Alma Mater Studiorum - Università di Bologna

DOTTORATO DI RICERCA IN

European Doctorate in Law and Economics (EDLE)

Ciclo _XXVI_____

Settore Concorsuale di afferenza: 13/A1

Settore Scientifico disciplinare: SECS-P/01

TITOLO TESI

Sanctions and public enforcement of insider trading laws in Europe

Presentata da: _____Claire Armelle LEGER _____

Coordinatore Dottorato

Prof. Luigi A. Franzoni

Relatore

Prof.Dr. Michael G. Faure LL.M.,
Erasmus University Rotterdam

Esame finale anno __2014_____

Sanctions and public enforcement of insider trading laws in Europe

Sancties en publieke handhaving van wetgeving ter bestrijding van handel met voorkennis in Europa

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
maandag 30 juni 2014 om 15.30 uur
door

Claire Armelle Leger
geboren te Toulouse, Frankrijk

Promotiecommissie

Promotor:	Prof.dr. M.G. Faure LL.M.
Overige leden:	Prof.mr.dr. L.T. Visscher
	Prof.dr. C.A. Schwarz
	Prof.dr. A.I. Ogus

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

A collaboration between

ACKNOWLEDGEMENT

Taking part in the EDLE programme was a rewarding as well as challenging experience to me. During these three years and a half, many people stepped in and helped me shape my academic career. The completion of this doctoral dissertation was only possible with the support of several people. I would like to express my gratitude to all of them.

First and foremost, I am extremely grateful to my PhD supervisor Professor Michael G. Faure for his valuable guidance, continuous support, patience, enthusiasm, and immense knowledge. I could not have imagined having a better mentor for my PhD study.

I would also like to express my gratitude to the members of my inner committee: Louis Visscher, Anthony Ogus and Kid Schwarz, for their helpful comments.

I am thankful to Luigi Franzoni, Johnathan Klick, Alessio Pacces, Zhou Qi, Roger Van den Bergh, Klaus Heine, Ann-Sophie Vandenberghe, Sharon Oded and Mitja Kovac for their useful comments, suggestions and challenging questions concerning my work.

I wish to especially acknowledge to the European Commission for the Erasmus Mundus scholarship that allowed me to have the experience of pursuing the EDLE programme.

I would further like to acknowledge the academic and technical support of the Università di Bologna, University of Hamburg, Indira Gandhi Institute of Development Research of Mumbai, and Erasmsus University of Rotterdam as well as their staff. I wish to express my special thanks to Marianne Breijer, Simone Rettig, and Lisa Verniti for their efficient support, positive attitude and kindness.

I am privileged for having had Dusko, Federico, Hadar, Hossein, Kateryna, Mary Ma, Paola, Peng Peng, Philip, Sergio, Shivans, Talita and Vijit as my colleagues during all the years. I have gained a great deal from them, through both personal and scholarly interactions. I would like to generally thank the entire EDLE group.

Above all I would like to thank my dear parents, my sister, my brother and all my friends for giving me energy, spirit and strength throughout my life.

Last but not least, I would like to thank Sacha for his personal support and great patience at all times.

CHAPTER 1. INTRODUCTION

1.1 INTRODUCTION AND RELEVANCE

1.1.1 Insider trading and internationalization of securities markets

Every day insider trading takes place legally when corporate insiders buy or sell stock in their own companies within the confines of company policy and the regulations governing this trading. The type of insider trading discussed here is the illegal kind. It is the trading that has been influenced by the privileged possession of corporate confidential information about important events.

The concept of shareholder value emerged as people started to invest their capital in risky projects of great magnitude. The main challenge was to gain the confidence of investors in order to make their capital available. The central issue was to organize the control of potential managers of capital opportunism.

Initially, the securities market was in essence unregulated. The first appearance of regulation for financial markets dates back to the thirteenth century and concerns the registration of securities in England. It is only in the Nineteenth Century that the first provisions governing the issuance of shares were established. However, modern securities regulation only dates back to early twentieth century.

In North America, the first laws emerged assigning a power to governmental authority over the issuance of securities. The 1929 crisis led observers to question the approach used in state law to regulate the securities market; they felt it inadequately protected investors[1]. The U.S. Congress then adopted two federal laws: The Securities Act of 1933 and the Securities and Exchange Act of 1934 were intended to ensure that investors had full and truthful information relevant to their decisions. The United States is the first country in the world to have enacted insider trading law. In Europe, laws prohibiting insider trading were created massively when the European Union required the Member States to implement the European Community Insider Trading Directive[2]. The insider trading prohibition appeared on average[3] around 1990. The recent financial crisis triggered an increasing demand for financial regulation to counteract the potential negative economic effects of the evermore complex operations and instruments available on financial markets. As a result, insider trading regulation counts amongst the relatively recent but particularly active regulation battles in Europe and overseas. Claims for more transparency and equitable securities markets proliferate, ranging from concerns about investor protection to global market stability.

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[1] Anderson, A., 1974. The Disclosure Process in Federal Securities Regulation: A Brief Review, *Hastings Law Journal* 25, 311-354.

[2] Council Directive 89/592/EEC (OJ L334/30) of 13.11.1989

[3] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.p.80 : For instance, for the 25 European countries for which the data is available, the year of enactment of insider trading law was 1990 on average (Austria 1993, Belgium 1990, Cyprus 1999, Czech Republic 1992, Denmark 1991, Estonia 1996, Finland 1989, France 1967, Germany 1994, Greece 1988, Hungary 1994, Ireland 1990, Italy 1991, Lithuania 1996, Luxembourg 1991, Malta 1990, Netherlands 1989, Poland 1991, Portugal 1986, Romania 1995, Slovakia 1992, Slovenia 1994, Spain 1994, Sweden 1990, United Kingdom 1981).

The internationalization of the world's securities market has challenged traditional notions of regulation and enforcement[4]. In order to ensure operational and informational efficiency of their market, domestic regulators have to deal with cross border cases. This means that they must be capable of assessing the nature of activities within markets and legal regimes that differ from their own environments. As a direct effect of globalization, financial and technological innovations, cross-border activities, cross-asset effects and broader financial and economic policy issues are changing[5]. Regulators have to ensure they have sufficient capacity and a relevant structure to adapt their measures to a dynamic environment.

1.1.2 Harmonization of the European Union insider trading regulations

The harmonization of the European Union securities regulations began in the 1980s with a legislative framework for common market exchanges,[6] introducing a model of mutual recognition and minimum harmonization aimed at consolidating internal markets and opening the European markets for investment. Amongst these measures, the 1989 Insider Dealing Directive[7] was the first to prohibit insider trading at EU level. It arose out of the 1957 Treaty of Rome Establishing the European Economic Community, following the objective of creating a single internal European financial market. The economic importance of a healthy securities market is stressed in the preamble to the directive. It recognizes that, to a large extent, the smooth operation of the market depends on the confidence it inspires in investors. Such confidence highly depends on ensuring investors that they are placed on an equal footing and that they are protected against the improper use of inside information. Every measure should

[4] The litterature raised some specific challenges potentially caused by the internationalization of securities legal standards. For instance, according to Zhao regulators can be captured or pressured by local interest groups in the securities industry. They can also be subject to opportunism whilst trying to maximize their personal prestige and act in favor of their carrier through complicated regulations. See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow). Moreover, different levels of expertise amongst regulators and courts might be problematic regarding interpretation (See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p4.). Noia perceives that uncertainty lead many Member States to renounce applying the current Market Abuse Directive (See Di Noia, C., 2012. Pending Issues in the Review of the European Market Abuse Rules, *ECMI Policy Brief* 19.p.1). Moreover Siems and Nelemands support that creative judicial interpretations can also leave space for errors of interpretation or deliberate evasion of EU norms (See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.11. Geiger, U., 1998. Harmonization of Securities Disclosure Rules in the Global Market - A Proposal *Fordham Law Review* 66, 1785-1836.)

[5] IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions).

[6] The Admission Directive, Council Directive 79/279/EEC (OJ 1979 L66/21) of 5.031979 ; the Listing Particular Directive, Council Directive 80/390/EEC (OJ 1980 L100/1) of 17.03.1980) ; the Interim Reports Directive, Council Directive 82/121/EEC (OJ 1982 L66/21) of 02.1982 ; the Major Share-holdings Directive, Council Directive 88/627/EEC (OJ 1988 L348) of 12.12.1988 ; consolidated in 2001 by the Consolidated Admission and Reporting Directive, Council Directive 2011/34/EC (OJ 2001 L184/1) of 28.05.2001 ; The 1985 White Paper, COM(85) 310 of 14.06.1985 ; the Single European Act (OJ 1987 L169) of 29.06.1987 ; the Single Market Programme ; the Undertaking for Collective Investments in Transferable Securities Directive, Council Directive 85/611/EEC (OJ 1985 L375/3) of 12.1985 ; the Public Offers Directive, Council Directive 89/298/EEC (OJ 1989 L124) of 17.04.1989 ; Investment Service Directive, Council Directive 93/22/EEC (OJ 1993 L141) of 10.04.1993.

[7] Council Directive 89/592/EEC (OJ 1989 L334/30) of 13.11.1989.

then be taken to ensure that the market operates smoothly to play its role effectively. Consequently, necessary measures should be taken to fight insider dealing because, by benefiting certain investors rather than others, it is likely to undermine this confidence and thereby prejudice the smooth operation of the market.

The preamble also stressed that in some Member States there were no rules or regulations prohibiting insider dealing, and that the rules or regulations that did exist differed considerably from one Member State to another. For this reason, it was advisable to adopt coordinated rules at a Community level in this field. This directive required its members to adopt insider trading legislation.

In 1999, the Commission adopted the Financial Action Service Plan (FASP),[8] containing 42 legislative measures, amongst which was the Market Abuse Directive.[9]

Some years later, in the continuity of the FSAP, the Lamfalussy process[10] gave place to the creation of a new general first level legislation framework for European financial markets,[11] complemented by a series of more detailed second level legislative measures,[12] providing technical details relative to the Market Abuse Directive.[13] The European Securities Committee (ESC)[14] and the Committee of European Securities Regulators (CESR)[15] were created.

Adopted in early 2003, the Market Abuse Directive (MAD) 2003/6/EC introduced a comprehensive framework to tackle insider dealing and market manipulation practices. In order to ensure the enforcement of Directive 2003/6/EC, Member States were required to implement appropriate administrative measures and sanctions. This requirement did not imply any consequences on the criminal dispositions of the Member States.

Nevertheless, according to the Commission, the current system did not achieve the desired effective protection of financial markets[16]. In December 2010, the European

[8] Financial services: Implementing the Framework For Financial Markets: Action Plan, COM(99) 232 of 11.05.1999.
[9] The Market Abuse Directive, Council Directive 2003/6/EC OJ L/096/16 of 28.01.2003.
[10] The Committee of Wise Men, Final Report of the Committee of Wise Men On The Regulation of European Securities Markets (2001).
[11] First level legislation involve the EU Commission, Council and Parliament.
[12] Second level legislation involve the EU Commission, the European Securities Committee and the Committee of European Securities Regulators.
[13] Directive 2003/124/EC implementing The Market Abuser Directive, Council Directive 2003/6/EC OJ L/096/16 of 28.01.2003 as regards the definition and public disclosure of inside information and the definition of market manipulation; Directive 2003/125/EC implementing The Market Abuser Directive, Council Directive 2003/6/EC OJ L/096/16 of 28.01.2003 as regards the fair presentation of investment recommendations and the disclosure of conflicts of interest; Directive 2004/72/EC implementing The Market Abuser Directive, Council Directive 2003/6/EC OJ L/096/16 of 28.01.2003 as regards accepted market practices; Commission Regulation (EC) No. 2273/2003 on Market Abuse.
[14] Commission Decision establishing the European Securities Committee, COM(2001) 1493 of 06.06.2001. The ESC is constituted of officials of Member States government and Commission officials.
[15] Commission Decision establishing the Committee of European Securities Regulators, COM (2001) 1501 of 06.06.2001. The CESR is constituted of representatives of Member States' national regulators and Commission representatives.
[16] Proposal for a Directive on criminal sanctions for insider dealing and market manipulation COM(2011) 654 final.

Commission issued a communication on "Reinforcing sanctioning regimes in the financial services sector".[17]

The European and Securities Market Authority (ESMA)[18] replaced the Committee of European Securities Regulation on the 1st of January 2011. ESMA's work on securities legislation aims at contributing to the development of a single rulebook for Europe by improving coordination and cooperation amongst securities regulators, as well as acting as an advisory group to assist the European Union Commission. ESMA is in charge of issuing guidance on the common operation of the Market Abuse Directive.

On the 20th of October 2011, the Commission issued two proposals to review the EU regime dealing with market abuse. The first aspect of this reform proposition consisted of a proposal for a Regulation[19]. Secondly, on the basis of the article 83(2) TFEU, the European Commission's proposition also entailed a Draft Directive on criminal sanctions, applicable to insider trading and market manipulation.[20] This proposition was motivated by the fact that today the criminal measures used to enforce the prohibition of insider trading are very divergent across Member States. The Commission argues that this incentivizes persons to commit insider trading within Member States that provide weak measures for this offence.

Indeed, current insider trading legislation and enforcement practices significantly diverge from one Member State to another. These different policies do not seem to particularly reply to any coherent and consistent logic. They are likely to result from cultural and historical differences and various judiciary traditions. To some extent, they may even appear to be the consequences of subsequent disconnected arbitrary political decisions.

1.1.3 Financial criminal law

It can be observed that criminal law falls within the area of public law, the specificity of which is to assure the safeguarding of the common interest. Criminal law in a business context is presented as a synthesis of laws, gathering together the criminal offenses of general application and the crimes specific to business, financial, tax and commercial law. It has expanded over time with the inclusion of criminal offenses under computer, securities or even labor and consumer law.

This expansion can partially explain the sentiment, so often expressed in the business world, of excessive criminalization of economic activity, presented as limiting freedom of contract[21]. The de-criminalization of business law is a subject that has driven extensive debates. The economic analysis of law would thus enable a verification of the legal standards established by criminal law in a business context.

