra* note 676, p. 1129.
[694] Downs (1967), *supra* note 681, p. 59.

are superior to private prisons because they are not driven by the profit motive."[695] Therefore, the next Section discusses the source of inefficiencies derived from the profit-maximising goals of private prisons and presents possible solutions.

2.2.3. Potential Inefficiencies in Private Prisons and Suggested Solutions

2.2.3.1. The Problem

Prison privatisation may be analysed through the principal-agent model.[696] This model was developed by Michael Jensen and William Meckling in the context of the theory of the firm and the relationship between managers and other stakeholders. According to their definition, when one or more persons (principals) contract with another person (agent) for the delivery of certain services, the former delegates some decision power to the latter. Forasmuch as both parties are utility maximisers and there is asymmetric information, it is expected that the agent will not always act in the best interest of the principal. There might be a "direct" conflict of interests between the principal and the agent when the manager extracts money from the firm and reduces its value for other stakeholders. On the other hand, the manger might simply make non-pecuniary decisions that benefit him but not the firm. In order to minimise the departure of the agent from the principal's interest, the latter may create a proper incentive scheme to align the agent's interest with his own. Alternatively, he may incur monitoring costs to assure that agent's decisions maximise his utility.[697]

The principal-agent model may be applied in the context of prison privatisation. The principal is the government, or the public as represented by the government, and the agent is the private provider.[698] When contracting with a private company an operation of a prison, the state partially delegates its powers to the winner of the bid. The operator of correctional institutions maintains discretion regarding different decisions related to the inmates' life in the

---

[695] Kenneth L. Avio, "The Economics of Prisons," *European Journal of Law and Economics* 6 (1998), 143–175, p. 150. (Emphasis added).

[696] For the application of other economic models to prison privatisation see for example, Kenneth L. Avio, "On Private Prisons: An Economic Analysis of the Model Contract and Model Statute for Private Incarceration," *New England Journal on Criminal & Civil Confinement* 17(2) (1991), 265-300, using the "product quality model"; Hart, Shleifer and Vishny (1997), *supra* note 676, applying the "incomplete contract model".

[697] Michael C. Jensen and William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* 3 (1976), 305-360, pp. 308, 313.

[698] Another potential principal-agent problem is between the manager (the private provider) and his employees. The lower-ranked workers in prisons, e.g. prison officers, maximise their own utility function. For example, what is important for them may be keeping the daily routine in prison. A prison is a complex place, and custodial officers might not care about performing better than other prisons, but simply keeping the status quo in order not to increase their effort. Although interesting analysis by itself, this principle-agent problem is not unique for the private sector, but exists in any prison. Therefore, this discussion is beyond the scope of the current chapter.

facilities.[699] Forasmuch as the principal and the agent in this context have different aims and both are expected to maximise their utility, a conflict of interests emerges. According to the deterrence theory, the state's goal of using prisons is to deter potential and known offenders from committing crimes, and thus, reducing the crime rate.[700] Other goals of correctional institutions are incapacitation and rehabilitation of criminals. The latter is achieved when released prisoners do not reoffend. On the contrary, the aim of private providers of prisons, who are profit-maximisers, is to "keep the business running". In other words, private operators of custody have a financial interest in increased number of prisoners, whether they are new or returning (recidivists). This motivation is especially strong with the payment scheme of per-day per-prisoner, as practiced in the US, which attaches the scope of revenue to the quantity of prisoners and incarceration days. Indeed, one of the concerns of the opponents to prison privatisation is that corporations are lobbying for harsher sentencing in order to increase the portion of people sentenced to custody.[701] However, assuming private providers do not have an influence on sentencing and the number of "new" prisoners, they still may enhance or not reduce recidivism. This is one of the divergence points between the principal (government), and the agent (the private provider). The state is interested in providing the inmates with different rehabilitation and vocational programmes in order to reduce their criminality and improve their prospects. The private firm, on the other hand, is interested in minimising the number of provided programmes. They might be motivated by two rationales. First, the fewer programmes they provide, the larger is their residual profit. Second, assuming those programmes have some negative effect on recidivism, fewer programmes will result in higher reoffending rates. On the other hand, if the state specifies the number of required rehabilitation programmes, due to asymmetric information the private provider may be simply incentivised to reduce the quality of the programmes, which is harder to observe.

Following the principal-agent model, possible methods to align the interests of the state and the private provider are either the introduction of a monitoring system or creation of an incentive scheme. In other words, the principal may either regulate the agent's behaviour by setting detailed rules of action and supervising for compliance, or to assess the outcomes of

---

[699] Examples of such decisions include the allocation of the inmates to cells; assigning them to different rehabilitation and educational programs, etc. The power to impose disciplinary measures on inmates may be under the private provider's responsibility or remain under the state responsibility (England and Wales, see Section 2.1.2). For the pros and cons of disciplinary measures in private prisons under state control see, Logan (1990), *supra* note 627, pp. 61-65.

[700] As long as the marginal costs of crime prevention does not exceed the marginal benefits derived from it. See Becker (1968), supra note 13, pp. 207-209.

[701] For the discussion on the lobby argument and evidence for its limited practice see Hardin (2001), *supra* note 634, pp. 278-283.

the agent's performance. The target outcomes may relate, for example, to recidivism rates, which signal to some extent the quality of the rehabilitation programmes. In addition, the acceptable quantity of riots and inside-prison violence may be limited since they usually serve as a good proxy for prison mismanagement.[702]

2.2.3.2. Regulating and Monitoring Behaviour

The first proposition is already applied in practice, intensively in the UK (see Section 2.1.2.). Under such a system, the contract first needs to prescribe measurable and observable targets and specify which programmes are expected to be provided by the private operator. Although the UK designs more prescriptive contracts, the US contracts also may specify what exactly is expected from the providers. For instance, in Florida the contract needs to stipulate that work and educational programmes ought to be provided.[703] In the next step, on-site inspectors from the public sector are employed to assure the contract is performed satisfactorily, thus monitoring behaviour. This system is not optimal for solving the principal-agent problem. First, it entails non-negligible pecuniary costs. It requires the employment of public personnel in every private prison. In the US, those costs are the reason why inspectors on-site are scarce in some states even when prescribed by the contract.[704] Second, it might have negative non-pecuniary consequences. In order to monitor, the contract has to be clear about the services that ought to be provided (as the abovementioned example illustrates). The reason is that only observable and measurable actions may be monitored. However, such contracts might impede the very essence of prison privatisation. One of the impetuses to introduce prison privatisation, as discussed in Section 2.2.2, is to stimulate research and innovation. Development of new technologies and methods has the potential to improve the quality of prison practices, while reducing or keeping the costs the same. In theory, transferring prison operation to the private sector, with appropriate incentives and through a competitive procedure, has the potential to induce those corporations to design innovative programmes that would be more successful in reducing criminality.[705] Specifying the number or the type of rehabilitation programmes that should be provided might inhibit the innovation process.[706] It

---

[702] Hardin (2001), *supra* note 634, p. 289.
[703] Lanza-Kaduce, Parker and Thomas (1999), *supra* note 635, p. 30.
[704] Hardin (2001), *supra* note 634, p. 307.
[705] For evidence of the success of privatisation in different field see World Bank (1995) *Bureaucrats in Business: the Economics and Politics of Government Ownership* (The International Bank for Reconstruction, Washington, 1995).
[706] It seems that the prescriptive character of the British contracts indeed minimised innovation. See Panchamia (2012), *supra* note 646, p. 5. In 2011 the Ministry of Justice relaxed the strictness of the contracts in order to leave more space for the providers to decide on the methods to deliver their services. (p. 6).

would simply bind the private sector to use the same methods which are used by the public sector and which do not guarantee the reduction of criminality.

2.2.3.3. Focusing on Outcomes: The Incentive Scheme

A better method, in terms of fostering improvement, to align the agent's interest to the principal's is to introduce an appropriate incentive scheme. To this end, the government needs to specify the desirable outcomes and to create the proper incentives to achieve them. Nevertheless, the private providers should have discretion in choosing the instruments to meet those stated targets.

In order to design an incentive scheme, insights from corporate governance may be useful. This literature deals with the mechanisms corporations use to align the interests of managers with those of shareholders. One of those mechanisms is a compensation scheme. The most effective financial method to align the interests is the stock-based compensation. Under this scheme the manager owns some shares of the company, thus the increase of the firm's value, directly increases the manager's wealth. This practice has the highest sensitivity of pay-performance.[707]

Compensation schemes may be used also to incentivise private prisons to promote the public interest in reducing re-offending rates. One theoretical model was offered by Kenneth Avio in 1991. The author suggested linking the remuneration of private prisons to the recidivism level by including two elements in the payment scheme. The first part is a "flat-rate per-diem payment" which would cover the daily operational costs. The second share of the compensations would resemble a royalty payment and would be paid in addition to the first part. Under the royalty payment, the private provider would receive a compensation for every period the ex-offender does not recidivate. This payment may be revoked once the offender reoffends. The size of the royalty ought to be determined by a bid. Avio asserted that this scheme not only has the potential to improve the programmes provided in private prisons but might induce the private providers to assist prisoners after their release.[708]

An example of compensation attached to results may be also found in practice. Recently, England and Wales piloted with a new payment system that is similar to the incentive-based scheme discussed in this chapter. The first pilot of this scheme, termed Payment by Results

---

[707] Kevin J. Murphy, "Executive Compensation" in *Handbook of Labor Economics*, 1st ed., vol. 3, chapter 38, Richard Layard, Orley Ashenfelter and David E. Card eds. (Elsevier, 1999), 2485-2563, pp. 2519, 2527, 2531-2532.

[708] Avio (1991), *supra* note 696, pp. 285-286.

(PbR), in private prisons was introduced in HMP Doncaster[709] in 2011. According to this model, the private provider places 10% of his annual revenue at risk in order to reassure a target reduction in the recidivism rate. In case the private prison does not meet the target, he losses the 10% of his revenue. Thus, the provider is "punished" for not reducing re-offending rates. The assessment of the results is made through a binary process: if the released prisoner does not commit a crime in the following 12 months after his release for which he is convicted, the provider is not losing part of his revenue.[710] In the Doncaster prison the reduction target of recidivism rate was at least 5% as compared to the reconviction rate in the base year 2009.[711]

Using "punishment" to incentivise the reduction in re-offending rates as practiced in England and Wales might impose some difficulties. The corporate governance literature for instance, points out that even though stock price is the right measure to assess the CEOs' behaviour and decision, it might be "noisy". Namely, the stock price might fall despite proper decisions made by the manager if the market experiences some financial crisis. To compensate the managers for this risk, the firm needs to pay a "risk premium".[712] Similarly, in the context of private prisons, the recidivism rates might be beyond the control of the private provider. One reason for such a result might be the lack of legal opportunities available to the released ex-offender.[713] Therefore, "punishing" private providers rather than rewarding them for reducing recidivism rates might increase the risk transferred to those companies.

Therefore, this chapter suggests using rewards, yet to further develop the compensation model offered by Avio. Differently from Avio, this chapter offers to set the "royalty" payment not through a bidding process but as a percentage of the saved costs from the reduced recidivism. This mechanism, similarly to the stock shares which attach the manager's profits to the value of the company, will attach the profit of the private provider to the savings of the state. In other words, the reduction of recidivism would lead to a lower rate of crimes. Since crime imposes costs on the society and the state, less crime means fewer expenses for the state. If the revenue of the private provider is attached to the government's savings from reduced

---

[709] See http://www.justice.gov.uk/contacts/prison-finder/doncaster (accessed on 23.3.2014).
[710] Chambers (2012), *supra* note 655, pp. 11-12. The PbR was tested also in the public sector and with other services. Other piloted models were paying bonus on top of cost coverage for reducing recidivism; or paying no income unless the expected results are met (p. 11).
[711] An official response from the UK Ministry of Justice to the author's inquiry (April, 11, 2014).
[712] John E. Core, Wayne R. Guay, and David F. Larcker, "Executive Equity Compensation and Incentives: A Survey," *Economic Policy Review* (2003), 27-50, p. 30.
[713] For instance, employers might be not willing to recruit workers with criminal record. An alternative might be the existence of a crisis in the country that increases general unemployment.

recidivism, the larger are the savings for the public, the greater is the profit for the private prison.

Literature suggests that the majority of inmates inhabiting prisons are returning criminals.[714] All the more so in Europe where first-time offenders are usually sentenced to alternative sanctions, and custody constitutes a last resort to manage recidivists and dangerous criminals. Therefore, recidivism imposes significant costs on society and rehabilitating prisoners have the potential to substantially reduce crime. There are different studies measuring the saved costs to society from reducing crime.[715] Those measures might assist the state to introduce a calculation of the avoided costs that occur due to the reduction of re-offending by released ex-offenders. Paying the private providers a portion from those savings has the potential to align their interest, with the public desire to reduce recidivism.

The suggested compensation scheme resembles the equity incentives provided to managers in corporations. In the context of corporate governance, the shareholders do not possess *ex-ante* the information on the decisions and choices which would maximise the firm's value. Therefore, they delegate the decision-making power to managers who are believed to have better information. Yet at the same time, the shareholders tie the manager's wealth to their own, assuring he would make decisions that promote their interests.[716] In the prison privatisation context, one of the rationales to adopt this approach is the belief that private profit-maximising firms would use innovative methods and new technologies to manage prisons. *Ex-ante* the state may not know which the most cost-efficient methods are (possession of such information would obviate the need in contracting with private companies). Therefore, the state delegates the decision power to the private provider trusting he has better information and potential to improve prison operation. However, proper incentives need to be in place in order to assure the firms are providing the results that are expected from them. Paying the private prisons a portion from the saved costs due to reduced recidivism links the providers' revenue to the main public interest, i.e. reducing crime and the associated costs. In turn, this compensation scheme has the potential to promote innovation in

---

[714] Alfred Blumstein, Jacqueline Cohen, Jeffrey A. Roth, and Christy A. Visher, eds., *Criminal Careers and "Career Criminals"* (National Academy Press, Washington, D.C., 1986), p. vii; In 1994, around 70% of prisoners in the US were rearrested within three years after their release. Around 52% returned to prison during this period, see Timothy Hughes and Doris James Wilson, "Reentry Trends in the United States," Bureau of Justice Statistics (2002), pp. 20-21. In general it can be said that "most crime is repeated crime", Sherman and Strang (2007), *supra* note 335, p. 21.

[715] Levitt (1996), *supra* note 123; Kathryn E. McCollister, Michael T. French and Hai Fang, "The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation," *Drug and Alcohol Dependence* 108 (2010), 98–109.

[716] Core, Guay, and Larcker (2003), *supra* note 712, p, 32.

rehabilitation programmes and introduction of new methods to reduce the criminality of prisoners.

The period for the reward should be limited in order to minimise the state's expenses. Ex-offenders usually reoffend soon after their release.[717] If the private prison succeeded to reduce the criminal inclination of the ex-offender, it would be depicted in the proximity of his release date. Thus, continuing paying for the prisoners' choice not to re-offend in further periods as suggested by Avio, would lead to wasted resources.[718]

Another concern raised in the corporate governance literature, which is relevant in the prisons privatisation context is the issue of windfalls profits. This term denotes the phenomenon where managers benefit from the increase in the stock value not due to their exerted effort, but as a result of a sudden market rise. The most common recommendation to solve this problem is to use the Relative Performance Evaluation (RPE). Under the RPE the performance of the manger/firm is compared with firms that use similar techniques and work under comparable uncertainties. This way, the firm's value-increase that may be attributed to the manager can be better assessed.[719] Similar problem may occur in the context of private prisons. The recidivism rate might be low not as a result of the services provided in prison, but due to accumulation of offenders with positive prospects. In other words, released prisoners might commence a law-abiding life style due to personal traits and opportunities. In this case, the payment the private provider receives does not reflect his effort, but a factor of luck. A possible solution may be to measure the recidivism risk of every admitted offender. For example, in the UK the Home Office uses The Offender Group Reconviction Scale (OGRS) which measures the offender's risk of recidivism.[720] Offenders who have very low risk of recidivism may be excluded from the compensation scheme (the "royalty") assuming that their lack of recidivism is not attributed to the prison performance. Alternatively, the portion from the crime-reduction savings paid to the private provider may vary depending on the risk assessment of the prisoners. In other words, private prisons would receive a lower portion for low-risk offenders and a higher portion for high-risk offenders who do not recidivate.

---

[717] Lanza-Kaduce (1999), *supra* note 635, p. 34.

[718] It does not seem reasonable to believe that the private providers may invent a method that reduces criminal inclination only for a limited period, after which the offender would always return to crime. No doubt, in practice this might occur if for example, the legal opportunities of the released offender change after years. In this case, the benefits of crime may once again overweight his costs. However, the private prisons have no control over such situations.

[719] Core, Guay, and Larcker (2003), *supra* note 712, p, 38.

[720] See for example, Philip Howard, Brian Francis, Keith Soothill and Les Humphreys, "OGRS 3: The Revised Offender Group Reconviction Scale," Ministry of Justice (2009), available at http://www.eprints.lancs.ac.uk/49988/1/ogrs3.pdf (accessed on 23.3.2014).

Certainly, the private providers should have no influence on the type of prisoners admitted to their prisons. Otherwise, they would have strong incentives to admit only the "promising offenders". Another potential solution is to compare the recidivism rate of the private prisons with the re-offending rate of comparable public prisons. Subsequently, the payment may be made only for the part of reduction that exceeds the recidivism rates in public prisons.[721]

An additional potential contingency area, which may induce the principal-agent problem, is the choice of method to reduce prison costs. There are some arguments that in the US the costs were reduced at the expense of a lower quality of the prison management.[722] However, overall it does not appear that private prisons worsened the conditions in prisons, and some even improved it.[723] In the UK for instance, the main source of costs saving is through reduced prison personnel and their benefits. This element usually constitutes the largest portion of custodial expenditure (around 2/3). Thus, employing fewer workers, younger on average and with more flexible recruitment and firing conditions significantly reduces the costs of personnel as compared to the public sector. In addition, in public prisons it is harder to reduce the salaries and the different benefits the workers receive, hence, giving the private prison advantages in this area.[724] This practice is occasionally criticised. For instance, in 2003 the average annual wage of a prison officer in a public prison in the UK was £23,071 as compared to £16,077 in private prisons. The opponents of private prisons see this practice as inappropriate method to reduce costs. They assert that the less experienced private officers and the high turnover affect negatively the quality of the prison management.[725] The validity of this argument is questionable since it is not proven that the number of employees and the benefits they receive in public prisons are optimal.[726] In fact, the inefficiencies and the costs of the public prisons constitute some of the factors leading to prison privatisation. In addition,

[721] For example, if in one year the re-offending rate was reduced by 5% in the public prisons and by 7% in the private prison, the latter should be rewarded only for the 2% reduction. Such a system may account for a general change in the criminal population. On the other hand, prisoners in different prisons vary, thus making it difficult to find a comparable public prison.
[722] Carbral and Saussier (2013), *supra* note 642, p. 107.
[723] See for example, Hardin (2001), *supra* note 634, pp. 324-326; Lundahl, Kunz, Brownell, Harris and Van Vleet (2009), *supra* note 643, p. 292.
[724] Tanner (2013), *supra* note 649, pp. 15-17.
[725] Prison Reform Trust (2005), *supra* note 649, p. 8.
[726] For example, the high-security prison in the Netherlands currently accommodates 5 prisoners and around 60 members of the staff. The high number of the prison employees may not even be justified by the reasoning that they are required in order to prevent violence of the prisoners. The internal guidelines of this prison state that the prison officers are not allowed to face more than one prisoner at the same time. See Bunt et al. (2013), *supra* note 680. Thus, in case of a violent event of more than one prisoner, the staff is prohibited from intervening. The costs of such a prison seem exceeded and doubtful if the number of personnel may be considered optimal.

increased employment and excessive benefits are often the result of the public sector's nature as explained in Section 2.2.2.

Although prison staff may be a reasonable method to reduce costs, it seems that private prisons have a large potential for efficient costs reduction through innovation. The most pronounced innovation in private prisons is the installation of CCTV cameras, magnetic cards and privacy locks[727]. In addition, some prisons in the UK introduced changes in the prisoner-staff relationship, i.e. using the prisoners' name, which increased the sense of respect.[728] However, further innovation may be enhanced by rightly designing contracts. For instance, bundling the prison construction with prison management might incentivise innovation in the structure of the prison.[729] Private providers may choose the materials and design which would allow for savings in the electricity (e.g. cells which keep the warmth in the winter and are cool during the summer), or an innovative structure which would reduce the costs of monitoring. Jeremy Bentham's Panopticon is a good example of structuring a prison with the vision of improving prison control while reducing costs.[730] Similar innovations may be introduced by the private companies, which are building the prison for their own use. A competition may enhance the incentives of private firms to modernise the prison structure. One possibility is to *ex-ante* require an innovative design in the stage of bidding. Another possibility is to reward financially, following a comparative assessment, the private prison with the most ground-breaking structure which led to cost reduction *ex-post*.

In order to ensure the respect for human rights and basic conditions[731] in the private prisons this chapter suggests combining the American and the British systems of accountability. On the one hand, the contracts and the private prisons' performance should be transparent. Individual prisoners and different interest groups should have access to courts in order to be

---

[727] In some less secured prisons, in their final stage of incarceration, prisoners may have their own keys to the cells. See for example, HM Prison Kirklevington Grange available at http://www.justice.gov.uk/contacts/prison-finder/kirklevington-grange (accessed on 6.4.2014).

[728] Sturgess (2012), *supra* note 656, p. 34.

[729] A counter argument may be that separating the ownership from management might improve the accountability. In the UK for instance, through the Market Testing procedure, the management of the prisons may be returned to the hands of the public sector if it outperforms the private provider. This is hard to do if the private party owns the prison and the buyback period is long (20-40 years in the UK). See Hardin (2001), *supra* note 634, p. 323. A possible way to resolve this issue is by requiring the private firms in advance to agree for a rent contract in case they underperform and the management is transferred to the public sector. This provision in the contract may in fact add incentives to perform better than the public sector. Another solution is to provide a contract for construction and management but maintain the ownership in the hands of the state. This way the private provider is still incentivised to produce an innovative design, yet there is no impediment for the Market Testing since the facility is owned by the state.

[730] Jeremy Bentham, *The Panopticon Writings,* Miran Bozovic ed. (Verso, London and NY, 1995). The letters were written in the 18th centuries.

[731] Not overcrowded prisons, proper nutrition, good health care, etc.

able to challenge the prison management and secure prisoners' rights. This type of system opens the possibility to introduce reputation as an additional incentive mechanism to perform well through the media coverage.[732] Furthermore, as practiced in the US, contracts should face a reliable threat of cancellation in case of gross violations. This way, the firms would be incentivised to maintain the required conditions in prisons in order not to lose the current and future contracts. On the other hand, a stronger monitoring system should be adopted similar to the UK.[733] However, in order to save costs, and to avoid the reduction of impartiality of the controller due to close relationship with the management, the monitoring should be sporadic. In other words, an independent public official should make random and unannounced visits to the private facilities where he would inspect the conditions and conduct interviews with prisoners to assess the management. Each year, one private prison, which outperforms all other prisons in respect of service quality and human rights protection, should be financially rewarded to induce competition and incentivise an increased quality. It should be noted, that the need for monitoring does not increase the costs of private prisons as compared to public prisons, since the latter requires monitoring as well.[734]

2.3. Why the Scarcity of Private Prisons in Europe? Possible Explanations

If prison privatisation encompasses advantages and has the potential to overcome public organisations' inefficiencies, the question arises, why is it not widespread in Europe? It seems that two plausible reasons for resisting prison privatisation in Europe are the constitutionality or the morality argument, and the objection of interest groups.

One of the main criticisms against privatising prisons is that morally this is an inherent function of the state and may not be delegated to private parties. Opponents of private prisons assert that transfer of such power undermines the legitimacy of exercising punishment against offenders.[735] Although commentators both in Europe and in the US pronounce this argument, the discussion over the morality of privatisation has faded away in the US, yet remains strong in Europe.[736] For instance, Section 124 of the *Finnish Constitution* states, "*[…] a task involving significant exercise of public powers can only be delegated to public authorities*."[737]

---

[732] It might be expected that repeating negative coverage regarding violation of human rights in private prisons might lead to a public pressure to cancel the particular contract or to abolish prison privatisation in general.
[733] Pozen (2003), *supra* note 638, pp. 277-280.
[734] Logan (1990), *supra* note 627, p. 204.
[735] John J. Dilulio, Jr., "What's Wrong with Private Prisons," *Public Interest* 92 (1988), 66-83, pp. 79, 81; Sean McConville, "The Privatisation of Penal Services," in *Privatisation of Crime Control*, Collected Studies in Criminological Research, vol. XXVII (Council of Europe, Strasbourg, 1990), 77-108, p. 94.
[736] Hardin (2001), *supra* note 634, p. 278.
[737] *The Constitution of Finland*, 11 June 1999 (731/1999, amendments up to 1112 / 2011 included).

This section is the reason why Finland does not privatise prisons.[738] Another example might be found in France. This is the country which gotten the closest to privatise its prisons ("*semi-privées*") in the continental Europe, yet the exercise of custodial powers remains in the public hands.[739]

Nevertheless, this objection might be challenged on several grounds. First, the definition of prison privatisation should be clear and not misleading. As explained in the introduction, this process does not transfer the execution of the imprisonment punishment to the free private market. Rather it allows the government to *hire* private parties to manage the correctional institutions *on behalf of the state*. In other words, the responsibility to set the goals, standards, and legality of the prison remains under public authority. The prisoners are state prisoners.[740] Under these circumstances, the government is accountable to the public for all the wrongs which might occur in the private prisons. The responsibility to choose a reliable private provider, to design the right contract and to supervise the results lies on the government and prison privatisation does not change this status. Moreover, the state may intervene at any point in order to protect the inmates' well being. Therefore, contracting with private firms to provide prison services should not be perceived as a transfer of significant power to non-public authority.

The above-mentioned understanding of the definition sets the grounds for the second argument. The managers and workers who build and run the prisons are all hired rather than elected, whether they are public or private. Based on the economic theory, all individuals are assumed to be rational and maximise their own utility. There is no reason to believe that civil servants are by nature nobler than the contracted workers and that they will promote the public interest. It is true that private providers are motivated by the profit interest. However, as discussed in Section 2.2.2, agencies in public bureaucracies are also motivated by self-interest. For instance, managers of agencies are often appointed based on their loyalty to the politician rather than based on their merits.[741] Thus, not the public interest will steer the course of actions of this agency, but the interests of the politician. Consequently, it is not evident why only state employees should run prisons.

---

[738] Lappi-Seppälä (2009), *supra* note 356, p. 344; See also McConville (1990), *supra* note 735, p. 83, stating that even in jurisdictions where there is no explicit prohibition in the constitution for private administration of penal institutions, it might be implied.
[739] Hardin (2001), *supra* note 634, p. 274.
[740] *Ibid*., p. 266.
[741] Richardson (2010), *supra* note 675, p. 27.

Furthermore, the legitimacy of the prison and the limitation of power exercised in these institutions lie within the law. Therefore, the same rules guide the behaviour of all prison employees, whether they are civil or private. This argument is nicely illustrated by the following statement, "*[f]or actors within either type of agency, it is the law, not the civil status of the actor, that determines whether any particular exercise of force is legitimate*."[742] Supporters of the constitutional argument are concerned that the profit incentive would lead to abuse of power or mismanagement of the prison. Yet misconducts in prisons are not the prerogative of private providers. There are examples of abuse of power, mismanagement, suicides, violence and escapes in public prisons as well.[743] Furthermore, private providers of prison services have strong incentives to avoid mismanagement and abuse of power since they perform in a competitive environment rather than acting as a monopoly (like state prisons). Excessive cost savings at the expense of quality and abuse of power is expected to lead to riots, law suits by inmates or human rights groups, etc. Therefore, the private prisons risk losing future, and even current, contracts. In fact, the monopolistic power of state prisons might be one of the reasons why they are mismanaged.[744] Without the threat of being replaced, the incentives to improve are weak. As a result the profit-maximising nature of contracted prisons increases the power of reputation as a safeguard for proper quality and care for the rights of prisoners.[745]

Another possible explanation for the resistance to private prisons in continental Europe is the objection of interest groups. One of the most relevant groups that have an interest to hinder this change is the labour union. Contracting with private providers to run the prisons means that public workers may expect to lose their employment and their benefits. Therefore, the labour union has a strong incentive to prevent privatisation in this field. In fact, trade unions around the world are strong opponents of privatisation in general since they do not want to lose the benefits they receive for their support.[746] In the US, the primary opponent of prison privatisation was the American Federation of State, County, and Municipal Employees (AFSCME). The reason was that this reform threatened their employment and power. Due to

---

[742] Logan (1990), *supra* note 627, p. 54.
[743] See for example, escapes and sexual abuse by workers in preventive detention (TBS) in the Netherlands, available at http://www.sevendays.nl/artikel/124986, http://www.misbruikdoorhulpverleners.nl/tbsgog&tbs.html, [in Dutch] (accessed on 21.5.2014); Overcrowding and mal conditions in Italian prisons, available at http://espresso.repubblica.it/inchieste/2014/04/25/news/carceri-ecco-perche-siamo-la-vergogna-d-europa-1.162997 [in Italian] (accessed on 21.5.2014).
[744] Logan (1990), *supra* note 627, pp. 55, 75.
[745] In theory, a competition between public prisons could be introduced in order to create incentives to perform better. But there are other features in place that might pose obstacles to an efficient performance (Section 2.2.2).
[746] Shleifer (1998), *supra* note 672, pp. 16-17.

the union's influence on state policy, private contractors focused on states where the union was weaker.[747] Resistance of interest groups to private prisons exist also in Europe. The objection is raised by the European Public Service Union (EPSU), and by national unions as well.[748] Therefore, the resistance of public service unions may be an additional plausible explanation why prison privatisation in not widespread in the continental Europe. The only European country that significantly practices prison contracting is the UK. Interestingly, this reform was introduced during Margret Thatcher's administration, which substantially decreased the influence of labour unions on public policy.

3. Prison Labour

An additional possibility to reduce prison costs is to turn the prison to a profitable industry. Prisoners may be viewed not only as criminals who are serving their sentences, but as a human capital who may contribute to their costs of incarceration. The advantages of employing inmates and paying them wages are multiple: the direct costs of imprisonment are reduced since the prisoner is contributing to the maintenance of the prison and covering, at least partially, his costs; there is a contribution to the state's revenue due to the taxes paid from the prisoner's income; inmates can provide their families with financial support while being incarcerated, and in turn, reduce state support to these families; victims of crime may be compensated by the offenders, also decreasing their need for state support; working prisoners can save money for their release enabling for a "soft landing" and time to search for an employment without state support; and finally, inmates may develop working skills which would assist them in returning to the labour market after the imprisonment term. This strategy might increase their legitimate opportunities and decreasing the attractiveness of crime.[749]

---

[747] Logan (1990), *supra* note 627, pp. 11-12.