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[17] Communication of the Commission on reinforcing sanctioning regimes in the financial services sector, COM(2010) 716 final.
[18] http://www.esma.europa.eu/.
[19] Proposal for a Regulation on insider dealing and market manipulation (COM(2011) 651 final).
[20] COM(2011) 654 final.
[21] See Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).

1.2 METHODOLOGY

Insider trading is currently forbidden all over Europe. The continuous changes of the securities market imply a constant evolution of financial instruments and require a flexibility of procedures. This dynamic character should encourage competent authorities to constantly assess the legal approach to the insider trading problem.

The regulation of the business world is conducted through various mechanisms, with the law in a first rank position. The economic analysis of law has received a varying degree of acceptance depending on the legal traditions. In contrast to countries with an Anglo-American legal system, which have easily accepted this field, countries with systems based on a Romano-Germanic tradition have been reluctant. According to Richard Posner[22], the difficulty of countries in the Romano-Germanic tradition to accept an economic analysis of law can be explained by the inefficiency of their systems compared to Common Law systems. This is why it is particularly appropriate to conduct a comparative analysis of European systems.

Many lawyers are opposed to the introduction of economic cost-benefit analysis in the law. In fact, Bentham's philosophy of Utilitarianism[23] may be perceived as contrasted with Kant's notion of Justice[24]. Numerous questions are thus raised: What is the goal of law? Are the effects of a legal rule desirable and beneficial for the society? Do the rules respond to the criteria of economic efficiency?

The interconnection of legal and economic systems exists in criminal law as in any other branch of law. Resorting to the tools of economic analysis can enable an understanding of the developments in contemporary criminal law and can enrich the legal tradition through the provision of more recent and appropriate data in support or in opposition to its most ancient certainties. Economics and the law do not fall under the same borders nor even under the same time cycle. The economic analysis of criminal law therefore constitutes a relevant tool that allows the integration of economic and financial considerations in criminal policy. The areas of law that impact business life have indirectly erected economic notions into legal concepts. This is why economic analysis turns out to be a relevant tool for analyzing criminal law in a business context.

It is particularly interesting as an economist to evaluate the effectiveness of the standards governing the business world. It is pertinent as a lawyer to verify the appropriateness of criminal sanctions in business law through the tools made available by economics. In the current context, it is more necessary than ever to ensure the proper foundations and effectiveness of the rules acting as a framework for economic and financial activities.

Given these various elements, law and economics is capable of offering a fertile and innovative perspective in order to explain the practices, affirm them, or weigh against them when they have no rational basis. The analysis of all the questions relating to norms, to contraventions and their sanctions, and to institutions and procedures of

[22] Posner, R. A., 1977. *Economic Analysis of Law*, 2d edition.(Little Brown, Boston).
[23] Bentham, J., 1789. *Introduction to the Principles of Morals and Legislation*(reproduction in "The Utilitarians", Rept. Garden City NY: Anchor Books, 1973, Paris).
[24] Kant, I., 2010. *The Philosophy of Law*(The Lawbook Exchange, Ltd.; Reprint edition). Originally published : Edinburgh : T.&T. Clark in 1797.

securities markets regulation, can be tackled in a single and simultaneous overall analysis. Insider trading is by essence difficult to identify, to quantify and to localize. Difficult choices have to be made in the formulation of the laws and their enforcement.

1.3 GOAL OF THE STUDY

Considering that insider trading is currently forbidden all over Europe, this study discusses how this prohibition should be enforced. More precisely, this study follows two goals: identifying optimal forms, natures and types of sanctions that effectively induce insider trading deterrence and encouraging the construction of a consistent and responsive apparatus of public enforcement of insider trading laws, thanks to the theory and the comparison and analysis of various existing regimes in Europe.

1.4 RESEARCH QUESTION

This study research questions are:
First, is under all circumstances criminal law necessary to enforce insider trading laws? Second, even if criminal law is prescribed in certain circumstances, should it be introduced at EU level?

The answer to these research questions implies addressing distinct sub-questions.
First, what is the optimal type, nature and form of sanctions that create an efficient insider trading law enforcement policy according to the deterrence theory?
Next, are the current European public law enforcement strategies regarding insider trading prohibition coherent with the theoretical law and economics recommendations?
And finally, should insider trading criminalization be centralized at EU level according to the economics of federalism?

The interest of this research consists in providing evidence of law and economics theoretical logic underlying the legal mechanisms that guide sanctioning and public enforcement of the insider trading prohibition. It also aims to reveal the economic rationality that drives the potential need for harmonization of criminal enforcement of insider trading laws within the European environment by proceeding to a comparative analysis of the current legislations of a few selected countries and critically analyzing the European Union's intervention.

The general purpose is to analyze whether or not the actual European public enforcement of the laws prohibiting insider trading is coherent with the theoretical law and economics recommendations, and how the enforcement practices could be improved.

1.5 SCOPE

First of all, the scope of this research focuses on the issue of public enforcement process of insider trading laws, with a particular emphasis on sanctions. Public law

enforcement is considered to be either administrative or criminal and dealt with by governmental agents, agencies and criminal courts[25].

This research comprises two main parts.

The first part of this research presents and comments different relevant legal and economic theoretical perspectives concerning the insider trading regulation (Chapter 2), the basis of public and private enforcement literature applied to insider trading (Chapter 3) and questions the optimal form (monetary/non-monetary), nature (administrative/criminal) and type of sanctions (Chapter 4). The starting point of this first part is the deterrence theory[26]. The law and economics methodology is used to elaborate theoretical recommendations of public enforcement according to the criterion of efficiency. It is a normative approach. The most efficient choice is considered as being the one that lowers social losses at the lowest cost.

The second part of this research investigates the practices of sanctions and public enforcement of insider trading laws in a selected number of Member States, in the light of the law and economics literature discussed in the previous chapters. The recent evolution of the European Union law in criminal insider trading matters is critically analyzed. This part has as objective to verify if the normative criteria are respected in the positive law and to determine which recommendations can be formulated in order to enforce insider trading law following the theoretical recommendations.

The methodological approach of the first aspect of this second part is a comparative overview of the current approaches to administrative and criminal insider trading sanctioning and enforcement regimes in a restricted number of eight selected European Member States under the form of an index (Chapter 5). The main sources used to collect the data are the domestic codes, the enforcement reports and the statistics of the national and European authorities and jurisdictions.

The second aspect of this part is a critical analysis of the recent European Union regulation evolution (Chapter 6). In that respect, the economic theory of federalism is used to analyze the division of labor between the Member States and EU level. This chapter also questions the consistency of the proposal for a Directive with the principles governing the introduction of substantive criminal rules at EU level. The underlying question is whether criminalization should be implemented at EU level. An alternative would obviously be to respect the subsidiarity principle and allow Member States to decide on the necessity of criminalization in certain given circumstances.

1.6 STRUCTURE

The outline of the thesis is as follows:

[25] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston). Polinsly and Shavell define the public enforcement of law as the use of governmental agents to detect and to sanction violators of legal rules.

[26] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

Chapter 2 begins by briefly considering the underlying legal and economic theoretical debate and arguments surrounding insider trading regulation. The Justice theory, Equal access theory, the Equality theory, the Financial Public Order, the Agency Theory, the Market Theory and the Property Rights Theory all provide relevant arguments lending support to the insider trading regulatory intervention and offer multiple perspectives on how it may result in better outcomes for the market.

Chapters 3 and 4 examine two aspects concerning the same question about how the insider trading prohibition should be enforced according to the deterrence theory approach. The main goal of these two chapters is to apply the insights from the Law and Economics literature on optimal public law enforcement to the area of insider trading regulation. These chapters are therefore grouped under the Title 1 "A theoretical approach to public enforcement of insider trading laws". This title explores the deterrence-based enforcement approach, which seeks to ensure regulatory compliance and deterrence pursuing social objectives. The law and economics' basic concept of rationality, deterrence theory, internalization of externalities regarding law enforcement and the main characteristics of the potential insider trading harm, gain as well as the probability of the sanction are developed to introduce Title 1.

More precisely, Chapter 3 develops the rationale for public enforcement of insider trading law, that is, questions why society cannot rely exclusively on private enforcement of law to control undesirable insider behavior. It explores the economic criteria under which the use of public law enforcement should be preferred over private enforcement.

In Chapter 4, the deterrence approach provides an economic analytical framework for the analysis of law enforcement: the goal of law and its enforcement is deterrence and should be achieved through the setting of optimal expected sanctions. Based on this theoretical framework, the regulator's numerous options to elaborate optimal policies addressing insider trading are described. The central concern of this chapter is the sanction, and more precisely its type, nature and form. Therefore, the trade-offs between magnitude and probability of sanction, monetary and non-monetary sanctions, and criminal and administrative nature sanctions, are addressed and discussed according to law and economics theory objectives.

Title 2 relates to EU legislation and domestic practices of insider trading sanctions and enforcement. The goal of this title is to explore the practices of sanctions and public enforcement of insider trading laws in the light of the law and economics literature discussed in the previous chapters. After presenting the specificities attached to the practices of sanctions and public enforcement of insider trading laws in eight selected Member States[27] under the form of an index, the recent evolution of European Union law in criminal insider trading matters will be critically analyzed.

Chapter 5 reviews the regimes of sanctioning and public insider trading law enforcement across eight Member States. In the first part of this chapter, an index will provide an overview of the current approaches to administrative and criminal sanctions and law enforcement concerning insider trading offences in eight selected European Member States. The objective is to carry out case studies in a finite number

[27] Belgium (BE), France (FR), Germany (DE), Luxembourg (LU), Portugal (PT), Spain (ES), and United Kingdom (UK).

of jurisdictions in order to accurately explore the following key characteristics of the different regimes of policy and practices under the Market Abuse Directive (MAD): Whether insider trading can give rise to criminal sanctions for natural and legal persons; the minimum and maximum amounts of a sanction for market abuse; the different categories of sanctions; the key factors that must be considered when determining sanctions according to law and whether sanction decisions must be published; whether the same set of facts can give rise both to administrative sanction proceedings and to a referral to the judicial authority within the framework of criminal proceeding; the purpose, type and formalization of the cooperation between competent authorities and judicial or other prosecuting authorities; the intensity of public enforcement of securities regulation (measured through the resources of staff and budget). Finally, the chapter describes the actual sanctions imposed during the period 2008, 2009 and 2010 in the selected countries.
This examination aims to describe how the MAD is implemented and applied in practice by different Member States. This section will pinpoint the differences in interest and challenges faced by the selected countries but will not assess the regulatory regimes. The second part of this chapter identifies and formulates the implications for an effective enforcement policy.

Chapter 6 is a critical analysis of the recent evolution of European Union law in criminal and insider trading matters, and more particularly of the proposal for a Directive on criminal sanctions for market abuse. Economics of harmonization provide a relevant framework for analyzing whether harmonization is desirable, depending on the characteristics of a certain domain. This assessment is made on the basis of four criteria: inter-jurisdictional externalities, jurisdictional competition, transaction costs and preferences for differentiation. This chapter also questions the consistency of the proposal for a Directive with the principles governing the introduction of substantive criminal rules at EU level: the principle of a legitimate purpose, the *ultima ratio* principle, the principle of guilt, the principle of legality, the principle of subsidiarity, and the principle of coherence. The desirability of harmonization of enforcement methods (criminalization) at EU level is questioned.

Chapter 7 presents the major findings, observations and conclusions of this study.

CHAPTER 2. LEGAL AND ECONOMIC FOUNDATIONS FOR THE REGULATION OF INSIDER TRADING

Insider trading is currently prohibited all over Europe. This chapter presents and clarifies the legal and economics theoretical foundations underlying the prohibition of insider trading. Clarifying this issue is directly enlightening the law and economics debate about the insider trading concept and indirectly providing elements that have an impact on the choice of optimal enforcement of insider trading laws strategies. Indeed, the different scholars' positions reflect the lack of consensus concerning the appropriate remedy to insider trading.
The prohibition of insider trading is considered here over two grounds: legal theory and economic efficiency.

2.1 LEGAL THEORY: EQUAL TREATMENT OF INVESTORS AND PUBLIC ORDER

This work starts with a legal analysis of insider trading regulation. Before addressing the efficiency objectives of insider trading regulation, it is necessary to clarify its non-economic goals that are based on the justice theory and the financial public order.

2.1.1 Justice, equity and insider trading

2.1.1.1 About the distributional justice

From a legal point of view, the very first goal of regulation may be defined as the "fair" or the "just" allocation of resources[28]. The concepts of justice and fairness cover many different notions rooted in the period of enlightenment in Europe and particularly in the approaches of Hobbes[29], Hume[30] or Kant[31]. The legal literature counts three major justice theories. The *distributive justice theory* aims at determining whether a specific action is proper. The *retributive justice theory* is concerned with determining whether penalties imposed on wrongdoers are actually fair. The *compensatory theory* is interested in assessing the relevance of the compensation of the victims.
For the concern of this first chapter, the distributive justice model is the only one that is addressed as it is particularly relevant for questioning insider trading matters.

The first question to address is whether, from a distributional justice point of view, insider trading can be considered as "wrong". The distributive justice model contains a variety of schools of thought, including the egalitarianism, capitalism, socialism and libertarianism approaches.

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[28] Ogus, A., 1994. *Regulation: Legal Forms and Economic Theory*(Clarendon Press, Oxford).p.46 : "Regulation may be inspired by a desire, which is quite distinct from efficiency aims, to achieve 'fair' or 'just' distribution of resources".
[29] Hobbes, T., 1998. *Leviathan*(Mayfield Publishing Co., US).pp.69-79 (originally published in 1651)
[30] Hume, D., 1777. *Inquiries Concerning Human Understanding and Concerning the Principles of Morals*, Lewis Amherst Selby-Bigge edition.(Clarendon Press, Oxford).
[31] Kant, I., 2010. *The Philosophy of Law*(The Lawbook Exchange, Ltd.; Reprint edition).

From an *egalitarianism* perspective, what is equal is considered being just[32] and what is unequal, wrong. Each person should receive equal benefits[33] and systems of tax or welfare programs correct all kinds of unequal benefits. Economic equality may be perceived in many ways as an equality of opportunities, or resources, or income, or welfare[34], etc. In this respect, from an egalitarian perspective insider trading is considered wrong because it results in the promotion of an unequal distribution of benefits.

On the contrary, the distributive justice model of *capitalism* encourages the distribution of benefits according to an individual's contribution to society.[35]It thus has greater concern for a merited outcome than for an egalitarian one. In insider trading matters, it could seem wrong to consider the individual possessing inside information as the one having contributed the most to society and therefore deserving greater benefits. Indeed inside information is often leaked and is likely to result from one's position rather than from one's performance[36] (as it will be further discussed). In this respect, receiving benefits from insider trading is also wrong according to the capitalist approach.

The distributive justice of *socialism* assumes that privileges should be abolished[37] and society's benefits should preferably be distributed according to the people's needs. The regulator is in charge of redistributing the outcomes fairly. Considering that the benefits of an insider trading act are distributed to the individual who possessed the information, without any correlation with their particular needs, insider trading is certainly not consistent with the socialist idea of distributive justice.

There is however one distributive model that could be consistent with considering the reception of benefits from insider trading as fair or just. Indeed, the distributive justice of *libertarianism*[38] considers that all actions are permissible as long as none of the parties coerces the other[39]. Therefore, as long as a transfer of resource is based on agreed transaction and acquisition, it is right for an insider to enjoy benefits from insider trading.

To conclude, all in all, our modern societies seem more likely to be influenced and driven by the capitalist, socialist and, marginally, by the egalitarian approaches of the distributional justice theory. A strict libertarian model may seem inconsistent with the

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[32] Aristotle, 1976. *Ethics*(Penguin Classics, London). "What is unjust is unequal, what is just is equal ; as is universally accepted even without the support of argument".

[33] See Velasquez, M. G., 2002. *Business Ethics: Concepts and Cases*(Prentice Hall, Upper Saddle River, New Jersey).

[34] Bojer, H., 2003. *Distributional Justice: Theory and Measurement*(Routledge, London).p.12.

[35] See Velasquez, M. G., 2002. *Business Ethics: Concepts and Cases*(Prentice Hall, Upper Saddle River, New Jersey).

[36] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

[37] Ogus, A., 1994. *Regulation: Legal Forms and Economic Theory*(Clarendon Press, Oxford).p.47: "Pursuit of equality is a common theme, if by this is meant the abolition of advantages conferred by power, privilege, and wealth and the entitlement of individuals to resources such as will enable them to participate equally and fully in the community".

[38] Hayek, F., 1976. *The Mirage of Social Justice (Law, Legislation and Liberty)*(Routledge and Kegan Paul, London), Nozick, R., 1974. *Anarchy, State and Utopia*(Basil Blackwell, Oxford). Libertarianism is a theory of procedural justice. The acquisition is just if it results from a just procedure.

[39] Kolb, R. W., 2010. Risk Management and Risk Transfer: Distributive Justice in Finance, *The Journal of Alternative Investments* 13, 90-98.p.90: Libertarianism deals with the "right to act in accordance with the right to accumulate wealth or garner other goods; whatever distribution of wealth results from those rightful actions is just".

conception of civil societies, as we know them. From a legal theory perpective, insider trading should be regulated because it harms the value of distributional justice.

After having apprehended the different schools of thought dealing with the distributional justice theory, the way this notion influences insider trading regulatory policies is suggested. The distributional theories consider that a policy should opt for measures that lead to a distribution of outcomes consistent with their precepts[40]. In that respect, one can observe that financial markets[41] regulation in general and the insider trading law in particular are indirectly inspired by some distributional justice's precepts. The coming section appreciates the influence of the distributional justice theory in the insider trading laws. Both the US and the EU approaches are analyzed. The US insider trading regulation is an example for the rest of the world, including Europe, and is characterized by a specific legal approach based on the equal access principle. There is not just one European legal approach to insider trading regulation but a multitude. Nevertheless, the equality theory is specific to the European approach.

2.1.1.2 Equal treatment of investors, heritage of the distributional justice theory

Most arguments in favor of prohibiting insider trading begin with a condemnation of the practice as *immoral*[42] and *unfair*. The moral theory literature considers insider trading to be a "fraud-on-the-investor", and defines it as a pendant of the respect for autonomy and fairness in securities regulation[43]. Hence, ethical moral theory considers that insider trading interferes with a person's autonomous decision-making by violating a moral and legal duty to disclose material non-public information before trading on such information in securities markets. According to the *equitable disclosure rationale*, someone using material non-public information places other market players at a disadvantage in making a trade. Therefore *the failure to disclose the information renders the trade fraudulent.* The connection established between the investor's confidence and the proper functioning of capital markets should not be underestimated. The informational advantage of insiders can alter investor confidence and have a negative impact on the market. If investors feel they are being treated unfairly they may lose confidence in the integrity of the securities market, withdraw from the market and invest in other opportunities[44]. Insider trading prohibition is

[40] Stiglitz, J. E., 1989. *The Economic Role of the State*.p.28, Ogus, A., 1994. *Regulation: Legal Forms and Economic Theory*(Clarendon Press, Oxford).p.48.

[41] Kolb, R. W., 2010. Risk Management and Risk Transfer: Distributive Justice in Finance, *The Journal of Alternative Investments* 13, 90-98.p.90: According to Kolt, distributive justice is "the moral justification of how the goods and ills, or costs and benefits, of a society are distributed across its members".

[42] Donagan, A., 1977. *The Theory of Morality*(University of Chicago Press, Chicago). Donagan holds that the theory of morality establishes that the morality of an act should be evaluated by considering whether it affects the autonomy, rights and dignity of someone else.

[43] Strudler, A., Orts, E., 1999. Moral Principles in the Law of Insider Trading, *Texas Law Review* 78, 375-438.p.381: "We rely on the standard deontological view that what makes an act morally justifiable is the respect it expresses for the autonomy, rights, and dignity of those persons affected by it, and not merely the social welfare or the utility that act produces. We argue in particular that insider trading law protects the autonomy of public securities traders from unfair and wrongful deception. We maintain that deontological theory of insider trading specifies a relevant set of circumstances when such unfair and wrongful deception occurs".

[44] Cox, C., Fogarty, K., 1988. Bases for Insider Trading Law, *Ohio State Law Journal* 49, 353-354. "Members of the financial community, regulators, lawyers, and judges seem to be based on the idea

based on the notion of *equal treatment of investors with respect to information*[45]. It aims at rectifying a *breach in equal access to information between market participants*, affecting the moral principles of fairness and equity[46]. Insider trading regulation would then maintain the confidence of investors.
A clarification is however necessary: Informational disadvantages are not illegal *per se*. The problem with insider trading relates to the access to material non-public information. This inequality is considered unfair because an outside investor cannot acquire the same information than the insider can. Thus, insiders are considered to have an unfair advantage over outsiders in accessing non-public information[47]. These notions find an echo in the legal doctrine.

Thus, the major legal principles on which insider trading regulation is based are the equal access theory in the US and the equality theory in Europe which both may be read as having an indirect influence emanating from the distributional justice theory's precepts.

The US equal access theory approach

From a general point of view, the Section 10(b) of the Securities Exchange Act of 1934 (and the Rule 10b-5 promulgated there under) established the equal access theory as a basis. The fiduciary duty theory, the misappropriation theory, and the fraud-on-the market theory[48] are the major doctrines derived from the equal access principle according to which insider trading is illegal under USA federal laws.

US statutory insider trading law is mainly based on common law prohibitions against fraud: Section 15 of the Securities Act of 1933 prohibits the fraud in the sale of securities; section 10(b) of the Securities Exchange Act of 1934 prohibits the use of manipulative and deceptive devices, section 14(e) relates to proxies, section 16(b) prohibits short swing profits made by corporate directors, officers, and principal stockholders, section 20(a) relates to the liability of contemporaneous traders for insider trading, section 21(a) to civil penalties for insider trading, section 21(f) to securities whistleblower incentives and protection, and section 32 to penalties.

To implement these sections, the SEC adopted different federal general rules and regulations (rule 10(b-5) on employment and deceptive devices, rule 10(b-5-1) on trading on the basis of material non-public information in insider trading cases, rule 10(b-5-2) on duties of trust or confidence in misappropriation insider trading cases, rule 14(e-3) on transactions in securities on the basis of material non-public information in the context of tender offers, and regulation fair disclosure "FD"[49] (selective disclosure and insider trading): rule 100 on general rule regarding selective

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that such trading, by giving insiders an unfair advantage, will discourage ordinary investors", Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845.

[45] Deffains, B., Stasiak, F., 2002. *Les Préjudices Résultants des Infractions Boursières: Approche Juridique et Economique*(Sorbonne, Paris). Pietrancosta, A., 1999. *Le Droit des Sociétés Sous l'Effet des Impératifs Financiers et Boursiers*(Université Paris 1 Panthéon Sorbonne, Paris).

[46] Brudney, V., 1979. Insiders, Outsiders, and Informational Advantages Under the Federal Securities Law, *Harvard Law Review* 93, 355-356.

[47] Ibid.

[48] See Basic Inc. v. Levinson, 485 U.S. 224, 236 (1988).

[49] http://www.sec.gov/rules/final/33-7881.htm.

disclosure, rule 101 on definitions, rule 102 on no effect on antifraud liability, rule 103 on no effect on exchange act reporting status, and rule 21(f-17) relating to whistle-blowing).
From this broad corpus, the US courts have exercized their authority of interpretation leading to developments in insider trading law and to the consecration of the major theories on which it is based.

The US equal access theory requires *parity of access to information*. According to the equal access theory, all traders owe a duty to the market either *to disclose or to abstain* from trading on material non-public information. This duty is imposed on the theory that it is *unfair* to exploit such information from which other market players are excluded. The American scholar Brudney directly refers to the notion of inequality between insiders and outsiders in accessing to material non-public information[50] when justifying the insider trading ban.

In 1961, in the case *Cady, Roberts and Co.*[51] the court relied on two key elements: the existence of a relationship giving access, directly or indirectly, to information intended to serve corporate purpose rather than personal benefit, and the inherent unfairness involved when a party takes advantage of such information in the knowledge that is unavailable to those with whom that party is dealing. The ruling was read as promoting equal access theory of insider trading.

In 1969, in the case *SEC v. Texas Gulf Sulphur* Co.[52], the US Court of Appeals for the 2nd Circuit stated that anyone in possession of inside information is required either to disclose the information publicly or refrain from trading because trading with the benefit of inside information operates as a fraud at the detriment of all other buyers and sellers in the market[53].

In 1980, *the fiduciary theory* raised with the emblematic case *Chiarella v. United States*[54], a petitioner working for a financial printing company realized a trade based on information (regarding tender offers and a merger) he obtained from documents he was hired to print. He purchased stock in the target companies and sold the shares immediately after the takeover attempts were announced to the public. The United States Supreme Court rejected the equal access theory and reversed the criminal conviction: the fraud on the shareholders can only be established where there is a duty to disclose or abstain arising from "a fiduciary or other similar relation of trust and confidence". The intent was certainly to restrict the field of application of Rule 10b-5.
On the following, in the 1982 case *Dirks v. SEC*[55],the U.S. court of appeal ruled that a tippee is liable if he realizes a personal benefit from a confidential information received from an insider, while he knows the tipper breached his fiduciary duty by disclosing the information. This case also defines the concept of "constructive insiders" who receive inside information while providing services to the corporation and *acquire the fiduciary duties of the true insider*[56].

[50] See Brudney, V., 1979. Insiders, Outsiders, and Informational Advantages Under the Federal Securities Law, *Harvard Law Review* 93, 355-356.
[51] Cady, Roberts and Co., 40 SEC 907 (1961).
[52] SEC v. Texas Gulf Sulphur Co., 401 F.2d 833 (2d Cir. 1968), cert. denied, 394 U.S. 976 (1969).
[53] See http://www.sec.gov/news/speech/speecharchive/1998/spch221.htm.
[54] Chiarella v. United States, 445 U.S. 222 (1980).
[55] Dirks v. SEC, 681 F.2d 824, 220 U.S. App. D.C. 309 (D.C. Cir. 1982).
[56] See http://www.sec.gov/news/speech/speecharchive/1998/spch221.htm.

In 1986, in the case *United States v. Carpenter*[57], the U.S. Supreme Court addressed the misappropriation theory. The U.S. Supreme Court reminded that a person who acquires special knowledge or information by virtue of a confidential or fiduciary relationship with another is not free to exploit that knowledge or information for his own personal benefit but must account to his principal for any profits derived therefrom[58]. The Court wired fraud convictions for a defendant who had received his information from a journalist rather than from the company itself. The journalist was also convicted, on the grounds that he had misappropriated information belonging to his employer. The misappropriation theory seems to consecrate *informational property rights*[59].

In 1991, in the case *United States v. Chestman*[60] the U.S. court of appeals for the 2nd circuit showed the complementarity of the misappropriation theory and the fiduciary duty. The misappropriation does not require the establishment of a fraud by the trader through the breach of a fiduciary duty to the company whose shares are being traded or to its stockholders[61], but the establishment of a fraud by the trader on the source of the non-public information. Therefore, the misappropriation theory allows to extend liability under Rule 10b-5 in situations where the fiduciary duty does not apply.

In 1988, in the case *Basic Inc. v. Levinson*[62], the US Supreme Court adopted a presumption of reliance based on the fraud-on-the-market theory. According to the fraud-on-the-market theory, in open and developed securities markets the stock prices depend on all material information about the company available to investors. Consequently, investors rely on market prices that are supposed to reflect all material information into the share price. In turn, a causal link can be established between any misstatement and any stock purchaser. The underlying idea is that the *misstatements defraud the entire market* and thus affect the price of the stock. Therefore, a material misstatement's effect on an individual purchaser is no less significant than the effect on the entire market. In the case *Basic Inc. v. Levinston*, the question was whether this entitles an individual stock purchaser who did not directly rely on the misstatements to a presumption of reliance.