[748] See for example, the objection of the European Public Service Union (EPSU) to prison privatisation in Denmark and in the Netherlands. One of their explicit argument for the objection is that the staff would receive lower salaries and less benefits. Available at http://www.mijnvakbond.nl/Waarschuwing-tegen-privatisering-gevangenissen?referrer=1133 [in Dutch] and at http://www.epsu.org/a/7376 (accessed on 12.5.2014). Similar resistance by the trade union to private prisons may be found in Belgium, available at http://www.gva.be/archief/guid/acod-categoriek-tegen-privatisering-gevangeniswezen.aspx?artikel=acfadfd4-df43-4fd3-a136-9a8d58b8836a [in Dutch] (accessed on 12.5.2014). In France, the National Union of Prison Directors (SNDP) also opposed contracting out prison services to private parties, available at http://www.liberation.fr/societe/2012/01/31/prisons-gare-a-la-privatisation-du-service-public-penitentiaire_792402 [in French] (accessed on 12.5.2014); The objection of unions in France may be traced back to the period when it was introduced, see McConville (1990), *supra* note 735, p. 84.

[749] This argument is aligned with the economic theory of crime. See for example, Isaac Ehrlich, "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation," *Journal of Political Economy* 81(3) (1973), 521-565.

Work in prison is not a new notion for correctional institutions. Furthermore, contrary to prison privatisation, it is not a contested practice. Most, if not all, countries engage inmates in work activities of different kinds. However, the stated goal of such policies is rarely the cost-effectiveness of prisons. The primary aim of employing inmates is rehabilitation. Prison labour serves also as a meaningful activity for inmates while serving their time. It is believed that work in prison prepares offenders for the life after release and increases their employment opportunities. However, there is scarce empirical support for increased employability and lower rates of recidivism under the current structure of prison labour.[750] This fact sheds some doubt on the primacy of this goal. An additional stated goal is increased security in prisons.[751] Work provides occupation for the inmates, which in turn, decreases the chance they stay idle and turn to violence and aggression. On the other hand, introducing prison labour for the purpose of reducing the prison costs is rarely an explicit or primary goal in modern society, and often attracts criticism.[752] Consequently, current prison labour not only barely covers its costs, but also often leads to a deficit when the costs of arranging the work for prisoners exceed the profits from it.

Based on the law and economics approach, the current chapter offers to adopt explicitly the cost-saving goal of prison labour. Increasing the productivity of the prison industry has the potential not only to improve the prison budget, but also to create better job opportunities and training inside prisons. As a result, the working inmates are exposed to more challenging tasks which may increase their qualifications and in turn, their attractiveness for the outside employers.

The current section first reviews the prison labour in selected European countries. Following that, the impediments to a productive structure are discussed. Finally, based on a law and economics analysis, some suggestions for improvement are offered.

3.1. Prison Labour: Countries' Experience

There are three main forms of prison labour. First, prison work that consist of domestic duties and prison industries. The former refers to tasks performed for the daily maintenance of the prison. These tasks include, for example, kitchen work, cleaning, laundry, electric services,

---

[750] Evelyn Shea, *Why Work? A Study of Prison Labour in England, France and Germany* (Duncker & Humblot, Berlin, 2007), pp. 6-13. (Hereinafter: "Why Work"). The reason for this phenomenon might not lie in the failure of prison work, but in aspects such as prejudice when hiring ex-prisoners with a criminal record.

[751] Industries Review Team, Regime Service Group, *A Review of Prison Industries in England and Wales* (Home Office, London, 2003), p. 16.

[752] See for example, Julie Browne, "The Labor of Doing Time" in *Criminal Injustice: Confronting the Prison Crisis*, Elihu Rosenblatt ed. (South End Press, Cambridge MA, 1996), 61-72.

gardening, barbering, general maintenance, etc. Prison industry on the other hand, refers to products and services produced by the prisons for internal market (governmental offices) and external consumers. Examples of such products are furniture, clothes, printing, etc. A second type of work is external contracts. Under this structure the prison human capital is "contracted out" to private companies who pay the prisoners to produce products and services for them. There are different models of these contracts. Some pay only for the work and the correctional institutions provide the space, equipment and instructors. Other firms rent the premises, bring their own equipment and raw materials, cover their operational costs (e.g. water, electricity) and provide the instructors. The prisons under this model only make the space and the labour available. Finally, the third type of work is self-employment. In most prisons, albeit rarely, inmates are allowed under certain conditions to manage their own business. Examples of such businesses are publications, graphic design, etc.[753]

In most jurisdictions, prisoners are not considered as employees and the different labour laws are not applicable to them. In addition, their salaries are usually considerably lower than the market wages. Although some similarities exist, countries vary in the extent to which they exercise each of the three types of prison labour.

3.1.1. The Netherlands

In the Netherlands convicted prisoners are obliged to perform properly the prison labour that is assigned to them. Those who are able to work, yet refuse, may be disciplined by confinement to their cells or deprivation of their rights (e.g. visits, leaves). Those who refuse to work are also not paid since there is no overall allowance. Consequently, they are prevented from purchasing different items in the prison canteen (e.g. telephone cards), and renting items from the correctional institution such as TV.[754]

The aspiration of the correctional institutions is that inmates would work around 26 hours per week. The hourly wage of a prisoner is €0.64. If the prison is unable to provide the inmate with work or in case of illness, the prisoner receives 80% of his wage. Furthermore, in low security institutions some skilled prisoners are allowed to work outside the prison and earn around €110 per week. The main type of labour performed in Dutch prisons is the prison industry. The services and products include the following: packing, "printing, bookbinding, carpentry, metal work, textile and fabrics, leather manufacturing." In addition, the prison

[753] *Why Work* (2007), *supra* note 750, pp. 27-32.
[754] Tak (2008b), *supra* note 528, pp. 477-478.

offers some vocational training for "welders, lathe operators, carpenters, painters and bricklayers". The correctional institutions bear the burden of machinery and material costs.[755]

Prison labour is considered as unprofitable. Several reasons are offered to explain this limitation. First, the prison is not constructed as an industry and lacks the necessary facilities since the labour is perceived as a marginal aim. The second reason is embedded in the characteristics of the prisoners. Many of the inmates have different limitations that prevent them from being productive. For example, they lack the required vocational training, or are not used to work, do not understand the local language since they are foreigners, and have addiction problems or other physical or mental problems.[756]

3.1.2. France

Distinct from other countries, the prison work in France is not mandatory but stated as a right. The labour includes domestic work such as kitchen, laundry, library, maintenance, etc. In addition, some work is provided by the prison industry through the workshops where the correctional institution provides all the equipment and necessary materials. The production includes leather, ladders, sorting objects, etc. Furthermore, some workforce is outsourced to private contractors, and this is a major source of prison labour in France. The private firms pay for the labour and the operational costs. Finally, some prisoners are allowed to be self-employed.[757]

The average monthly salary ranges between €289 and €458 depending on the performed task. Some vocational training programmes are also offered.[758] Those who work in the prison industry and earn higher wages are subject to mandatory contributions to the prison. In terms of capacity, French prisoners work on average 30 hours per week. Although the French prisons demonstrate profits from the prison industry, in practice the subsidies they receive from the states are not taken into account, thus not reflecting the true cost-profit ratio.[759]

3.1.3. Finland

According to the Finnish law, inmates are obliged to participate in one of the offered activities, e.g. work, education. Nevertheless, there are no disciplinary measures in case the prisoner refuses to work. Inmates who perform work in closed institutions receive an

[755] *Ibid*., pp. 469, 478-479.
[756] *Ibid*., pp. 478.
[757] Jean-Paul Céré, "Le Système Pénitentiaire Français" in *Prisoners' Rights* (2008), *supra* note 119, 339-360, pp. 345-347.
[758] *Ibid*., pp. 345-347.
[759] *Why work* (2007), *supra* note 750, pp. 52-53, 36-37.

allowance of €0.70-€0.90 per hour. Yet, the open prisons provide inmates with the opportunity to engage in more professional work for which they receive a taxable wage ranging between €3.70-€4.50 per hour or €6-€7.30 in open work colonies. In addition, those offenders pay their prison maintenance fees from their salaries.[760] The regular working hours are 35 per week in closed prisons, and 38 hours per week in open prisons.[761]

The stated goal of work is to provide offenders with vocational skills in order to improve their life after release. Moreover, the work is meant to normalise the conditions of inmates in prisons. Around 40% of prisoners are employed each day. Half of the working prisoners perform service work for prisons (domestic work, real estate maintenance, construction work, etc.). The other half is employed in production of goods that are sold to the private sector and directly to private consumers.[762] The main areas of production are: carpentry, metal work, agriculture, packing and assembly, etc. Few prisoners are allowed to perform "civil work", namely, work outside prison during the day in a normal job, or to be self-employed.[763] Furthermore, prisoners may participate in vocational training or apprenticeships to improve their qualifications.[764] There is no possibility in Finnish prisons to contract out the inmates' labour to private firms.

The Finnish prison industry is perceived as successful, and in 2005 it was reported that the income derived from the inmates' work covered 10% of the prison operating expenses.[765] Nevertheless, according to the prison financial report, in 2012 there was a deficit of around €9 million from the commercial activities of the prison.[766] Forasmuch as the savings from employing prisoners in lower rates instead of private employees in prison service are not taken into account, it is hard to assess whether the overall Finnish prison industry is profitable or not.

---

[760] Criminal Sanctions Agency, "Prison Policy, Prison Regime and Prisoners' Rights in Finland" in *Prisoners' Rights* (2008), *supra* note 119, 317-338, p. 332.
[761] Criminal Sanctions Agency, available at http://www.rikosseuraamus.fi/fi/index/taytantoonpano/toiminnot/tyotoiminta.html (accessed on 12.2.2014).
[762] Criminal Sanctions Agency, available at http://www.rikosseuraamus.fi/en/index/news/prisonproducts.html (accessed on 12.2.2014); Criminal Sanctions Agency, "Prison Service", (2005), p. 15. For a review of products offered for purchase by the prison industry see http://www.rikosseuraamus.fi/fi/index/vankilatuotteet.html (accessed on 12.2.2014).
[763] Criminal Sanctions Agency, *Prisoners' Rights* (2008), *supra* note 760, pp. 333-334.
[764] Criminal Sanctions Agency, available at http://www.rikosseuraamus.fi/fi/index/taytantoonpano/toiminnot/tyotoiminta.html (accessed on 12.2.2014).
[765] Criminal Sanctions Agency, Prison Service (2005), *supra* note 762, p. 24.
[766] Criminal Sanctions Agency, "Criminal Sanctions Agency Statements and Annual Report for the Year 2012", 2013 [in Finnish], available at http://www.rikosseuraamus.fi/material/attachments/rise/julkaisut-monisteetjaraportit/6FcvDvctb/1_2013_TP_ja_toimintakertomus_2012_korj220313VALMIS.pdf (accessed on 12.2.2014).

3.1.4. Germany

The German inmates are obliged to work or participate in other activities such as training or education. Those who refuse to work may be subject to disciplinary measures. In addition, they do not receive any allowances and are thus, prevented from enjoying the purchase of additional products such as cigarettes, renting a TV, etc.[767]

The stated number of working hours per week is 38.5. However, in practice inmates usually work fewer hours. The wages vary between workers depending on the type of labour and tasks. In a sample of prisons during the 2000s the wages ranged between €30 and €60 per week. In 2007, the average wage was €10.58 per day. For those inmates who earn higher wages, there is a mandatory contribution fee to cover their food and accommodation expenses. In the past, the inmates' salary was 5% from the average normal wage. Following a constitutional court decision in 1998, the wage rose to 9%.[768]

German prisons occupy the inmates in domestic work, which is meant to be performed through rotation and not to become the inmate's permanent occupation. Additionally, German prisons run a prison industry, which constitutes around 40% of all work types. The main products are carpentry, textile, printing, engineering, etc. Some job opportunities are also provided by external contractors. Finally, certain inmates qualify for the self-employment scheme. Since labour schemes vary across the different *Länder* in Germany, it is hard to assess the general profitability of the prison labour. Similar to France, Germany reports some profits, yet their extent is not clear due to different subsidies that are not taken into account. In the area of external contracts, the private companies are obliged to pay comparable wages to those in the free market in order not to impede competition. Nevertheless, even this potential surplus (since inmates receive only small portion of it) is not turning the prison labour to profitable industry. This is the result of signing many unbeneficial contracts just to provide some employment to the increasing number of prisoners.[769]

3.1.5. England and Wales

The work in most English prisons is mandatory. The stated goals of prison labour are rehabilitation, improvement of vocational skills for better employment opportunities in the

[767] Axel Boetticher and Johannes Feest, "German Criminal and Prison Policy" in *Prisoners' Rights* (2008), *supra* note 119, 361-390, p. 381.
[768] *Ibid*., pp. 373, 381; *Why Work* (2007), *supra* note 750, pp. 52-54.
[769] *Why Work* (2007), *supra* note 750, pp. 27-37.

future and finally, contribution to victims' compensations.[770] The reason in some prisons not to oblige all inmates to work is the shortage in job placements. Thus, the workshop managers usually choose the most motivated inmates to employ. Since there is no special incentive scheme, it is hard to motivate prisoners who refuse to work to perform the necessary tasks.[771]

In England and Wales all types of work may be found, domestic, prison industry and contract work. However, the prison industry is the main activity and the products are sold to the internal and the external market. The weekly working hours range from 20 to 30 and are considered to be too short to match the market needs. Inmates in prison industries may earn a wage of around €16 per week, and those who work for private contractors may reach to approximately €96 per week. Domestic workers are paid between €7 and €14 per week, depending on their skills. Due to low level of the wages, there is no mandatory contribution to the prison costs.[772]

The prison industry in England and Wales is often at a loss. For example, in 2003-2004 the prison lost more than €6 million in the textile and clothing industry and around €8.5 million in contracts.[773] Nevertheless, the prison industry system is going through changes in recent years in order to improve its productivity and profitability. A special organisation was established in 2012 in order to attract more private companies to provide employment for the prisoners through contracts with the prisons.[774]

3.2. Summary and Obstacles to a Productive Prison Industry

The general features of prison work in the reviewed countries are summarised in Table 12.

[770] See the UK Government, http://www.justice.gov.uk/about/noms/working-prisons/contributing-and-rehabilitating (accessed on 13.2.2014).
[771] Industries Review Team (2003), *supra* note 751, pp. 16, 19-20.
[772] *Why Work* (2007), *supra* note 750, pp. 27-32, 52-53. Those numbers are based on a sample of prisons in England and Wales during the 2000s.
[773] Industries Review Team (2003), *supra* note 751, pp. 24-25.
[774] See the UK government statement on the aspiration to improve the prison industry, available at http://www.justice.gov.uk/about/noms/working-prisons (accessed on 13.2.2014). For the organisation see http://one3one.justice.gov.uk/home/ (accessed on 13.2.2014).

Table 12: Work in Prisons – Selected European Countries (different years)

Country	Type of Labour	Hourly Wage*	Weekly Hours	Mandatory Work?	Consequence of refusal to Work
Netherlands	Domestic work, prison Industry	€0.64	26	Yes	Confinement to cell, deprivation of rights
France	Domestic work, prison industry, contracts, self-employment	€1.30- €3.80	30	No	-
Finland	Domestic work, prison industry, civil work, self-employment	€0.70-€7.30	35-38	Yes*	-
Germany	Domestic work, prison industry, contracts, self-employment	€1.2 - €1.5	38.5	Yes*	Disciplinary measures
England and Wales	Domestic work, prison industry, contracts	€0.35 - €3.85	20-30	Yes	-

Source: own table based on Section 3.1.
Notes: * The obligation is to participate in one of the activities – work, training, education, etc. ** The wages are estimated and might be not comparable since depicting different years.

An extensive study conducted on prison labour in England and Wales, France and Germany during the 2000s identified common obstacles to efficiency and productivity. Some of those problems are discussed here and may be generalised to other countries.

1. Lack of business orientation and organisational weaknesses – profit making is not seen as a goal of the prison industry, and often those who run the prisons lack the economic and business orientation. In addition, frequently there is a lack of job opportunities, partially due to globalisation and the transfer of low-skilled tasks overseas. This situation leads to the conclusion of non-beneficial contracts in the purpose of just covering the costs of production. Furthermore, prison bureaucracies limit the available budget and prevent risky decisions that are sometimes necessary for a business to develop and profit.[775]

2. Low levels of productivity – the level of productivity of the prison industry is significantly below the market level. It ranges between 15%-40% of the market level. This deficiency is not entirely attributed to the workers' personal characteristics. Other reasons are important. First, there is no proper incentive scheme that would motivate the inmates to exert effort and increase their productivity. The remuneration is too low to constitute an enhancing factor, and there are rarely other benefits in place. Second, due to prison routine (meetings, security checks, etc.) the daily working hours are too short, and often the inmates are interrupted in their work for different reasons.[776]

[775] *Why Work* (2007), *supra* note 750, pp. 39-41, 50.
[776] *Ibid*., pp. 131-132, 150.

3. The prison premises are often not suitable for production. The workshops are too small, the stuff lacks commercial qualifications and the equipment is out-of date.[777]

The following section uses the law and economics approach in an attempt to offer some solutions to the above-enumerated difficulties.

3.3. Suggested Model of Prison Labour

The first step to increase the cost-saving potential of prison labour is to establish a clear goal of the prison industry. Once the aim is clear and there are no conflicting interests between multiple goals, it is possible to improve the structure of the prison. This chapter suggests that the profitability of the prison industry should be the primary goal of prison labour.[778] In modern society there are safeguards for the inmates' human rights, thus ensuring this path would not lead to the exploitation of prisoners and labour extraction. Furthermore, the new structure may benefit those who serve their sentences by providing them meaningful activity and solving the job-shortage problem. In addition, converting the correctional facilities to a prison industry has the potential of bringing closer the working conditions in custody to those of the outside employment market. Consequently, this may serve the rehabilitation principle and improve the prisoners' prospects after release.

3.3.1. The Incentive Scheme: Workers

In prison, as in the private market, the relationship between the prisoner and the employer (the private company or the prison) is subject to the principal-agent problem. The prisoner is hired to advance the objective of the employer in return for a wage or other benefits. Based on the economic approach, inmates, as other people, are utility maximisers and under asymmetric information conditions are motivated by self-interest and try to avoid effort when not monitored or not rewarded for performance. Constantly monitoring the productivity of the workers is a costly method. Thus, the labour contract theory offers to create a compensation scheme that would incentivise the workers to fulfil the employers' goals.[779]

---

[777] *Ibid*., pp. 145-146, 151.

[778] This chapter does not assert that this is the only method to achieve the wished goals. It simply proposes one model based on the law and economics analysis which potentially may reach to better results than the current structure of the prison labour.

[779] For the principle-agent problem in labour contracts see Ann-Sophie Vanderberghe, "Labor Contracts," in *Encyclopedia of Law and Economics*, Boudewijn Bouckaert and Gerrit De Geest eds. (Edward Elgar, 1999), 541-560, p. 549.

3.3.1.1. Early Release/Parole

This chapter suggests using early release or parole[780] as the main incentive mechanism for enhancing work productivity in prison. In other words, prisoners shall receive a right for early release only in exchange for a productive work. The two most prominent current justifications for early release in Europe is reducing the prison population, and decreasing reoffending through better rehabilitation and integration.[781] The first goal is achieved since the period each prisoner actually spends in prison is curtailed. The goal of reduced reoffending is believed to be achieved by releasing the prisoner prior to the end of his sentence and placing him under supervision for a limited period.[782] Currently, many of the European countries practice an automatic or very frequent early release (e.g. Finland, Belgium, France).[783] In Finland for example, around 99% of the prisoners are released on parole. Except for marginal number of exceptionally dangerous violent recidivists, all Finnish prisoners may expect to be released prior to completing their sentence. According to the Finnish law recidivists may be paroled after completing 2/3 of their sentence, and first time offenders are released after serving half of their sentence. Even offenders who are sentenced by courts to serve their sentence in full (serious violent recidivist) in certain circumstances may be released after completing 5/6 of their sentence and at least three years. Furthermore, parole is even available for life prisoners after they served 12 years from their sentence.[784]

The assumption in this chapter is that replacing an automatic early release or parole with an incentive-based release does not necessary harm the above mentioned stated goals (i.e. reduction of prison population and rehabilitation through parole). The prison population may be reduced by imposing shorter sentences ex-ante, rather than shortening them *ex-post*. The usage of parole to supervise and smooth the transformation of prisoners to freedom may also be replaced by a mandatory post-release supervision. During the sentencing stage the judges may impose a mandatory post-release supervision period along with the prison sentence.[785]

---

[780] A prisoner may be released early unconditionally, or some conditions and supervision may be attached to the early release of the prisoners, i.e. parole.

[781] Council of Europe, Committee of Ministers, *Recommendation Rec(2003)22 of the Committee of Ministers to Member States on Conditional Release (Parole)* (2003), available at https://wcd.coe.int/ViewDoc.jsp?Ref=Rec%282003%2922&Language=lanEnglish&Site=COE&BackColorInternet=DBDCF2&BackColorIntranet=FDC864&BackColorLogged=FDC864 (accessed on 19.2.2014).

[782] See for example, Tak (2008a), *supra* note 205, pp. 488-489.

[783] Nicola Padfield, Dirk Van Zyl Smit and Frieder Dünkel eds., *Release from Prison: European Policy and Practice* (Willan Publishing, Cullompton Devon, UK, 2010), pp. 71-74, 136, 169. (Hereinafter: "Release from Prison").

[784] Lappi-Seppälä (2009), *supra* note 356, p. 346.

[785] This is not an extreme suggestion since there are already countries who prolong the parole period (supervision and conditions) beyond the original release date of the released prisoner. See for example, France where the

Working prisoners may complete this period or part of it during their early release. Those who refuse to work or fail to exert effort in their work would complete this supervision period after their release. In addition, in order not to impose unnecessary costs on the state by providing supervision to released prisoners who no longer need it, the probation office may have a discretion power to shorten this period. Finally, prisoners who are objectively unable to perform work, should be incentivised in the same way to participate in different rehabilitation and education programmes. This would keep them occupied during their sentence, provide them with some knowledge and avoid discrimination in the opportunity to receive early release/parole.

It seems that the current automatic early release or parole wastes the potential this mechanism has as an incentive. In a recent paper, Mitchell Polinsky demonstrated using an economic model, that it is always desirable to reward good behaviour of prisoners using the reduced sentence. There is double saving of costs using this incentive scheme. First, it is less costly to maintain a prison where inmates behave well. For instance, when prisoners breach prison rules and behave violently, there are additional costs to control them. Second, once the sentence is reduced, the costs of imprisonment are decreases. In addition, Polinsky asserts that deterrence is not harmed due to the shorter incapacitation since there are costs of compliance when the prisoner exercises an effort to behave well.[786] These results may be extended to the rewarding of inmates' productive work. First, if prisoners work and exert effort to increase their productivity, the profits from their work increase, thus, contributing to the prison budget and reducing prison costs. Second, the costs of controlling prisoners are reduced the more inmates are involved in work. This might be due to the fact they are too occupied during the working hours and too tired afterwards to behave violently and oppose guards.[787] Third, the prison costs are reduced when the custody sentence is shortened and prisoners are released prior to completing their sentence. Finally, if inmates are provided with working skills and prepared for employment after their release there are additional saved costs. Those prisoners might reoffend less, thus, reducing the costs of crime. In addition, they would pay taxes from their wages and contribute to the state budget. Employed offenders also rely less on state support.

---

supervision may be prolonged one year after the original date of release. *Release from Prison* (2010), *supra* note 783, p. 175.

[786] Mitchell A. Polinsky, "Deterrence and Optimality of Rewarding Prisoners for Good Behavior," (Working paper 2013), pp. 4, 9-12.

[787] *Why Work* (2007), *supra* note 750, p. 15.

In order to increase the effectiveness of parole/early release as an incentive mechanism for work productivity, insights from the behavioural law and economics approach may be used. The most relevant bias is the "endowment effect". Contrary to the predicted behaviour by economists, people tend to attach different values to the goods or rights they possess as compared to those which are not in their endowment.[788] One famous experiment illustrating this effect randomly distributed coffee mugs among a group of subjects. Half of the group were potential sellers (the subjects endowed with the mugs) and the other half consisted of potential buyers. The results demonstrated that the willingness of the owners to accept was on average twice larger than the willingness of the buyers to pay.[789] The explanation for this phenomenon may be found in the prospect theory introduced by Daniel Kahneman and Amos Tversky. The authors demonstrated that risk preferences are not constant across people. The framing of the choice affects the risk attitude of the decision maker. What matters in particular is that this theory suggests that the aversion towards a loss is stronger in magnitude than the satisfaction from a gain.[790] In the context of the abovementioned example, the owner perceives the selling of the good as a loss (from his endowment). The buyer, on the other hand, perceives the transaction as a gain (addition to his endowment). Therefore, the price the owner attaches to his good is higher than the one the buyer is willing to pay.[791]

In the context of this chapter it is offered to introduce the early release/parole as an endowment for all sentenced offenders.[792] Namely, once the offender enters a prison, he receives a right, i.e. a new release date, which is earlier than his original release date, imposed by the court.[793] In return, the offender commits himself to work where placed and provide a certain level of productivity. This level would be adjusted according to the specific task and clearly stated for the offender. If the inmate refuses to work he loses his endowment. In case the inmate works, yet does not meet the productivity level expected from him, his early release is shortened by a clear method of calculation. For example, for each day of unjustified absence from work, a constant portion of the early release is subtracted. Or for each day the inmate unjustifiably produces less than the agreed quantity or quality, a portion of his endowed early release is subtracted. The productivity expectation should be realistic, adjusted

[788] Thaler (1980), *supra* note 33, p. 44.
[789] Kahneman, Knetsch and Thaler (1990), *supra* note 32, pp. 1330-1332.
[790] Kahneman and Tversky (1979), *supra* note 33, p. 279. Another important finding of this theory is that people are risk-averse when facing gains, and risk seeking when facing losses.
[791] Kahneman, Knetsch and Thaler (1990), *supra* note 32, p. 1328.
[792] Some especially dangerous offenders, and prisoners sentenced to life imprisonment may be excluded from this scheme.
[793] The early date can also be given by the court in the sentencing stage.

to the prisoners' ability and stated clearly to him prior to the commencement of the work. Furthermore, in order to maintain a sense of fairness and to avoid arbitrary decisions, the system of calculating the portion of the subtracted period based on productivity should be clear and stated in advance. Due to the endowment effect, such a system might provide stronger incentives for inmates to work and increase their productivity. Since the right for an early release is given them from the beginning, shortening this period would be perceived as a loss. Thus, the disutility experienced by the inmates would be stronger in this case than the satisfaction from gaining the early release following a productive work. Consequently, they might be more motivated under this scheme to increase their work productivity. This incentive mechanism might align better the actions of the agents (workers) with the goals of the principal (prison/private contractor).

Currently, most of the European jurisdictions do not attach the right for early release/parole to work. Some exceptions exist. France for example, has almost automatic early release. In addition, they offer an extended period of early release to prisoners who participate in one of the offered activities (rehabilitation programmes, work, etc.).[794] Germany does not have an automatic early release or parole. However, prisoners who are working more than a year are entitled for leave days. They may waive this right and receive these days as an early release.[795] Nevertheless, to the best knowledge of the author, none of the countries conditions the early release on work productivity while using it as an endowment.

3.3.1.2. Payment Structure

Another method to induce workers to exert effort when monitoring is costly and high wages are not available, is connecting the payment to the worker's input. Piece-rate pay (based on performance) is one such method. Under this scheme the wage of the worker is directly correlated with his productivity. This system is efficient since it reduces monitoring costs while incentivising the employee to work well. Nevertheless, in practice this scheme is rare and most of employees are paid for their time, either fully or partially. There are two reasons not to choose the incentive based schemes. First, output is sometimes hard to measure. Second, this scheme is risky since the employee might find himself without any earnings. Therefore, risk-averse employees would demand a higher income in order to bear this risk.[796]

[794] *Release from Prison* (2010), *supra* note 783, p. 174.
[795] Boetticher and Feest (2008), *supra* note 767, p. 381.
[796] Vanderberghe (1999), *supra* note 779, p. 550.

In the context of this chapter, a piece-rate pay may be a desirable scheme. First, as has been described in Section 3.1, many of the areas chosen by the prison industry include production of goods. In this case there is a possibility to measure the worker's output and pay him per piece he produces. In fact, such an incentive-based scheme is already practiced in some of the European prisons.[797] Second, if the prisoners are on average more risk-taking individuals than the general population, then they might be favourable of a risky payment scheme that enables them to increase their income by working harder. In addition, since the wages in prison are on average lower than in the free market, the piece-rate scheme might improve the feedback system of prison work. By earning more for additional effort, the prisoners are signalled that their work is valuable.[798]

With regard to the level of payment, there should be a scale of wages. The first level is contracted work. Inmates working in this field might be required to be more skilled and have a strong work motivation. The wages paid by the private companies should be comparable to those performing the same tasks in the free market (subtracting the lower level of skills if necessary). This would ensure fair competition for the "free" workers. The second level is the prison industry. Inmates working in prison workshops would receive somewhat lower wages than from private companies. This work requires some skills and motivation, yet the prison industry takes very high risks since the pool of workers consists only of prisoners currently serving their sentence and there are costs of adjustment to those conditions. The third level of payment is the lowest and intended for performing domestic tasks. This work is less demanding since it does not have to comply with the free market pace. The prisoners would be allowed to apply for the work they prefer[799] from the pool of tasks and will be assigned to each job based on their qualification, motivation, experience, etc. Prior job experience and

[797] *Why Work* (2007), *supra* note 750, p. 34.
[798] For the importance of demonstrating the value of the prisoners' work see *Why Work* (2007), *supra* note 750, p. 54.
[799] One of the limitations of such system is the complexity and the hierarchical structure of the prison population. In each prison, some inmates are stronger and some are weaker. Usually the weaker group is subject to the suppressive behaviour of the stronger group. This structure might lead to the situation where the weak inmates apply only for the less paid jobs since the stronger inmates do not allow them otherwise. Although it is a problem, it should not serve as a justification to exclude the suggested model. First, even if the weaker group would be working in the less skilled tasks, they would benefit from the early release as long as they exert effort. Second, the stronger group would not by default receive the better opportunities since it is still conditioned on skills and qualifications. Third, this structure creates problems in other areas as well, yet does not preclude different prison policies. For instance, under the current structure of the prison labour there are sometimes limited places of prison work (see Section 3.1). This provides the opportunity for the stronger group to dominate those activities on the expense of the weaker groups. Nevertheless, this does not serve as a reason to cancel prison work for all inmates.

education should be taken into consideration to utilise the prisoners' capacities and productivity.