The European equality theory approach

The equality theory corresponds to an egalitarian ideal and is based on the fact that the law is capable of correcting wrongs resulting from insider trading by ensuring equal distribution of information and enforcing an *opportunity to exploit information among investors*[63]. Promoting equality of opportunity among investors is a

[57] Carpenter v. United States, 484 U.S. 19 (1987).
[58] Diamond v. Oreamuno, 248 N.E. 2d 910, 912 (N.Y. 1969).
[59] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.p.44-46.
[60] U.S. v. Chestman, 947 F.2d 551 (2d Cir. 1991).
[61] U.S. v. Chestman, 947 F.2d 551, 566 (2d Cir. 1991): "The predicated act of fraud is perpetrated on the source of the non-public information, even though the source may be unaffiliated with the buyer or seller of securities".
[62] Basic, Inc. v. Levinson, 485 U.S. 224 (1988).
[63] Umhoefer, C., Piétrancosta, A., 1992. Le Délit d'Initié: Insider Trading Law in France, *Columbia Journal of Transnational Law* 30, 89-144.pp.135-139.

"normative approach to market regulation that ensures fair distribution of risk among market players"[64] and therefore preserves confidence.
The equality theory prohibits all insider transactions that infringe upon either market integrity or ideal equality of investors[65]. It seems to have a broader application than the equal access theory in the United States. This difference in fundaments seems to arise from historical, cultural and legal tradition specificities. However, it is clear that both the US and the EU approaches of insider trading regulations are influenced by the precepts of the distributional justice theory.

2.1.2 The financial public order and the market interest

Public order and public interests are very important notions in the context of the European insider trading laws' analysis. They recently gave place to the new concepts of economic public order and market interest. These concepts play an influential role in the choice of rules and are the very foundations of the modern economic public enforcement of the prohibition of insider trading.

The multi-faceted concepts "*ordre public*" or "public order" or "public policy" refers to normal and peaceful situations in the public sphere, but also covers in substance all mandatory rules created to protect the fundamental values of a society, of a community, or more generally, of an organized entity, which parties have no freedom to derogate from[66]. These mandatory rules can be created at a regional, national, or international level and can be unilateral or multilateral.

Initially, the concept of "*ordre public*" comes from the French term for public policy. In France, the term would appear to refer to "the basic structure of a state governed by the rule of law, or in other words, a proper democratic republic"[67]. It is a small cluster of basic frameworks of rules of public policy and generally accepted moral standards on which the basis of society is built[68] and from which private agreements may not derogate[69]. However, the notion has had a wide success and European legal scholars refer to "ordre public" as the notion of maintenance of the values and interests that are considered essential in a specific society or legal system[70] or as the principles of a positive law system, which have to be considered of "special value"[71] in the context of that system. However, the English term "public policy" is more amorphous and would not include the basic structure of the state, nor necessarily the fundamental rights of citizens. The European Court of Justice uses the term "public policy" to translate the concept of "*ordre* public". In European law the concept of "*ordre*

[64] Ibid.p.134.
[65] Ibid.pp.134-139.
[66] See Carbonnier, J., 2000. *Droit Civil, les Obligations*, 22 edition.(PUF, Paris), Kessedjian, C., 2007. Public Order in European Law, *Erasmus law review* 1, 25-37. Ghestin, J., 1993. *Traité de Droit Civil, la Formation du Contrat*, 3 edition.(LGDJ, Paris). Plagniol, M., 1956. *Traité de Droit Civil, La Formation du Contrat*, 2 edition.(LGDJ, Paris).
[67] Kessedjian, C., 2007. Public Order in European Law, *Erasmus law review* 1, 25-37.p.26.
[68] Malaurie, P., 1951. Les Contrats Contraires à l'Ordre Public(Université de Droit, Reims).
[69] Article 6 of the French Civil Code provides "*ordre* public" with its essence and its mandatory legal force. It states that "*On ne peut déroger, par des conventions particulières, aux lois qui intéressent l'ordre public et les bonnes mœurs"*.
[70] De Jong, R., 2000. *Orde in Beweging: Openbare-Ordehandhaving en de Persoonlijke Vrijheid*(Tjeenk Willink, Deventer: W.E.J.).
[71] Schokkenbroek, J. G. C., 1986. Public Order as a Ground for Limiting the Freedom of Expression, *NJCM - Bulletin* 3.

public", is sometimes used to denote the status of certain fundamental provisions in the Treaty on the Functioning of the European Union. This usage has to be distinguished from the concept of "public order" in the sense of public security, synonymous with the notion of a normal and undisturbed life in the public sphere[72].

The public order is a component of the *public interest*[73]. The legal scholarly literature states that a provision is of public order whenever it is inspired by considerations of general and public interest that would be compromised if individuals were free to prevent the application of the law[74]. The public interest can be defined as what tends to the satisfaction of the majority[75]. In 1762, Jean-Jacques Rousseau defined the public interest in Le Contract Social as the "cement" of the social order. He argues that humans are not naturally inclined to find an agreement and that the conditions of their union needs to be built in order to respect a new social order where justice supports utility. This social order produces legal standards that all together constitute public order. Finally, in the *Déclaration des Droits de l'Homme et du Citoyen* of 1789, the French Conseil d'Etat held that the social order represents the will of the majority. In consequence, what is required by law and public action should always be in the general interest.

Moreover, different institutions and organizations aiming at regulating finance pursue the public interest. Indeed, it is explicitly mentioned in the International Financial Reporting Standards[76] foundation's objectives that one of its major goal is to develop, in the public interest, a single set of high quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles.[77] For instance, the legal status of the recently created European Securities and Market Authority specifies: "*The objective of the Authority shall be to protect the public interest by contributing to the short, medium and long-term stability and effectiveness of the financial system, for the Union economy, its citizens and businesses"*[78]. Hence, the last century gave place to the great emergence of capital markets and led to the creation of a related new body of laws, concepts, regulations, organizations and institutions. This is how the traditional concepts of public order and general interest evolved toward the notions of "economic public order" and "market interest"[79] in the literature. Through the law, authorities aim to uphold the interest of the market, or in other words, make sure that it operates fairly. Hence, the market interest is defined as "a superior collective interest, a sort of general interest, which is intended to subordinate the individual interests of the stakeholders"[80]. Established legal scholars consider that a behavior contrary to the market interest is a behavior that "distorts the functioning of the market, provides an unfair advantage to some

[72] See De Lange, R., 2007. The European Public Order, Constitutional Principles and Fundamental Rights, *Erasmus law review* 1, 3-25.p.8.
[73] Vincent-Legoux, M.-C., 2001. L' Ordre Public, Etude de Droit Comparé Interne(PUF, Paris).
[74] Plagniol, M., 1956. Traité de Droit Civil, La Formation du Contrat, 2 edition.(LGDJ, Paris).
[75] Malaurie, P., 1951. Les Contrats Contraires à l'Ordre Public(Université de Droit, Reims).
[76] IFRS Foundation is an independent, not-for-profit private sector organization.
[77] http://www.ifrs.org/The-organisation/Pages/IFRS-Foundation-and-the-IASB.aspx.
[78] Regulation (EU) No 1095/2010 of 24.10.2010 establishing a European Supervisory Authority (ESMA), Article 1, paragraph 5.
[79] Fatih, A., 2010. Ekonomik Kamu Düzeni ve Ekonomik Kolluk Faaliyeti, *Official Journal of the Ankara Bar Association* 67, 75-84.
[80] Muller, A.-C., 2007. *Droit des Marchés Financiers et Droit des Contrats*(Economica, Paris).

people that (they) would not have obtained under normal market conditions, affects equality of information and treatment of investors"[81].

The *economic public order* refers to all of the requirements of the legal principles for financial markets pursuant to which the legislator, the market authorities and the courts justify the mandatory sanctions they decree in order to guarantee market interests[82]. The pursuit of market interest is therefore the purpose of the law of financial markets through regulation, through the organization of the competition in the financial market[83] and through the supervision of the freedom of market participants in order to guarantee fair transactions[84]. Going further, the scholarly literature qualifies the *market regulation*, said of financial public order, as intending to ensure the proper functioning of markets and the protection of public saving by organizing market transparency and ensuring *equality of investors*[85].

Distributional justice, fairness, equity, and economic public order constitute the legal foundations for prohibiting insider trading in many legal systems.

2.2 EFFICIENCY CRITERIA

From an economic point of view, financial markets regulation is based on the notion that markets can be made more efficient[86]. Insider trading regulation finds foundations in different economic theoretical approaches. For instance, this second section mentions major economic arguments that make insider trading problematic for market efficiency from the Agency theory, the Market theory and the Property rights theory perspective. These three theories offer a comprehensive framework of how the financial market operates and what insider trading regulation may accomplish.

2.2.1 Agency theory: The firm level effect of the insider trading

Jensen and Meckling define agency costs as the sum of the shareholders' monitoring costs, the managers' bonding costs, if any, and the residual loss, which is the decrease in shareholders' welfare caused by the *divergence between the managers' decisions and the decisions that would maximize the shareholders' wealth*[87]. Judge Easterbrook

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[81] Viandier, A., 1989. Sécurité et transparence du marché financier, *JCP*.

[82] Méadel, J., 2007. *Les Marchés Financiers et l'Ordre Public*(LGDJ, Bibliothèque de Droit Privé, Paris). According to Méadel, if the public order is the proper functioning of the institutions essential to the community, the financial public order covers the financial market functioning and the interest of the market.

[83] Malaurie, P., 1951. *Les Contrats Contraires à l'Ordre Public*(Université de Droit, Reims).

[84] Martres, J.-L., 1964. *Les Caractères Généraux de la Police Economique*(Bordeaux). Martres holds that the economic order is related to "the idea of harmonious development of the market" and is a "direct reflection of an economic policy designed as a way to create order or to enforce it once established".

[85] Marini, P., 2000. Arbitrage, Médiation et Marchés Financiers, *Revue Juridique de commerce* 162, 156-177.

[86] In this study, efficiency is typically defined as Pareto efficiency: no further transaction will make anyone better off without making others worse off. However, the less restrictive Kaldor-Hicks efficiency which only requires a net social benefit is often preferred by legal scholars because it leaves room for the notion of relative efficiency.

[87] Jensen, M. C., Mackling, W. H., 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure, *Journal of Financial Economics* 3, 305-360.

was one of the first scholars to explore the agency dimensions of insider trading[88]. The issue covered in this section is the study of the existence of agency costs arising from insider trading. Insider trading is perceived as being an efficient compensation scheme by some scholars, whereas others, to the contrary, associate it with agency costs that must be controlled through regulation.

2.2.1.1 Insider trading as an efficient compensation scheme

Insider trading: incitation to entrepreneurial innovation

Henry Manne claims that insider trading is a desirable function that motivates entrepreneurial innovation by giving a compensation related to the value of the entrepreneur's contribution[89]. Entrepreneurial innovation creates valuable new information. The first person who knows about the valuable information created by the entrepreneurial innovation is the entrepreneur himself. According to Manne, allowing insiders to profit by buying the company's shares before the public learns of the innovation and before their value rises to reflect the positive news is the best way to compensate their performances and to provide them with incentives to innovate[90].

A classic contracting process cannot ensure such encouragement: entrepreneurs cannot be identified in advance, nor can the value of their innovation

Manne argues that salary and bonuses provide inadequate incentives for entrepreneurial inventiveness because they fail to accurately measure and take into consideration the value that innovations bring to the firm[91]. Thus, innovative entrepreneurs are difficult to identify in advance, because any employee may generate profitable innovations. Additionally, in any case, it is difficult to set entrepreneurs' pay in advance because the value of entrepreneurial activity is complicated to measure in advance. Therefore insider trading might be an efficient mean to compensate entrepreneurs in direct proportion to and contemporaneously with their innovations. Even if the entrepreneur is wealth-constrained and hence cannot buy an unlimited quantity of shares, he can always "sell" the information to others. In this manner, insider trading "readily allows corporate entrepreneurs to market their innovations"[92].

Insider trading allows the agent to self-tailor his compensation to account for the information he produces without renegotiation ex-post of his contract

Another argument in favor of insider trading as an efficient compensation is that ex-ante compensation contracts require costly renegotiation and might be subject to strategic behavior [93]. On the contrary, insider trading might allow an agent to revise

[88] Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston).
[89] See Dye, R. A., 1984. Insider Trading and Incentives, *Journal of Business* 57, 295-313. Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).
[90] Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).
[91] Ibid.
[92] Ibid.
[93] Fama, E., 1980. Agency Problems and the Theory of the Firm, *Journal of Political Economy* 88, 288-307. Fama holds that contracts providing for periodic renegotiations ex-post based on imperfectly observed effort and output are alternatives to contracts that ex ante tie compensation to output. Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-

its compensation package without renegotiating his contract. By trading on new information, the agent self-tailors his compensation to account for the information he produces.[94]

Insider trading allows the revelation of the most innovative managers: improving the managerial firm aspect

In addition, Professors Carlton and Fischel claim that a compensation scheme based on insider trading is a way to reveal the most innovative managers. Managers who prefer such compensation schemes may be those who are the least risk averse and the most capable. In that respect, it would also be a way of improving the managerial firm aspect: the most able managers might self-select into firms that allow insider trading. This phenomenon would imply a reduction of both screening and monitoring costs, implying lower agency costs[95].

Manne, Carlton and Fischel claim that by reducing the divergence between shareholders' and managers' interests, insider trading reduces agency costs and thus should not be prohibited from an agency theory point of view.

2.2.1.2 Insider trading as an agency cost

Contrary to that, authors considering insider trading to be an agency costs emphasize its rent-extraction potential, claiming that insider trading is an inefficient private benefit of control that benefits managers at the expense of shareholders[96]. Cox and Ang even empirically established the evidence of an agency cost borne by outsiders because of insider trading: "on average, insider purchases are generating significant abnormal profits at the expense of less informed traders"[97]. Shin supports that, by improving information disclosures, insider trading laws reduce agency costs and opportunistic managerial behavior[98].

Compensation scheme: wealth related

Even assuming that the value of the innovation can be measured through the change in stock price, the insider's compensation is limited by the number of shares he can purchase, in turn limited by his wealth. It means that the insider's trading returns are more likely based on his wealth than on the value of his contribution as claimed by

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895.p.870: "Insider trading may present a solution to this cost-of-renegotiation dilemma. The unique advantage of insider trading is that it allows a manager to alter his compensation package in light of new knowledge, thereby avoiding continual renegotiation".

[94] Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).

[95] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.p.871: "A related advantage of insider trading is that it provides firms with valuable information concerning prospective managers (…) Because insider trading rewards those managers who create valuable information and are willing to take risks". Seyhun, N., 1992. The Effectiveness of Insider-Trading Sanctions, *Journal of Law and Economics* 35, 149-182.

[96] Grossman, S. J., Hart, O., 1982. *Corporate Financial Structure and Managerial Incentives*(University of Chicago Press, Chicago).

[97] Ang, J. S., Cox, D.R., 1997. Controlling the Agency Cost of Insider Trading, *Journal of Financial And Strategic Decisions* 10, 15-26.p.19.

[98] Shin, J., 1996. The Optimal Regulation of Insider Trading, *Journal of Financial Intermediation* 5, 49-73.

Manne. It would consequently not make insider trading more accurate than a salary or another performance related bonus.

Non-excludability of innovation

Another objection to the compensation argument is the difficulty of restricting trading to those who produce entrepreneurial innovations[99]. For instance, others managers can have access to this information and trade on it before its public disclosure. It creates two problems. First, due to this non-excludability, many firm agents may trade on the information without having contributed to its production. There is hence *a free-rider problem.* It could encourage the majority of the firm's agents to be opportunistic and to wait for other agents to create valuable information rather than to innovate themselves. Indeed, Cox mentions that "most (U.S.) insider-trading cases have not involved those whose entrepreneurial or other managerial efforts have produced the value-increasing event that was traded upon. Instead, the defendants have been outside directors, professionals, or clerks whose assistance was used to complete the transaction, not to create it"[100]. In this case, insider trading would not be the fair efficient compensation scheme that would reward personal performances and innovations, as claimed by the compensation scheme advocates. Second, the real innovators would have an incentive to keep their innovation private so as to maintain a monopoly on insider trading profits. If they are not able to monopolize it, it can diminish the incentive to innovate and therefore negatively affect corporate performance. In addition, by obstructing the free flow of information within the firm, such information hoarding could reduce the firm's overall organizational efficiency[101]. Therefore the non-excludability of innovation is a strong element in making the compensation scheme argument weaker.

If insider trading was an efficient compensation scheme, it should replace other managerial remuneration mechanisms

If allowing insider trading was an intentional form of remuneration of insiders in order to stimulate their competences and their trades, it would be perceived by managers like any other remuneration mechanism. However, Teeuwen empirically compares trading profits by chief executive officers and their cash compensation and concludes that cash compensation is not adjusted for trading profits. This conclusion implies that trading profits are not perceived by chief executive officers as part of the total compensation package[102].

A final objection to the compensation scheme thesis is that agent's trading returns cannot be measured in advance, neither can the compensation itself. If an agent is risk averse, he might prefer a less uncertain mode of remuneration. The compensation

[99] Cox, J. D., 1986. Insider Trading and Contracting: A Critical Response to the Chicago School, *Duke Law Journal* 35, 628-659.
[100] Ibid.
[101] Haft, R. J., 1982. The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation, *Michigan Law Review* 80, 1051-1071.pp.1053-1060.
[102] Teeuwen, T., 1991. The Effect of CEO Trading Profits on CEO's Cash Salary and Bonus Compensation, *Working Paper*.

scheme would hence not constitute an efficient way of encouragement for such agents[103].

Insider trading harms the corporation

Bainbridge explicitly describes significant potential harms done to the *corporation* connected to insider trading[104]. The first type of harm is related to the fact that insider trading creates *incentives for managers to delay the transmission of information to superiors.* This means that decisions may not be taken with accurate and timely information[105]. The second relates to the *interference between managers and corporate plans*. Indeed, if managers trade during the planning stage of an acquisition, insider trading may affect a corporate plan. The third concerns the *incentive of the managers to manipulate stock prices*. Managers have a strong interest in keeping the stock pricing stable, or in moving it towards a favorable direction while they are trading.

Insider trading may spur managers' indifference as to whether the firm is doing well or poorly

Another criticism emanates from the difficulty of limiting trading based on positive and valuable information, beneficial for the firm. Indeed, allowing insider trading would mean accepting trading based on bad news as well. As a result, managers could profit whether a project succeeds or fails. If the project fails, the manager could sell his shares before that information becomes public and avoid a certain loss, or even worse, make a short sale of the firm's shares and make a large profit. Thus, managers could profit from insider trading whether the firm is performing poorly or well[106]. Insider trading could also give managers incentives to choose to engage in risky investment behavior that creates private opportunities for profitable insider trading but reduces corporate value for the firm.

2.2.2 The market theory and insider trading

From the Market Theory point of view, the two issues that are most frequently addressed in the insider trading debate are the stock market price accuracy and the stock market liquidity.

2.2.2.1 Insider trading, transparency and price accuracy

Transparency

[103] Bainbridge, S. M., 2002. The Law and Economics of Insider Trading: A comprehensive Primer, *Unpublished working paper, UCLA School of Law*.
[104] Bainbridge, S. M., 1999. *Securities Law: Insider Trading*(Foundation Press, New York).
[105] Cox, J. D., 1986. Insider Trading and Contracting: A Critical Response to the Chicago School, *Duke Law Journal* 35, 628-659.
[106] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*. Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston). Klock, M., 1994. Mainstream Economics and the Case for Prohibiting Inside Trading, *Georgia State University Law Review* 10, 297-335.

The principle of transparency is based upon the idea that transparent financial markets guarantee that the prices provide a good signal to economic agents and provides a satisfactory *allocation of capital*. A good flow of information ensures the proper functioning of the market by improving the informational efficiency of the market. The concept of *informational efficiency* refers to the speed at which information is incorporated into the price of securities[107]. Prices adjust rapidly to any new information and are unpredictable. When all individuals have the same information, the quoted price is equal to the fair price and all the agents can anticipate in the same way. The prices of securities instantly integrate the relevant information obtained by the agents. This is the best way to assess the prices correctly and to gain the confidence of both the investors and the issuers. For instance, investors rely on the market when they can rely on the prices of securities, i.e. when such prices represent the best estimation of net present value given the available information. Issuers rely on contracts when they believe their shares are properly valued.

For all these reasons, a lack of transparency causes *asymmetry of information* and *inadequacy of financial prices*.

Accurate prices and efficient capital allocation

In economic theory, a market is efficient from an informational point of view if stock prices reflect the integration of all relevant information, i.e. both past events and anticipated events in capital asset pricing. *Accurate stock prices* correspond to stock prices that reflect as much firm-specific information as possible. As Professors Fox, Morck, Yeung, and Durnev point out, "share price is relatively "accurate" if it is likely to be relatively close, whether above or below, to the share's actual value. When a price has a high expected accuracy, the deviation of the price from actual value is, on average, relatively small"[108].
Overall, *market efficiency* is seen as the ability of the financial market to provide capital to companies with the best investment projects on the most advantageous terms. *The cost of access to information* for investors has a direct impact on the extent of its distribution and therefore on the informational efficiency of the market. Accurate share prices are important to economic efficiency via their effect on capital allocation: more accurate prices can increase the amount of value added by firms as they use society's scarce resources for the production of goods and services. In a competitive economy, the increase in value added will generally increase both the level of firm cash flow and the returns to other factors of production by improving the quality of capital allocation across investment projects in the economy and by improving the operation of existing real assets. Efficiency of the real economy is enhanced when share prices become more accurate[109].

[107] In a famous 1945 article, Friedrich Hayek claimed that economic agents do not need to have an exhaustive knowledge of the economy, because the crucial information is contained in the price. Each agent enjoying a limited local knowledge, the role of prices is precisely to aggregate all of the local information to produce a coherent overall vision. The price mechanism plays an essential role in coordinating market; the economy adjusts to shocks through market mechanism.
[108] Fox, M., Randall, M., Yeung, B., Durnev, A., 2003. Law, Share Price Accuracy, and Economic Performance: The New Evidence, *Michigan Law Review* 102, 331-386.
[109] Ibid.p.346: "Share price accuracy is a function of two core determinants. One is the amount of information concerning a firm's future distributions that exists in the hands of one or more persons in the world. The other is the extent to which price reflects this information".

Therefore, the question arises whether insider trading affects transparency, price accuracy and capital allocation, and, if so, how?

The Efficient Capital Market Hypothesis

The Capital Asset Pricing Model[110], the Miller-Modigliani Irrelevance Propositions[111], and the Efficient Capital Market Hypothesis[112] (ECMH) are the three most famous classical theories providing comprehensive approaches to capital market functioning regarding the specific aspect of capital asset pricing. All these three theories are built on perfect market conditions, i.e. rationality of agents, perfect information and no transaction costs.

Amongst these theories the ECMH hold that the market is comprised of a large number of rational participants and that without transaction and information costs the market mechanism allocates capital to the most efficient use, tending towards equilibrium outcomes. The ECMH asserts that financial markets are informally efficient. This theoretical analysis, initially limited to ordinary goods markets, was extended in the 1970s to financial markets through the theory of financial efficiency. It was one of the foundations of the financial deregulation, in the name of the ability of financial markets to produce fair prices[113]. The efficient market hypothesis asserts that financial markets would be informally efficient. There are three basics versions of the hypothesis. The weak form of the efficient-market hypothesis claims that prices for traded assets already reflect all past publicly available information. The semi-strong form of the efficient-market hypothesis claims on the one hand that prices reflect all publicly available information, and on the other hand that prices instantly change to reflect new public information. The strong form of the efficient-market efficiency additionally claims that prices instantly reflect even hidden or "insider" information.

Many classic liberal economists, such as Hayek, have argued that market economies would create a spontaneous order: “a more efficient allocation of societal resources than any design could achieve”[114]. The underlying idea was that market mechanisms were sufficient to ensure spontaneous changing and securities market prosperity[115].

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[110] Sharpe, W., 1964. Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, *Journal of Finance* 19, 425-442.

[111] Modigliani, F., Miller, M. H., 1958. The Cost of Capital, Corporation Finance, and the Theory of Investment, *American Economic Review* 48, 261-297. Modigliani, F., Miller, M. H., 1961. Dividend Policy, Growth, and the Valuation of Shares, *Journal of Business* 34, 411-433.

[112] Fama, E., 1970. Efficient Capital Markets: A Review of Theory and Empirical Work, *Journal of Finance* 25, 383-417.

[113] Fama, E., 1965. Random Walks in Stock Market Prices, *Financial Analysts Journal*.p.3-4: “An efficient market is defined as a market where there are large numbers of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition amongst the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value”.

[114] Petsoulas, C., 2001. *Hayek's Liberalism and Its Origins: His ideas of Spontaneous Order and the Scottish Enlightenment*(Routledge, London).p.2.

[115] Lopez-de-Silanes, F., 2004. A Survey of Securities Laws and Enforcement, *World Bank Policy Research Working Paper Series*.p.3.

From this perspective, any interference in spontaneous and instituted order could only result in catastrophic consequences[116]. An important tradition of scholars therefore characterized law as inappropriate, irrelevant, or even damaging for the spontaneous stability of financial markets[117]. As much as it would be capable of interfering with optimal functioning of existing market mechanisms[118], law was therefore perceived as a potentially source of disturbances.

The ECMH was largely accepted by the regulators as the theory providing a comprehensive explanation of the financial market functioning[119]. In the US, a series of legal decisions directly reflected the adherence of the SEC to this theory. In that respect, one of the most emblematic decisions was the Basic vs. Levington case[120]. According to the fraud-on-the-market theory, in open and developed securities markets the stock prices depend on all material information about the company available to investors. Consequently, investors rely on market prices that are supposed to reflect all material information into share price. In turn, a causal link can be established between any misstatement and any stock purchaser. The underlying idea is that the misstatements defraud the entire market and thus affect the price of the stock. Therefore, a material misstatement's effect on an individual purchaser is no less significant than the effect on the entire market.

Insider trading incorporates information into stock prices and improves its accuracy

Going even further, some scholars argue the benefits of insider trading for the accuracy of market prices. Manne, Carlton and Fischel assert that insider trading is an efficient means to enable a firm to improve the accuracy of its stocks price relative to its true value, whilst avoiding the costs associated with the premature disclosure of firm specific information[121]. Moreover, insider trading would have the advantage of being a "soft" way to disclose the information and to incorporate it in the price directly through "price adjustment"[122], without prematurely revealing the underlying information to the market[123]. This mechanism would be more efficient than prohibiting insiders from trading and therefore delaying the incorporation into stock

[116] Hayek, F., 1988. *The Fatal Conceit: The Errors of Socialism*, W. W. Bartley, III edition.(The University of Chicago Press).
[117] For traditional legal and economic arguments see Coase, R., 1960. The Problem of Social Cost, *Journal of Law and Economics* 15, 1-44. Stigler, G., 1964. Public Regulation of the Securities Market, *Journal of Business* 37, 117-142. For financial markets-related arguments see Easterbrook, F. H., Fischel, D., 1984. Mandatory Disclosure and the Protection of Investors, *Virginia Law Review* 70, 669-715. Macey, J. R., 1994. Administrative Agency Obsolescence and Interest Group Formation: A Case Study of the SEC at Sixty, *Cardozo Law Review* 15, 909-949.
[118] Lopez-de-Silanes, F., 2004. A Survey of Securities Laws and Enforcement, *World Bank Policy Research Working Paper Series*.p.3.
[119] Gilson, R. J., Kraakman, R., 1984. The Mechanisms of Market Efficiency, *Virginia Law Review* 70, 549-646.p.549. Pistor, K., 2012. On the Theoretical Foundations for Regulating Financial Markets, *Columbia Public Law Research Paper* 12-304.p.12.
[120] 485 U.S. 224, 108 S. Ct. 978, 99 L. Ed. 2d 194, 4 EXC 10 (1988). In 1988, in the case Basic v. Levinston, the question was whether the fraud on the market theory entitles an individual stock purchaser who did not directly rely on the misstatements to a presumption of reliance. The Court adopted a presumption of reliance based on the fraud-on-the-market theory.
[121] Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).
[122] Ibid.
[123] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.

prices of information that the firm is unwilling or unable to disclose immediately[124]. A public announcement could destroy the value of the information[125], could be too expensive, could be disbelieved, or even be costly for the reputation of the providers if incorrect[126].