Work should be combined with vocational training that would improve the workers' skills and enable them to be assigned to better positions. The incentive for participating in these programmes would be the prospect of being employed with a higher-level wage. This method of incentive is less costly than the one currently employed in different European jurisdictions that pay the inmates for participating in the programmes (e.g. Finland, France). In addition, it has relatively swift benefits since a successful completion of training programmes improves the salary prospects of inmates in prisons. This incentive might be stronger and more certain than the hope that this programme would improve the employability of the prisoner after release.

All wages should be subject to subtractions. The "California Joint Venture Programs" (see Section 3.3.2.) might serve as a model. First, prisoners pay a proper income tax (only the first level of income since it is high enough). Next, from the net wage 20% would be paid to the prison for the inmate's maintenance fee; 20% would be used to cover the prisoner's fine or victim compensation; the family of the prisoner would receive 20% of the wage; another 20% would be saved each month in the prisoner's savings account which becomes available to him upon his release; and finally, the remaining 20% of the salary may be used by the prisoner in custody for purchasing different goods or used in other (legal) ways the inmate chooses.[800]

3.3.2. The Incentive Scheme: Private Firms

The managers and owners of private firms are also self-interest maximisers and motivated by the profitability of their business. Thus, it is necessary to structure a system of incentives that would make the employment of prisoners beneficial for those corporations. Mere appeal to the social desirability of cooperation with prisons may not be enough to induce firms to contract prison labour if it is not profitable.[801] Two methods to increase the number of companies interested in using prison labour are presented here.

[800] See Joint Venture Program, available at http://jointventureprogram.ca.gov/wages/ (accessed on 20.2.2014).

[801] It seems that in Europe not many countries offer substantial incentives for private companies to use prison labour. However, there is an attempt to stress the social importance of such contracts in order to increase cooperation of the private market with prisons. See for example, the British organisation "one3one solutions", available at http://one3one.justice.gov.uk/a-fair-approach/a-message-from-the-pm/index.html (accessed on 20.2.2014). See also *Why Work* (2007), *supra* note 750, p. 149, mentioning that companies prefer to employ the handicap population rather than prisoners since for the former they receive tax benefits and for the latter no.

3.3.2.1. Indirect Incentives

The profitability of a firm depends greatly on consumers' preferences. The larger is the portion of the population which choses their products or services, the greater is their potential for a surplus. Therefore, the first suggested strategy for the state is to organise a campaign targeting the public's preferences. The idea of promoting certain social goals through products is not novel. One example is the *Fairtrade International* organisation. One of the aims of this institution is to promote the purchase of products produced in third world countries by people struggling to improve their life.[802] A similar idea might be adopted in the context of this chapter. Products and services provided by the prisoners might be branded with a unique label, for example "*BetterPath Products*". In the next step the state might increase the awareness of the public to the benefits of purchasing these products and promoting companies who work with prisons. The main advantage, which should be emphasised, is the reduction of crime. It should be stressed that providing prisoners with work in prison may improve their employment opportunities after release. Working ex-prisoners are less prone to return to crime and provide contribution to society through taxes. Other benefits such as decreasing the costs of operating prisons should be also mentioned. Such benefits reduce the burden on the taxpayers while providing the inmates with the opportunity to assist in financing their sentence.

If the campaign would raise the public sense of social contribution, the demand for the *BetterPath Products* might increase. Where there is a demand, the market would provide a supply. Consequently, more private companies would be interested in contracting prison labour. Market competition for these contracts might improve the conditions and wages of prisoners, and in turn, the income of the prison.

3.3.2.2. Direct Incentives

The California Joint Venture Programs may serve as an example for an incentive structure for private businesses to cooperate with prisons. In 1990 California passed Proposition 139 in a referendum that changed the state constitution in the context of prison labour. Prior to this proposition, prison labour could not be contracted with private companies, and prison industries could sell only to state bodies. Consequently, there was a shortage of jobs for inmates. The proposition enabled contracting with private companies and offered the "Joint

[802] See Fairtrade International statement of benefits available at http://www.fairtrade.net/benefits-of-fairtrade.html (accessed on 20.2.2014).

Venture Program". In addition, it numerated the different benefits, which may be offered to the companies that choose to employ prisoners.[803]

Currently the Joint Venture Program offers three models of contract. (1) The Employer Model. Under this contract, the employer has full control of the inmates, hiring and firing, supervising and training, and the payment is for the inmates' work. (2) Customer Model. A governmental entity is in charge of the inmates, their work and the operation of the business. The private company purchases only the output of the prisoners. (3) Manpower Model. This contract is a sub-model of the customer model. The private company pays an agreed amount to cover the costs of labour and provide profit for the prison industry.[804]

The following benefits are offered for the companies who lease prison labour. Rent of prison premises below market price; 50% discount on workers' compensation insurance; no requirement to pay inmates' employment benefits (medical care, vacation, sick leave, etc.); state tax credit equal to 10% of the wage paid to each prisoner.[805]

Similar incentive structure may be adopted in European countries. Some concerns may rise following this suggestion. First, the benefits for the prisons might be offset by the loss from the taxes. However, providing the abovementioned benefits reduces the variable costs of a firm. Consequently, new firms, which previously did not meet the costs demand, may enter the market and increase the tax revenue of the state. Second, it may be asserted that such benefits create unfair competition between inmates and "free" workers. A possible reply for this is that due to globalisation some portion of jobs was in any case transferred abroad for less costly labour.[806] Therefore, some of these works may be returned to the countries by employing instead inmates with lower expenses.[807] In addition, it is not evident that such a system indeed would have a significant impact on the "free" employment. Thus, this chapter suggests adopting it, and future difficulties may be dealt with other methods in case they appear.

Overall creating an incentive scheme to attract companies to invest in prison labour is an important step. Prisons are not always located in the most favourable places, the inmates are often less skilled than the general population, the security measures taken in prisons might

[803] Proposition 139. Prison Inmate Labor. Tax Credit. Initiative Constitutional Amendment and Statute (1990).
[804] Joint Venture Program, available at http://jointventureprogram.ca.gov/Program-Models/ (accessed on 20.2.2014).
[805] Joint Venture Program, available at http://jointventureprogram.ca.gov/Benefits/ (accessed on 20.2.2014).
[806] See for example, *Why work* (2007), *supra* note 750, p. 148.
[807] The same counter argument was provided in California as a response to the unfair competition argument.

constitute another burden on private companies. Therefore, it may not be expected from profit-maximising organisations to enter contracts with prisons without clear advantages of such labour over the free market labour. Nevertheless, increasing the commercial relationships between the private market and prisons has a great potential to improve job opportunities for inmates, and provide them with more interesting tasks and higher wages.

The abovementioned indirect and direct incentives may increase the interest of private companies in cooperation with prisons. In this case, the demand for prison labour might exceed the available working prisoners, thus solving the shortage of jobs described in section 3.1. Furthermore, this change would provide the state with the opportunity to use auctions. In economics, the auction is considered an efficient instrument to allocate the good to the agent who values it the most.[808] This method might increase prison profits since market competition and the consumers' demand for the *BetterPath Products* may induce more companies to apply for a contract with prisons. To overcome the competition, the private businesses would try to offer better conditions of the contract and increase its profitability for the prisons.

3.3.3. Other Methods to Increase Prison Labour Productivity

Aside from incentive schemes, other methods may be adopted to improve the productivity of the prison labour and increase its profitability. The current section discusses some of those methods.

3.3.3.1. Increasing the Working Hours through Shifts

Sections 3.1 and 3.2 demonstrate that the working day is too short, usually significantly shorter than in the private market, and constitutes one of the reasons for the low productivity of prison industries. Therefore, it is suggested to introduce in the workshops 2 shifts of work approximately 6 hours each. In order to utilise the resources, the morning shift may be occupied by prisoners from one department and the evening shift - by prisoners from a different wing. This way, fewer guards need to be employed to supervise the inmates when they are not in the workshops. Furthermore, in order to save time on moving and security examinations, the meals may be served in the workshops. Different appointments and visits should be adjusted to the working hours not to interrupt the continuity of work.[809] Increasing the daily working hours of the prison industry to 12 hours, improves the productivity, accelerates the output and provides job placement for more offenders. In addition, such a

[808] See Willian Vickrey, "Counterspeculation, Auctions, and Competitive Sealed Tenders," *The Journal of Finance* 16(1) (1961), 8–37.
[809] The prison routine often wastes crucial working hours, see *Why Work* (2007), *supra* note 750, p. 99.

change would justify an investment in better technology since it would be extensively used. In some prisons, where inmates are willing, a night shift may be added and the workshop may be available all around the clock. Such a system might be appealing for private companies who are interested in producing large quantities and swiftly, or providing around-the-clock service.

Dividing the working day to shifts provides the inmates with sufficient time, after or before the shift, to participate in vocational training and educational programmes in order to improve their skills. Those skills may later on be practiced while working.

The introduction of multiple shifts is not the rule in prison industries across Europe. Nevertheless, some exceptions may be found. For instance, during the 2000s, one workshop in the prison B. JVA Straubing in Bavaria practiced two shifts a day, and workers were even employed every second Saturday. The workshop, which was run by a large German engineering company, was considered to be profitable and to provide valuable training for the prisoners.[810] In England and Wales, HMP Randy prison even employed a small number of prisoners during the night shift.[811]

3.3.3.2. Expansion of the Working Force

Some products require not only their creation but also their assembly and installation outside the prison. To enable the prison industry to penetrate such markets it is suggested to create a continuous cooperation between the prison industry and community service. There should be one centralised body in charge of the execution of the prison sentence and the community service, e.g. the Prison Service. Under this body the prison workshops employing inmates, may produce the products, and the offenders serving their punishment in community service may install those products in the requested sites. This suggestion may expand the production prospects of the prison and increase work opportunities both for inmates and for offenders serving community service.

Rare examples of such production and distribution may be found in some of the European prisons. For instance, one of the German prisons produced computer furniture that required installation outside the prison. For this purpose the prison used inmates who are closer to their release in order to execute the task outside the institution.[812] Furthermore, in 2000, one British

[810] *Ibid*., pp. 92-93.
[811] Industries Review Team (2003), *supra* note 751, p. 22.
[812] *Why Work* (2007), *supra* note 750, p. 91.

prison managed a project where the inmates produced steal gates and offenders sentenced to community service installed it in premises outside the prison.[813]

3.3.3.3. Changing the Structure of the Prison Industry

Once the goal of the prison labour is set to be profitability, the manager of this institution needs to be a person with management and business orientation. Such a person may for instance, understand better the market and adjust when necessary to its dynamics and changing demand. In addition, his remuneration should be attached to the productivity of the prison work in order to incentivise him to make better decisions. In order to maintain profitability without endangering the other goals of prison (e.g. security) the management might be given to a small group of people who would consist of professional managers on the one hand, and public officials on the other hand. This may ensure the proper balance between profitability and other prison goals.

Initial capital should be invested in prison infrastructure to obtain the proper equipment and technology, which may pay for itself once the prison starts to profit. When building new prisons, the industry goals should be taken into account and proper facilities should be added. The prison labour ought to be able to meet the market demand in order to be an attractive source of workers and products.

3.3.3.4. Tax Exemption

It is offered to exempt prisons from taxes applying to similar industries (i.e. corporate income tax). Prisons receive their yearly budgets from the state. Therefore, paying taxes by prisons, which later on receive these taxes in the form of their budgets, constitute unnecessary transaction costs. Nevertheless, in order not to harm fair competition between the prison industry and similar private industries it should be regulated that the taxes are taken into account artificially in the production costs when deciding on the price. In other words, the taxes which are supposed to be paid, but are not, added to the costs when deciding on the price. This way the price is not subsidised and is not favourable comparing to the private market. On the other hand, the surplus generated by this calculation increases the profit of the prison, covers additional prison costs and reduces the dependence on the state budget.

[813] *Ibid*., p. 113.

3.4. Possible Explanations for the Resistance to Profitable Prison Industry

The idea of prison labour as such is not contested in most countries and is widely implemented. However, there is a resistance to setting profit as the main goal of this labour. Explanations for this objection might be found in social, legal and political motives.

First, employing prisoners to "extract" profit might be associated with the forbidden activity of forced labour. Forced labour is banned by article 8 of the International Covenant on Civil and Political Rights 1966 (hereinafter "Labour Convention").[814] However, the proposed labour during the imprisonment sentence is not forced but voluntary. Although the scheme presented in Section 3.3.1.1 deprives non-working prisoners from early release, this should not be perceived as coercion. Early release is not a given right but a privilege. The court decides on the adequate punishment for the offender based on the crime and the criminal's circumstances. The offender has the obligation to perform this sentence in full. Releasing him early, is a "prize", thus, its deprivation should not be perceived as a "punishment". In addition, this chapter suggests that all the working prisoners will be paid. This element once again weakens the argument of forced labour. Finally, the definition of forced labour in the Labour Convention does not include prison work. Article 8(3)(b) of the Labour Convention refers to labour in the course of punishment for criminal act as an exception to the restrictions of this convention.

The second reason for objecting a profit as the main goal might be the concern that prisoners will be exploited and their human rights violated in order to increase the revenue. Examples of such cruel exploitation may be found in the US practice of prison labour during the 19th and 20th centuries.[815] In the past, prisoners were "rented" to private firms which deprived them from their basic rights and forced them to work long and hard hours for free. This concern should not be taken lightly. However, times changed and currently prisoners enjoy from a broad set of protections. They usually have constitutional rights and may challenge wrong treatment in constitutional courts or even in the European Court of Human Rights. In addition, in many countries there is an ombudsman to whom the prisoners may turn in case of violation of their rights. Finally, different human rights groups act in order to reassure that prisoners' rights are protected. Consequently, setting profit as the goal of prison labour would

[814] For the convention see Office of the United Nations High Commissioner for Human Rights, available at http://www2.ohchr.org/english/law/ccpr.htm (25.06.2012).
[815] Browne (1996), *supra* note 752.

not necessarily lead to exploitation. With the right regulations and balanced supervision, the rights of prisoners will not be violated.

Moreover, setting profit as the core goal of prison labour may resolve the problem of conflicting goals. Nowadays, there are different aims of such practice (rehabilitation, security, economy, etc.) that sometimes create confusion and inefficiency.[816] If profit will be the goal of prison labour, different changes may be introduced (as suggested in the previous sections). This may increase the efficiency of the prison industry and at the same time promote other goals. For instance, work as an instrument for rehabilitation may be more effective if the employment conditions are similar to those in the outside market. In order to train and prepare the inmates to future employment, they ought to act in an environment that resembles the outside market. Turning the prison industry to profit-maximising organisation would introduce similar incentives to those of private firms. If prisoners would be trained to meet market demands and work under proper incentives, they might be more attractive for those private firms after their release.[817]

Furthermore, some anecdotal evidence suggests that inmates themselves support prison labour. Although even under the current structure they might be deprived of certain rights in case they refuse to work, employment inside prison is not perceived negatively. In fact, inmates prefer to occupy themselves with work and receive some payment for this rather than stay idle in their cells.[818]

A third plausible reason for the objection to profitable prison industry might be political. Some interest groups, in particular the labour unions, may oppose this practice. Labour unions resisted the expansion of the prisons industry in the US, and might be the ones to resist it in Europe. Prisoners are viewed as "cheap" labour that introduces unfair competition to the free market. This might crowd-out the "free" workers. However, as discussed before, the globalisation trend has already introduced competition of cheap labour abroad. In addition, prisoners are disadvantaged group on the one hand, and receive salaries on the other hand. Therefore, their employment should not be regarded as unfair competition.

---

[816] *Why Work?* (2007), *supra* note 750, pp. 147-148.

[817] A possible argument might be that from the beginning the inmates are in prison since they could not properly act in the outside environment. One response is that the prison has a higher level of discipline than the market outside. In addition, besides the prison labour, this institution provides also other types of care that those inmates might need (counselling, mental health, rehabilitation from drugs programmes, etc.) Therefore, responding better to the needs of the prisoners and enabling them to acquire skills to improve their opportunities outside.

[818] *Why Work?* (2007), *supra* note 750, p. 128.

4. Concluding Remarks

In the law and economic literature, prison is considered the most costly sanction. It obliges the state to invest resources in accommodating offenders and limiting their freedom. On the other hand, it does not provide direct tangible benefits like fines do. However, a custodial sentence is an important element of the modern criminal justice system. Currently, it is an inevitable sanction that enables incapacitating undeterrable offenders, or provides higher costs of crime for those who still may be deterred from committing crimes.

Nevertheless, prison costs and the burden on the taxpayers may be reduced. This chapter discusses different methods to achieve this goal. First, prison privatisation may be a cost-effective solution to incarceration. It seems that the current use of private providers to construct and manage prisons is limited and there is a room for expanding this practice in Europe. Countries should not be deterred by the private prisons solely based on the ideological argument that restriction of liberty is a matter of state. Outsourcing the prison management to private parties does not mean surrendering the power and the obligation of the state for those prisoners.[819] The state remains involved and accountable for the offenders, and it is plausible to design carefully the private contracts in a way to assure human rights and proper conditions for the prisoners. In addition, it should be remembered that public prisons are also not immune to abuse of power and cases of violation of human rights. Therefore, the question should not be who in practice manages the correctional institutions, but what are the incentives and the degree of accountability in those prisons.

The current experience with private prisons offers some insights to the cost-effectiveness of this practice, yet more robust research is needed to compare private with public providers. In general, there is a potential to reduce costs without tempering the quality of the prison services. However, there is a space for improvement, mainly in the context of incentives provided to the private prisons. Contracts should take into account and mitigate the principal-agent problem. Proper incentive ought to be introduced in order to align the interests of the public, represented by the state, and the private providers. This way the cost-effectiveness of private prisons may increase.

Prison labour is another method to reduce imprisonment costs. However, unlike prison privatisation, this concept is already established in the European countries. Therefore, there is a fundamental acceptance of prison labour as part of the activities provided by prisons.

[819] Hardin (2001), *supra* note 634, p. 266.

Nevertheless, this chapter suggests to revise the prison industry's goals and to restructure the incentive schemes practiced in prisons. To be precise, profit shall be the main aim of the prison industry. Different instruments should be employed to introduce incentives for the inmates to productively work, and for the private companies to employ them.

The above-mentioned solutions are not mutually exclusive and in fact, may be combined. Correctional institutions do not have to be the place where human capital deteriorates, but where it is built and used for good purposes. With the right conditions and management, prison industry may prosper while providing benefits both for the public and for the offenders. This may be combined with prison privatisation that has the potential for innovation and improvement of the prison system as a whole. In case there is a concern delivering entirely the authority over prison labour to the private market, cooperation between the public and the private sectors may be advanced. The private firms would built the prisons and manage them and the state would be responsible for the work and training provided for the inmates. This type of cooperation may remove the concern that profit-maximising corporations exploit the inmates' labour force.

Appendix 3

Table 13: Private Prisons in England and Wales – 2014

Year of contraction	Name of Prison	The Private Operator	Type of Private Involvement
1994	HMP Doncaster	Serco Custodial Services	Managed
1997	HMP Altcourse	G4S Justice Services	Design, Construct, Manage, Finance (PFI)
1997	HMP/YOI Parc	G4S Justice Services	Design, Construct, Manage, Finance (PFI)
1998	HMP Lowdham Grange	Serco Custodial Services	Design, Construct, Manage, Finance (PFI)
1999	HMP Ashfield	Serco Custodial Services	Design, Construct, Manage, Finance (PFI)
2000	HMP/YOI Forest Bank	Sodexo Justice Services	Design, Construct, Manage, Finance (PFI)
2001	HMP Dovegate	Serco Custodial Services	Design, Construct, Manage, Finance (PFI)
2001	HMP Rye Hill	G4S Justice Services	Design, Construct, Manage, Finance (PFI)
2004	HMP Bronzefield	Sodexo Justice Services	Design, Construct, Manage, Finance (PFI)
2005	HMP Peterborough	Sodexo Justice Services	Design, Construct, Manage, Finance (PFI)
2010	HMP Thameside	Serco	Design, Construct, Manage, Finance (PFI)
2012	HMP Birmingham	G4S Justice Services	Managed, transfer from public sector
2012	HMP Oakwood	G4S Justice Services	Managed
2014	HMP Northumberland	Sodexo Justice Services	Managed, transfer from public sector

Source: own table based on Ministry of Justice (UK), available at https://www.justice.gov.uk/about/hmps/contracted-out (accessed on 19.3.2014), and Tanner (2013), supra note 648, pp. 22-23.

Chapter 6 "*Anywhere Anytime*": Ambiguity and the Perceived Probability of Apprehension[820]

1. Introduction

The deterrence theory emphasises two elements that increase the costs of crime, severity of punishment and certainty of its execution.[821] As shown in the introductory chapter of this thesis, empirical evidence largely supports the concept of deterrence and discusses the effectiveness of severity and certainty of punishment. According to those studies, the deterrence effect mostly attributed to the probability of punishment, rather than to its severity.[822] Consequently, there is a large scope for savings in this element and providing a more cost-effective sentencing system. For this reason, the previous chapters dealt with the topic of punishment and the methods to reduce its costs without harming the deterrence effect. Nevertheless, savings may be made also in the second element, i.e. certainty of punishment. Thus, the focus of this chapter is to discuss one method to increase the costs-effectiveness of crime apprehension.

Some empirical studies on the deterrence effect of criminal justice system concentrate particularly on police importance. Those studies demonstrate a significant deterrence effect due to police force presence.[823] Taking into consideration the significant costs of police services[824], policy implications of the abovementioned evidence are a challenging task.

---

[820] This chapter is based on my paper "Any-where any-time: Ambiguity and the Perceived Probability of Apprehension," *UMKC Law Review* 84(1) (2015, forthcoming). I would like to thank Jonathan Klick, Jeffrey Rachlinski, Christoph Engel, Louis Visscher, Alessio Pacces, Michael Faure, Paul Mevis, Giuseppe Melis and Qi (George) Zhou as well as participants of the European Association of Law and Economics (EALE) conference, and of workshops and faculty seminars at Erasmus University Rotterdam and University of Hamburg for their helpful comments. In addition, I wish to thank, Katherine Hunt and Anna Barbanti for their assistance with the survey. I gratefully acknowledge the financing support by *Vereniging Trustfonds Erasmus Universiteit Rotterdam*. Special thanks go to Jaroslaw Kantorowicz for all the helpful suggestions and support. All possible mistakes remain, however, my own.

[821] As discussed in the introductory chapter, probability of punishment consists of the probability to be apprehended and punished.

[822] Dölling, Entorf, Hermann and Rupp (2011), *supra* note 20.

[823] See for example, Jonathan Klick and Alexander Tabarrok "Using Terror Alert Levels to Estimate the Effect of Police on Crime," *Journal of Law & Economics* 48(1) (2005), 267-279; Jonathan Klick and Alexander Tabarrok, "Police, Prisons, and Punishment: the Empirical Evidence on Crime Deterrence," in *Handbook on the Economics of Crime,* Bruce L. Benson and Paul R. Zimmerman eds. (Edward Elgar Publishing Inc., Massachusetts, USA 2012), 127-143, pp. 127-136; Rafael Di Tella and Ernesto Schargrodsky, "Do police reduce crime? Estimates Using the Allocation of Police Forces after a Terrorist Attack." *American Economic Review* 94(1) (2004), 115-133; Mirko Draca, Stephen Machin and Robert Witt, "Panic on the Streets of London: Police, Crime and the July 2005 Terror Attacks," *American Economic Review* 101 (2011), 2157–2181.

[824] See for example, Klick and Tabarrok (2005), *ibid*, p. 267, where the authors state that the US expenditure on police is over $65 billion per year. The latter is more than one third of the expenditure on education.

Implementing constant police surveillance would be a burden on the country's budget, especially in light of the recent EU debt crisis. Furthermore, this kind of policy possibly will have high social costs. Namely, the law-abiding citizens might sense discomfort from having constant police presence. On the other hand, increasing police force only to a limited extent might lead to a displacement effect. In light of the current circumstances there is therefore a need to design an enforcement mechanism that remains effective without a significant increase in the enforcement costs.

Hence, based on insights from behavioural law and economics, this chapter discusses detailed policy changes that might enhance the deterrence effect without significantly increasing the given resources. In addition, it includes an in-depth analysis of possible challenges of this policy and offers solutions. The suggested policy consists of two steps.

The first step is to introduce ambiguity into the probability of detection. This proposition is based on empirical evidence suggesting that people are averse to ambiguity, thus, in some circumstances they are deterred better by random probability of detection.[825] One way to achieve this is, for example, by introducing random patrol projects. To be precise, the police department ought to send police force patrols to problematic and "normal" areas on random dates. Inasmuch as those patrols are random, criminals would not be able to calculate the probability of detection. Namely, if without these random patrols the criminal has the possibility to know his risk of being detected, the new enforcement system would make it impossible to anticipate the chances of being caught. For instance, prior to this policy the criminal believes he has 20% chance of being caught committing theft, whether based on clearance rates of previous years, or his and his acquaintances' experience. Following the introduction of the new random patrols, he will not be able to make any estimation.

The second step of the policy is to make those random patrol projects salient and highly publicised. This chapter provides new evidence, based on a recently pursued survey by the author in the area of tax policies in Italy, that potential violators have bounded rationality and

[825] Lawrence W. Sherman, "Police Crackdowns: Initials and Residual Deterrence," *Crime and Justice* 12 (1990), 1-47; Alon Harel and Uzi Segal, "Criminal Law and Behavioral Law and Economics: Observations on the Neglected Role of Uncertainty in Deterring Crime," *American Law and Economics Review* 1(1/2) (1999) 276-312; Tom Baker, Alon Harel and Tamar Kugler, "The Virtues of Uncertainty in Law: An Experimental Approach," *Iowa Law Review* 89 (2004), 443-487; Thomas A. Loughran, Raymond Paternoster, Alex R. Piquero and Greg Pogarsky, "On Ambiguity in Perception of Risk: Implications for Criminal Decision Making and Deterrence," *Criminology* 49(4) (2011), 1029-1061. Ambiguity aversion was already discussed in Chapter 3 in the context of the "secondary enforcement system". The focus there was on tax evasion studies, whereas this chapter emphasises the evidence for the deterrence power of ambiguous probability in the context of "regular crimes.

limited knowledge of policy changes. Forasmuch as the awareness of the criminal to the new random detection is crucial to its success, this chapter suggests using the availability heuristics to increase this awareness. According to the latter, saliency of an event, increases its perceived frequency.[826] Thus, covering the random detection methods in the media, and publicising them through other channels, would increase criminals' awareness of the vague probability of apprehension. This policy, in turn, might enhance the deterrent effect by making potential offenders aware that they are acting in an entirely uncertain environment.

The existing literature on ambiguity aversion, although briefly mentioning possible policy implications, does not investigate in depth the structured policy changes that would use ambiguity. In addition, those studies do not discuss the bounded rationality of potential offenders that makes them less informative. Lack of awareness of the new policy of ambiguity might significantly impede its effectiveness in deterring crime, thus this problem should be addressed. This chapter attempts to fill these gaps.

Ambiguity was already discussed in Chapter 3 in the context of day-fines. This chapter is more theoretical and attempts to analyse how the application of ambiguity may be broadened to other stages of the criminal justice system. It is interesting to see whether ambiguity may increase the cost-effectiveness of the enforcement authorities.

This chapter is structured as follows. Section 2 discusses the empirical evidence for deterrence. Section 3 presents the suggested changes to the detection policy. Possible limitations are addressed in Section 4. Finally, Section 5 presents concluding remarks.

2. Probability of Apprehension

The empirical literature reviewed through this thesis largely supports the deterrence theory. Furthermore, a number of empirical studies were able to isolate the effect of increased police protection on the number of committed crimes. Those studies show an important deterrent effect which is achieved by increasing the police presence and the probability of detection.[827] Some of these studies exploited the changes in police presence, which resulted from terrorist attacks. Using empirical methods, those studies demonstrated a significant negative effect of police presence on crime. Although the effect is investigated in different countries, the authors reached similar conclusions.[828] An additional study, by John MacDonald, Jonathan Klick and

[826] Amos Tversky and Daniel Kahneman, "Availability: A Heuristic for Judging Frequency and Probability," *Cognitive Psychology* 5 (1973), 207-232.
[827] See the studies mentioned in *supra* note 823.
[828] Klick and Tabarrok (2005), *ibid*.; Di Tella and Schargrodsky (2004), *ibid*.

Ben Grunwald, provided evidence for the long-term effect of an increased police protection on crime, across most crime categories.[829] This is an important step in analysing the crime control system since previous studies have not been able to demonstrate this effect and some even presented a positive correlation between crime rates and the size of the police force.[830]

The growing empirical literature supporting the effectiveness of police in deterring crime strengthens the rational to use this kind of crime control policy. However, there are two main limitations of such policy. First, increasing the presence of police in a significant manner imposes considerably high tangible costs on enforcement authorities. All the more so, in the face of findings suggesting that the police presence has a merely local deterrent effect.[831] The latter evidence implies that in order to achieve deterrence, policemen should essentially be placed everywhere. The second limitation is that constant police presence might have high social costs. Notwithstanding the fact that people aspire to feel safe, they may not wish to be regularly under surveillance. Increasing the police force on the streets might impede people's sense of individual freedom and involuntarily restrict their self-expressive behaviour. Those non-monetary costs bear the risk of diminishing the legitimacy of such law enforcement policy.

The current chapter suggests using the insights from behavioural law and economics approach to optimise the police effectiveness without significantly increasing the costs. As explained in the introductory chapter of the thesis, behavioural scholars consider people to have bounded rationality. Nevertheless, they still believe people react to incentives. Therefore, the following sections explore the methods to use this bounded rationality in order to design a more costs-effective policy.