The reality of the market: transaction and information costs

In the 80s the literature was intrigued by the ECMH and deeply concerned by challenging it. The objective was to verify whether its predictions would still hold in the real world. The scholarly literature then started to emphasize the importance of transaction and information's costs and nuanced the notion of spontaneous stability of the market, according a predominant role to institutions in the market mechanisms.

In that respect, a certain number of scholars support that transparency and price accuracy should be supervised, requiring the intervention of regulations, and that the organization of society is more complex and less spontaneous overall. These scholars consider insider trading as undesirable from a Market theory approach. Their arguments can be summarized as follow.

Insider trading introduces "noise" into stock prices

In this context, the *Mechanisms of Market Efficiency* (MOME) of Gilson and Kraakman counts as one of the major contributions of the literature. The MOME principally established that because of information costs particular information might be reflected in real prices (opposed to ideal prices) with more or less relative efficiency. The MOME considered four mechanisms incorporating information in market prices with progressively decreasing relative efficiency: universally informed trading, professionally-informed trading, derivatively informed trading, and uninformed trading[127]. The operativeness of each efficiency mechanism depends on the initial distribution of fact, itself depending on the cost structure of the market for information[128]. The lower is the cost of information, the wider is the distribution of information, the most the market is likely to be efficient. In that process the active role of specific institutional arrangement and market mechanisms in enhancing the relative stability of finance by determining the transaction costs of acquiring and

[124] Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).
[125] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1697: "Since trading leads to the incorporation of private information in stock prices, regulation that impedes trading may also result in less informative prices. Thus, regulation designed to decrease stock price volatility, such as the proposed tax on securities transactions, may actually result in noisier, less-informative stock prices".
[126] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.
[127] Gilson, R. J., Kraakman, R., 1984. The Mechanisms of Market Efficiency, *Virginia Law Review* 70, 549-646.p.589: "the four efficiency mechanisms are complementary; each functions over a characteristic segment of the continuum of initial distributions of information among traders".
[128] Ibid.p.610: "From the perspective of the capital market market efficiency is a function of the initial distribution of information among traders; from the perspective of the information market market efficiency is a function of the costs associated with particular information. (…) As information costs decline, more and better information is available to more traders, and the market becomes more efficient both because the information is better and because its wider distribution trigger as more effective capital market mechanism".

verifying information in the first instance is recognized. Informational efficiency is a function of the institution's performances[129].

From that point of view, the advocates of an insider trading prohibition consider that because insider trading does not allow to reveal information in a *timely manner*, it cannot be considered as a substitute for disclosure[130]. Some scholars support that insider trading might reduce stock price accuracy by increasing the insiders' incentives to *keep a monopoly on the information*[131], or eventually *manipulate the timing and the accuracy of the* disseminated *information* so as to maximize their profits[132]. It could therefore include *hoarding information* to the detriment of both price accuracy[133] and the firm's operational efficiency[134]. Additionally, it seems that the extent to which insider trading eventually makes stock prices more efficient depends on the extent to which uniformed investors are able to discern insider trading.[135] However, *access to information depends on the status of the insiders*, and their ability to profit depends on their *superior access to information*[136]. For instance, empirical literature shows that some insider trading defendants use offshore accounts or trade in nominee accounts, or through proxies and intermediaries that are difficult to identify[137]. This would make the information costly to detect[138]. From that perspective, insider trading would increase asymmetrical information and thus transaction costs of trading[139]. On top of that, even if insiders do not hide their trades, they can be *difficult to detect if they are not of a sufficient size*. Therefore, such trades might fail to convey new information[140]. In addition, the more "noise" there is surrounding an inside trade, the lower is its informational value[141].

For instance, Fishman and Hagerty showed in an empirical paper that insider trading leads to less efficient stock markets. According to them, if it may be established that with insider trading the aggregate amount of information by traders in the market may be greater, the total number of informed traders in the market is nontheless lower (the

[129] Ibid.p.554: "the distribution of information among traders is a function of information costs and (…) many familiar market institutions, such as investment banks, serve the function of reducing information costs, and thereby facilitate efficiency in the capital market".
[130] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.
[131] Haft, R. J., 1982. The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation, *Michigan Law Review* 80, 1051-1071.
[132] Cox, J. D., 1986. Insider Trading and Contracting: A Critical Response to the Chicago School, *Duke Law Journal* 35, 628-659. Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.
[133] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.
[134] Haft, R. J., 1982. The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation, *Michigan Law Review* 80, 1051-1071.
[135] Gilson, R. J., Kraakman, R., 1984. The Mechanisms of Market Efficiency, *Virginia Law Review* 70, 549-646.
[136] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.
[137] Macey, J. R., 1994. Administrative Agency Obsolescence and Interest Group Formation: A Case Study of the SEC at Sixty, *Cardozo Law Review* 15, 909-949. Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283.
[138] Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston).
[139] Lopez-de-Silanes, F., 2004. A Survey of Securities Laws and Enforcement, *World Bank Policy Research Working Paper Series*.p.15.
[140] Gilson, R. J., Kraakman, R., 1984. The Mechanisms of Market Efficiency, *Virginia Law Review* 70, 549-646.
[141] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.

non informed traders are deterred from acquiring information by the presence of informed traders) and the information in the market is not evenly distributed across traders. These two effects lead to the undesirability of insider trading from an informational efficiency point of view[142].

Another central issue in determining whether insider trading is harmful from an information efficiency point of view is studying to which extent it affects stock prices. A number of empirical papers actually focused on establishing and measuring the price effect of insider trading. First of all it may be considered very complicated to isolate the trading based on inside information. The price movement could be asserted to legitimate origins such as media speculation or bidder's purchase[143]. However, some scholars have established that most price movement before public announcement of inside information was actually occurring in response to informed trading[144]. An empirical study of illegal insider trading of Meulbroek confirmed that finding[145]. For instance, a study of Keown and Pinkerton measured that on average, 40 to 50% of the price gain of a stock occurs before the sensitive information public announcement[146]. A study of Fishman and Hagerty reached the conclusion that insider trading leads to a stock price that is less efficient in providing information[147]. According to Fishman and Hagerty, market professionals are deterred to acquire information and trade because of the existence of informed trading. Consequently, the total amount of information reflected into the price is reduced.

No advantage of insider trading over traditional disclosure

The advocates of a ban of insider trading concede that it may be possible that, for a very rare type of information (the one that managers have little ability or incentive to disclose[148]), insider trading might tend to do more than a public announcement to

[142] Fishman, M., Hagerty, K., 1992. Insider Trading and the Efficiency of Stock Prices, *RAND Journal of Economics* 23, 106-122.pp.107-113. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51.

[143] Jarrell, G., Poulsen, A., 1989. Stock Trading Before the Annoucement of Tender Offers: Insider Trading or Market Anticipation?, *Journal of Law, Economics and Organization* 5, 225-248. Jarrell and Poulsen attribute the pre-announcement price run up to the rumors effect rather than to insider trading.

[144] The following studies demonstrated pre announcement run up in stock prices and attributed it also to insider trading: French, K., Roll, R., 1986. Stock Return Variances: The Arrival of Information and the Reaction of Traders, *Journal of Financial Economics* 17, 5-26. Asquith, P., 1983. Merger Bids, Uncertainty, and Stockholder Returns, *Journal of Financial Economics* 51, 51-83, Asquith, P., Bruner, R. F., Mullins, D., 1983. The Gains to Bidding Firms from Merger, *Journal of Financial Economics* 11, 121-139. Debra, D., McConnell, J., 1986. Corporate Mergers and Security Returns, *Journal of Financial Economics* 16, 143-187.

[145] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1696: "The investigation reveals that total volume on an insider trading day is higher than expected, but the insider trading volume constitutes most of the unusual volume (…) the results provide a foundation for the argument that stock price run-ups before takeover announcements reflect widespread insider trading".

[146] Keown, A., Pinkerton, J., 1981. Merger Announcements and Insider Trading Activity: An Empirical Investigation, *Journal of Finance* 36, 855-869.

[147] Fishman, M., Hagerty, K., 1992. Insider Trading and the Efficiency of Stock Prices, *RAND Journal of Economics* 23, 106-122.

[148] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.p.51: Kraakman cites for example complex or 'soft' information cannot be communicated effectively, bad news that might embarrass incumbent managers, and good news that cannot be released directly without aiding an issuer's competitors or upsetting ongoing negotiations.

update prices, as Professors Manne, Carlton and Fischel argue. However, according to Manovre, even in that eventual case, traditional disclosure appears relatively cheaper and preferable in the very majority of scenarios and for the majority of information types[149]. Going further, Fox, Durnev, Morck and Yeung even sustain that rules mandating issuers to make public disclosure increase share price accuracy, establishing the superior role of disclosure over other routes by which information is gathered, including insider trading[150]. Consequently insider trading would, in any case, be advantageous compared to traditional disclosure.

2.2.2.2 Insider trading and stock market liquidity

The incursion of the notion of inherent instability of the financial system into economic theories is major. The scholarly literature revealed an endogenously driven process of economic instability.

Frydman and Goldberg developped an Imperfect Knowledge Economic theory (IKE). This framework asserts that due to uncertainty, present investment strategies and decisions, even rational, will have to be adjusted to future events. Allocation of resources is suboptimal because of inconsistencies resulting from investors' behaviors and financial market instability is therefore inherent[151]. Although IKE makes no explicit relationship between this process and the legal and institutional structure of finance, this framework however sustains that regulation should intervene to prevent extreme asset price swings that may cause financial crises[152].

Following on from the logic of this work, Minsky's research includes the dynamic nature of the business cycle[153] and mainly explains the inherently instability of the financial system by the liquidity constraint. The change of strategy due to imperfect knowledge may lead to a liquidity constraint reality. In particular, Minsky establishes that a context of economic stability is favorable to rising leverage (debt relative to assets or income) that may be confronted in the future with the risk that borrowers may not be able to repay: Liquidity is not always available on demand.

Contrary to Frydman and Goldberg theory, Minsky's inherent instability of finance's conception emphasizes the role of social choice and institutional arrangement in maintaining the stability of financial systems[154]. This vision confers a primary importance to legal and institutional structures of finance. However institutions should intervene at a late stage to restructure the economy in case of established

[149] Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845.
[150] Fox, M., Randall, M., Yeung, B., Durnev, A., 2003. Law, Share Price Accuracy, and Economic Performance: The New Evidence, *Michigan Law Review* 102, 331-386.
[151] Pistor, K., 2013. A Legal Theory of Finance, *journal of Comparative Economics* 41, 315-330.p.327: "Under conditions of imperfect knowledge, however, rational actions do not result in equilibrium outcomes, but instability".
[152] See Frydman, R., Goldberg, M. D., 2011. *Beyond Mechanical Markets: Asset Price Swings, Risk, and the Role of the State*(Princeton University Press, Princeton).
[153] Minsky, H., 1974. *The Modeling of Financial Instability: An Introduction*. "Fundamental characteristic of our economy is that the financial system swings between robustness and fragility and these swings are an integral part of the process that generates business cycles".
[154] Minsky, H., 1986. *Stabilizing an Unstable Economy*(Yale University Press).p.7.

market instability[155] and correct the deviations. Minsky's theory is visionary in that it prepares the ground for financial and economic crisis to come.

Step by step, the scholarly literature establishes the building blocks of the legal construction of finance: Uncertainty combined with liquidity constraint causes inherent instability of the financial system. In that respect, law is relevant to finance. Scholars have succeeded in challenging the EMH and refined the theory to get closer to the reality.

In the framework of this study, an important issue is therefore whether insider trading has a detrimental effect on stock market liquidity.

The finance literature defines the stock market liquidity as translating the direct or indirect *transaction costs of trading*[156]. The liquidity of a stock market is a very important parameter that impacts the efficiency of capital allocation in the economy. In addition, the literature suggests that the more liquid the stock market is, the lower trading costs are, the lower cost of capital is, and the higher market valuation is. In the literature, the cost of trading is also referred to as the bid-ask spread[157].

Insiders benefit from the insider trading thanks to the asymmetry of information. Indeed, on average, insiders buy stocks at less than the true value and sell stocks for more than the true value. The premium the insider receives thanks to the asymmetry of information corresponds to the difference between the insider's purchase or sale price and the "true" value[158]. It can be considered to be a trading cost for less informed outsiders[159]. Therefore, to be compensated for the risk of trading with a better informed counterparty, uninformed investors demand a higher expected return on investment, which implies an increase of the *cost to the firm of raising capital*[160]. This compensation corresponds to the average loss incurred. It depends on the market's expectation of the probability of trading against a better-informed party and

[155] Ibid.p.327.
[156] Lesmond, D. A., 2005. Liquidity of Emerging Markets, *Journal of Financial Economics* 77, 411-412.
[157] Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.211: "The bid-ask spread often is referred to as the cost of trading or the market makers's compensation for these costs".
[158] Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845. See DelBrio, E., Miguel, A., Perote, J., 2002. An Investigation of Insider Trading Profits in the Spanish Stock Market, *Quaterly Review of Economics and Finance* 42, 73-94. Jaffe, J., 1974. Special Information and Insider Trading, *Journal of Business* 47, 410-428. Finnerty, J., 1976. Insiders and Market Efficiency, *Journal of Finance* 31, 1141-1148, Seyhun, N., 1986. Insider Profits, Costs of Trading and Market Efficieny, *Journal of Financial Economics* 16, 189-212.
[159] Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.211.
[160] See Bainbridge, S. M., 1999. *Securities Law: Insider Trading*(Foundation Press, New York). Bainbridge explicitly describes four significant potential harms done to the corporation connected with insider trading among which a reputational injury to the corporation caused by insider trading which is translated into direct financial injury. He describes that the reputational injury affect investors confidence whom are in turn willing to pay less when buying stock from a firm whose managers inside trade. He concludes that a reputational injury raises the firm's cost of capital. See Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. Enforcement of insider trading laws has a significant negative effect on the cost of capital, implying that insider trading increase the cost of capital.

is included in the bid-ask spread[161]. Thus, insider trading indirectly implies an increase of the *transaction costs of trading*[162].

To proxy for the harm caused by insider trading, Bhattacharya and Daouk explored changes in the country-level cost of capital. They used information regarding 103 countries[163] to test the effect of insider trading laws and its enforcement on the cost of capital[164]. They concluded that, if the mere existence of the law does not reduce the cost of capital, its enforcement has a negative effect on the cost of capital, ranging from 0.3% to 7%. This result suggests that at least some of the cost of capital is due to illegal insider trading, which is reduced by the enforcement of insider trading laws.

Furthermore the scholarly literature established that insider trading affects the *market liquidity*[165]. For instance, Beny constructed an insider trading law index using a cross section of 33 countries and checked the relationship between the severity of insider trading laws and the degree of ownership. She demonstrated that a concentration and market liquidity change in the IT index of 0.72 reduces concentration by 6.6% and increases liquidity by 16.5%. In other words, the more severe the insider trading law is, the more liquid the market is, and the less concentrated the shareholding is. If asymmetry of information is extreme, the confidence of the outsiders can be so affected that they refuse to trade altogether, making the stock market completely illiquid[166]. Here again, these results suggests that some illegal insider trading impacts the stock market liquidity, which is increased by the passing of tougher insider trading laws.

Finally Glosten also argues that the reply of the marketmakers to the existence of informed traders is to reduce the liquidity of the market. According to him the level of

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[161] Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.215. See Chung, K., Charoenwong, C., 1998. Insider Trading and Bid-Ask Spread, *The Financial Review* 33, 1-20, Kyle, A., 1985. Continuous Auctions and Insider Trading, *Econometrica* 53, 1315-1336. In 1992 Meulbroeck suggested to further research the issue of the insider trading cost of takeover impact: Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1697: "If the premium is a fixed mark-up over the stock price, insider trading could increase the required premium by driving up the stock price. The welfare loss resulting from such an increase in the cost of takeovers could be substantial. An empirical investigation of takeover premia and their relation to insider trading may help resolve these issues".

[162] Lopez-de-Silanes, F., 2004. A Survey of Securities Laws and Enforcement, *World Bank Policy Research Working Paper Series*.p.15. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.212. Lesmond, D. A., 2005. Liquidity of Emerging Markets, *Journal of Financial Economics* 77, 411-412.

[163] The 103 countries with a stock market in 1998.

[164] They use 4 methodologies: descriptive statistics, international asset pricing model, dividend yields and country risk forecast surveys.

[165] Beny, L., 1999. A Comparative Empirical Investigation of Agency and Market Theories of Insider Trading, *Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series* Discussion Paper No. 264. See Ausbel, L., 1990. Insider Trading in a Rational Expectations Economy, *American Economic Review* 80, 1022-1041. Friederich, S., Gregory, A., Matatko, J., Tonks, I., 2002. Detecting Returns around the Trades of Corporate Insiders in the London Stock Exchange, *European Financial Management* 8, 7-30. Repullo, R., 1999. Some Remarks on Leland's Model of Insider Trading, *Economica* 66, 359-374.

[166] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. On the general issue of insider trading affecting confidence of the market participants see Ausbel, L., 1990. Insider Trading in a Rational Expectations Economy, *American Economic Review* 80, 1022-1041. Leland, H. E., 1992. Insider Trading: Should It Be Prohibited?, *Journal of Political Economy* 100, 859-887.

risk sharing that is less than optimal and insider trading creates inefficiencies from that perspective[167].

On the contrary, opponents to insider trading regulation dismiss the potential adverse effect of insider trading on liquidity. In particular, the fact that uninformed investors trade frequently implies that they are not hindered by the existence of more informed parties, whether or not the latter are insiders[168]. The fact that they trade in spite of asymmetric information may suggest that their trading decisions are independent of trading costs[169]. Indeed, uninformed investors may trade precisely because of informed insider trading, which is supposed to increase the accuracy of stock prices: "That trade occurs suggests that traders either do not believe they are uninformed or realize that enough informed trading occurs for the prevailing prices to reflect most material information." In other words, *the benefits of improved price accuracy might offset the potential costs of trading* against better-informed counter-parties, according to the opponents of insider trading ban[170], and could finally lead to a more informationally efficient stock market[171].

Another argument relates to the fact that prohibiting insider trading would not resolve the fact that *some investors would always be better informed than others* and therefore not completely eliminate the problem of informational asymmetry. Prohibiting insider trading would just exclude the insiders from the ranks of informed investors and simply redistribute (but not reduce) the profits from insiders to informed outsiders[172]. This mechanism should encourage informed outsiders to participate in the market; the informational market would in turn be more competitive. In consequence, forbidding insider trading would not reduce the cost of trading[173]. However, this last argument is not very powerful. The proponents to a ban on insider trading opposed that the exclusion of the insiders would reduce the total number of informed traders and increase the competition between them, which would imply lower total profits from informed trading and lower trading costs[174]. Consequently, forbidding insider trading would be a way to make the market more liquid.

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[167] Glosten, L. R., 1989. Insider Trading, Liquidity, and the Role of the Monopolist Specialist, *The Journal of Business* 62, 211-235.

[168] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.

[169] Ibid.

[170] Ibid.

[171] Bernhardt, D., Hollifield, B., Hughson, E., 1995. The Review of Financial Studies, *Investment and Insider Trading* 8, 501-543. Leland, H. E., 1992. Insider Trading: Should It Be Prohibited?, *Journal of Political Economy* 100, 859-887, Manne, H. G., 1966. *Insider Trading and the Stock Market*(The Free Press, New York).

[172] See Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Informed traders are composed of insiders and informed outsiders. Informed outsiders are investment analysts, hedge funds, mutual managers. Insiders have a clear informational advantage over informed outsiders, because they have a monopoly of access to non-public corporate information, as well as to the associated profits. Haddock, D. D., Macey, J. R., 1986. *Controlling Insider Trading in Europe and America: The Economics of the Politics*(Kluwer Academic Publishers).

[173] Haddock, D. D., Macey, J. R., 1986. *Controlling Insider Trading in Europe and America: The Economics of the Politics*(Kluwer Academic Publishers).

[174] Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.212.

2.2.3 Property rights theory and insider trading

Insider trading legislation is fundamentally about the allocation of property rights in corporate information and hence about the distribution of rents derived from the use of such information[175].

The property rights theory

The existence of property rights in a variety of intangibles, including information, is well established. Information is property, but owned by whom? Scholars have different conceptions of the way property rights in information should be attributed between a firm's managers and a firms' shareholders. Concerning insider trading, the question remains as to whether a corporate insider should be allowed to operate a personal benefit thanks to an information acquired in a professional context. The ambiguity relates to the kind of information that an insider acquires in the framework of his employment, thanks to his ability and ingenuity. Some scholars claim that property rights in information should be attributed fully either to the firm's managers or to the firm's shareholders, while others consider the Coasean contractual approach as the efficient solution. In turn, insider trading appears legitimate depending on whether scholars consider that property rights in information belong to a firm's managers or not.

The contractual approach: negotiation of the property rights in information

Following the Coasean contractual approach, the rationale for allocating property rights in the field of copyrights and patents is to protect the economic incentive to produce socially valuable information. Applying this theory to insider trading, some scholars consider that the law should assign the property rights to the agent that produces information and therefore maximizes the social incentives for the production of valuable new information[176]. Based on the private contracting approach of Coase[177], Carlton and Fischer advocate private negotiations between a firm's investors and a firm's managers for an optimal allocation of the property rights in information depending on who attributes it his highest value[178].
To make this explanation clearer, Bainbridge refers to the concrete example of the societal benefit of patents[179]. Accordingly, society provides incentives for inventive

[175] Goshen, Z., Parchomovsky, G., 2000. On Insider Trading Markets, and 'Negative' Property Rights in Information, *Fordham Law and Economics Research Paper*. Kraweic, K., 2001. Fairness, Efficiency, and Insider Trading: Deconstructing the Coin of the Realm in the Information Age, *Northwestern University Law Review* 95, 443-503.
[176] Bainbridge, S. M., 1993. Insider Trading Under the Restatement of the Law Governing Lawyers, *Journal of Corporate Law* 19, 1-40.
[177] Coase, R., 1960. The Problem of Social Cost, *Journal of Law and Economics* 15, 1-44.
[178] Carlton, D. W., Fischel, D. R., 1983. The Regulation of Insider Trading, *Stanford Law Review* 35, 857-895.
[179] Bainbridge, S. M., 2000. *Insider Trading: An Overview*(University of California, Los Angeles (UCLA) - School of Law, Los Angeles). The question concerns whether a patent or the attribution of property rights to inventors are beneficial for society. When an inventor develops and commercializes a product, the invention (design, function, and composition) is revealed to potential competitors. If it is considered that all the competitors (including the inventor himself) face equivalent marginal costs to produce and commercialize the invention, the competitors will be able to set a market price at which the inventor will probably be unable to earn a return on his sunk costs. In fact, if there is no allocation

activity by using the patent system to give inventors a property right in new ideas. By preventing competitors from appropriating the idea, the patent allows the inventor to charge monopolistic prices for the improved product, thereby recouping his sunk costs. In principle copyright and trade secret law are justified on similar grounds.

Similarly, according to the proponents of the application of the contractual approach to insider trading, a property right in information should be created when necessary to prevent a conduct by which someone other than the developer of socially valuable information could appropriate its value before the developer could recoup his sunk costs[180]. However, the parallel between patents and insider trading is unclear. Indeed, can the invention protected by the patent be assimilated to the inside trader's innovation? If it is the case, the attribution of property rights in information would play the same role as in the case of patent protection.

If the corporation is the party considered to produce information, as described before, a part of the literature considers that insider trading could affect the information's value. In turn, insider trading could harm the corporation's interests and thus affect its incentives to produce socially valuable information. Therefore, this argument may work in favor of the allocation of the property rights in information to the corporation and the shareholders rather than to the firm's managers[181].

From this perspective prohibiting insider trading is an implicit way of granting property rights in information and associated rent to the shareholders and to the corporation[182].

2.3 SUMMING-UP

This present chapter offers an introduction to the underlying legal and economics theoretical debate and arguments surrounding insider trading regulation.

Whether insider trading is beneficial or detrimental can be assessed both from a legal theory point of view and from an economic theory point of view.

First of all, the issue of insider trading can be assessed from a legal theory point of view. For the purpose of this chapter, the distributional justice theory has been particularly apprehended. According to this theory, the aim of regulation should be to achieve an optimal allocation of resources. This may have different meanings according to the main schools of thought that are egalitarianism, socialism, capitalism and libertarianism. However, it seems that insider trading is not desirable from the perspective of all these distributional justice model conceptions; except for the libertarianism one. This first chapter further identifies the influence of legal theory on the actual regulation policies. In this context, it seems relevant to read the notion of equality of treatment of investors as being influenced by the distributional justice

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of property rights to the inventor, he might anticipate his inability to generate positive returns on his up-front costs and therefore be deterred from developing socially valuable information.

[180] Ibid.

[181] Ibid.

[182] Beny, L., 2002. The Political Economy of Insider Trading Legislation and Enforcement: International Evidence, *Harvard John M. Olin Discussion Paper Series* 348.p.4.

theory. This notion is referred to as the foundation of insider trading regulation, both in the US Equal access theory and in the European Equality theory.
In this respect, it is fundamental to understand that the core theoretical foundation for regulating insider trading lies in the ethics and distributional justice considerations. Moral theory remains above all an autonomous deontological fundamental reason for regulating insider trading. Insider trading is undesirable *per se* because of its immorality.[183]

Secondly, the controversy concerning insider trading can also be evaluated from an economic point of view. According to economic theory, regulation aims at economic efficiency and the maximization of welfare. However, economic theory strategies to reach maximization of welfare diverge depending on the school of thought. In this respect, the analysis of economic theory is complex to apprehend because economic scholars have different viewpoints regarding the effect of insider trading. In turn, deciding whether insider trading impairs or improves overall efficiency is difficult. However, if economic efficiency is considered as the result of several aggregate economic variables (such as informativeness of the prices, cost of capital and the stock market liquidity), measuring the impact of insider trading according to these variables may allow to reach a conclusion. First of all, most of the opponents of insider trading regulation, such as Manne, Carlton and Fischel, assert that insider trading fosters efficient capital markets by improving price market accuracy and constitutes an efficient compensation scheme. However, this vision is not shared by all economists and on the contrary, some scholars support that insider trading impairs the informativeness of stock prices. Furthermore, it has been seen that insider trading has been empirically analyzed as potentially increasing costs of trading, costs of capital, costs of information and affecting property rights in information.

All together, some scholars comment that the discussion on whether insider trading should be regulated based on an economic analysis may be considered as inconclusive[184]. In this work, Manne, Carlton and Fischel's approaches are not ignored, but the consideration is as follows: the perception of the insider trading effect on market efficiency is a matter of balance. The most convincing argument advanced by the proponents of insider trading legalization is that it may have beneficial effects on informational efficiency, as supported by Manne, Carlton and Fischel. According to them, this is the most important aspect of economic efficiency and the benefits of improved price accuracy offset all the detrimental effects. However, the proponents to insider trading regulation oppose valuable arguments to this point. On the contrary they argue that insider trading introduces noise in the prices. Furthermore there are major arguments advanced by the literature concerning the detrimental effects of insider trading on market liquidity, the cost of capital as well as its perverse managerial effects.

[183] Schotland, R. A., 1967. Unsafe at Any Price: A Reply to Manne, *Virginia Law Review* 53, 1425-1478.
[184] Wang, W., Steinberg, M., 2010. *Insider Trading*(Oxford University Press).p.39: "The supposed beneficial and harmful effects of insider trading on society are quite speculative". Strudler, A., Orts, E., 1999. Moral Principles in the Law of Insider Trading, *Texas Law Review* 78, 375-438.pp.382-383: "Distinguished scholars in law and economics disagree fervently about the economic costs and benefits of insider trading rules (…) This debate, however, is notoriously inconclusive".

All in all the insider trading effects on economic efficiency is delicate to assess. However, our society is based on distributional justice, public order and general interest motivations. From this perspective, it must take steps in order to design optimal insider trading regulations and enforcement policies. The preliminary considerations contained in this chapter enable one to understand the objectives targeted by the theoretical corpus, and that should be addressed by insider trading laws and enforcement. This chapter's analysis of insider trading has broad implications for the debate over how to regulate securities markets best.