3. *Anywhere Anytime*: Towards a New Policy

3.1. Ambiguity Aversion: Empirical Evidence

As explained in Chapter 3, there is a difference between risk and ambiguity. The former refers to the situation of lack of knowledge about the outcome, yet with given probabilities. The latter is a state of deficiency of information regarding both, the outcome and the

[829] See John M. MacDonald, Jonathan Klick and Ben Grunwald, "The Effect of Privately Provided Police Services on Crime" Scholarship at Penn Law, Paper 441 (2012), available at http://lsr.nellco.org/upenn_wps/441 (accessed on 19.6.2014).
[830] Cameron (1988), *supra* note 18.
[831] Di Tella and Schargrodsky (2004), *supra* note 823, p. 130. In other words, the police force is not only costly, but also has a limited local effect. Meaning that crimes might be transferred to other places, where there is no police presence, and impose additional costs of crime.

probability.[832] Different empirical studies discovered that people express aversion towards ambiguous prospects and prefer to act in a risky environment instead.[833]

An important notion in the context of ambiguity aversion is the "boundary effect". This concept suggests that the effect is not uniform across different types of decisions. In other words, when facing losses, ambiguous low probabilities are over-weighted and ambiguous high probabilities are underweighted.[834] Therefore, people tend to be ambiguity-averse when facing low probabilities, and ambiguity–seeking when facing high probabilities. Kip Viscusi and Harrel Chesson calculated empirically the "mean crossover point", where people turn from ambiguity-averse to ambiguity-seeking preference, to be somewhere between 0.40-0.49. To be precise, when people encounter an ambiguous loss yet estimate the probability to be lower than 40%, they will exert ambiguity-averse behaviour. Analogically, whereas individuals estimate the probability of occurrence to be higher than 49%, they will tend to experience ambiguity-seeking behaviour.[835] Those results imply that ambiguity induces more compliance where the deterrence is weak (low probabilities of detection), and less compliance where the deterrence is strong (high probabilities of detection). This evidence is reassuring since most of the crimes, which might be deterred by the following suggested means, have a low rate of detection.

Whereas those findings are explored in the literature regarding the enforcement of tax evasion,[836] its empirical investigation and application in the enforcement of other crimes are limited. A handful of studies suggest using ambiguity in the context of probability of detection and offer some empirical evidence to support their suggestions.

Lawrence Sherman examined "crackdowns" (i.e. an increase in policing in certain areas for certain periods) in the US during the 1980s and offered some suggestive evidence of successful deterrence. The author demonstrated that sometimes the deterrence effect remains even after the crackdown terminates, and names this effect "residual deterrence". Based on

---

[832] Knight (1921), *supra* note 417.
[833] Ellsberg (1961), *supra* note 419; Camerer and Weber (1992), *supra* note 420; Keren and Gerritsen (1999), *supra* note 421; Becker and Brownson (1964), *supra* note 422.
[834] Einhorn and Hogarth (1986), *supra* note 417, p. 236. The mirror situation is discussed in Chapter 3.
[835] Kip W. Visscusi and Harrel Chesson, "Hopes and Fears: The Conflicting Effects of Risk Ambiguity," *Theory and Decision* 47 (1999), 153-178, pp. 171-173.
[836] See for example, Spicer and Thomas (1982), *supra* note 425; Jeff T. Casey and John T. Scholz, "Boundary Effects of Vague Risk Information On Taxpayer Decisions," *Organizational Behaviour and Human Decision Processes* 50 (1991a), *supra* note ; Casey and Scholz (1991b), *supra* note 424; Ghosh and Crain (1993), *supra* note 425.See also the discussion in Chapter 3.

that, the author suggested that using short-period crackdowns in different places and times might be a cost-efficient policy.[837]

More than a decade later, Tom Baker, Alon Harel and Tamar Kugler tested empirically the efficiency of ambiguity as a deterrence effect. They pursued it by conducting a laboratory experiment with payoffs and the possibility for an action that might result in a fine. In this experiment the subjects were facing two options. Option A in which they receive only the payoff for participation. Option B where they could receive an additional payment, yet, with the risk of paying a fine if detected choosing this option. An important fact is that option B had higher expected value than option A. Option B had different structures of uncertainty regarding the penalty and the probability of being punished. Some of the options were risky (i.e. unknown outcome, yet known probabilities), whereas others were ambiguous (i.e. the precise probability of being caught was unknown). The authors found that participants were better deterred by the ambiguous option of detection (or uncertain size of punishment) than by the risky one. To be precise, when facing an ambiguous detection probability, subjects had a tendency to prefer option A to B even though the latter had a higher expected value. Furthermore, this effect was stronger when the uncertainty was greater.[838]

Similarly, Thomas Loughran et al. used, in a recent study, data from the Pathways to Desistance Study to follow the independent[839] effect of ambiguity on young offenders.[840] The authors found that for instrumental crimes[841] and lower perceived probability of detection (bellow 0.3), criminals are deterred by a stronger ambiguity. Namely, when the offenders perceived the probability of being detected as low, yet could not estimate precisely this probability, they tended to commit fewer crimes.[842] The main significance of this research lies in the chosen sample. Whereas the majority of the empirical studies demonstrate the phenomenon of ambiguity aversion on the general population, this research presents evidence that ambiguity has a negative effect also on known criminals.

---

[837] Sherman (1991), *supra* note 825.
[838] Baker, Harel and Kugler (2004), *supra* note 825.
[839] They examined the effect of ambiguity as independent from the effect of probability of detection.
[840] The Desistance Study is a longitudinal study of young criminals who were convicted for serious crimes. In this project, researchers were following during a period of seven years, the life changes of more than 1,300 juveniles in transition from adolescence into early adulthood. For more information regarding the study see http://www.pathwaysstudy.pitt.edu/ (accessed 22.10.12).
[841] "Instrumental crimes" are offences which are meant to achieve a certain goal, e.g. property crimes are usually committed in order to extract money from others. "Expressive crimes" on the other hand, are committed for a pleasure and are ends by themselves (William J. Chambliss, "Types of Deviance and the Effectiveness of Legal Sanctions," *Wisconsin Law Review* (1967), 703-719, p. 708).
[842] Loughran, Paternoster, Piquero and Pogarsky (2011), *supra* note 825.

Another important caveat of the abovementioned study is that ambiguity has a deterrent effect when the perceived risk of being arrested is low. Crimes that are expected to be most affected by introducing ambiguity into probability of detection are "street crimes". The latter usually are property crimes,[843] and those are the crimes that can be deterred by police patrols. Property crimes often have low actual probability of detection. For instance, the German clearance rate of serious theft was around 13% between the years 1998-2001, as compared to aggravated assault clearance rate, which was around 85%.[844] Criminology literature assists to identify the correlation between the actual and the perceived probability of detection and suggests that criminals update upwards their probability of apprehension after being arrested.[845] Therefore, if only 13% of criminals are arrested for their crimes, the majority of property crimes offenders might have low perceived probability of detection. Consequently, the results that support a "boundary effect" imply that street crimes might be deterred by ambiguous detection policing.

The aforementioned studies offer empirical support for the deterrence effect of an ambiguous probability of detection in the context of "regular" crimes. The following sections discuss detailed policy changes to introduce ambiguity into probability of detection. Furthermore, some evidence is presented to illustrate bounded rationality of potential violators. Forasmuch as awareness is an integral part of the ambiguity policy, methods to increase the saliency of the changed policy are analysed.

3.2. Randomization of the Detection Strategies: The Suggested Policy

When police operates in a certain way, there is a pattern that the potential criminal can learn. It does not mean that the police enforce crimes in a completely predictable way (e.g. patrolling in a specific place at the same day and the same hour), rather it refers to the fact that the crime monitoring techniques are based on some rationales which can be learned. With such policy, criminals are able to acquire information on the areas and times that are riskier in

[843] *Ibid*. found the effect of ambiguity on the group of crimes they named NOA ('no one around' crimes). They state that this category consist of the instrumental/property crimes. In addition, MacDonald, Klick and Grunwald (2012), *supra* note 829, p. 17, show that the most statistically significant effect of police on reducing crimes is on the following crimes: auto theft, burglary, robbery with gun and theft from motor vehicles, i.e. property crimes.
[844] Horst Entorf, "Crime, Prosecutors, and the Certainty of Conviction," IZA Discussion paper No. 5670 (2011), p. 13.
[845] Shamen Anwar and Thomas A. Loughran, "Testing a Baysian Learning Theory of Deterrence Among Serious Juvenile Offenders," *Criminology* 49(3) (2011), 667-698. Worth mentioning is that the strength of updating depends how many crimes the criminal managed to commit prior to being arrested. The lower the ratio of arrests to the number of committed crimes, the weaker is the updating strength of the current arrest (p. 673).

terms of being caught and the methods used by police for detection.[846] Thus, they are facing an uncertain environment of being arrested, yet they can estimate the risk, and try to minimise it by selecting where and when to commit crimes. In light of empirical evidence that demonstrates the dominancy of probability in deterrence,[847] it is expected that low probability of detection and punishment would not have a sufficient deterrent effect.

On the contrary, based on the empirical evidence reviewed in the previous section, eliminating the predictability of police work and turning the likelihood of being detected to ambiguous might change criminals' behaviour. The suggestion is to keep investigating crimes based on the existing evidence, however, in addition, to create a very ambiguous and hectic environment in which the criminals are operating. This proposal stems from the distinction between monitoring and investigating methods. In the former, the enforcement authorities invest money in crime control prior to the potential offender's action, mainly to prevent crimes. In the latter, the police invest resources to collect evidence and solve crimes which have been previously committed.[848] Inasmuch as both methods are important in challenging crime, this chapter does not offer to replace investigation, but to improve monitoring. The suggestions for the policy changes are as follows.

First, it is suggested to use deliberately random police patrols.[849] Namely, the idea is to send police cars or police on foot to patrol in diverse areas, on different days. Those patrolling projects will also vary in the overall duration (e.g. for several consecutive days, a week, etc.).[850] Police campaigns or crackdowns are common in the US, yet quite rare in the EU. The goal of this mechanism should be the creation of ambiguous perceived probability rather than occasionally targeting specific crimes or places due to a contemporary need. Since the agents who will be making the patrolling schedule might be unconsciously tempted to create a certain pattern, the schedule may be selected randomly by specifically designed computer software, once a week or once a month. Under these circumstances, the potential criminals will not be able to learn the patterns of police work, since there will not be any pattern to

[846] In their study, Loughran, Paternoster, Piquero and Pogarsky (2011), *supra* note 825, p. 1046, present evidence that while criminals' perception of risk is increasing, the perception of ambiguity is decreasing. This evidence suggest that with time criminals gain more experience and can predict better their risks of being detected.
[847] Dölling, Entorf, Hermann and Rupp (2011), *supra* note 20.
[848] Dilip Mookherjee and I.P.L. Png, "Monitoring vis-à-vis Investigation in Enforcement of Law," *The American Economic Review* 82(3) (1992), 556-565, p. 556.
[849] Random patrolling was briefly offered in the abovementioned studies discussing ambiguity and detection, however, its detailed structure and way of application were not explored, and are investigated in this study.
[850] The suggestion is to use the existing police force, yet to change its patrolling techniques.

learn. Thus, not being able to calculate the risk of operating in a particular area, at a certain time, might enhance the deterrent effect.

An additional possible benefit of this kind of policy is the reduction of the "displacement effect". According to the latter, when some crime prevention measures are taken in a certain area, criminals merely displace their activity to other areas.[851] Consequently, in terms of overall welfare there are no benefits to society, inasmuch as the same quantity of crimes is committed in a different place. Therefore, increasing constant police presence in specific areas is not only costly, but might displace the crime to other locations. On the contrary, sending random patrols to variant places for different time periods might avoid this effect. The reason is that potential criminals would not be able to know which areas are more risky for them. Thus, it will not seem beneficial to prefer one area to the other, and displace their criminal activity.

Bearing the above-mentioned in mind, more problematic areas should receive to a certain degree more police attention, even if randomly. This suggestion is relying on the concept of "targeted enforcement".[852] According to the latter, when the enforcement budget is limited, it is efficient to increase the probability of apprehension for violators who did not comply with the law in the past. Similarly, in the current context, places with generally higher crime rates should receive a higher proportion of policing. For this purpose, police statistics of reported crimes may be used to identify those "hot spots"[853]. Nevertheless, police patrols should be sent, albeit in smaller dosages, also to less dubious locations in order to prevent the displacement effect. Thus, the proportion of patrols will be higher in more problematic areas, yet within those patrols the randomness will be kept. This element is important in order to

---

[851] Rene Hesseling, "Displacement: A Review of the Empirical Literature," in *Crime prevention studies*, R. Clarke ed., (III. Monsey, NY: Criminal Justice Press, 1994), pp. 197-230.

[852] See for example, Winston Harrington, "Enforcement Leverage when Penalties are Restricted," *Journal of Public Economics* 37 (1988), 29-53. Harrington offers a theoretical model to explain the phenomena of compliance in the environmental context, where the probability of apprehension and punishment is very low. He explains that setting the frequency of inspection based on previous behaviour, increases compliance. This way the authorities use efficiently scarce resources by inspecting only "bad firms" and increasing their costs of incompliance. It should be stressed however, that the "targeting enforcement" is only the starting point of the suggested policy in this chapter. It helps to identify and give more attention to the problematic areas. Yet the second vital element is the randomness within the targeted areas, and patrolling also in other areas, without which the police work will be predicted.

[853] "Hot spots" are areas in which the rate of public disorder and crime is among the highest. Those locations often accommodate leisure and business activities which attract people and in turn, criminals who see the opportunity for a loot. See Christopher S. Koper, "Just Enough Police Presence: Reducing Crime and Disorderly Behaviour by Optimizing Patrol Time in Crime Hot Spots," *Justice Quarterly* 12(4) (1995), 649-672, pp. 652-653.

maintain these patrols unpredictable and not to create a particular pattern of work that can be identified.

The second suggestion concerns a later period of the policy. After a certain time-frame where the police patrol would be patrolling with uniform, undercover policing will be introduced.[854] This new change, as the rest of the policy, should be announced and brought to the attention of the potential criminals. From that point onwards, not only would the patrols themselves be random, but also the usage of uniform will be irregular. It is suggested however, to use to a lower extent undercover police since visibility by itself might have a deterrence effect. This adds another element of ambiguity. In those circumstances, the potential criminal is not only uncertain about the places and time where he can be caught, but also about the person who can apprehend him. In extreme cases it can even create a feeling that a potential victim might be a policeman. Consequently, this increased ambiguity might have a stronger deterrent effect.

It should be stressed that both police in uniform and without uniform would be allowed to act only within the limits of the law in each country. For instance, in criminal justice systems where there is a constraint on police intervention, they are granted the authority to stop, question, search and arrest people only in those circumstances where there is a reasonable suspicion that a person is a potential or known offender.[855] This limitation would reassure one that law abiding people would not be harassed unnecessarily and harmed by the new policy.

Third, this chapter suggests installing cameras[856] in different areas (only public locations). However, assuming activation of cameras imposes costs as well, it is offered to activate them randomly in different areas on different days. Alternatively, the new WCCTV cameras can be used. Those are movable, cost-efficient cameras that do not require an infrastructure, thus, reducing the costs of installation. They can be quickly deployed at any location and moved to different location at any time. This will introduce another element of ambiguity and randomise the monitoring enforcement methods while reducing the costs of operating the

[854] The reason not to introduce the undercover policing from the beginning is the benefits of visible police. At the first stage, the criminals can learn about the new random policing by seeing the police in different areas in different times. Only after they have learned about the new policy, it is worth introducing the additional element of ambiguity, i.e. undercover police.

[855] In different countries, there are different rules guiding the police force in their work. The threshold for "reasonable suspicion" varies across criminal justice systems, thus, it should be adjusted to each system.

[856] CCTV or WCCTV – Closed circuit television or wireless closed circuit television, respectively. For the latter see http://www.wcctv.co.uk/ (accessed on 14.11.2012).

cameras. Furthermore, it might have the effect of police patrols, thus, enabling to cover wider range of areas.

The above measures should be combined with high publicity of the ambiguity to overcome people's bounded rationality and to intensify its effect as explained in the following sections.

3.3. Policy and Awareness

Merely changing the policy of detection to more ambiguous is insufficient for deterrence. One of the critics that can be found in the criminology literature regarding crime control policies is that without a proper link between the rule and the awareness of criminals, potential offenders are resistant to policy changes.[857] According to behavioural law and economics, people have bounded rationality and do not possess complete information. Thus, criminals might not really recognise changes in the enforcement policy.[858] In order to further demonstrate this idea, the following survey was conducted.

3.3.1. The Example of the Tax Rule in Italy

Tax evasion is a common problem in some countries with Italy being at the forefront on that matter.[859] One of the targeted groups for the tax authorities are the shopkeepers. The cost of monitoring are high since sellers may simply refrain from issuing receipts thus, presenting to the tax authorities underreported income. In order to solve this problem and incentivise merchants to issue a tax receipt, in 1983 the Italian government introduced a new law. According to this law, sellers who failed to provide a receipt after each sale were facing a fine.[860] Moreover, in an innovative step, an additional provision was introduced which obliged the *consumers* to ask for a receipt after completing their purchase.[861] In other words, if a buyer purchased a good and left the shop without a receipt, the authorities could impose on him a fine (hereinafter: "The Tax Policy"). This law was enforced - with low probability - by the *Guardia di Finanza* (Fiscal Police). Through the years the law was reformed and eventually abolished on October 2, 2003.

---

[857] Nagin (1998), *supra* note 18, p. 18.
[858] For literature suggesting that deterrence may be achieved only when the potential offenders perceive the risk of punishment, see Gary Kleck, Brion Sever, Spencer Li and Marc Gertz, "The Missing Link in General Deterrence Research," Criminology 43(3) (2005), 623–660, p. 625.
[859] Richard Murphy, "The Cost of Tax Abuse: A Briefing Paper on the Costs of Tax Evasion Worldwide," Tax Justice Network (2011), available at www.tackletaxhavens.com/Cost_of_Tax_Abuse_TJN%20Research_23rd_Nov_2011.pdf (accessed on 20.6.2014).
[860] Section 1 of the *Legge 18/1983*.
[861] Section 2 of the *Legge 18/1983*.

3.3.2. The Survey

This thesis exploits the uniqueness of the abovementioned violation (relevant to buyers), which turns anyone in the population to a potential violator. Forasmuch as most people, if not all, purchase goods during the course of their life, the law obliging to ask for a receipt has a wide applicability. Therefore, investigating the awareness of a sample of the ordinary population regarding this tax policy and its changes may be considered as having an external validity. In contrast to many laboratory studies and surveys, the subjects of this survey are also part of the interest-population.

The purpose of the survey is to assess whether Italian citizens were aware of the introduction of the tax policy and whether they know this policy was abolished in 2003. To this end, two surveys in the Italian language were prepared and distributed amongst two samples of the Italian population. The two samples varied in two interest questions that were presented to them as explained in the next sections. The survey was sent mostly to people from Italian universities with a request to pass it forward. The first sample includes 76 subjects; average age 36 years (the range being 20-63 years); majority with university education (83%), 53% male, majority from north Italy (64%). The second sample consists of 139 subjects; average age 40 years (the range being 19-65 years); majority with university education (77%), 72% male, majority from north Italy (69%).

The surveys included 10 questions, some referring to general characteristics whereas others are questions of interest. The first question of interest refers to the awareness of the respondents to the fact that the tax policy was abolished (question number four). The second question of interest examines whether people knew of the introduction of the policy in the first place (question 10). Other questions explore the source of information, whether people comply/complied with the law, their knowledge regarding apprehended violators and whether they know what the expected punishment for this violation was. For the full questionnaires, see Appendix 5.

One of the two main questions of interest (question four) differs between the two surveys in order to assure the results are independent of the formulation of the question. In the first survey (hereinafter: "Survey 1") the main question of interest is as follows "*According to the current Italian law, are buyers in Italy obliged to take a receipt after making a purchase of any kind?*". In the second survey (hereinafter: "Survey 2") the question is formulated in the following way "*According to the current Italian law, are CONSUMERS obliged to ask for a*

receipt after making a purchase of any kind?". The two samples differ in the characteristics of the respondents (for summary statistics see Table 13 in Appendix 4).

3.3.3. Results

The results demonstrate lack of awareness mainly with regard of the abolishment of the tax policy, but also of its initial introduction. In Survey 1, around 84% of the respondents were either not aware the tax policy was introduced or that it was abolished. Moreover, 77% of the respondents, who believe the tax policy exists nowadays, stated they are still complying[862] with this policy.

The results in Survey 2 are mostly analogous to Survey 1. About 88% of the respondent either stated the tax policy currently exists or that it was never introduced. Furthermore, 78% of those who are not aware of the abolishment of the tax policy suggested they comply with it nowadays.

Interestingly, the results demonstrate that media is an important source of information regarding the existence of the tax policy in both surveys. When the subjects were asked what is their source of information regarding the policy in question, around one third of the respondents choose media (see Table 13 in Appendix 4). Furthermore, the results suggest the respondents are quite well informed regarding the prescribed punishment for this violation (for the complete results of the two surveys see Table 13 in Appendix 4).

3.3.4. Limitations

The two samples are not randomly depicted from the Italian population hence it might be argued that they are not representative of the entire population. Nevertheless, there is still some variation in age, levels of education and living area of the respondents. Furthermore, the discussed tax policy is relevant to all the respondents in the two samples, as much as it is relevant to the general Italian population. Therefore, it is asserted that those results have an application beyond the sample.

3.3.5. Discussion

The results of the survey are striking and suggest that indeed potential violators might have imperfect information. To be precise, the abovementioned results suggest that even though people might rationally respond to incentives, they are not perfectly informed of policy

[862] One concern might be that people do not reveal their true behaviour believing they are breaching the law. However, since the survey is anonymous and the respondents are clearly informed about this before providing their answers, this might not be a significant problem.

changes made by the authorities. In the example of the Italian tax policy, the majority of the respondents are not aware that the policy, which threatens them with a fine, no longer exists. Some of those people not only lack the awareness, but in fact comply with a law that is no longer in force.

Inasmuch as the suggested policy in this chapter targets potential offenders' awareness of the ambiguity, it is of outmost importance to guarantee they are familiar with the changes in the enforcement methods. Otherwise, the introduction of ambiguity might have little or no effect on crime. For this reason and following the presented findings of the survey, the current section discusses the availability heuristics and the ways to increase criminals' awareness of the suggested policy, which in turn, is expected to intensify its effect.

3.3.6. Increasing Awareness through Availability Heuristics

Amos Tversky and Daniel Kahneman discussed the rules-of-thumb people use while judging frequencies and probabilities. The world is uncertain and people often face the need to assess the probability or frequency of an event. Since on the one hand, there is a great deal of information which needs to be processed and, on the other hand, not all the relevant information is available, people use life experience in order to develop mechanisms to cope with this reality. For instance, people know that it is easier to recollect high frequency events compared to rare events. In addition, more likely events are perceived as easier to imagine. Lastly, there is a stronger associative connection when two events frequently occur together.[863]

The abovementioned experiences lead to the rule-of-thumb of "availability" – the assessed frequency or likelihood of an event depends on the simplicity with which it can be retrieved from one's mind. Although useful, availability is not always a valid tool since it is influenced by other factors that might be unrelated to the actual frequency of an event. Hence, the usage of this shortcut leads to systematic biases. For instance, a person might assess the frequency of divorce based on the rate of divorce among his acquaintances. Not surprisingly, this estimation might be different from the actual frequency and only by chance is this person acquainted with a great deal of divorced couples.[864]

The availability heuristics has an effect in many areas of life, and has already been analysed in the context of criminal law. The behavioural approach does not follow the concept that

[863] Tversky and Kahneman (1973), *supra* note 826.
[864] *Ibid*.

potential criminals are fully rational and make decisions based on complete and accurate information. Still, it is rather accepted that potential offenders make some calculations of expected costs and benefits of crime. Due to their bounded rationality, potential criminals might assess the probability of the expected punishment based on the availability of the relevant information to them. Inevitably, this information may be not related to the actual probability and thus, lead to mistaken judgment.[865]

Nonetheless, the abovementioned biases are believed to be systematic as opposed to random. Thus, Jolls, Sunstein and Thaler suggest making enforcement policy more visible. For instance, instead of using small and less costly parking tickets, they offer to place noticeable coloured parking tickets with the word "VIOLATION" on side window shields. They assert that this kind of policy would deter forbidden parking more efficiently by making the punishment very visible and available for others to see. In addition, they suggest using "community police" who will be patrolling streets by walking rather than driving. This makes the police more visible, and as a result might deter potential criminals without altering the actual probability of detection.[866]

In this chapter it is suggested to make the randomness of the detection visible and salient rather than its probability *per se*. The problem in manipulating the perceived probability of detection lies in the famous question presented by Gordon Tullock: "Can you fool all of the people all of the time?"[867] This kind of policy might have a too short-term effect. Since the actual probability is held constant, not much time will pass before the potential criminals would realise what is made available to them, is not a representation of the actual risk of apprehension. All the more so, this reaction is expected in light of the known learning process people are going through in new circumstances. The latter would assist potential offenders to update their perceived probability of apprehension and cease responding to the manipulation.

Thus, it is suggested not to merely deceive potential offenders regarding the state of the world but to create an environment in which they are not capable of estimating their apprehension probabilities, and make them constantly aware of this. This might be achieved by publicising the measures presented in Section 3.2, and stressing the fact that unlike before, those measures are used in a random manner without a concrete pattern and that any offender can be apprehended at any time. It might even be useful to give this policy a "catchy" name such

[865] Jolls, Sunstein,and Thaler (1998), supra note 30; Jolls (2005), *supra* note 42.
[866] Jolls, Sunstein, and Thaler (1998), *ibid*. p. 1538.
[867] Gordon Tullock, "Can You Fool All of the People All of the Time?: Comment", *Journal of Money, Credit and Banking* 4(2) (1972), 426-430.

as '*anywhere anytime*' policy, which might be better kept in mind and in turn, more easily recollected.

Furthermore, the publicity should be made through all possible channels to cover a higher percentage of the criminal population. Namely, different forms of media should be used, short "advertisements" on television, in newspapers – whether its online or hard copy, billboards on the roads, in public transportation stations, etc. In addition, occasionally, some arrests should be publicised to emphasise that this policy actually detects criminals. The role of the press in people's awareness is captivatingly described by Bernard Cohen "*It may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about*."[868] Therefore, the new policy would be thought and spoken about and consequently will reach criminals' consciousness directly and indirectly through hearing people talking about it on the streets.

Since the media might have different interests than law enforcement authorities, the latter should become "availability entrepreneurs". "Availability entrepreneurs" are people or organisations that are using the availability heuristics to promote their interests, such as firms in the private sector or lobbyists trying to advance certain regulations. One famous example of promotion of laws using the availability heuristics is the "Love Canal" example. With the help of an "availability entrepreneur" who used media and political pressure; a law was passed, state budget was wasted and negligible environmental problems became a number one hazard. This anecdotal example demonstrates the powerful effect availability has on human behaviour.[869]

Another, somewhat different example is the lobbying strategy of the new Supreme Court of Mexico established in 1994. In order to restore people's trust in the government, the Mexican officials made extensive reforms to the judicial system. As a result of lack of media coverage, however, society was not properly aware of the reforms and continued perceiving the

[868] Bernard C. Cohen, *The Press and Foreign Policy* (Princeton University Press, New Jersey, 1965), p.13.
[869] Timur Kuran and Cass R. Sunstein, "Availability Cascades and Risk Regulation", *Stanford Law Review* 51 (1999), 683-768. The Love Canal is the case of an environmental cascade that emerged in the state of New York. In the late 1970s, a statement of the New York Department of Environment Conservation was released that the Love Canal is the source of insecticide found in the Lake Ontario fish. Following that local press and rumours started spreading around regarding past waste and its negative effects. Although tests conducted by the Environmental Protection Agency (EPA) found no evidence of threatening toxicity, a panic began to emerge. A woman named Lois Marie Gibbs became the "availability entrepreneur" by repeatedly drawing the attention of the residents and outside population to the alleged risks and harms caused by the Love Canal waste. With the help of media, in a few years this story got out of any proportion and pressured politicians began investing significant amounts of the state's budget to deal with a problem that – as was shown in later years - did not really exist. The case of the Love Canal eventually promoted the passage of the Superfund statute. (pp. 691-698).

Supreme Court as submissive to the executive power and inaccessible to most people. In order to correct this perception and enable promotion of the Court's interests, the latter pursued a publicising strategy to raise the awareness of people to the new reforms. This was done through the Court's own Office of Public Relations (DCS). The latter was advertising announcements regarding the court's autonomy, and publishing books, leaflets, comics and videos of the Court's most prominent decisions. Furthermore, the DCS issued routine press releases on pending and resolved cases. Some suggestive evidence demonstrated the success of this approach in promoting further judicial reforms.[870]

Therefore, this chapter suggests that it might be efficient for the enforcement authorities to act as "availability entrepreneurs", through its own Public Relation Office for example. The latter will ensure raised awareness of potential offenders to the new '*anywhere anytime*' policy. This in turn, would intensify the effect of ambiguity-aversion and increase deterrence.

4. Possible Limitations

Even if criminals are indeed averse to ambiguity, there are some possible limitations of the policy that are addressed in the following sections.

4.1. Limited Expected Scope of Effect

The suggested policy is expected to affect 'street crimes' rather than all crimes. Namely, crimes that are usually committed indoor most probably will not be deterred by these policy changes.

There are a number of possible replies to this limitation. First, many of the street crimes are property crimes (e.g. car theft, theft from car, burglaries, etc.). In many countries property crimes constitute a large portion of all crimes. For instance, in Germany in 2002, around 50% of all reported crimes was theft.[871] Thus, a policy that has the potential to deter this type of offence may reduce significant costs of crime.

Second, this chapter suggests that policy which targets different groups of crimes with different methods rather than offering a unified policy for all crimes might be more efficient. The rationale behind this suggestion is that different groups of crimes have special characteristics.[872] In turn, the responsiveness to law enforcement of criminals from these

[870] Jeffrey K. Staton, "Lobbying for Judicial Reform: The Role of the Mexican Supreme Court in Institutional Selection," (2003), pp. 4, 8-14, available at http://escholarship.org/uc/item/30s2s2xj (accessed 22.10.2012).
[871] Cornelius Nestler, "Sentencing in Germany," *Buffalo Criminal Law Review* 7 (2004), 109-138, p. 114.
[872] Chambliss (1967), *supra* note 841.

groups varies. Thus, instead of attempting to capture all criminals with one policy, it might be more efficient to think of different policies for different crimes.

For instance, Isaac Ehrlich discusses in his paper the efficiency of discriminating penalties. He asserted that since some groups of criminals cannot be deterred, enforcement authorities should incapacitate them rather than trying to deter them. On the other hand, potential offenders who are responsive to enforcement should be dealt with methods that are meant to deter crime.[873]

4.2. Existing Level of Ambiguity

Some scholars assert that there is already an element of ambiguity in the enforcement system. Thus, the question arises what is the contribution in introducing the ambiguity using the measures described in the previous section.

In order to offer a possible response to this limitation, different examples where ambiguity already exists should be examined. Anat Horovitz and Uzi Segal review some of those existing policies. First, the most famous mechanisms used to create uncertainty are fake cameras and dummy police cars in the area of traffic control.[874] This is indeed a useful mechanism in order to create ambiguity in the detection probability however it is limited to traffic control and does not extend to the "street crime" control. The second example is random searches at the airports. The authors present this policy as an illustration for the existing ambiguity, yet they explain that the deterrence achieved "by inspecting people and goods according to their 'assessed level of risk', which is based on factors undisclosed to the public".[875] The fact the authorities do not disclose their assessment techniques does not make the policy random. Once the enforcement authorities target suspects by "assessed level of risk", there is a pattern that might be evaluated by the potential "offender" and remove the ambiguity element from the searches. Consequently, those searches will remain random only for the innocents who are not interested in understanding the undisclosed techniques. The third example is random tax auditing. Nevertheless, the authors do not assert it is random, rather they say that the tax authorities audit only a certain portion of all tax returns.[876] Therefore, whereas tax audits usually have low probability, it is not necessarily random.

---

[873] Ehrlich (1981), *supra* note 162, p. 318.
[874] Anat Horovitz and Uzi Segal, "The Ambiguous Nature of Ambiguity and Crime Control," *NYU Journal of Law and Liberty* 2 (2007), 541-556, p. 555.
[875] *Ibid*.
[876] *Ibid*.

The above analysis demonstrates that although there is already an attempt to increase ambiguity of the enforcement methods, it is usually restricted to specific areas. Furthermore, from the description of "crackdowns" by Sherman[877] it seems that the police campaigns have a pattern as well and they cannot be accounted as truly random. Moreover, studies on the ambiguity aversion demonstrate that the higher the ambiguity, the stronger is the ambiguity aversion.[878] Therefore, it is suggested that creating or increasing the level of ambiguity in the detection policy using the described instruments might increase the deterrence effect.

4.3. Learning Process

Potential offenders, as other people, are going through a learning process in which they adjust to new circumstances. Thus, possible counterargument to the suggested policy might be that even if currently offenders are ambiguity-averse, in time they will adjust to the new methods and the deterrent effect will diminish.

Nevertheless, this argument holds for any enforcement policy, even for the current one. If indeed offenders go through a learning process, this implies that they are already fully adjusted to the existing policy of detection. Thus, changing the current policy may improve the deterrence by introducing new circumstances to which the offenders still have not adjusted.

4.4. Possible Infringement of Civil Rights

Another possible challenge to the suggested policy might be that it will infringe upon the civil rights of law-abiding people. In addition, publicising such a policy may create a feeling of "state-police" and restrict people's self-expressing behaviour. This, in turn, might lead to a loss of trust in the enforcement authorities.

There are a number of possible responses to this concern. First, the suggested policy is analysed for application in countries with a democratic regime. Those countries usually have strong safeguards of civil and human rights.[879] Thus, a proper system of checks and balances will be in force. Furthermore, an informal body is already active in many of those countries, i.e. an Ombudsman,[880] enabling civilians to file complains on police misconduct. For instance,

---

[877] Sherman (1990), *supra* note 825.
[878] See for example Visscusi and Chesson (1999), *supra* note 835, pp. 154-155; Camerer and Weber (1992), *supra* note 420.
[879] See for example Fraser Institute http://www.freetheworld.com/release.html (accessed 31.10.2012).
[880] Gabriele Kucsko-Stadlmayer (ed.), *European Ombudsman-Institutions: A Comparative Legal Analysis Regarding the Multifaceted Realisation of an Idea* (Springer, Vienna, 2010).

the victims of discrimination and harassment by police officers can complaint to the Ombudsman.

In addition, as stressed in Section 3.2, the police will be acting within the existing limits of power and under the rule of law. For instance, in countries where only those people who exhibit suspicious behaviour are followed by police intervention, will also be the only ones to be addressed under the new policy. Police will not be allowed to interrupt the lives of law-abiding people. Thus, the new changed policy, which will monitor people randomly, is not expected to infringe civil rights more than the current policy. Consequently, as people will not be harassed in vain, there probably will not be a loss of trust in the enforcement authorities.

A second possible response is that for law-abiding people the current regime is already random. As discussed in Section 3.2, offenders might know the pattern of police work inasmuch as it concerns their risk of being detected. They are incentivised to learn the patterns of police force and reduce the uncertainty of committing crime. On the contrary, law-abiding citizens usually do not spend time studying the police work patterns. They also do not learn it passively by being arrested. For this group of the society, as long as police are not present everywhere, their presence is random. Consequently, introducing ambiguity into the probability of detection by converting police monitoring work to random activity should only affect criminals.

4.5. Legitimacy

A similar, albeit separate, counterargument for the suggested policy is the possible lack of legitimacy in randomising police work. For instance, in the US the tax authorities (IRS: Internal Revenue Service) introduced random auditing. Under the new policy, people were audited at random rather than according to some calculations that chose suspicious people for auditing. Honest taxpayers challenged the legitimacy of this kind of policy due to the inconvenience of being audited. In addition, their argument was that instead of following an efficient "formula" which selects suspicious people for auditing, law-abiding people were harassed by the IRS authorities.[881]

As mentioned in Section 3.2, the suggested policy addresses the monitoring methods, while offering to keep the investigating methods intact. Namely, police will continue investigating committed crimes based on existing evidence ("formula"), thus, not disregarding known suspects. Whereas regarding the legitimacy of making monitoring random, a possible

[881] I would like to thank Jeffrey Rachlinski for this constructive example.

response rests in the legitimacy of the current policy. As long as there is no absolute police presence, the areas patrolled under regular policy are limited. That is to say that the other areas are discriminated against. This is done, however, based on contemporary needs, e.g. calls for assistance or more problematic areas. As explained in Section 3.2, the problematic areas would still receive special attention, yet, in a random manner. Furthermore, the fact the new policy would also cover other areas might even increase the legitimacy of monitoring decisions. The reason for that is minimisation of the crime displacement risk. Thus, there is a rational justifying the new policy, and in turn, increasing its legitimacy.

4.6. Contrasting Biases

A somewhat different counterargument against the suggested policy is that there are other biases that may work in the opposite direction and distort the effect of ambiguity aversion. One such bias is overconfidence.[882] Criminals might be overconfident regarding their chances to escape the enforcement authorities and hence, not be deterred by the new policy.

Nevertheless, despite this bias, the policy might still be effective. First, as suggested by Nuno Garoupa, the same overconfidence bias also leads those offenders to take fewer precautions to escape from the law enforcement, which in turn makes their detection easier.[883] Second, the suggested policy does not deal with the probability of detection as such, but with ambiguity aversion of criminals. Namely, whereas offenders might underestimate their probability of being apprehended in regular circumstances, the new policy will attempt to eliminate their sense of capacity to know those probabilities. Third, the empirical evidence suggesting there is a deterrence effect imply that the overconfidence problem is not so burdensome. Otherwise, since the actual probability of getting punished is almost never approaching 100%, with vast overconfidence one should observe very weak or non-existing deterrence effect.

4.7. Comparative Ignorance Hypothesis

Craig Fox and Amos Tversky challenged the ambiguity aversion phenomenon and proclaimed that its effect exists only in a comparative setting. That is, people express ambiguity aversion in circumstances where they have a choice between clear and vague prospects. On the contrary, evaluation of an uncertain event in isolation from other choices leads to assessment of its likelihood while disregarding the vagueness of the event. The authors called this

[882] McAdams and Ulen (2009), *supra* note 42, p. 417.
[883] Nuno Garoupa, "Behavioral Economic Analysis of Crime: A Critical Review," *European Journal of Law and Economics* 15 (2003), 5–15, p. 9.

phenomenon "comparative ignorance hypothesis" and supported it with experimental evidence.[884]

Relying on the comparative ignorance hypothesis, one might argue that introducing ambiguity aversion into the probability of detection would not affect potential criminals. However, there might be two possible replies to this counterargument. First, as discussed in Section 3.1, Lougharn et al. presented empirical evidence that known offenders are ambiguity-averse in the context of their decision whether to commit a crime.[885] On the one hand, a conceivable explanation might be that the results of Fox and Tversky are relevant only in the context of gains, while in cases where people face expected losses (as criminals do) there is ambiguity aversion even in a non-comparative setting.[886] On the other hand, a possible account of the results might be that due to a learning process, offenders perceive their choices (vague vs. risky) as comparable.[887]

Second, even under the assumption that the effect is stronger in a comparative prospect, it is possible to publicise the new ambiguous monitoring policy while framing it as a comparative policy. To be precise, the new policy might be presented as a transformation from risky apprehension to random police methods, which no longer can be predicted. As a result, it might intensify the ambiguity aversion effect and serve as a crime deterrence mechanism.

5. Concluding Remarks and Outlook

The probability of apprehension and punishment plays an important role in crime deterrence. This component includes the efficient function of different enforcement agents, i.e. police, prosecution, courts and lastly, correction agencies[888]. Even though the severity of the imposed punishment is relevant in the crime control discussion, it seems as if it has a less significant impact on criminals. Consequently, the discourse on the efficiency of agents involved in controlling the probability of detection and punishment is important.

---

[884] Craig R. Fox and Amos Tversky, "Ambiguity Aversion and Comparative Ignorance," *The Quarterly Journal of Economics* (1995), 585-603, pp. 587-588.
[885] Loughran, Paternoster, Piquero and Pogarsky (2011), *supra* note 825.
[886] In their paper, Fox and Tversky framed all the experiments as gains. The Prospect theory suggests however, that people have different preferences when facing gains or losses (Kahneman and Tversky (1979), *supra* note 33, p. 279). Thus, it is suggested that people might be ambiguity averse even without a comparative setting once it is framed as a loss.
[887] It is probable that during criminals' "career" the perceived probabilities of apprehension are becoming more certain. Hence, they are acting in a comparative world where they may prefer the clearer event of risk as compared to the initial vague situation.
[888] In this chapter, "correction agencies" refers to the authorities in charge of executing the imposed sanctions, whether it is imprisonment, collection of fines or other sanctions.

The police force is the first authority to respond to crime. They are responsible to initiate the action of the law enforcement system. In order to enable the other agents to act against misconducts, they need to commence monitoring and investigation[889] of crimes. While other stages are important as well for crime control, the police is the inevitable first phase without which the enforcement system cannot begin to function. This notion is supported by empirical evidence, discussed in this chapter, which demonstrates the effect of the police on crime.

Despite its importance it is not an easy task to increase police efficiency. It entails high tangible and social costs. Forasmuch as enforcement authorities act within a limited budget, this concern cannot be disregarded. All the more so, when countries face crisis, such as the EU fiscal turmoil. Thus, this chapter discusses the possibility of introducing somewhat different policing methods in order to enhance deterrence while saving costs of constant police presence.

The suggested policy changes are based on the behavioural law and economics approach and on empirical evidence supporting the fundamental elements of this policy. Distinct from the classic assumption of the rational agent, the behavioural approach recognises the limitations in the human cognition. In accordance with this approach people have bounded rationality and when facing uncertain decisions, they tend to apply rules of thumb. The latter, albeit useful to cope with the cognitive limitations, might lead to erroneous judgments. Yet, those errors are systematic, and thereby, predictable.

In the past decades behavioural scholars discussed the relevance of heuristics and biases in the criminal framework. They asserted that even though offenders' perception of risks is influenced by heuristics, they still make some assessments of costs and benefits. Therefore, behavioural studies focus on analysing which and how those heuristics might affect criminal conduct. Nevertheless, the question in what manner heuristics influence offenders is not the only interesting inquiry in the context of criminal law. The next step might be investigating the possibilities in which these findings may assist in designing a better crime control policy.

Vast empirical evidence has established the notion that people are ambiguity-averse, and tend to avoid choices which are uncertain to them. This phenomenon has been extended also to the framework of criminal law. Subsequently, a few studies offer to introduce ambiguity into the probability of detection, and present empirical evidence that this uncertainty has a deterrent effect. In contribution to these studies, this chapter elaborates on the structured policy changes

[889] In some of the EU countries, prosecution has a considerable role in the investigation of crimes once they were reported or discovered by the police.

which would introduce ambiguity into the probability of detection. Furthermore, the present chapter presents evidence that potential violators in the tax policy area are not aware of policy changes. Forasmuch as awareness is crucial for the efficiency of ambiguity in deterring crime, this kind of a problem needs to be addressed. Therefore, this chapter discusses the ways to use the availability heuristic in order to increase criminals' awareness of the new policy. Finally, this chapter deliberates carefully possible limitations of this kind of policy and attempts to reconcile those objections. There is a scope for further research of the costs of publicity and its optimal usage. In addition, a future research may examine empirically the effectiveness of the suggested policy.

Appendix 4

Table 14: Survey Results

Variable	Survey 1	Survey 2
Number of respondents *N*	76	139
Age		
Average age	36	40
Min. Age	20	19
Max Age	63	65
Maximum education level		
High school	17%	21%
University	83%	77%
Other	-	1%
Gender (% of Male)	53%	72%
Area (most of life)		
North Italy	64%	69%
South Italy	31%	30%
Outside Italy	5%	1%
Existence of the policy nowadays		
Yes	83%	72%
Source of Information*		
Family	22%	20%
Friends	11%	6%
Media	23%	39%
School or University	8%	7%
Other	30%	29%
Punishment for Non-Compliance*		
Warning	-	5%
Fine	80%	86%
Prison	2%	1%
Community Service	-	1%
Probation	-	-
Other	2%	2%
Do not Know	9%	6%
Knowledge about the rate of detection *		
None	69%	74%
1	14%	14%
2-10	9%	9%
11 or more	-	3%
Compliance *		
Friends Comply	58%	51%
Self-Compliance	77%	78%
Existence of the law in the**		
No	8%	56%

Note: Only the people who stated that the policy currently exists were required to answer the questions marked with *. Therefore, the percentage presented in the table regarding these questions is the number of respondents choosing this option/the number of respondents who answered this question. The results of the last question, marked **, refer to the respondents who said the law did not exist/the responded who stated the law does not exists now.

Appendix 5

Original - Survey 1 (and in brackets the changes made in Survey 2):

Questo sondaggio ti farà delle domande riguardo a una particolare legge italiana. Ci sono nove domande e ti richiederà approssimativamente due minuti per completarlo. Le risposte che darai in questo sondaggio sono anonime e saranno usate solo in forma aggregata (il che significa che le risposte non verranno esaminate una per una, ma saranno prese in considerazione le risposte di tutti coloro che parteciperanno al sondaggio). Non verrai identificato in alcun modo per le risposte che darai. I dettagli demografici come l'età, sono raccolti sono con lo scopo di determinare tendenze generali riguardo ai dati, non per identificarti. Per assicurare che le tue risposte sono assolutamente confidenziali, il codice IP (il codice che è unico per ogni computer) non sarà collegato ai dati. Grazie per il tuo contributo a questa ricerca.

Se tu fossi interessato a ricevere i risultati generali di questo sondaggio o per qualsiasi domanda riguardo all'argomento scrivi a elena.reznichenko@edle-phd.eu.

1. Quanti anni hai e Qual è il tuo livello di istruzione? (per esempio: 22, scuola superiore)

   _____

2. Genere

   (1) F
   (2) M

3. In quale area geografica italiana hai vissuto maggiormente?

   (1) Nord Italia
   (2) Sud Italia
   (3) Fuori dall'italia

4. In accordo con l'attuale legge italiana, ci sono in Italia consumatori obbligati a prendere una ricevuta (scontrino) dopo aver fatto un acquisto di qualunque genere?

   [Survey 2: In accordo con l'attuale legge italiana, i CONSUMATORI sono obbligati a richiedere una ricevuta (scontrino) dopo aver fatto un acquisto di qualunque genere?]

   (1) Si
   (2) No

   Se ha risposto "SI" alla domanda 4, continui a rispondere alle domande da 5 a 9, altrimenti passi direttamente alla domanda 10.

5. Come sei venuto a conoscenza di questa legge?

(1) Famiglia
(2) Amici
(3) Telegiornale
(4) Scuola o università
(5) Altri

6. Qual è la massima pena per non aver rispettato questa legge/regola?
   [Survey 2: Qual è la massima pena che puo' essere imposta a un CONSUMATORE per non aver rispettato questa legge/regola?]

   (1)Un richiamo
   (2) multa
   (3) Prigione
   (4) servizio socialmente utile
   (5) libertà vigilata
   (6) altri
   (7) non lo so

7. Quante persone conosci che sono stati colti o puniti per non aver rispettato questa legge/regola?

   (1) Nessuno
   (2) 1
   (3) 2-10
   (4) 11 o più

8. I tuoi amici rispettano questa legge/regola?

   (1) Si
   (2) No

9. Tu rispetti questa legge/regola?

   (1) Si
   (2) No

10. Questa legge/regola è esistita in passato?

    (1) Si
    (2) No

Grazie per la tua partecipazione a questo sondaggio. Le tue risposte sono confidenziali. Se tu fossi interessato a ricevere i risultati generali di questo sondaggio o per qualsiasi domanda riguardo all'argomento scrivi a elena.reznichenko@edle-phd.eu.

Per favore condividere questo sondaggio con questo link:

Translated to English – Survey 1(and in brackets the changes made in Survey 2):

This survey asks you questions about your knowledge of a particular law in Italy. There are nine questions and it will take you approximately two minutes to finish. The answers you give in this survey are anonymous and will only be used in aggregate form (that is, individual answers will not be examined, only the trend of answers from all respondents). You will not be identified in any way by the answers you give. Demographic details such as age are gathered only for the purposes of determining aggregate trends in the data, not to identify you. To ensure your answers are completely confidential the IP code (the code which is unique to each computer) will not be collected with the data. Thank you for your help with this research.

If you would like to receive the aggregate results of this survey or have any questions about the subject area please email elena.reznichenko@edle-phd.eu

1. What is your age and maximum level of education? (e.g. 22, high school)

   _____

2. Gender
   (1) F
   (2) M

3. In which area of Italy did you spend most of your life?
   (1) North Italy
   (2) South Italy
   (3) Outside of Italy

4. According to the current Italian law, are buyers in Italy obliged to take a receipt after making a purchase of any kind?

   [Survey 2: According to the current Italian law, are CONSUMERS obliged to ask for a receipt after making a purchase of any kind?]

   (1) Yes
   (2) No

   If you answered 'YES' to the previous question, please continue answering questions 5-9. If you answered 'NO' in the previous question, please answer question 10.

5. How did you come to know about this law/rule?
   (1) Family
   (2) Friends
   (3) News
   (4) Schools or University
   (5) Other

6. What is the maximum punishment for not complying with this law/rule?

   [Survey 2: What is the maximum punishment that can be imposed on a CONSUMER for not complying with this law/rule?]

   (1) Warning
   (2) Fine
   (3) Prison
   (4) Community service
   (5) Probation
   (6) Other
   (7) Don't know

7. How many people do you know who have been caught or punished for not complying with this law/rule?

   (1) None
   (2) 1
   (3) 2-10
   (4) 11 and more

8. Do your friends comply with this law/rule?
   (1) Yes
   (2) No

9. Do you comply with this law/rule?
   (1) Yes
   (2) No

10. Did this law/rule exist in the past?
    (1) Yes
    (2) No

Thank you for your participation in this survey. Your responses are confidential.

If you would like to receive the aggregate results of this survey or have any questions about the subject area please email elena.reznichenko@edle-phd.eu

Please share this survey with this link:

Chapter 7 Concluding Remarks

The desire of society to minimise or even eliminate crime is a strong and a common feature of many countries. People do not wish to become victims of illegal behaviour and delegate the power to combat crime to the state. However, this task is costly and there are many different methods to decrease delinquency. The question arises what criteria ought to be used when choosing the instruments. The approach adopted in this study is to search for a cost-effective criminal enforcement system. Based on the law and economics perspective, the goal of criminal law is to deter potential offenders from committing crimes. This may be achieved by raising the cost of crime above the expected benefits from illegal behaviour to the potential culprit. A cost-effective policy would maintain the deterrence power, while decreasing the costs of enforcement.

Empirical evidence suggests that deterrence indeed occurs, yet the dominant element is the probability of punishment rather than its severity. Therefore, it seems there is a large scope to reduce the costs of sentencing. Consequently, the first part, and the more extensive, of the thesis, focused on the methods to increase the costs effectiveness of sentencing. The resources, which are saved on the penalty structure, may be transferred to increase the probability of detection and punishment. Nevertheless, the second part of the thesis, discussed a theoretical possibility to save costs also in the element of probability of punishment.

The thesis began with the analysis of the existing major sanctions and measures available in the Western criminal justice systems. Chapter 2 presented a variety of possible sanctions and demonstrated that many of them are effective, yet cost less than imprisonment. Furthermore, there are sanctions and measures that are crime-specific and have the potential to better treat certain wrongdoers. For instance, drug offenders may receive rehabilitation, the license of traffic violators may be revoked, or consensual castration may be provided for serious and untreatable sex offenders. Such reassuring results suggest that the sanctioning system may be expanded to become more cost-effective. However, a broad sentencing continuum has an additional advantage beyond the cost-effectiveness goal. The modern criminal codes are usually extensive and cover a wide range of forbidden actions. Similarly, offenders come from various backgrounds and differ in their characteristics. Therefore, an effective system must be able to “tailor” the criminal justice treatment to the different criminals. Furthermore, the wider is the sentencing continuum, the stronger is the marginal deterrence. In other words,

even if not all crimes are eliminated, at least the most severe wrongdoings, which are sentenced more harshly, are minimised.

Once prosecuted, most criminals are dealt with a limited number of sanctions. Therefore, chapters 3-5 focused on those punishments and, by applying the law and economics and behavioural approach, explored the methods to improve them.

The analysis presented in Chapter 3 demonstrated the advantages of the day-fine system over other models of pecuniary sanctions. A day-fine enables to adjust the sanction not only to the severity of the crime, but also to the wealth of the offender. In turn, the relative burden imposed by the sanction may be equal for all offenders irrespective of their socio-economic status. This type of a fine has the potential to achieve general deterrence together with marginal deterrence. When applying a uniform nominal fine there are always some groups that are under-deterred. If the fine is too low to match the large criminal population of low-income offenders, the wealthy offender may just "buy" the right to offend. Unlike the tort law or regulative tax, the goal of the criminal law is not to achieve a certain level of behaviour, but to prohibit it *per-se*. Thus, offenders should not be enabled to decide when to comply with the criminal law and when to breach it. On the other hand, if the fine is too high, those who may not pay will end up in prison. The latter consequence unnecessarily increases the costs of sentencing since a fine is usually imposed on those offenders who are not found suitable for a prison by the courts. Therefore, a fine which may capture the severity of the crime (number of days) and at the same time adjust to the wealth of the offender (the daily unit) may be considered as optimal and allows to use this sanction as a sole punishment. Over the 20th century some European countries adopted the day-fine model. Nevertheless, there is still scope for expanding this system to other countries. One of the concerns some countries have regarding this fine is the problem of asymmetric information. The financial state of the offender is a crucial element of an efficient day-fine. However, this is private information and it might be costly for the state to retrieve it. Therefore, Chapter 3 analyses this problem and offers a solution based on behavioural law and economics insights. In other words, it is suggested to establish a "secondary enforcement mechanism" which will target the financial misreporting of offenders.

Although day-fines may cover many of the offences, as illustrated by the German example (around 80% of the cases are ending with a fine), other types of sanctions are needed. Therefore, Chapter 4 dealt with two alternative sanctions to prison, i.e. community service and electronic monitoring. The analysis in this chapter started with presenting the net-

widening problem. Some of the most promising alternatives to imprisonment brought less than the expected results. To be precise, community service and electronic monitoring were introduced in some countries with the clear goal to minimise the use of short-term imprisonment. However, in practice it was often used as an alternative to lighter sentences rather than diverting criminals from custody. Based on the law and economics analysis, the net-widening problem has a potential to impede a cost-effective sentencing policy. On the one hand, if the alternatives do not serve their purpose, the system fails to divert offenders from custody. As a result, the prison population continues to grow, and with it, the enforcement costs. On the other hand, if those alternative sanctions are imposed on culprits who may be deterred with lighter sanctions, there is unnecessary spending. For instance, if a person can be deterred by a fine, or a combination of a fine with a suspended prison, it is a waste of resource to impose on him home confinement with electronic monitoring. Although the alternative sanctions are less costly than incarceration, they are more expensive than other methods of punishment.

Using a comparative analysis, Chapter 4 identified possible reasons for the abovementioned problem. It seems that the current structure of the alternative sanctions imposes too low costs of crime on the offender and they are not perceived as a credible substitute for imprisonment. Therefore, in the first stage this chapter discussed a substantive solution. The underlying suggestion is to increase the incapacitating power of community service and electronic monitoring, while offering an additional sanction to expand the sentencing continuum. The suggested solution also clarified the target groups for each sentence and the way to calculate it. The rationale behind this suggestion is on the one hand, to create a credible alternative for prison, which will be supported by the sentencing authorities and the public. On the other hand, to have an additional work-sanction for the middle cases that are too severe for fines, yet too light for the alternatives punishments.

Finally, Chapter 4 suggested that the substantive solution ought to be complemented by a procedural one. Judges, as other people, are susceptible to cognitive biases. Those biases may interfere or assist in using the legal rules in the way the legislator intended. Therefore, this part identified the relevant biases and suggested different procedural rules that may promote the “correct” usage of the alternative sanctions. Nevertheless, it is important to remember, that a crucial element of a successful alternative sanction to prison, is the cooperation and support of the sentencing authorities.

The last sanction analysed in this thesis is imprisonment. Forasmuch as prisons are an inevitable method of punishment to deal with judgment proof offenders, Chapter 5 focused on the methods to reduce the costs of incarceration. The first discussed method is prison privatisation. This chapter analysed the economic justification for having public prisons, yet demonstrated that they should be state-subsidised rather than state-owned. Furthermore, the principal-agent model was applied to demonstrate that private prisons have also potential inefficiencies, and solutions to these problems were offered. Prison privatisation does not mean surrendering the state power to private companies, but simply hiring private providers instead of state employees. Therefore, the state remains accountable for the prisoners. Yet the private providers offer the advantages of innovation and cost-effective operation of the prison in order to reduce the costs of incarceration or improve its quality. This method of reducing prison costs is not common in continental Europe. Therefore, this chapter suggests some possible explanations for this choice and offers to expand prison contracting in those countries as well.

The second instrument to reduce prison costs discussed in this chapter is prison labour. This method is widely accepted across different jurisdiction, yet its goals and implementation may impede it cost-effectiveness. Currently, many jurisdictions often provide work to prisoners while facing losses from unbeneficial contracts. Some reasons that may explain this phenomenon are the non-market orientation that drives prisons. There are different goals of prison labour, sometimes conflicting, and prison labour is not organised efficiently. Therefore, Chapter 5 brings forward arguments for adopting the profit goal in prison labour. Through this aim other goals may be promoted. For instance, a proper environment with adequate incentives for prisoners to work may serve better in preparing them for the outside market. This in turn, may achieve the rehabilitation goal of prisons. Once the prisons adopt the profit goal of prison labour it is easier to promote policies that would increase the efficiency of the prison industry. The existing safeguards for the rights of inmates may reassure that prisoners would not be exploited. At the same time, inmates may receive an opportunity to do something meaningful during their sentence and finish the incarceration punishment more prepared for the outside world.

The law and economics analysis of crime started from two sanctions, i.e. prison and fines. However, the possibilities to deal with criminals are expanded and may better answer the goals of deterrence. The sentencing continuum may include a variety of sanctions that have different costs and different "punitive bite". On the one side of the scale we may place fines

and conditional custody. Both impose lower costs on the state than other punishments. If a suspended prison is not sufficient, supervision may be added and a term of probation imposed. To increase the costs of the punishment for the offender, those two sanctions may also be combined. In case the offender is still not deterred, the enforcement system may continue in the sentencing scale to different alternatives to prison. Incarceration on the other hand, should be maintained only for those who may not be deterred otherwise. Furthermore, crime-specific sentences and measures may also be used to better fit the crime and the offender, e.g. driving license revocation for serious traffic offences.

The advantages of a wide range of criminal sanctions and measures may be compared to the economic notion of "price discrimination". In the market context if the seller (monopolist) holds perfect information regarding the preferences of the consumers and the maximum price they are willing to pay for the good he may adjust the price for each buyer. This way the consumer surplus is turning to the seller's revenue and there is no deadweight loss. Analogically, in the context of the criminal sentencing system, having the possibility to impose different sanctions, and their combination, on the convicted offenders, allows to "discriminate the price" of crime. In theory, some people can be deterred by simply an adjusted fine to their wealth (day-fine). On the other hand, a different criminal might not see pecuniary punishment as a threat, but be better deterred by being obliged to perform unpaid work. Consequently, an effective deterrence may be achieved by varying the punishment depending on the crime and the criminal. Giving the same treatment to all offenders would always lead to a situation where some groups are not treated adequately, thus the state either spends too much resources to prevent them from committing crimes, or too little. "Price discrimination" in sanctions would allow optimising the scarce resources available for the enforcement authorities.

The second part of the thesis focused on the other element of the deterrence theory, i.e. certainty of punishment, and theoretically demonstrated that there is a scope to increase its cost-effectiveness as well. To be precise, insights from behavioural law and economics were used to offer somewhat different monitoring methods in order to improve its effectiveness without increasing the costs. The conclusion from this chapter is that more ambiguity might be introduced in the police work and this change should be salient. The need for saliency in the introduction of the policy was supported by the striking results of a survey. This survey demonstrated that policy changes are not fully known to the relevant population. Therefore, randomisation of the monitoring tactics has to be publicised in order to have the enhancing

effect on deterrence. Without the awareness of potential criminals that the detection became ambiguous there is no possibility to evoke their ambiguity-averse behaviour.

The suggested policy changes throughout this thesis may be complementary. Although each jurisdiction should make the appropriate adjustments, adopting and improving each of the discussed punishments does not exclude the other. As has been suggested before, the resources saved from changing the sentencing system may be invested in improving the certainty of punishment. As a result, the enforcement system may optimise its limited budget and increase the deterrence of illegal behaviour.

If the suggested policy changes in this thesis may potentially be cost-effective, a question arises, why they are not widely implemented? One possible explanation might be the objection of interest groups. Reforms in the criminal law, as any other reform, are not free of political considerations. Therefore, cost-effectiveness of criminal enforcement is not the only consideration taken into account by the lawmakers when designing the criminal justice system.[890] Other arguments might affect the policy designers. For instance, labour unions are a strong interest group that might find those reforms threatening. This is especially true with the changes concerning community service and prison reforms. Labour unions might consider that community service introduces "free labour" and in theory, unfair competition to the law-abiding workers. Similar response may be expected with regard to prison labour. The objection to private prisons, on the other hand, may be raised by the labour unions of public workers. If the operation of prisons is transferred to private hands, and a competition for efficiency is introduced, those workers might lose their jobs, or face a reduction in their benefits. Therefore, whenever reforms are suggested, those interest groups might lobby for their repeal.

Another possible reason to object some of the suggested reforms in this thesis is the practice and the rhetoric of being "tough on crime". The public often demands a harsher treatment of criminals. In turn, politicians, who want to satisfy their constituency, follow this demand and introduce costly sanctions. This practice may bar the expansion of the use of (day) fines to severer offences, or the introduction of electronic monitoring as an actual alternative to imprisonment. However, the public demand might arise from biased perception of crime trends rather than an actual danger. It seems that some criminal reforms were introduced following salient violent offences. This trend might be explained in the spirit of "availability

[890] Of course, other substantial arguments are also security, humanity, etc.

cascades" that were presented in the context of environmental disasters.[891] Similarly, due to the availability heuristic, a salient violent crime creates fear in the public and a feeling that the state is not doing enough to prevent those dangers. For example, in 1998 a law was introduced in Germany, which expanded significantly the use of preventive detention. This criminal reform followed three highly publicised cases of rape and murder of girls aged 7-10 and 18-years old.[892] Later on, this law was criticised and challenged by the ECHR and in the German Constitutional Court.[893] Similarly, an extensive GPS surveillance was introduced in the UK following a very publicised case of the murder of an 8-years-old girl by a known sex-offender.[894] Nevertheless, it is clear that an extensive criminal policy, which increases significantly the costs of sanctioning, may not be based on isolated cases of severe crimes.

There are no conclusive evidence that severity as such reduces crimes, therefore the "tough on crime" policy might not be always justified. Even the US, which is notorious for its harsh criminal policies, recently began rethinking its approach to crime control. There is a growing understanding that harsh sanctions might not be the proper response. It imposes excessive costs on the society, yet its effectiveness is not clear. For instance, the three-strikes laws placed in prison many offenders who committed relatively light crimes.[895] Thus, the resources spent on keeping those offenders behind bars for decades may be unjustified. This situation calls for a change and a revision of the sanctioning system.

In Europe, the criminal enforcement systems are not as harsh as in the US. Nevertheless, also in this continent there is a discussion to reduce the costs of crime control, especially in light of the recent financial crisis.[896]

The advantage of the law and economics approach is that it provides rational criteria for choosing the way to design the sanctioning system. It offers possible solutions to highly relevant problems nowadays, without taking a political stand. For instance, suggestions

---

[891] Kuran and Sunstein (1999), *supra* note 869. In their paper the authors bring multiple examples where the availability heuristic led to exaggerated perception of the danger of some environmental disasters. In turn, following the public pressure, politicians introduced costly and unnecessary preventive measures.
[892] Merkel (2010), *supra* note 152, p. 1049.
[893] Frieder Dünkel and Dirk van Zyl Smit, "Preventive Detention of Dangerous Offenders Re- examined: A Comment on two decisions of the German Federal Constitutional Court (BVerfG – 2 BvR 2029/01 of 5 February 2004 and BVerfG – 2 BvR 834/02 – 2 BvR 1588/02 of 10 February 2004) and the Federal Draft Bill on Preventive Detention of 9 March 2004," German Law Journal 5(6) (2004), 619-637.
[894] Mair and Nellis (2013), *supra* note 514, p. 70.
[895] Erik Eckholmjan, "In a Safer Age, U.S. Rethinks Its 'Tough on Crime' System," *The New York Times* (January 13, 2015), available at http://www.nytimes.com/2015/01/14/us/with-crime-down-us-faces-legacy-of-a-violent-age-.html?_r=0 (accessed on 23.1.2015); Scott Michels, "Rethinking 'Tough on Crime'," *The Crime Report* (June 28, 2012), available at http://www.thecrimereport.org/news/inside-criminal-justice/2012-06-rethinking-tough-on-crime (accessed on 23.1.2015).
[896] See for example, Chapter 4, discussing the recent suggested reforms in the Netherlands.

concerning the expansion of alternative sanctions may be identified with the left wing. On the other hand, introduction of private prisons may be perceived as a right wing policy. Moreover, the approach adopted in this thesis does not contradict the goals of the different countries. The aim of reducing crime is acknowledged and stressed. And compatible with the cost-saving approach in many jurisdictions, this thesis offers to search for a cost-effective policy.

Scope for Future Research

This thesis identified different problems in the current crime control practices and offered policy changes to promote costs-effective enforcement system. Some of those suggestions are supported by empirical evidence, yet others are based on theoretical grounds. Therefore, more empirical work on the matter may increase the validity of the proposed policies. In particular, countries may benefit from small-scale field experimentation as has been already done in Switzerland.[897] Matters of ethics may be dealt by acquiring a full consent of the participants. Those experiments may promote more human and less expensive policies.

An additional interesting question that is worth exploring through empirical research relates to the risk preference of potential offenders. Do those preferences differ from the risk preferences of the law-abiding population and are they consistent through the course of life and the different decisions the potential offender faces? The majority of law and economics literature on crime assumes that criminals are risk neutral.[898] Some scholars investigate whether their results change if offenders are assumed to be risk-averse.[899] Finally, Gary Becker in his seminal paper mentioned that the observation that criminals are more sensitive to changes in probability of detection and punishment can suggest they are risk-seeking.[900] On the part of behavioural studies, the prospect theory suggests that there is no individual risk preference, but that those preferences depend on the framing of the decision problem as a loss or a gain. However, the question remains to what extent risk preference is relevant to the choice of an individual to commit a crime. Known criminals might have similar risk attitudes to the law-abiding population, but simply face different opportunity costs. The majority of criminals have lower education, and are unemployed or have low-income professions.[901]

---

[897] See for example, Killias, Aebi and Ribeaud (2000), *supra* note 231.

[898] Nuno Garoupa, "The Theory of Optimal Law Enforcement," *Journal of Economic Surveys* 11(3) (1997), 267-295.

[899] See for example Polinsky and Steven Shavell (1984), *supra* note 25.

[900] Becker (1968), *supra* note 13, p. 176.

[901] See for example, Steven Raphael and Rudolf Winter□Ebmer, "Identifying the Effect of Unemployment on Crime," *Journal of Law and Economics* 44(1) (2001), 259-283; Lance Lochner and Enrico Moretti, "The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports," *NBER Working Paper No.*

Thus, crime may be more attractive for them, despite the risk of being caught. Furthermore, many of the offenders are repeated criminals,[902] thus not deterred by the stigma of being convicted. A person, who has a prestigious position and a clean record, might choose not to commit a crime in order not to jeopardise his employment. Moreover, the opportunity costs for uneducated and unemployed individuals for being incapacitated are lower than for employed and educated people. Another explanation why some people commit crimes and some do not, might lie within the behavioural law and economics insights. Maybe known criminals are overconfident regarding their chances of not being caught.[903] This explanation would be relevant if the actual probability of punishment is high. On the contrary, if the actual probability is low, an alternative explanation can be that those who commit crimes are in fact more rational than the general population.[904] In this case, repeated criminals who commit multiple crimes and rarely are caught may adjust their perception of probability of detection[905] and decide that crime "pays off". Future empirical research may shed some light on why certain groups choose to commit crimes. This, in turn, would help designing a more effective criminal enforcement system.

Another suggestion for future research is the investigation of celerity. It may be said that this is the missing element in the economic theory of deterrence. Although rarely mentioned, in practice the focus of the theoretical and the empirical literature is on the severity and the probability of punishment. It seems that swift punishments may increase deterrence considering the tendency of criminals to discount future losses. The same result may be expected also based on the behavioural law and economics insight. Therefore, empirical investigation of this element and theoretical analysis of the ways to increase its cost-effectiveness may further optimise the use of scarce resources to combat crimes.

An additional interesting avenue for further research is the other side of the "deterrence equation". This thesis deals with the costs of crime for the offenders and how to increase them in order to improve deterrence without exceeding the available resources. Another interesting point for research is how to decrease the benefits from crime, in order to deter illegal behaviour. Some limited examples may be already found in practice. Forfeiture of the crime

---

8605 (2001); Lance Lochner, "Education, Work, and Crime: A Human Capital Approach," *International Economic Review* 45(3) (2004), 811-843; Blumstein, Cohen, Roth, and Visher 1986), *supra* note 714, p. 7.

[902] See the studies cited *supra* in note 714.

[903] Se for instance, and Ulen (2009), *supra* note 42, p. 417.

[904] See for example, the Harrington Paradox in the context of environmental law enforcement, in Winston Harrington, "Enforcement Leverage when Penalties are Restricted," *Journal of Public Economics* 37(1) (1988), 29–53.

[905] Anwar and Loughran (2011), *supra* note 845.

proceeds targets the benefits the offenders receive from crime, thus reducing its attractiveness. Another example may be found in the context of a kidnaping offence. Some countries discussed policies to prohibit and punish the payment of ransom in cases of abductions.[906] This policy targets the benefits from this specific crime, i.e. the economic "prize" received in return for the kidnapped person, in order to make this offence unattractive. A possible example for hypothetical policy in the same spirit may be officially not to protect kidnapped guards in prisons. If the inmate is not expected to receive his demand in exchange for the release of the guard, the benefits of kidnapping disappear.

Finally, future research may focus on methods to modernise the criminal justice system and to make it more tailored to the specific offenders. Day-fines are a good example of making the sanction more "matching" the offender. Similar reforms may be pursued in the design of prisons for example. Maybe the era of having prisons for mere incapacitation is coming to an end. It might be more cost-effective to develop a new prison model that would be less uniform and more customised to different offenders. There may be closed prisons for the most dangerous and undeterrable offenders. On the other hand, open prisons might be introduced with a stronger focus on employment and development of the offenders' skills. The extent of freedom may vary between different open prisons. The goal of imprisoning may shift from pure incapacitation towards developing the sense of responsibility among prisoners. The transfer of imprisonment from closed institutions to outdoors is especially feasible in light of the developments in surveillance technologies. A prison model, which considers more closely specific features of the offender, may reduce the costs of sentencing, and at the same time promote better adjustment of offenders to the society.

[906] Claudio Detotto, Bryan C. McCannon and Marco Vannini, "Understanding Ransom Kidnapping and Its Duration," working paper (2012), available at http://ssrn.com/abstract=2104265 (accessed on 27.7.2014).

References

Acton, Harry B. ed., *The Philosophy of Punishment* (St. Martin's Press, New York, 1969).

Aertsen, Ivo and Katrien Lauwaert, "Community Sanctions and Measures in Belgium" in *Community Sanctions and Measures in Europe and North America*, Albrecht, Hans-Jörg and Anton van Kalmthout eds. (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002).

Akerlof, George, "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism," *Quarterly Journal of Economics* 84(3) (1970), 488-500.

Albrecht, Hans-Jörg and Elmer H. Johnson, "Fines and Justice Administration: The Experience of the Federal Republic of Germany," *International Journal of Comparative and Applied Criminal Justice* 4 (1980), 3-14.

Albrecht, Hans-Jörg, "Fines in the Criminal Justice System," in *Developments in Crime and Crime Control Research*, Klaus Sessar ed. (Spring-Verlag, New York, 1991), 150-169.

Albrecht, Hans-Jörg and Anton van Kalmthout, "Intermediate Penalties: European Developments in Conception and Use of Non-Custodial Criminal Sanctions," in *Community Sanctions and Measures in Europe and North America,* Albrecht, Hans-Jörg and Anton van Kalmthout eds. (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), 1-11.

Albrecht, Hans-Jörg, "Sanction Policies and Alternative Measures to Incarceration: European Experiences with Intermediate and Alternative Criminal Penalties," United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (2012), available at http://www.unafei.or.jp/english/pdf/RS_No80/No80_07VE_Albrecht.pdf (accessed on 22.1.2013).

Albrecht, Hans-Jörg, "Sentencing in Germany: Explaining Long-Term Stability in the Structure of Criminal Sanctions and Sentencing," *Law and Contemporary Problems* 76 (2013), 211-236.

Alm, James, Betty Jackson and Michael McKee, "Institutional Uncertainty and Taxpayer Compliance," *The American Economic Review* 82(4) (1992), 1018-1026.

Ancel, Marc, *Suspended Sentence* (Heinemann, London, 1971).

Andanaes, Johannes, "Drinking and Driving Laws in Scandinavia," *Scandinavian Studies in Law* (1984), 12-23.

Anwar, Shamen and Thomas A. Loughran, "Testing a Baysian Learning Theory of Deterrence Among Serious Juvenile Offenders," *Criminology* 49(3) (2011), 667-698.

Arrow, Kenneth J., *Social Choice and Individual Values*, 2nd ed. (John Wiley and Sons, Inc. New York, 1963).

Ariely, Dan, *Predictably Irrational*, first revised and expanded edition (HarperCollins Publishers, New York, 2009).

Ashworth, Andrew, *Sentencing and Criminal Justice* (Cambridge University Press, Cambridge UK, 2010).

Avio, Kenneth L., "On Private Prisons: An Economic Analysis of the Model Contract and Model Statute for Private Incarceration," *New England Journal on Criminal & Civil Confinement* 17(2) (1991), 265-300.

Avio, Kenneth L., "The Economics of Prisons," *European Journal of Law and Economics* 6 (1998), 143–175.

Austin, James and Barry Krisberg, "Wider, Stronger, and Different Nets: the Dialectics of Criminal Justice Reform", *Journal of Research in Crime and Delinquency* 18 (1981), 165- 196.

Ayres, Ian and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate*, (Oxford University Press, Oxford/NY, 1992).

Bachmaier, Door L. and Antonio del Moral García, *Criminal Law in Spain* (Kluwer Law International, the Netherlands, 2010).

Baker, Tom, Alon Harel and Tamar Kugler, "The Virtues of Uncertainty in Law: An Experimental Approach," *Iowa Law Review* 89 (2004), 443-487.

Baird, Christopher and Dennis Wagner, "Measuring Diversion The Florida Community Control Program," *Crime & Delinquency* 36 (1990), 112-125.

Bajari, Patrick and Steven Tadelis, "Incentives versus Transaction Costs: a Theory of Procurement Contracts," *RAND Journal of Economic*s 32(3) (2001), 387–407.

Bales, Willian D., Laura E. Bedard, Susan T. Quinn, David T. Ensley and Glen P. Holley, "Recidivism of Public and Private State Prison Inmates in Florida," *Criminology & Public Policy* 4(1) (2005), 57-82.

Banner, Stuart, *The Death Penalty: An American History* (Harvard University Press, Cambridge, 2002).

Bar-Niv, Moshe and Zvi Safra, "On the Social Desirability of Wealth-Dependent Fine Policies," *International Review of Law and Economics* 22 (2002), 53-59.

Barbarino, Alessandro and Giovanni Mastrobuoni "The Incapacitation Effect of Incarceration: Evidence from Several Italian Collective Pardons," IZA Discussion Paper No. 6360 (2012), available at http://ssrn.com/abstract=2010975 (accessed 28.1.2013).

Bayer, Patrick, Randi Hjalmarsson and David Rozen, "Building Criminal Capital Behind Bars: Peer Effects in Juvenile Corrections," *The Quarterly Journal of Economics* (2009), 105-147.

Beccaria, Cesare B., *Of Crimes and Punishment*, translated from French by Richard Davies (Cambridge University Press, New York, 1995), originally published in Italian in 1764.

Beccaria, Cesare, *An Essay on Crimes and Punishments*, Adolph Caso ed. (International Pocket Library, Boston, 1983).

Becker, Gary S., "Crime and Punishment: An Economic Approach," *The Journal of Political Economy* 76(2) (1968), 169-217.

Becker, Selwyn W. and Fred O. Brownson, "What Price Ambiguity? Or the Role of Ambiguity in Decision-Making," *Journal of Political Economy* 72(1) (1964), 62-73.

Bentham, Jeremy, *Theory of Legislation: Principles of the Penal Code*, vol. 2 (Weeks, Jordan & Company, Boston, 1840).

Bentham, Jeremy, *Theory of Legislation* Vol. 2, (New York: Harcourt Brace Co., 1931). First published in French by Etienne Dumont in 1802.

Bentham, Jeremy, *The Panopticon Writings,* Miran Bozovic ed. (Verso, London and NY, 1995).

Bentham, Jeremy, *An Introduction to the Principles of Morals and Legislation* (Dover Publications, INC., New York 2007). First published in 1780.

Beyens, Kristel and Marijke Roosen, "Electronic Monitoring in Belgium: a Penological Analysis of Current and Future Orientations," *European Journal of Probation* 5(3) (2013), 56-70.

Beyens, Kristel and Dan Kaminski, "Is the Sky the Limit? Eagerness for Electronic Monitoring in Belgium," in *Electronically Monitored Punishment: International and Critical Perspectives,* Mike Nellis, Kristel Beyens and Dan Kaminski eds. (Routledge, New York, 2013), 150-171.

Blay, Ester, "Work for the Benefit of the Community as a Criminal Sanction in Spain," *Probation Journal: The Journal of Community and Criminal Justice* 55(3) (2008), 245-259.

Blay, Ester, ""It Could Be Us": Recent Transformation in the Use of Community Service as a Punishment in Spain," *European Journal of Probation* 2(1) (2010), 62–81.

Block, Michael K. and Vernon Gerety, "Some Experimental Evidence on Differences between Student and Prisoner Reactions to Monetary Penalties and Risk," *Journal of Legal Studies* 24 (1995), 123-138.

Blum, Walter J. and Harry Kalven, Jr., "The Uneasy Case for Progressive Taxation," *The University of Chicago Law Review* 19(3) (1951), 417-520.

Blumstein, Alfred, Jacqueline Cohen and Daniel Nagin eds., *Deterrence and Incapacitation: Estimating the Effect of Criminal Sanctions on Crime Rates* (The National Academies Press, Washington, D.C., 1978).

Blumstein, Alfred, Jacqueline Cohen and Paul Hsieh, *The Duration of Adult Criminal Careers: Final Report* (National Institute of Justice, Washington, 1982).

Blumstein, Alfred, Jacqueline Cohen, Jeffrey A. Roth, and Christy A. Visher, eds., *Criminal Careers and "Career Criminals"* (National Academy Press, Washington, D.C., 1986).

Boetticher, Axel and Johannes Feest, "German Criminal and Prison Policy" in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 361-390.

Bonta, James, Suzanne Wallace-Capretta and Jennifer Rooney, "A Quasi-Experimental Evaluation of an Intensive Rehabilitation Supervision Program," *Criminal Justice and Behavior* 27(3) (2000), 312-329.

Boone, Miranda, "Only for Minor Offences: Community Service in the Netherlands," *European Journal of Probation* 2(1) (2010), 22-40.

Bottoms, Anthony, "Empirical Research Relevant to Sentencing Frameworks: Reform and Rehabilitation," in *Principled Sentencing: Readings on Theory and Policy*, von Hirsch, Andrew, Andrew Ashworth and Julia Roberts eds., 3rd ed. (Hart Publishing, Oxford, 2009) 16-17.

Bowles, Roger, Michael Faure and Nuno Garoupa, "Economic Analysis of the Removal of Illegal Gains," *International Review of Law and Economics* 20 (2000), 537-549.

Bowels, Roger, Michael Faure and Nuno Garoupa, "Forfeiture of Illegal Gains: An Economic Perspective," *Oxford Journal of Legal Studies* 25(2) (2005), 275-295.

Boycko, Maxim, Andrei Shleifer and Robert W. Vishny, "A Theory of Privatisation," *The Economic Journal* 106(435) (1996), 309-319.

Bradford, John M.W., "Organic Treatments for the Male Sexual Offender," *Annals of the New York Academy of Sciences* 528 (1988), 193-202.

Brickman, Philip, Dan Coates and Ronnie Janoff-Bulman, "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology* 36(8) (1978), 917-927.

Browne, Julie, "The Labor of Doing Time" in *Criminal Injustice: Confronting the Prison Crisis*, Elihu Rosenblatt ed. (South End Press, Cambridge MA, 1996), 61-72.

Bungerfeldt, Jan, "The Impact of Alternative Sanctions and the Electronic Monitoring," seminar in Vilnius, Lithuania (3 March, 2011), available at http://www.tm.lt/dok/Renginiai/Monitoringas20110303/Bungerfeldt.pdf (accessed on 22.1.2013).

Bungerfeldt, Jan, "Electronic Monitoring in Sweden: The Past, Present and the Future," CEP Conference Stockholm 2012.

Buxton, Thomas F., *An Inquiry: Whether Crime and Misery are Produced or Prevented, by Our Present System of Prison Discipline*, 2nd ed. (John and Arthur Arch, London, 1818).

Casey, Jeff T. and John T. Scholz, "Boundary Effects of Vague Risk Information On Taxpayer Decisions," *Organizational Behaviour and Human Decision Processes* 50 (1991a), 360-394.

Casey, Jeff T. and John T. Scholz, "Beyond Deterrence: Behavioral Decision Theory and Tax Compliance," *Law and Society Review* 25(4) (1991b), 821-844.

Camerer, Colin and Martin Weber, "Recent Developments in Modelling Preferences: Uncertainty and Ambiguity," *Journal of Risk and Uncertainty* 5 (1992), 325-370.

Cameron, Samuel, "The Economics of Crime Deterrence: A Survey of Theory and Evidence," *Kyklos* 41 (1988), 301-323.

Cameron, Samuel, "A Review of Econometric Evidence on the Effects of Capital Punishment," *Journal of Socio-Economics* 23(1) (1994), 197–214.

Carbral, Sandro and Stéphane Saussier, "Organizing Prisons through Public-Private Partnership: a Cross-Country Investigation," *Brazilian Administration Review* 10(1) (2013), 100-120.

Carpenter, Alison G., "Belgium, Germany, England, Denmark and the United States: The Implementation of Registration and Castration Laws as Protection against Habitual Sex Offenders," *Dickinson Journal of International Law* 16(2) (1998), 435-457.

Céré, Jean-Paul, "Le Système Pénitentiaire Français" in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 339-360.

Chambers, Max, "Expanding Payment-by-Results: Strategic Choices and Recommendations," *Policy Exchange* (2012).

Chambliss, William J., "Types of Deviance and the Effectiveness of Legal Sanctions," *Wisconsin Law Review* (1967), 703-719.

Chen, Keith M. and Jesse M. Shapiro, "Do Harsher Prison Conditions Reduce Recidivism? A Discontinuity based Approach," *American Law and Economics Review* 9(1) (2007), 1-29.

Cherry, Todd L., "Financial Penalties as an Alternative Criminal Sanction Evidence from Panel Data," *Atlantic Economic Journal* 29(4) (2001), 450-458.

Chu, Cyrus C.Y. and Naville Jiang, "Are Fines More Efficient than Imprisonment," *Journal of Public Economics* 51 (1993), 391-413.

Clark, John, James Austin, and Alan D. Henry, "'Three Strikes and You're Out': A Review of State Legislation," National Institute of Justice, US Department of Justice (1997) available at https://www.ncjrs.gov/pdffiles/165369.pdf (accessed on 28.1.2013).

Coase, Ronald H., "Problem of Social Cost," *The Journal of Law and Economics* 3(1) (1960), 1-69.

Cohen, Bernard C., *The Press and Foreign Policy* (Princeton University Press, New Jersey, 1965).

Cohen, Stanley, "The Punitive City: Notes on the Dispersal of Social Control," *Contemporary Crises* 3 (1979), 339-363.

Cohen, Stanley, *Vision of Social Control* (Polity Press, Cambridge, 1985).

Conlisk, John, "Why bounded rationality?" *Journal of Economic Literature* XXXIV (1996), 669-700.

Connelly, Clare and Shanti Williamson, "A Review of the Research Literature on Serious Violent and Sexual Offenders," The Scottish Executive Central Research Unit (2000) available at http://www.scotland.gov.uk/Resource/Doc/156656/0042094.pdf (accessed on 20.1.2013).

Cooter, Robert and Thomas Ulen, *Law and Economics*, 4th ed. (Addison Wesley, Boston, 2003).

Core, John E., Wayne R. Guay, and David F. Larcker, "Executive Equity Compensation and Incentives: A Survey," *Economic Policy Review* (2003), 27-50.

Cornu, F. Cornu, *Catamnestic Studies on Castrated Sex Delinquents from a Forensic-Psychiatric Viewpoint* (Karger, Basel, 1973).

Criminal Sanctions Agency, "Prison Policy, Prison Regime and Prisoners' Rights in Finland" in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 317-338.

Criminal Sanctions Agency, "Criminal Sanctions Agency statements and annual report for the year 2012", 2013 [in Finnish], available at http://www.rikosseuraamus.fi/material/attachments/rise/julkaisut-monisteetjaraportit/6FcvDvctb/1_2013_TP_ja_toimintakertomus_2012_korj220313VALMIS.pdf (accessed on 12.2.2014).

Criminal Sanctions Agency, "Electronic Monitoring," (2014), available at http://www.rikosseuraamus.fi/en/index/sentences/monitoringsentence.html (accessed on 4.4.2014).

Culp, Richard F., "The Rise and Stall of Prison Privatization: An Integration of Policy Analysis Perspectives", *Criminal Justice Policy Review* 16 (2005), 412-442.

De Geest, Gerrit, "Who Should Be Immune from Tort Liability?" *The Journal of Legal Studies* 41(2) (2012), 291-319.

Detotto, Claudio, Bryan C. McCannon and Marco Vannini, "Understanding Ransom Kidnapping and Its Duration," working paper (2012), available at http://ssrn.com/abstract=2104265 (accessed on 27.7.2014).

Degenhardt, Stephan, "Jailhouse Chic: Investors Remake Germany's Disused Prisons," (Der Spiegel, December 3, 2013), available at http://www.spiegel.de/international/germany/disused-prisons-in-germany-turned-into-hotels-and-apartments-a-936949.html (accessed on 23.4.2014).

Dezhbakhsh, Hashem, Paul H. Rubin and Joanna M. Shepherd, "Does Capital Punishment Have a Deterrent Effect? New Evidence from Postmoratorium Panel Data," *American Law and Economics Review* 5(2) (2003), 344-376.

Dezhbakhsh, Hashem and Joanna M. Shepherd, "The Deterrent Effect of Capital Punishment: Evidence from a 'Judicial Experiment'," *Economic Inquiry* 44(3) (2006), 512–535.

Di Tella, Rafael and Ernesto Schargrodsky, "Do police reduce crime? Estimates Using the Allocation of Police Forces After a Terrorist Attack," *The American Economic Review* 94(1) (2004), 115-133.

Di Tella, Rafael and Ernesto Schargrodsky, "Criminal Recidivism after Prison and Electronic Monitoring," *Journal of Political Economy* 121(1) (2013), 28-73.

Dölling, Dieter, Horst Entorf, Dieter Hermann and Thomas Rupp, "Meta-Analysis of Empirical Studies on Deterrence," in *Punitivity International Developments* Vo.3, Helmut Kury and Evelyn Shea eds. (Universitatsverlag Dr. N. Brockmeyer 2011), 315-378.

Dolores, M and Valles Port, "Community Sanctions and Measures in Spain and Catalonia," in *Community Sanctions and Measures in Europe and North America*, Hans-Jörg Albrecht and Anton van Kalmthout eds. (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), 511-534.

Donohue, John J. and Justin Wolfers, "Uses and Abuses of Empirical Evidence in the Death Penalty Debate," *Stanford Law Review* 58(3) (2005), 791-845.

Doob, Anthony N. and Cheryl M. Webster, "Sentence Severity and Crime: Accepting the Null Hypothesis," *Crime and Justice* 30 (2003), 143-195.

Downs, Anthony, *Inside Bureaucracy* (Little, Brown and Company, Boston, 1967).

Dilulio, John J., Jr., "What's Wrong with Private Prisons," *Public Interest* 92 (1988), 66-83.

Draca, Mirko, Stephen Machin and Robert Witt, "Panic on the Streets of London: Police, Crime and the July 2005 Terror Attacks," *The American Economic Review* 101 (2011), 2157–2181.

Drago, Francesco, Roberto Galbiati and Pietro Vertova, "The Deterrent Effects of Prison: Evidence from a Natural Experiment," *Journal of Political Economy* 117(2) (2009), 257-280.

Drago, Francesco, Roberto Galbiati, and Pietro Vertova,"Prison Conditions and Recidivism," *American Law and Economics Review* 13(1) (2011), 103-130.

Drost, Marijke, "Psychiatric Assessment after Every Six Years of the TBS Order in the Netherlands," *International Journal of Law and Psychiatry* 29 (2006), 257–261.

Dünkel, Frieder and Dirk van Zyl Smit, "Preventive Detention of Dangerous Offenders Re-examined: A Comment on two decisions of the German Federal Constitutional Court (BVerfG – 2 BvR 2029/01 of 5 February 2004 and BVerfG – 2 BvR 834/02 – 2 BvR 1588/02 of 10 February 2004) and the Federal Draft Bill on Preven- tive Detention of 9 March 2004," *German Law Journal* 5(6) (2004), 619-637.

Durlauf, Steven N. and Daniel S. Nagin, "Imprisonment and Crime: Can Both Be Reduced?" *Criminology & Public Policy* 10(1) (2011), 13-54.

Easterbrook, Frank H., "Criminal Procedure as a Market System," *The Journal of Legal Studies* 12(2) (1983), 289-332.

Eckholmjan, Erik, "In a Safer Age, U.S. Rethinks Its 'Tough on Crime' System," *The New York Times* (January 13, 2015), available at http://www.nytimes.com/2015/01/14/us/with-crime-down-us-faces-legacy-of-a-violent-age-.html?_r=0 (accessed on 23.1.2015).

Egebark Johan and Mathias Ekström, "Can Indifference Make the World Greener?", working paper (2014).

Ehrlich, Isaac, "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation," *Journal of Political Economy* 81(3) (1973), 521-565.

Ehrlich, Isaac, "The Deterrent Effect of Capital Punishment: A Question of Life and Death," *The American Economic Review* 65 (1975), 397–417.

Ehrlich, Isaac, "Capital Punishment and Deterrence: Some Further Thoughts and Additional Evidence," *Journal of Political Economy* 85 (1977), 741–788.

Ehrlich, Isaac, "On the Usefulness of Controlling Individuals: An Economic Analysis of Rehabilitation," *The American Economic Review* 71(3) (1981), 307-322.

Einhorn, Hillel J. and Robin M. Hogarth, "Decision Making under Ambiguity," *The Journal of Business* 59(4) (1986), S225-S250.

Engel, Christoph and Daniel Nagin, "Who is Afraid of the Stick? Experimentally Testing the Deterrent Effect of Sanction Certainty," working paper (2012).

Englich, Birte and Thomas Mussweiler, "Sentencing under Uncertainty: Anchoring Effects in the Courtroom," *Journal of Applied Social Psychology* 31(7) (2001), 1535-1551.

Englich, Birte, Thomas Mussweiler and Fritz Strack, "Playing Dice with Criminal Sentences: The Influence of Irrelevant Anchors on Experts' Judicial Decision Making," *Personality and Social Psychology Bulletin* 3 (2006), 188-200.

Entorf, Horst and Hannes Spengler, "Is Being 'Soft on Crime' the Solution to Rising Crime Rates? Evidence from Germany," IZA discussion paper (November 2008).

Entorf, Horst, "Crime, Prosecutors, and the Certainty of Conviction," IZA Discussion paper No. 5670 (2011).

Ellsberg, Daniel, "Risk, Ambiguity, and the Savage Axioms", *The Quarterly Journal of Economics* 75(4) (1961), 643-669.

Eser, Albin, "Germany," *The American Journal of Comparative Law* 21(2) (1973), 245-262.

Ewald, Alec and Brandon Rottinghaus eds., *Criminal Disenfranchisement in an International Perspective* (Cambridge University Press, Cambridge, UK, 2009).

Fagan, Jeffrey, "Public Policy Choices on Deterrence and the Death Penalty: A Critical Review of New Evidence," Testimony before the Joint Committee on the Judiciary of

the Massachusetts Legislature on House Bill 3834, "An Act Reinstating Capital Punishment in the Commonwealth" (2005), available at http://www.deathpenaltyinfo.org/MassTestimonyFagan.pdf (accessed on 3.4.2014).

Fenn, Paul and Cento Veljanovski, "A Positive Economic Theory of Regulatory Enforcement," *The Economic Journal* 98(393) (1988), 1055-1070.

Finn, Mary and Suzanne Muirhead-Steven, "The Effectiveness of Electronic Monitoring with Violent Male Parolees," *Justice Quarterly* 19(2) (2002), 293-312.

Foucault, Michel, *Discipline and Punish: The Birth of the Prison* (Penguin Books Ltd. London, 1975), translated from French to English by Allen Lane.

Fox, Craig R. and Amos Tversky, "Ambiguity Aversion and Comparative Ignorance," *The Quarterly Journal of Economics* (1995), 585-603.

Frederick, Shane and George Loewenstein, "Hedonic Adaptation" in *Well-Being: The Foundation of Hedonic Psychology*, Daniel Kahneman, Ed Diener and Nobert Schwarz eds. (Russel Sage Foundation, New York, 1999), 302-329.

Gandini, Luisa and Sebastiano Zinna, "Italy" in *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), 489-490.

Garoupa, Nuno, "The Theory of Optimal Law Enforcement," *Journal of Economic Surveys* 11(3) (1997), 267-295.

Garoupa, Nuno, "Behavioral Economic Analysis of Crime: A Critical Review," *European Journal of Law and Economics* 15 (2003), 5–15.

Gendreau, Paul, Claire Goggin and Francis T. Cullen, "The Effects of Prison Sentences on Recidivism," Public Works and Government Services Canada (1999), available at http://www.prisonpolicy.org/scans/gendreau.pdf (accessed on 19.06.2012).

Ghosh, Dipankar and Terry L. Crain, "Structure of Uncertainty and Decision Making: An Experimental Investigation," *Decision Sciences* 24(4) (1993), 789-807.

Gillespie, Robert W., "Fines as an Alternative to Incarceration: The German Experience," *Federal Probation* 20(44) (1980), 22-26.

Glassner, Barry, Margret Ksander and Bruce Berg, "A Note on the Deterrent Effect of Juveniles vs. Adult Jurisdiction," *Social Problems* 31(2) (1983), 219-221.

Glaser, Daniel and Margaret A. Gordon, "Profitable Penalties for Lower Level Courts," *Judicature* 73(5) (1990), 248-252.

Glaze, Lauren E. and Seri Palla, "Probation and Parole in the United States, 2004," Bureau of Justice Statistics (2005) available at http://bjs.gov/content/pub/pdf/ppus04.pdf (accessed on 18.1.2013).

Greenberg, Jeff, Kipling D. Williams and Mary K. O'brian, "Considering the Harshest Verdict First: Biasing Effects on Mock Juror Verdicts," *Personality and Social Psychology Bulletin* 12(1) (1986), 41-50.

Grinnell, Frank W., "The Common Law History of Probation: An Illustration of the "Equitable" Growth of Criminal Law," *Journal of Criminal Law and Criminology (1931-1951)* 32(1) (1941), 15-34.

Hall, Robert and Alvin Rabushka, "A Proposal to Simplify Our Tax System," *The Wall Street Journal* (December 10, 1981).

Hall, Robert and Alvin Rabushka, *The Flat Tax*, 2nd ed. (Hoover Institution Press, California, 2007).

Hardin, Richard, "Private Prisons," *Crime and Justice* 28 (2001), 265-346.

Harel, Alon and Uzi Segal, "Criminal Law and Behavioral Law and Economics: Observations on the Neglected Role of Uncertainty in Deterring Crime," *American Law and Economics Review* 1(1/2) (1999) 276-312.

Harrington, Winston, "Enforcement Leverage when Penalties are Restricted," *Journal of Public Economics* 37(1) (1988), 29–53.

Harrendorf, Stefan, Markku Heiskanen and Steven Malby (eds.), "International Statistics on Crime and Justice", European Institute for Crime Prevention and Control, Affiliated with the United Nations (2010).

Harrington, Winston, "Enforcement Leverage when Penalties are Restricted," *Journal of Public Economics* 37 (1988), 29-53.

Hart, H.L.A., *Punishment and Responsibility* (Oxford University Press, Oxford, 1968).

Hart, Oliver, Andrei Shleifer and Robert W. Vishny, "The Proper Scope of Government: Theory and an Application to Prisons," *The Quarterly Journal of Economics* (1997), 1127-1161.

Haverkamp, Rita, Markus Mayer and René Lévy, "Electronic Monitoring in Europe," *European Journal of Crime, Criminal Law and Criminal Justice* 12(1) (2004), 36–45.

Heim, Nikolaus and Carolyn Hursch, "Castration for Sex Offenders: Treatment or Punishment? A Review and Critique of Recent European Literature," *Archives of Sexual Behavior* 8(3) (1979), 281-304.

Helland, Eric and Alexander Tabarrok, "Does Three Strikes Deter? A Nonparametric Estimation," *The Journal of Human Resources* 42(2) (2007), 309-330.

Hemmer, Thomas, Christopher H. Stinson and Igor Vaisman, "Self-Audits, Penalties and Taxpayer Compliance," in 1993 University of Illinois Tax Research Symposium, 29-30.

Henrichson, Christian and Ruth Delaney, "The Price of Prisons What Incarceration Costs Taxpayers," Vera Institute for Justice (2012), available at http://www.vera.org/pubs/special/price-prisons-what-incarceration-costs-taxpayers (accessed on 3.4.2014).

Hesseling, Rene, "Displacement: A Review of the Empirical Literature," in *Crime prevention studies*, R. Clarke ed. (III. Monsey, NY: Criminal Justice Press, 1994), 197-230.

Hillsman, Sally T., "Fines and Day Fines," *Crime and Justice* 12 (1990), 49-98.

Hobbes, Thomas, *Leviathan or the Matter, Form and Power of a Commonwealth Ecclesiastical and Civil*, 1st ed. (Basil Blackwell, s.d., Oxford, 1651).

Horovitz, Anat and Uzi Segal, "The Ambiguous Nature of Ambiguity and Crime Control," *NYU Journal of Law and Liberty* 2 (2007), 541-556.

Howard, Philip, Brian Francis, Keith Soothill and Les Humphreys, "OGRS 3: The Revised Offender Group Reconviction Scale," Ministry of Justice (2009), available at http://www.eprints.lancs.ac.uk/49988/1/ogrs3.pdf (accessed on 23.3.2014).

Huff, Kevin B., "The Role of Corporate Compliance Programs in Determining Corporate Criminal Liability: A Suggested Approach," *Columbia Law Review* 96(5) (1996), 1252-1298.

Illescas, Santiago R., Julio Sánchez-Meca and Vicente Garrido Genovés, "Treatment of Offenders and Recidivism: Assessment of the Effectiveness of Programmes Applied in Europe," *Psychology in Spain* 5(1) (2001), 47-62.

Industries Review Team, Regime Service Group, *A Review of Prison Industries in England and Wales* (Home Office, London, 2003).

Ispahani, Laleh, "Voting Rights and Human Rights: A Comparative Analysis of Criminal Disenfranchisement Laws," in *Criminal Disenfranchisement in an International Perspective*, Alec Ewald and Brandon Rottinghaus eds. (Cambridge University Press, Cambridge, UK, 2009).

Jan Bungerfeldt, "Electronic Monitoring in Sweden: The Past, Present and the Future," CEP Conference Stockholm 2012 (Sweden 2012).

Jensen, Michael C. and William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* 3 (1976), 305-360.

Johnston, Gerry, *Restorative Justice: Ideas, Values, Debates* (Willan Publishing, Devon UK, 2002).

Jolls, Christine, Cass R. Sunstein and Richard Thaler, "A Behavioral Approach to Law and Economics", *Stanford Law Review* 50 (1998), 1471-1550.

Jolls, Christine, "On Law Enforcement with Boundary Rational Actors," in *The Law and Economics of Irrational Behaviour*, Francesco Parisi and Vernon L. Smith eds. (Stanford University Press, California, 2005), 268-286.

Jones, Barnie, "Oregon's Habitual Traffic Offender Program: An Evaluation of the Effectiveness of License Revocation," *Journal of Safety Research* 18 (1987), 19-26.

Junger-Tas, Josine, *Alternatives to Prison Sentences: Experiences and Developments*, Ministry of Justice (Kugler Publications, The Hague, 1994).

Kahneman, Daniel and Amos Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47 (2) (1979), 263-292.

Kahneman, Daniel, Paul Slovic and Amos Tversky eds., *Judgment Under Uncertainty: Heuristics and Biases*, (Cambridge University Press 1982).

Kahneman, Daniel, Jack L. Knetsch and Richard H. Thaler, "Experimental Tests of the Endowment Effect and the Coase Theorem," *Journal of Political Economy* 98(6) (1990), 1325-1348.

Kant, Immanuel, *The Philosophy of Law* (Augustus M. Kelly Publishers, New Jersey, 1974). First published in English in 1887.

Katz, Lawrence, Steven D. Levitt and Ellen Shustorovich, "Prison Conditions, Capital Punishment, and Deterrence," *American Law and Economics Review* 5 (2003), 318-343.

Kaplow, Louis and Steven Shavell, "Optimal Law Enforcement with Self-Reporting of Behavior," *Journal of Political Economy* 112 (1994), 583-606.

Kenrick, Douglas T. and Sara E. Guiterres, "Contrast Effects and Judgments of Physical Attractiveness: When Beauty Becomes a Social Problem," *Journal of Personality and Social Psychology* 38(1) (1980), 131-140.

Keren, Gideon and Leonie E.M. Gerritsen, "On the Robustness and Possible Accounts of Ambiguity Aversion," *Acta Pdychologica* 103 (1999), 149-172.

Keyssar, Alexander, *The Right to Vote: The Contested History of Democracy in the United States* (Basic Books, NY, 2000).

Khanna, Vikramaditya and Timothy L. Dickinson, "The Corporate Monitor: The New Corporate Czar," *Michigan Law Review* 105(8) (2007), 1713-1755.

Kilchling, Michael, "Comparative Perspectives on Forfeiture Legislation in Europe and the United States," *European Journal of Crime, Criminal Law and Criminal Justice* 5(3) (1997), 342-361.

Killias, Martin, Marcelo Aebi and Dennis Ribeaud, "Does Community Service Rehabilitate better than Short-term Imprisonment? Results of a Controlled Experiment," *The Howard Journal* 39(1) (2000), 40-57.

Killias, Martin, Gwladys Gilliéron, Françoise Villard and Clara Poglia, "How Damaging is Imprisonment in the Long-Term? A Controlled Experiment Comparing Long-Term Effects of Community Service and Short Custodial Sentences on Re-Offending and Social Integration," *Journal of Experimental Criminology* 6 (2010), 115–130.

Killias, Martin, Gwladys Gilliéron, Izumi Kissling and Patrice Villettaz, "Community Service Versus Electronic Monitoring - What Works Better?" *The British Journal of Criminology* (50) (2010), 1155-1170.

Kim, Iljoong, "An Econometric Study on the Deterrent Impact of Probation: Correcting Selection and Censoring Biases," *Evaluation Review* 18 (1994), 389-410.

Kirchhoff, Suzanne M., "Economic Impacts of Prison Growth," Congressional Research Service (2010) available at http://www.fas.org/sgp/crs/misc/R41177.pdf (accessed on 26.06.2012).

Klaus, John F., "Handbook on Probation Services: Guidelines for Probation Practitioners and Managers," United Nations Interregional Crime and Justice Research Institute (1998), available at http://www.unicri.it/documentation_centre/probation/docs/Probation_handbook.pdf (accessed on 18.01.2013).

Kleck, Gary, Brion Sever, Spencer Li and Marc Gertz, "The Missing Link in General Deterrence Research," *Criminology* 43(3) (2005), 623–660.

Klick, Jonathan and Alexander Tabarrok "Using Terror Alert Levels to Estimate the Effect of Police on Crime," *Journal of Law & Economics* 48(1) (2005), 267-279.

Klick, Jonathan and Alexander Tabarrok, "Police, Prisons, and Punishment: the Empirical Evidence on Crime Deterrence," in *Handbook on the Economics of Crime,* Bruce L. Benson and Paul R. Zimmerman eds. (Edward Elgar Publishing Inc., Massachusetts, USA 2012), 127-143.

Knapp, Martin, Eileen Robertson and Gill McIvor, "The Comparative Costs of Community Service and Custody in Scotland," *The Howard Journal* 31(1) (1992), 8-30.

Knight, Frank, *Risk, Uncertainty and Profit* (Houghton Mifflin Company, Boston and New York 1921).

Kornai, János, Eric Maskin, and Géard Roland, "Understanding the Soft Budget Constraint," *Journal of Economic Literature* 41 (2003), 1095-1136.

Korobkin, Russell, "The Status Quo Bias and Contract Default Rules," *Cornell Law Review* 83 (1998), 608-687.

Koper, Christopher S., "Just Enough Police Presence: Reducing Crime and Disorderly Behaviour by Optimizing Patrol Time in Crime Hot Spots," *Justice Quarterly* 12(4) (1995), 649-672.

Kucsko-Stadlmayer, Gabriele (ed.), *European Ombudsman-Institutions: A Comparative Legal Analysis Regarding the Multifaceted Realisation of an Idea* (Springer, Vienna, 2010).

Kuran, Timur and Cass R. Sunstein, "Availability Cascades and Risk Regulation", *Stanford Law Review* 51 (1999), 683-768.

Kurki, Leena, "Restorative and Community Justice in the United States," *Crime and Justice* 27 (2000), 235-303.

Langbein, John H., "Albions' Fatal Flaws," *Past & Present* 98 (1983), 96-120.

Lanza-Kaduce, Lonn, Karen F. Parker and Charles W. Thomas, "A Comparative Recidivism Analysis of Releasees from Private and Public Prisons," *Crime & Delinquency* 45 (1999), 28-47.

Larcom, Shaun T., *A Law and Economics Analysis of Legal Pluralism in Papua New Guinea* (2012) (unpublished thesis).

Lappi-Seppälä, Tapio, "Sentencing and Punishment in Finland: The Decline of the Repressive Ideal," in *Sentencing and Sanctions in Western Countries*, Michael Tonry and Richard S. Frase eds. (Oxford University Press, New York, 2001), 92-150.

Lappi-Seppälä, Tapio, "Imprisonment and Penal Policy in Finland," in *Scandinavian Studies in Law*, vol. 54, Peter Wahlgren ed. (Stockholm Institute for Scandinavian Law, Stockholm, 2009), 333-379.

Lappi-Seppälä, Tapio, "Criminology, Crime and Criminal Justice in Finland," *European Journal of Criminology* 9(2) (2012a), 206-222.

Lappi-Seppälä, Tapio, "Penal Policies in the Nordic Countries 1960–2010," *Journal of Scandinavian Studies in Criminology and Crime Prevention* 13 (2012b), 85–111.

Larsson, Paul, "Punishment in the Community: Norwegian Experiences with Community Sanctions and Measures," in *Community Sanctions and Measures in Europe and North America*, Hans-Jörg Albrecht and Anton van Kalmthout eds. (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002).

Laurence, Michael D., John R. Snortum, Franklin E. Zimring eds., *Social Control of the Drinking Driver* (The University of Chicago Press, Chicago, 1988).

Le Maire, Louis, "Danish Experiences Regarding the Castration of Sexual Offenders," *Journal of Criminal Law, Criminology and Police Science* 47 (1956), 294- 310.

Lee, David S. and Justin McCrary, "Crime, Punishment, and Myopia," NBER working papers (2005).

Levitt, Steven D., "The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation," *The Quarterly Journal of Economics* 111(2) (1996), 319-351.

Levitt, Steven D., "Why Do Increased Arrest Rates Appear to Reduce Crime: Deterrence, Incapacitation or Measurement Error," *Economic Inquiry* XXXVI (1998a), 353-372.

Levitt, Steven D., "Juvenile Crime and Punishment," *The Journal of Political Economy* 106(6) (1998b), 1156-1185.

Levitt, Steven D. and Daniel Kessler, "Using Sentence Enhancement to Distinguish Between Deterrence and Incapacitation," *Journal of Law and Economics* XLII (1999), 343-363.

Levitt, Steven D., "Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not," *Journal of Economic Perspectives* 18 (2004), 163-190, pp. 176-178.

Levitt, Steven D. and Thomas J. Miles, "Empirical Study of Criminal Punishment" in *Handbook of Law and Economics*, Mitchel A. Polinsky and Steven Shavell eds., Vol. 1, Chap. 7 (Elsevier, 2007), 455-495.

Levy, Leonard W., *A License to Steal: The Forfeiture of Property* (The University of North Carolina Press, 1996).

Lévy, René, "From Tagging to Tracking: Beginnings and Development of Electronic Monitoring in France," in *Electronically Monitored Punishment: International and Critical Perspectives,* Mike Nellis, Kristel Beyens and Dan Kaminski eds., (Routledge, New York, 2013), 128-149.

Lewis, Carol, "Why Barack Obama and David Cameron are keen to 'nudge' you," *The Times* (July 14 2008), available at http://www.thetimes.co.uk/tto/career/article1793099.ece (accessed on 3.8.2014).

Lichtenstein, Sarah and Paul Slovic, "Reversals of Preference between Bids and Choices in Gambling Decisions," *Journal of Experimental Psychology* 89 (1971), 46-55.

Lindström, Peter and Eric Leijonram, The Swedish Prison System, in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 559-570.

Lochner Lance and Enrico Moretti, "The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports," NBER Working Paper No. 8605 (2001).

Lochner Lance, "Education, Work, and Crime: A Human Capital Approach," *International Economic Review* 45(3) (2004), 811-843.

Lockhart, Bill and Colette Blair, "Community Sanctions and Measures in Ireland," in Hans-Jörg Albrecht and Anton van Kalmthout eds., *Community Sanctions and Measures in Europe and North America* (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), 285-326.

Logan, Charles H., *Private Prisons: Cons and Pros* (Oxford University Press, NY, 1990).

Logan, Charles H., "Well Kept: Comparative Quality of Confinement in Private and Public Prisons," *The Journal of Criminal Law & Criminology* 83(3) (1992), 577-613.

Lösel, Friedrich, "Rehabilitation of the Offender," in *International Encyclopedia of the Social & Behavioral Sciences* (Elsevier Science Ltd., 2001), 12988-12993.

Lösel, Friedrich and Martin Schmucker, "The Effectiveness of Treatment for Sexual Offenders: A Comprehensive Meta-Analysis," *Journal of Experimental Criminology* 1 (2005), 117–146.

Lott, John R. Jr., "Should the Wealthy Be Able to "Buy Justice"?" *Journal of Political Economy* 95(6) (1987), 1307-1316.

Loughran, Thomas A., Raymond Paternoster, Alex R. Piquero and Greg Pogarsky, "On Ambiguity in Perception of Risk: Implications for Criminal Decision Making and Deterrence," *Criminology* 49(4) (2011), 1029-1061.

Lundahl, Brad W., Chelsea Kunz, Cyndi Brownell, Norma Harris and Russ Van Vleet, "Prison Privatization: A Meta-analysis of Cost and Quality of Confinement Indicators," *Research on Social Work Practice* 19 (2009), 383–394.

Lurigio, Arthur J. and Joan Petersilia, "The Emergence of Intensive Probation Supervision Programs in the United States" in *Smart Sentencing: the Emergence of Intermediate Sanctions*, James M. Byrne, Arthur J. Lurigio and Joan Petersilia eds. (Sage Publications, California, 1992), 51-53.

MacDonald, John M., Jonathan Klick and Ben Grunwald, "The Effect of Privately Provided Police Services on Crime" Scholarship at Penn Law, Paper 441 (2012), available at http://lsr.nellco.org/upenn_wps/441 (accessed on 19.6.2014).

Mair, Goerge and Mike Nellis, "Parallel Tracks' Probation and Electronic Monitoring IN England, Wales and Scotland," in *Electronically Monitored Punishment: International and Critical Perspectives*, Mike Nellis, Kristel Beyens and Dan Kaminski eds., (Routledge, New York, 2013), 63-81.

Maletzky, Barry M., Arthur Tolan and Bentson McFarland "The Oregon depo-Provera Program: A Five-Year Follow-Up," *Sex Abuse* 18 (2006), 303-316.

Mann, Robert E., Reginald G. Smart, Gina Stoduto, Douglas Beirness, Robert Lamble, and Evelyn Vingilis, "The Early Effects of Ontario's Administrative Driver's Licence Suspension Law on Driver Fatalities with a BAC > 80 mg%," *Revue Canadienne De Santé Publique* 93(3) (2002), 176-180.

Mankiw, Gregory and Mark Taylor, *Economics* (South-Western Cengage Learning, Singapore, 2011).

Manza, Jeff and Christopher Uggen, "Punishment and Democracy: Disenfranchisement of Nonincarcerated Felons in the United States," *Perspectives on Politics* 2(3) (2004), 491-505.

Marshall, Alfred, "The Social Possibilities of Economic Chivalry," *The Economic Journal* 17(65) (1907), 7-29.

Martin, Susan E., Lee B. Sechrest and Robin Redner eds., *New Directions in the Rehabilitation of Criminal Offenders* (National Academy Press, Washington D.C., 1981).

Martinson, Robert, "What Works?: Questions and Answers about Prison Reform," *The Public Interest* 35 (1974), 22 – 54.

Marques, Jenice K., David M. Day, Craig Nelson and Mary Ann West, "Effects of Cognitive-Behavioral Treatment on Sex Offenders," *Crime Justice and Behavior* 21(1) (1994), 28-54.

Marvell, Thomas B. and Carlisle E. Moody, "Prison Population Growth and Crime Reduction," *Journal of Quantitative Criminology* 10(2) (1994), 109-140.

Mason, Cody, "International Growth Trends in Prison Privatization", *The Sentencing Project* (2013).

Mastropasqua Isabella and contributors, *Restorative Justice And Crime Prevention: Presenting a Theoretical Explanation, an Empirical Analysis and the Policy Perspective* (European Forum for Restorative Justice in co-operation with Department of Juvenile Justice, Italy, European Forum for Restorative Justice (Belgium), Psychoanalytic Institute for Social Research (Italy), University of Leeds and Catholic University of Leuven, 2010).

McAdams, Richard H. and Thomas S. Ulen, "Behavioral Criminal Law and Economics", in *Criminal Law And Economics*, Nuno Garoupa ed. (Edward Elgar, Cheltenham, UK, Northampton, MA, 2009), 403-436.

McConville, Sean, "The Privatisation of Penal Services," in *Privatisation of Crime Control*, Collected Studies in Criminological Research, vol. XXVII (Council of Europe, Strasbourg, 1990), 77-108.

McCollister, Kathryn E., Michael T. French and Hai Fang, "The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation," *Drug and Alcohol Dependence* 108 (2010), 98–109.

McDonald, Douglas C., "Private Penal Institutions," *Crime and Justice* 16 (1992), 361-419.

McDonald, Douglas C., Judith Greene and Charles Worzella, *Day Fines in American Courts: The Staten Island and Milwaukee Experiments*, U.S. Department of Justice (1992), available at https://www.ncjrs.gov/pdffiles1/Digitization/136611NCJRS.pdf (accessed on 22.1.2013).

McDowall, David, Colin Loftin and Brian Wiersema, "A Comparative Study of the Preventive Effects of Mandatory Sentencing Laws for Gun Crimes," *The Journal of Criminal Law and Criminology* 83(2) (1992), 378-394.

McIvor, Gill, *Sentenced to Serve* (Billing and Sons Ltd, Worcester, 1992).

McIvor, Gill, "Paying Back: 30 Years of Unpaid Work by Offenders in Scotland," *European Journal of Probation* 2(1) (2010), 41-61.

McIvor, Gill, Kristel Beyens, Ester Blay and Miranda Boone, "Community Service in Belgium, the Netherlands, Scotland and Spain: a Comparative Perspective," *European Journal of Probation* 2(1) (2010), 82-98.

McQuay, Larry D., "The Case of Castration," *The Washington Monthly* (May 1994), 26-28.

Mellett, Michael, "Irish Prison Policy, Prison Regime and Prisoners' Rights", in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 407-427.

Meloy, Michelle L., "The Sex Offender Next Door: An Analysis of Recidivism, Risk Factors, and Deterrence of Sex Offenders on Probation," *Criminal Justice Policy Review* 16 (2005), 211-236.

Mendes, Silvia M., "Certainty, Severity, and Their Relative Deterrent Effects: Questioning the Implications of the Role of Risk in Criminal Deterrence Policy," *The Policy Studies Journal* 32(1) (2004), 59-74.

Merkel, Grischa, "Incompatible Contrast? Preventive Detention in Germany and the European Convention on Human Rights," *German Law Journal* 11(9) (2010), 1046-1066.

Michels, Scott, "Rethinking 'Tough on Crime'," *The Crime Report* (June 28, 2012), available at http://www.thecrimereport.org/news/inside-criminal-justice/2012-06-rethinking-tough-on-crime (accessed on 23.1.2015).

Miles, Thomas J., "Felon Disenfranchisement and Voter Turnout," *Journal of Legal Studies* 33 (2004), 85-128.

Mocan, Naci H. and Kaj R. Gittings, "Getting Off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment," *Journal of Law and Economics* 46 (2003), 453-478.

Mookherjee, Dilip and I. P. L. Png, "Monitoring vis-à-vis Investigation in Enforcement of Law," *The American Economic Review* 82(3) (1992), 556-565.

Morgan, Rod, "Thinking about the Demand for Probation Services," *The Journal of Community and Criminal Justice* 50(1) (2003), 7–19.

Morris, Norval and Michael Tonry, *Between Prison and Probation: Intermediate Punishments in a Rational Sentencing System* (Oxford University Press, New York, Oxford, 1990), 176-178.

Morris, Norval, "The Contemporary Prison: 1965-Present," in *The Oxford History of the Prison: the Practice of Punishment in Western Society*, Norval Morris and David J. Rothman eds. (Oxford University Press, New York, Oxford, 1995), 227-259.

Morse, Stephen J., "Blame and Danger: an Essay on Preventive Detention," *Boston University Law Review* 76 (1996), 113-155.

Muiluvuori, Marja-Liisa, "Recidivism among People Sentenced to Community Service in Finland," *Journal of Scandinavian Studies in Criminology and Crime Prevention* 2(1) (2001), 72-82.

Murphy, Jeffrie G., *Kant: The Philosophy of Right* (Mercer University Press, Macon GA, 1994).

Murphy, Kevin J., "Executive Compensation" in *Handbook of Labor Economics*, 1st ed., vol. 3, chapter 38, Richard Layard, Orley Ashenfelter and David E. Card eds. (Elsevier, 1999), 2485-2563.

Murphy, Richard, "The Cost of Tax Abuse: A Briefing Paper on the Costs of Tax Evasion Worldwide," Tax Justice Network (2011), available at www.tackletaxhavens.com/Cost_of_Tax_Abuse_TJN%20Research_23rd_Nov_2011.pdf (accessed on 20.6.2014).

Mutz, Jürgen, "Germany" in *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), 383-384.

Nagin, Daniel S., "Criminal Deterrence Research at the Outset of the Twenty-First Century," *Crime and Justice* 23 (1998), 1-42.

Nagin, Daniel S., Francis T. Cullen and Cheryl Lero Jonson, "Imprisonment and Reoffending," in *Crime and Justice: a Review of Research*, Michael Tonry ed. Vol. 38 (University of Chicago Press, Chicago, 2009).

Nellis, Mike, Kristel Beyens and Dan Kaminski eds., *Electronically Monitored Punishments: International and Critical Perspectives* (Routledge, London and NY, 2013).

Nestler, Cornelius, "Sentencing in Germany," *Buffalo Criminal Law Review* 7 (2004), 109-138.

Nichais James L. and Laurence H. Ross, "The Effectiveness of Legal Sanctions in Dealing with Drinking Drivers," Judicial and Administrative Processes Background Papers (1991), 93-112.

Nieuwbeerta, Paul, Daniel S. Nagin and Arjan A. J. Blokland, "Assessing the Impact of First-Time Imprisonment on Offenders' Subsequent Criminal Career Development: A Matched Samples Comparison," *Journal of Quantitative Criminology* 25 (2009), 227–257.

Niskanen, William A., Jr., *Bureaucracy and Representative Government* (Aldine Atherton, Chicago, 1971).

Niskanen, William A., "Bureaucrats and Politicians," *Journal of Law and Economics* 18 (1975), 617-643.

O'brien, Patricia, "The Prison on the Continent: Europe, 1865-1965," in *The Oxford History of the Prison: the Practice of Punishment in Western Society,* Norval Morris and David J. Rothman eds. (Oxford University Press, New York, Oxford, 1995).

O'brien, Barbara and Phoebe C. Ellsworth, "Confirmation Bias in Criminal Investigations" available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=913357 (accessed on 20.10.2012).

Oded, Sharon, *Corporate Compliance: New Approaches to Regulatory Enforcement* (Edward Elgar, Cheltenham UK, Massachusetts US, 2013).

OECD, "Supporting Employment through Reduced Social Security Contributions," *International Labour Office* (2011).

Ogus, Anthony, *Regulation: Legal Form and Economic Theory* (Hart Publishing, Oxford, 2004).

Oregon Department of Corrections, "The Effectiveness of Community-Based Sanctions in Reducing Recidivism," (2002) available at http://www.oregon.gov/DOC/OMR/CC/docs/pdf/effectiveness_of_sanctions_version2.pdf (accessed on 15.1.2013).

Padfield, Nicola, Dirk Van Zyl Smit and Frieder Dünkel eds., *Release from Prison: European Policy and Practice* (Willan Publishing, Cullompton Devon, UK, 2010).

Padget, Kathy, William D. Bales and Thomas G. Blomberg, "Under Surveillance: an Empirical Test of the Effectiveness and Consequences of Electronic Monitoring," *Criminology and Policy* 5(1) (2006), 61-92.

Panchamia, Nehal, "Competition in Prisons," *Institute for Government* (2012).

Pease, Ken, S. Billingham and Ian Earnshaw, *Community Service Assessed in 1976,* (Home Office Research Study no. 39, 1977).

Pease, Ken, "Community Service Orders," *Crime and Justice* 6 (1985), 51-94.

Petersilia, Joan, *Expanding Options for Criminal Sentencing* (RAND Corporation, Santa Monica, 1987).

Pepitone, Albert and Mark DiNubile, "Contrast Effects in Judgment of Crime Severity and the Punishment of Criminal Violators," *Journal of Personality and Social Psychology* 33(4) (1976), 448-459.

Pfaefflin, Friedemann, "The Surgical Castration of Detained Sex Offenders Amounts to Degrading Treatment," *Sexual Offender Treatment* 5(2) (2010).

Pinto, Susana and Mike Nellis, "Survey of Electronic Monitoring in Europe: Analysis of Questionnaires," 7th European Electronic Monitoring Conference (2011).

Pinto, Susana and Mike Nellis, "Survey of Electronic Monitoring in Europe: Analysis of Questionnaires 2012," 8th CEP Electronic Monitoring Conference (2012).

Plato, "Protagoras", in *Plato: Complete works*, John M. Cooper and D. S. Hitchinson eds. (Hackett Publishing Company, Inc. United States, 1997), 746-790.

Ploeg, Gerhard, "Norway" in *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), 767-768.

Polinsky, Mitchell and Steven Shavell, "The Optimal Tradeoff between the Probability and Magnitude of Fines," *The American Economic Review* 69(5) (1979), 880-891.

Polinsky, Mitchell A. and Steven Shavell, "The Optimal Use of Fines and Imprisonment," *Journal of Public Economics* 24 (1984), 89-99.

Polinsky, Mitchell and Steven Shavell, "A Note on Optimal Fines When Wealth Varies among Individuals," *The American Economic Review* 81(3) (1991), 618-621.

Polinsky, Mitchell and Steven Shavell, "Enforcement Costs and the Optimal Magnitude and Probability of Fines," *Journal of Law and Economics* 35(1) (1992), 133-148, p. 133.

Polinsky, Mitchell and Steven Shavell, "Should Liability be Based on the Harm to the Victim or the Gain to the Injurer?" *Journal of Law, Economics, & Organization* 10(2) (1994), 427-437.

Polinsky, Mitchell and Steven Shavell, "Public Enforcement of Law," Encyclopedia of Law and Economics (1999), 307-344, available at http://encyclo.findlaw.com/tablebib.html (accessed on 16.5.2013).

Polinsky, Mitchell, "Optimal Fines and Auditing When Wealth is Costly to Observe," *International Review of Law and Economics* 26 (2006) 323–335.

Polinsky, Mitchell A., "Deterrence and Optimality of Rewarding Prisoners for Good Behavior," (Working paper 2013).

Pollock, Sir Frederick and Frederick W. Maitland, *The History of English Law before the Time of Edward I,* Vol. 2, 2nd ed. (Originally published: Cambridge University Press, 1898, reprinted in 1952).

Pozen, David E., "Managing a Correctional Marketplace: Prison Privatization in the United States and the United Kingdom," *Journal of Law & Politics* XIX (2003), 253- 284.

Poythress, Norman G. and Stanley L. Brodsky, "In the Wake of a Negligent Release Law Suit: An Investigation of Professional Consequences and Institutional Impact on a State Psychiatric Hospital," *Law and Human Behavior* 16 (1992), 155-173.

Pratt, Travis C. and Jeff Maahs, "Are Private Prisons More Cost-Effective than Public Prisons? A meta-Analysis of Evaluation Research Studies," *Crime & Delinquency* 45 (1999), 358-371.

Prentky, Robert A., "Arousal Reduction in Sexual Offenders: A Review of Antiandrogen Interventions," *Sex Abuse* 9 (1997), 335-347.

Prison Reform Trust, "Private Punishment: Who Profits?," (2005).

Prison Reform Trust, *Bromley Briefings Prison Factfile* (2013).

Public Services International Research Unit (PSIRU), *Prison Privatisation Report International No. 60* (London, 2004), available at http://www.psiru.org/justice/PPRI60.htm#DENMARK (accessed on 21.5.2014).

Rachlinski, Jeffry J., "Heuristics and Biases in the Courts: Ignorance or Adaptation?" *Oregon Law Review* 79 (2000), 61-102.

Radzinowicz, Leon, *A History of English Criminal Law and its Administration from 1750,* vol. 1 (Stevens & Sons Limited, London, 1948).

Raphael Steven and Rudolf Winter□Ebmer, "Identifying the Effect of Unemployment on Crime," *Journal of Law and Economics* 44(1) (2001), 259-283.

Rawls, John, "Two Concepts of Rules," *The Philosophical Review* 64(1) (1955), 3-32.

Redondo, Santiago, Julio Sánchez-Meca and Vicente Garrido, "Crime Treatment in Europe: A Review of Outcomes Studies," in *Offender Rehabilitation and Treatment: Effective Programmes and Policies to Reduce Re-offending*, James McGuire ed. (John Wiley & Sons Ltd, Chichester, England, 2002), 113-141.

Renzema, Marc, "Home Confinement Programs: Development, Implementation, and Impact," in *Smart Sentencing: the Emergence of Intermediate Sanctions*, James M. Byrne, Arthur J. Lurigio and Joan Petersilia eds. (Sage Publications, California, 1992), 51-53.

Renzema, Marc and Evan Mayo-Wilson, "Can Electronic Monitoring Reduce Crime for Moderate to High-Risk Offenders?" *Journal of Experimental Criminology* 1 (2005), 215–237.

Richardson, Steven O., *The Political Economy of Bureaucracy* (Routledge, New York, 2011).

Robinson, Paul H. and John M. Darley, "Does Criminal Law Deter? A Behavioural Science Investigation," *Oxford Journal of Legal Studies* 24 (2004), 173-205.

Roman, John K., Akiva M. Liberman, Samuel Taxy and P. Mitchell Downey, "The Costs and Benefits of Electronic Monitoring for Washington, D.C.," District of Columbia Crime Policy Institute (2012) available at http://www.urban.org/publications/412678.html (accessed on 28.1.2013).

Ross, Graham, *Criminal Justice and Licensing (Scotland) Bill Community penalties in Scotland* (The Scottish Parliament: the Information Centre, 2009).

Rothman, David J., "Perfecting the Prisons: United States 1789-1865," in *The Oxford History of the Prison: the Practice of Punishment in Western Society,* Norval Morris and David J. Rothman eds. (Oxford University Press, New York, Oxford, 1995), 111-130.

Russell, Stacy, "Castration of Repeat Sexual Offenders: an International Comparative Analysis," *Houston Journal of International Law* 19 (1997) 425-459.

Sagiv, Bilha, *Service for the Public Benefit Order in Jerusalem January 1982-July 1985*, Thesis Manuscript (Hebrew University Jerusalem, Jerusalem 1988). (In Hebrew).

Sagiv, Bilha, *Community Service - As an Alternative to Custody*, PhD dissertation (Hebrew University in Jerusalem, Jerusalem 1997). (In Hebrew).

Samuelson, William and Richard Zeckhauser, "Status Quo Bias in Decision Making," *Journal of Risk and Uncertainty* 1 (1988), 7-59.

Schäfer, Hans-Bernd and Claus Ott, *The Economic Analysis of Civil Law* (Edward Elgar, London, 2004).

Schafer, Stephen, *Restitution of Victims of Crime* (Stevens & Sons Limited, London, 1960).

Shapland Joanna, Anne Atkinson, Helen Atkinson, James Dignan, Lucy Edwards, Jeremy Hibbert, Marie Howes, Jennifer Johnstone, Gwen Robinson and Angela Sorsby, *Does Restorative Justice Affect Reconviction? The Fourth Report From the Evaluation of Three Schemes* (Home Office, Ministry of Justice Research Series 10/08, 2008).

Shavell, Steven, "The Judgment Proof Problem," *International Review of Law and Economics* 6 (1986), 45-58.

Shavell, Steven, "Specific versus General Enforcement of Law," *Journal of Political Economy* 99(5) (1991), 1088-1108.

Shavell, Steven, "A Note on Marginal Deterrence," *International Review of Law and Economics* 12 (1992), 345-355.

Schumann, Karl F., "Widening the Net of Formal Control by Inventing Electronic Monitored Home Confinement as an Additional Punishment: Some Issues of Conceptualization and Measurement" in *Will Electronic Monitoring Have a Future in Europe*, Markus Mayer, Rita Haverkamp and Réne Lévy eds. (Edition Iuscrim, Freiburg, 2003), 187-197.

Shea, Evelyn, *Why Work? A Study of Prison Labour in England, France and Germany* (Duncker & Humblot, Berlin, 2007).

Shepherd, Joanna M., "Murders of Passion, Execution Delays, and the Deterrence of Capital Punishment," *The Journal of Legal Studies* 33(2) (2004), 283-321.

Sherif, Muzafer, Daniel Taub and Carl I. Hovland, "Assimilation and Contrast Effects of Anchoring Stimuli on Judgments," *Journal of Experimental Psychology* 55(2) (1958), 150-155.

Sherman, Lawrence W., "Police Crackdowns: Initials and Residual Deterrence," *Crime and Justice* 12 (1990), 1-47.

Sherman, Lawrence W. and Heather Strang, *Restorative Justice: the Evidence* (The Smith Institute, 2007).

Sherman, Lawrence W., Denise Gottfredson, Doris MacKenzie, John Eck, Peter Reuter and Shawn Bushway, *Preventing Crime: What Works, What Doesn't, What's Promising*, A Report for the United States Congress, National Institute of Justice (1997), Chapter 9, available at https://www.ncjrs.gov/works/index.htm (accessed on 5.2.2013).

Sherman, Lawrence W., Jerry Lee, Heather Strang and Daniel J. Woods, "Recidivism Patterns in the Canberra Reintegratiove Shaming Experiments (RISE)," (2000) available at http://www.aic.gov.au/criminal_justice_system/rjustice/rise/recidivism.html (accessed on 18.3.2013).

Shleifer Andrei, "Theory of Yardstick Competition," *The RAND Journal of Economics* 16 (1985), 319-327.

Shleifer, Andrei, "State versus Private Ownership," NBER Working Paper 6665 (1998), 1-33.

Simon, Herbert A., "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics* 69 (1955), 99-118.

Simonis, J. "Is Ons Strafrecht Gebaat bij de Invoering van een Dagboetestelsel," DD 31(5) (2001), 476-494.

Snacken, Sonja, Kristel Beyens and Hilde Tubex, "Changing Prison Populations in Western Countries: Fate or Policy," *European Journal of Crime, Criminal Law and Criminal Justice* 3 (1995), 18-53.

Snyder, Howard N. and Melissa Sickmund, "Juvenile Justice System Structure and Process," in *Juvenile Offenders and Victims: 1999 National Report*, Chapter 4 (1999), available at https://www.ncjrs.gov/html/ojjdp/nationalreport99/toc.html (accessed on 9. 1.2013).

Spaans, E.C., "Community Service in the Netherlands: Its Effects on Recidivism and Net-Widening," *International Criminal Justice Review* 8 (1998), 1-14.

Spicer, Michael W. and Everett J. Thomas, "Audit Probabilities and the Tax Evasion Decision: an Experimental Approach," *Journal of Economic Psychology* 2 (1982), 241-245.

Spivak, Andrew L. and Susan F. Sharp, "Inmate Recidivism as a Measure of Private Prison Performance," *Crime & Delinquency* 54(3) (2008), 482-508.

Staton, Jeffrey K., "Lobbying for Judicial Reform: The Role of the Mexican Supreme Court in Institutional Selection," (2003) available at http://escholarship.org/uc/item/30s2s2xj (accessed 22.10.2012).

Stigler, George J., "The Optimum Enforcement of Laws," in *Essays in the Economics of Crime and Punishment*, Gary S. Becker ed. (NBER Books, National Bureau of Economic Research, Inc, 1974), 55-67.

Sturgess, Gary L., "The Sources of Benefit," in *Prison Contracting by in Delivering Justice: The Role of the Public, Private and Voluntary Sectors in Prisons and Probation,* Vicki Helyar-Cardwell ed. (Criminal Justice Alliance, London, 2012), 31-40.

Stürup, Georg K., "The Treatment of Sex Offenders at Herstedvester," *The Prison Journal* 46(2) (1966), 31-43.

Sunstein, Cass R., "Behavioral Analysis of Law," *The University of Chicago Law Review* 64(4) (1997), 1175-1195.

Tak, Peter J., "Netherlands Successfully Implements Community Service Orders," in *Sentencing Reform in Overcrowded Times*, Michael Tonry and Kathleen Hatlestad eds. (Oxford University Press, New York, Oxford, 1997), 200-203.

Tak, Peter J., "Sentencing and Punishment in The Netherlands," in *Sentencing and Sanctions in Western Countries*, Michael Tonry and Richard S. Frase eds. (Oxford University Press, New York, 2001), 151-187.

Tak, Peter J.P., *The Dutch Criminal Justice System* (Wolf Legal Publishers, Nijmegen the Netherlands, 2008a).

Tak, Peter J.P., "Prison Policy, Prison Regime and Prisoners' Rights in the Netherlands under the 1998 Penitentiary Principles Act" in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008b), 457-492.

Tanner, Will, "The Case for Private Prisons," *Reform Ideas No. 2* (2013).

Thaler, Richard, "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behaviour and Organization* 1 (1980), 39-60.

Thaler, Richard H. and Cass R. Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press, New Haven, 2008).

The Custodial Institutions Agency (DJI, in Dutch) http://www.dji.nl/Onderwerpen/Patienten-in-forensische-zorg/Straffen-en-maatregelen/Tbs-maatregel/index.aspx (accessed on 28.1.2013).

The Scottish government, *Community Payback Order: Scottish Government Summary of Local Authority Annual Reports 2011-12* (The Scottish Government, Edinburg, 2012).

Tonry, Michael and Mary Lynch, "Intermediate Sanctions," *Crime and Justice* 20 (1996), 99-144.

Tonry, Michael, "Community Penalties in the United States" in *Community Sanctions and Measures in Europe and North America*, Albrecht, Hans-Jörg and Anton van Kalmthout eds., (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), 551-572.

Tsafrir, Nurit, "Arab Customary Law in Israel: *Sulha* Agreements and Israeli Courts," *Islamic Law and Society* 13(1) (2006), 76-98.

Tversky, Amos and Daniel Kahneman, "Availability: A Heuristic for Judging Frequency and Probability," *Cognitive Psychology* 5 (1973), 207-232.

Tversky, Amos and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," in *Judgment Under Uncertainty: Heuristics and Biases*, Daniel Kahneman, Paul Slovic and Amos Tversky eds. (Cambridge University Press 1982), 3-20.

Tversky, Amos and Daniel Kahneman, "Judgment of and by Representativeness" in *Judgment Under Uncertainty: Heuristics and Biases*, Kahneman, Daniel, Paul Slovic and Amos Tversky eds., (Cambridge University Press 1982), 84-98.

Tullock, Gordon, "Can You Fool All of the People All of the Time?: Comment", *Journal of Money, Credit and Banking* 4(2) (1972), 426-430.

Tullock, Gordon, *The Selected Works of Gordon Tullock: Bureaucracy*, vol. 6 (Library Fund, Inc., Indianapolis, 2005).

Uggen, Christopher and Jeff Manza, "Democratic Contraction? Political Consequences of Felon Disenfranchisement in the United States," *American Sociological Review* 67 (2002), 777-803.

Uggen, Christopher and Jeff Manza, "Voting and Subsequent Crime and Arrest: Evidence from a Community Sample," *Columbia Human Rights Law Review* 36(193) (2004).

Uggen, Christopher, Sarah Shannon, and Jeff Manza, "State-Level Estimates of Felon Disenfranchisement in the United States, 2010," *The Sentencing Project* (2012).

Utriainen, Terttu, "Community Sanctions in Finland" in *Community Sanctions and Measures in Europe and North America*, Albrecht, Hans-Jörg and Anton van Kalmthout eds., (Criminological research report by the Max Planck Institute for Foreign and International Penal Law, 2002), 202-205.

U.S. Department of Justice, *How to Use Structured Fines (Day Fines) as an Intermediate Sanction* (Vera Institute of Justice, 1996).

Van de Bunt, Henk G., Edwin W. Bleichrodt, Sanne Struijk, P.H.P.M. de Leeuw, and D. Struik, *Gevangen in de EBI. Een empirisch onderzoek naar de Extra Beveiligde Inrichting (EBI) in Vught* (Boom Lemma uitgevers, Den Haag, 2013).

Van Kalmthout, Anton, "Community Sanctions and Measures in Europe: a Promising Challenge or a Disappointing Utopia?" in *Crime and Criminal Justice in Europe* (Council of Europe Publishing, Strasbourg, 2000), 121-133.

Van Kalmthout, Anton M. and Ioan Durnescu eds., *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008).

Van Kalmthout, Anton and Leo Tigges, "Netherlands" in *Probation in Europe* (Wolf Legal Publishers, Nijmegen, The Netherlands, 2008), 679-682.

Van Swaaningen, René and Jolande uit Beijerse, "Bars in Your Head: Electronic Monitoring in the Netherlands," in *Electronically Monitored Punishment: International and Critical Perspectives*, Mike Nellis, Kristel Beyens and Dan Kaminski eds. (Routledge, New York, 2013), 172-190.

Van Winder, Frans and Elliott Ash, "On the Behavioral Economics of Crime," Centre for Research in Experimental Economics and Political Decision-making, University of Amsterdam (2009), available at http://dare.uva.nl/document/181782 (accessed on 20.10.2012).

Vandenberghe, Ann-Sophie, "Labor Contracts," in *Encyclopedia of Law and Economics*, Boudewijn Bouckaert and Gerrit De Geest eds. (Edward Elgar, 1999), 541-560.

Viano, Emilio C., "America's Prison System," in *Prison Policy and Prisoners' Rights, Proceedings of the Colloquium of the IPPF* (Wolf Legal Publishers, Nijmegen, 2008), 139-184.

Vickrey, Willian, "Counterspeculation, Auctions, and Competitive Sealed Tenders," *The Journal of Finance* 16(1) (1961), 8–37.

Vidmar, Neil, "Effects of Decision Alternatives on the Verdict and Social Perceptions of Simulated Jurors," *Journal of Personality and Social Psychology* 22 (1972), 211-218.

Villettaz, Patrice, Martin Killias and Isabel Zoder, "The Effects of Custodial vs. Non-Custodial Sentences on Re-Offending: A Systematic Review of the State of Knowledge," *Campbell Systematic Reviews* 13 (2006) available at https://utah.instructure.com/courses/102813/files/9697898?module_item_id=463142 (accessed on 15.01.2013).

Visscusi, Kip W. and Harrel Chesson, "Hopes and Fears: The Conflicting Effects of Risk Ambiguity," *Theory and Decision* 47 (1999), 153-178.

Vollaard, Ben, "Preventing Crime Through Selective Incapacitation," *The Economic Journal* (2012), 1-23.

Vanderzyl, Karia, "Castration as an Alternative to Incarceration: An Impotent Approach to the Punishment of Sex Offenders," *Northern Illinois University Law Review* 15 (1994), 107-140.

Von Hirsch, Andrew, *Doing Justice: The Choice of Punishments*, Report of the Committee for the Study of Incarceration (Hill and Wang, New York, 1976).

Von Hirsch, Andrew, *Past or Future Crimes: Deservedness and Dangerousness in the Sentencing of Criminals* (Manchester University Press, Manchester UK, 1986).

Von Hirsch, Andrew, *Censure and Sanctions* (Clarendon Press, Oxford, 1993).

Von Hirsch, Andrew and Andrew Ashworth eds., *Principled Sentencing: Readings on Theory and Policy*, 2nd ed. (Hart Publishing, Oxford, 1998).

Von Hirsch, Andrew, Andrew Ashworth and Julia Roberts, *Principled Sentencing: Readings on Theory and Policy*, 3rd ed. (Hart Publishing, Oxford, 2009).

Wagenaar, Alexander C. and Mildred M. Maldonado-Molina, "Effects of Drivers' License Suspension Policies on Alcohol-Related Crash Involvement: Long-Term Follow-Up in Forty-Six States," *Alcoholism: Clinical and Experimental Research* 31(8) (2007), 1399-1406.

Walsh, Charles J. and Alissa Pyrich, "Corporate Compliance Programs as a Defense to Criminal Liability: Can a Corporation Save its Soul?," *Rutgers Law Review* 47 (1995), 605-691.

Washington, Bouffard and Lisa R. Muftic, "The Effectiveness of Community Service Sentences Compared to Traditional Fines for Low-Level Offenders," *The Prison Journal* 87(2) (2007), 171-194.

Webb, Barry ed., *An Exploratory Evaluation of Restorative Justice Schemes* (Home Office, UK, 2001).

Wermink, Hilde, Arjan Blokland, Paul Nieuwbeerta, Daniel Nagin and Nikolaj Tollenaar, "Comparing the Effects of Community Service and Short-Term Imprisonment on Recidivism: a Matched Samples Approach," *Journal of Experimental Criminology* 6 (2010), 325–349.

Western, Bruce, Jeffrey R. Kling and David F. Weiman, "The Labor Market Consequences of Incarceration," *Crime & Delinquency* 47 (2001), 410-427.

Whitfield, Dick, *The Magic Bracelet: Technology and Offender Supervision* (Waterside press, Winchester, UK 2001).

Williams, Kirk R. and Richard Hawkins, "Perceptual Research on General Deterrence: A Critical Review," *Law & Society Review* 20(4) (1986), 545-572.

Wille, Reinhard and Klaus M. Beier, "Castration in Germany," *Annals of Sex Research* 2 (1989), 103-133.

Wennerberg, Inka, "High Level of Support and High Level of Control: An Efficient Swedish Model of Electronic Monitoring?" in *Electronically Monitored Punishment: International and Critical Perspectives,* Mike Nellis, Kristel Beyens and Dan Kaminski eds. (Routledge, New York, 2013), 113-127.

Whitfield, Dick, *The Magic Bracelet: Technology and Offender Supervision* (Waterside press, Winchester, UK 2001).

World Bank (1995) *Bureaucrats in Business: the Economics and Politics of Government Ownership* (The International Bank for Reconstruction, Washington, 1995).

Young, Simon N.M., *Civil Forfeiture of Criminal Property: Legal Measures for Targeting the Proceeds of Crime* (Edward Elgar, Northampton, UK, 2009).

Young, Warren, *Community Service Orders: the Development and the Use of s New Penal Measure* (Heinemann, London, 1979), 26-27.

Zedlewski, Edwin W., "Alternatives to Custodial Supervision: The Day Fine," U.S. Department of Justice (2010), available at https://www.ncjrs.gov/pdffiles1/nij/grants/230401.pdf (accessed on 22.1.2013).

Zimmerman, Paul R., "State Executions, Deterrence, and the Incidence of Murder," working paper, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=354680 (accessed on 8. 1.2013).

Zimring, Franklin E. and Gordon J. Hawkins, *Deterrence: the Legal Threat in Crime Control* (The University of Chicago Press, Chicago, 1976).

Zimring, Franklin E. and Gordon Hawkins, *Incapacitation: Penal Confinement and the Restraint of Crime* (Oxford University Press, Inc., Oxford, 1995).

Summary

There is empirical evidence that the criminal justice system deters. However, the more dominant element of deterrence is the probability of punishment and not its severity. Therefore, a cost-effective criminal enforcement system ought to reduce the resources spent on unnecessary severe punishments and invests them in improving the probability of detecting and punishing criminals.

One method to reduce the costs of sanctions is to increase the usage of alternatives sentences to prison. There are different intermediate sanctions that may be used for this purpose. The current thesis focuses on three such punishments, which have the best potential to divert offenders from short-term imprisonment: day-fines, community service and confinement under electronic monitoring. The first punishment is advocated to be superior to the more widespread sanction of fixed-fines. Day-fines enable to adjust the amount of the fine not only to the severity of the offence, but also to the financial state of the offender. Therefore, it has the potential to deter not only poor offenders, but also the rich. Furthermore, it provides the opportunity for poor offenders always to be able to repay the fine, thus not ending up behind bars for fine default. The idea behind day fines is to impose the same relative burden of punishment on all offenders committing similar crimes, regardless their level of wealth. This thesis also addresses the problem of collecting the financial information and proposes a way to solve this problem.

The second method of sanctioning, community service and confinement under electronic monitoring, enables replacing short-term imprisonment sentences for more serious offenders. Those sanctions have some level of incapacitation, yet they are less costly than prisons. This thesis addresses the problem of net-widening, i.e. using the alternative sanctions for the non-prison bound offenders. Following the analysis of the problem, the thesis offers a substantive and a procedural solution. The former refers to the structure of the sentence, its target group, and its "punitive bite". The procedural solution uses insights from behavioural economics to discuss procedural rules that may encourage judges to impose community service and electronic monitoring only on prison-bound offenders.

Nevertheless, not all prison sanctions may be replaced with alternative punishments. Some offenders are judgment proof, and some offences require harsher treatment than the alternative. Therefore, this thesis also discusses the ways to reduce the costs of prisons. The first method is to use private providers that will build and operate prisons. Such method is applied in the US and the UK. Yet, it is absent in the continental Europe. Therefore, this thesis

explains the advantages of private prisons, attempts to address the risks, and provides possible explanation why it is not practiced in continental Europe. The second method to reduce prison costs is by improving the structure and goals of prison labour. The thesis reviews the current use of prison labour in Europe and offers ways to improve its efficiency and in turn, its revenues. Also in this section some possible explanations for the inefficient application of prison labour in Europe are provided.

The last part of the thesis is more theoretical. It attempts to investigate the ways insights from behavioural economics may assist in improving the effectiveness of the probability of apprehension. To be precise, this part analyses the ways to enhance the deterrence through random methods of detection. Furthermore, new evidence is presented, based on a survey on a sample of the Italian population, to demonstrate that violators are not aware of policy changes. Therefore, ways to increase this awareness are also discussed.

Samenvatting

Er is empirisch bewijs dat het strafrechtsysteem afschrikt. Het belangrijkste aspect van afschrikking is de kans op bestraffing en niet de zwaarte van de straf. Daarom behoort een kosteneffectief strafrechtelijk handhavingssysteem de middelen die besteed worden aan onnodig zware straffen te verminderen en deze te investeren in het vergroten van de pakkans en bestraffing van criminelen.

Een van de manieren om sanctiekosten te verminderen is het vaker opleggen van alternatieve straffen in plaats van gevangenisstraffen. Er bestaan verschillende tussenvormen van sancties die voor dit doel gebruikt kunnen worden. Het onderhavige proefschrift richt zich met name op drie van zulke straffen, die potentieel het beste resultaat opleveren om delinquenten te straffen als alternatief voor een korte detentieperiode: dagboetes, taakstraffen en elektronisch toezicht. De eerste straf wordt bepleit beter te zijn dan de meer gangbare vastgestelde boetes. Met dagboetes is het niet alleen mogelijk de hoogte van de boete aan te passen aan het delict, maar tevens aan de financiële situatie van de delinquent. Daardoor heeft dit het potentieel om niet alleen armlastige delinquenten af te schrikken, maar ook de rijke. Verder is het ook voor armlastige delinquenten altijd mogelijk de boete terug te kunnen betalen en derhalve niet achter de tralies te hoeven verdwijnen doordat de boete niet opgebracht kan worden. Het idee achter dagboetes is om aan alle delinquenten relatief gezien dezelfde strafzwaarte op te leggen voor het begaan van vergelijkbare delicten, ongeacht hun welvaartsniveau. Dit proefschrift behandelt tevens het probleem van het verzamelen van financiële informatie en stelt een mogelijkheid voor om dit probleem op te lossen.

De tweede manier voor het opleggen van sancties, taakstraffen en elektronisch toezicht, vervangt indien mogelijke korte gevangenisstraffen voor meer ernstigere delinquenten. Deze sancties hebben tot op zekere hoogte een preventieve werking en zijn toch minder duur dan gevangenissen. Dit proefschrift behandelt het probleem van ‘net widening’, oftewel het gebruik van alternatieve straffen voor de niet-detentiegebonden delinquenten. Aansluitend op de analyse van het probleem biedt dit proefschrift een inhoudelijke en een procedurele oplossing.

De eerste verwijst naar de structuur van de straf, de doelgroep en de ‘bestraffende werking’. De procedurele oplossing gebruikt inzichten van de gedragseconomie om procedurele regels te bespreken, wat rechters aan zou kunnen moedigen om taakstraffen en elektronisch toezicht alleen op te leggen aan detentie-gebonden delinquenten.

Toch kunnen niet alle gevangenisstraffen vervangen worden door alternatieve straffen. Sommige delinquenten zijn ‘oordeelbestendig’ en sommige delicten vereisen een strengere behandeling dan de alternatieve straffen. Daarom bespreekt dit proefschrift ook mogelijkheden om detentiekosten te verminderen. De eerste manier is om gebruik te maken van private ondernemers die gevangenissen bouwen en exploiteren. Zo’n methode wordt toegepast in de VS en Groot-Brittannië. Het komt echter niet voor in continentaal Europa. Daarom bespreekt dit proefschrift de voordelen van geprivatiseerde gevangenissen, tracht de risico’s te benoemen en geeft een mogelijke verklaring waarom dit niet voorkomt in continentaal Europa. De tweede manier om detentiekosten te verminderen is door de structuur en de doelen van gevangenisarbeid te verbeteren. Het proefschrift beschrijft het huidige gebruik van gevangenisarbeid in Europa en geeft een aantal suggesties om de efficiency te verbeteren en daardoor ook de opbrengsten. In dit hoofdstuk worden tevens enkele mogelijke verklaringen voor de inefficiënte toepassing van gevangenisarbeid in Europa gegeven.

Het laatste deel van het proefschrift is meer theoretisch. Het tracht te onderzoeken op welke wijze de inzichten vanuit gedragseconomie kunnen helpen bij het verbeteren van de effectiviteit van de kans op aanhouding. Om precies te zijn, dit deel analyseert de methoden om afschrikking te vergroten via willekeurige soorten van detectie. Verder wordt nieuw bewijs gepresenteerd, gebaseerd op een veldonderzoek onder een deel van de Italiaanse bevolking, om te laten zien dat overtreders niet bewust zijn van beleidswijzigingen. Derhalve worden ook manieren om dit bewustzijn te vergroten besproken.