By introducing the strong legal and economic theoretical arguments supporting the insider trading regulation, this chapter directly enlightens the foundation of the rules designed to regulate insider trading and enforce the insider trading laws that will be presented in the next chapters.

TITLE I. A THEORETICAL APPROACH TO OPTIMAL PUBLIC ENFORCEMENT OF INSIDER TRADING LAWS

Many legal systems prohibit insider trading at the policy level. Hence the prohibition is taken as a given in the coming chapters and is not debated as such.

Title 1 examines two aspects concerning the same question about how this prohibition should be enforced. The main goal of this title is to apply the insights from the Law and Economics scholarly literature on optimal public law enforcement to the area of insider trading regulation.

Steven Shavell distinguishes three different dimensions according to which methods of law enforcement can differ: the "form of intervention: prevention or imposition of a sanction and its type", the "privately versus publicly initiated intervention", and the "timing of the enforcement measures"[185]. Another dimension was recently added related to "the division of competencies between central enforcement authorities and de-centralized enforcement agencies"[186]. With regard to Steven Shavell's paper, Chapter 3 refers to the dimension of the role of private parties versus public agents in enforcement and Chapter 4 to the form and nature of the sanction.

Insider trading problems lie on the boundary between private and public problems. Various branches of law can be used in terms of both substantive law and enforcement. Private, administrative and criminal law are the different options. Administrative and criminal law can be designated as a proper set through the denomination "public law". Substantive and procedural insider trading laws are in the process of being increasingly harmonized within the European Union[187]. Nevertheless, strong differences remain in terms of enforcement strategy of insider trading laws within the Member States. The goal of the two next chapters is to clarify the optimal intervention of different enforcement mechanisms.

The law and economics scholarly literature has, implicitly or explicitly, established a certain number of economic criteria under which the use of:

1) Public or private nature of enforcement mechanism,
2) The monetary or non-monetary form of sanctions,
3) The administrative or criminal nature of sanctions would lead to a cost effective enforcement of law

The goal of these chapters is to review and analyze these criteria and to apply them to insider trading matters.

Chapter 3 concerns the nature of the insider trading law enforcement mechanism. The role of private parties versus public agents in the enforcement mechanism corresponds

[185] Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287, Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[186] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).
[187] Cf. Chapter 6.

to the third of Shavell's three criteria, according to which the method of enforcement can differ[188].

Chapter 4 deals with public enforcement power, regarding the form, nature and type of sanctions. It explores the theory of optimal law enforcement and the determination of the optimal sanction.

[188] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

INTRODUCTION TO TITLE 1

Previous to Chapters 3 and 4, an introduction is dedicated to define notions that will be referred to all through them. This introduction firslty presents the major concepts relative to optimal enforcement that are rationality, deterrence theory and internalization of externalities. These considerations are then complemented by the description of the main characteristics of potential harm, gain, probabilities of detection and conviction of the insider trading since it is central in determining how optimally enforce insider trading laws.

(I) LAW AND ECONOMICS OF LAW ENFORCEMENT BASIC CONCEPTS

Rationality

In microeconomics, individuals are considered rational maximizers of their expected *utility*. Utility being considered to be the measure of the relative satisfaction the decision-maker will gain from a certain choice. If that level of utility is uncertain ex ante, the decision-maker can only base his choice on expected utility. The costs and the benefits of alternative choices are considered and the option that maximises the expected utility is chosen[189]. It implies that information is complete and that agents are able to analyze it.

A formal definition of rationality would be the following: considering that consumers have the choice between different options designated A, B, C,…, they are always able to establish an order of preferences (*completeness axiom*) that are supposed to be transitive, meaning that if A is preferred to B and B is preferred to C, A is preferred to C (*transitive axiom*). Taking in consideration those preferences they seek to maximize their utility under constraints of time, income, knowledge, ... In the end, individuals will choose the most preferred option, thereby maximising their utility[190].

Rational choice theory is largely accepted for decisions concerning *explicit market issues*, because the decisions are considered to be explicitly quantifiable. Indeed, market decisions concern prices, that makes commensurability easy and allows comparison among different economic courses of actions and mostly concern repeated transactions that allow agents to be familiar with the choice[191]. On the contrary, rational choice theory has difficulties in acceptance as a model of non-market choices, such as in legal matters. The argument presented by the literature is that non-market choice decisions precisely happen in conditions that do not correspond to market conditions and therefore differ from the conditions of frequency, commensurability and transparency that are particularly adapted to operate rational choice[192]. Therefore, some legal scholars reject the rational deliberation assumption to be applicable to legal matters[193].

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[189] Friedman, M., 1953. *Essays in Positive Economics*(The University of Chicago Press, Chicago).p.15, 28.
[190] See Cooter, R., Ulen, T., 2004. *Law and Economics*, 4th edition.(Pearson).pp.14,21-30. Posner, R. A., 2003. *Economic Analysis of Law*, 6th edition.(Aspan Publications, New York).p.361.
[191] Ulen, T., 2000. *Rational Choice Theory in Law and Economics*(Edward Elgar, Cheltenham).p.795.
[192] Ulen, T., 1998. The Growing Pains of Behavioral Law and Economics, *Vanderbilt Law Review* 51, 1747-1763.
[193] Cooter, R., Ulen, T., 2004. *Law and Economics*, 4th edition.(Pearson).p.15.

Law and economics definitively affirms the relevance of the rational choice theory in non-market decisions and legal matters. Gary Becker's crime deterrence model is the first to have formalized the rational choice theory applied to *legal decision-making*. "Optimal" decisions refer to decisions that minimize the social loss in utility or payoff from offenses. The loss is the sum of damages, costs of apprehension and conviction, and costs of carrying out the punishments imposed. Loss can be minimized thanks to a combination of the magnitude and the probability of the expected sanction, the form, the nature and the type of the sanction[194]. Becker's theory is at the heart of the economic theory of crime and will be discussed in detail further.

In the general scientific framework, scholars from all fields have been questioning the limits of the assumption of rationality[195] and have raised the issue that one of the major premises of this assumption may not always be respected: people making decisions may not always maximize their utility[196].

Commentators have presented different justifications of *bounded rationality.* One of the major critics addressed to the neo-classical substantive rationality is that it is conceived as the perfect rationality, implying that individuals dispose of perfect information. In reality, it is likely that agents might not be informed about the alternatives, facing uncertainty and imperfections. Herbert Simon is one of the authors who focused on the issue of the *limitation of rationality* and offered a developed analysis of what could be a more realistic approach than the rationality assumption. He introduced the notion of "limited rationality", according to which individuals try to maximize their utility according to their actual knowledge, leading to the concept of "procedural rationality". The concept of *procedural rationality* is based on the best choice of decision-making method, as opposed to the concept of substantial rationality, based on the best result[197].

Critics formulated by the legal doctrine are somewhat akin to this reasoning. Criminals may not be rational and *may not integrate the punishment to come as a cost* when committing the crime. The particular cases of criminals who commit spontaneous crimes of passion or individuals under the influence of toxic substances that distort their perceptions are cited. Moreover individuals' *misinformation or inadequate measurement of sanctions* is often referred to as interfering with the rationality assumption. A valid explanation asserts that, because of the ambiguity of information related to uncertain outcomes, individuals may fail to correctly assess and discount its importance and, therefore, to incorporate it in their decision[198]. Furthermore, individuals may focus on *absolute outcomes* rather than consider probable outcomes, neglecting the dimension of uncertainty. Another explanation could lie with the *perceived outcome*, which is partially based on a cognitive bias. The prediction of probability may depend on individuals' perceptions. Their perception

[194] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.199.
[195] For instance, the theories of biologic or social determinism deny rational behaviour and therefore mostly consecrate the moral dimension of the criminal discipline.
[196] Korobkin, R. B., Ulen, T., 2000. Law and Behavioral Science: Removing the Rationality Assumption from Law and Economics, *California Law Review* 88, 1051-1144.
[197] Simon, H. A., 1947. *Administrative Behavior*(S&S International, New York).
[198] Van Dijk, E., Zeelenberg, M., 2003. The Discounting of Ambiguous Information in Economic Decision Making, *Journal of Behavioural Decision Making* 16, 341-352.

can be influenced either by confidence (over- or under-confidence, optimism, pessimism) or by personal or related experiences ("available heuristic")[199]. It may also happen very rarely that some individuals do not consider a penalty as a cost because they actually value the reputation effect, in other words to be known as a law-breaker in a certain community [200]. Indeed, for certain gangs, prison is a kind of initiation rite and reputation associated to prison constitutes an intangible but potentially valuable outcome. Commentators argue that many possible biases in decision-making can affect the prediction of rationality.

As a response to these observations, it must be mentioned that the rational choice theory should not be misinterpreted. Indeed, law and economics scholars do not deny the possibility of an individual's choice and behavior to diverge from rationality under specific circumstances[201]. However, this phenomenon should be negligible within aggregate behavior in markets; the standard predictions of rational theory would therefore still hold.

Moreover, this study relating to insider trading matters directly deals with monetary valuable assets in a corporation environment where maximizing financial gain is explicitly targeted. This context is therefore consequently particularly favorable to rational decision-making, the potential wrongdoer belonging to a category of very specific corporate potential wrongdoers, who have been the object of several studies establishing them as "rational agents", or even as "economic men"[202]. For instance, several studies describe white-collar and insider wrongdoers as informed, educated, and typically rational individuals who dispose of information to accurately evaluate and anticipate the sanctions, their enforcement and their costs[203].

For instance Hochstetler and Shover claim:

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[199] Faure, M., 2009. *The Impact of Behavioral Law and Economics on Accident Law* (Boom Juridische Uitgevers, The Hague). Jolls, C., 1998. Behavioral Economics Analysis of Redistributive Legal Rules, *Vanderbilt Law Review* 51, 1653-1677. Tversky, A., Kahneman, D., 1974. *Judgement Under Uncertainty: Heuristics and Biases*(Science, New York).

[200] Ulen, T., 2000. *Rational Choice Theory in Law and Economics*(Edward Elgar, Cheltenham).

[201] See Becker, G. S., 1962. Irrational Behavior and Economic Theory, *The Journal of Political Economy* 70, 1-13. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.192: "Sometimes it is possible to separate persons committing the same offense into groups that have different responses to punishments. For example, unpremeditated murderers or robbers are supposed to act impulsively and, therefore, to be relatively unresponsive to the size of punishments; likewise, the insane or the young are probably less affected than other offenders by future consequences and, therefore, probably less deterred (…)".

[202] Oded, S., 2012. *Inducing Corporate Proactive Compliance: Liability Controls and Corporate Monitors*(Rotterdam Erasmus University, Rotterdam).p.51. Sutherland, E. H., 1983. *White Collar Crime: The Uncut Version*(Yale University Press, New Haven).

[203] White collar crime is a early nineteen twenties notion. See Calavita, K., Pontell, H.N., Tillman R. H. , 1997. *Big Money Crime: Fraud and Politics in the Saving and Loan Crisis*(University of California Press, Berkeley). Insiders' profile differs from other white collar crime such as antitrust crimes or embezzlement because it neither advances the gain of the business entity, nor deprives the company of its use of the information, only its exclusive use. Moreover, while "thieves or embezzlers type" white collar criminals appear to predominantly belong to middle management or to the lower echelon of business, insiders defendants appears to be mostly composed of corporate officers and directors. See Geis, G., 1998. *Antitrust and Organizational Deviance*(JAI Press, Stamford, CT). Weisburd, D., Stanton W., Waring, E., Bode, N., 1991. *Crimes of the Middle Classes: White Collar Offenders in the Federal Courts*(Yale University Press, New Haven). Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

"There are good reasons to believe that white-collar criminals generally behave more rationally than street offenders; the latter routinely choose to offend in hedonistic contexts of street culture where drug consumption and the presence of other males clouds judgment and the ability to calculate beforehand. Many white-collar workers by contrast live and work in worlds that promote, monitor, and reward prudent decision-making. They are significantly older to boot and more capable, presumably, of exercising the greater care and caution of persons with some maturity"[204].

To conclude it seems that, if the rationality assumption constitutes a foundation for the microeconomics and law and economics disciplines, some law scholars remain skeptical about applying it to legal matters. Nevertheless, for the purpose of this thesis relating to insider trading, and consequently to securities matter, it may be considered that this framework is likely to offer conditions that are comparable to those of the rational market decisions previously described. Consequently, according to the law and economics literature, individuals are assumed to behave rationally in this study. Starting from this premise, the next step consists in determining what means are available to public enforcement in order to obtain an individual's commitment, given that agents seek to maximize their satisfaction. A *homo economicus*' behavior is then considered to be the solution to the maximization of objectives under constraint so as to reach individual equilibrium. The purpose of this study is to offer a clear picture of the different enforcement tools available to create an adequate internalization that will deter the potential wrongdoer to commit the banned behavior of insider trading, relating to the choice of form, nature and type of the sanctions in order to maximize social welfare.

Deterrence theory

The deterrence power and goal of law is a concept that was first developed by authors such as Charles Montesquieu[205], Cesare Beccaria[206] and Jeremy Bentham[207]. For instance Bentham, strongly influenced by a utilitarian perspective, developed specific rules for the purpose of *better proportioning punishment to offences*[208], claiming that the agent who is considering taking action behaves empirically as an economist, weighting advantages and disadvantages that may derive from the offense[209]. According to him, happiness is a composite of maximum pleasure and minimum pain and each individual seeks to maximize its own welfare according to the utilitarian principle. Legislation by the state provides four sanctions (political, moral, physical, and religious) that shape pleasures and pains. It is then possible to find a link between the search for the maximization of interest and the violation of law. These notions

[204] Shover, N., Hochstetler, A., 2005. *Choosing White-Collar Crime*(Cambridge University Press, Cambridge).p.3.
[205] Montesquieu, C., 1748. *De l'Esprit des Loix*(Chatelain, Genève).
[206] Beccaria, C., 1995. *'On Crimes and Punishments' and Other Writings*, Richard Bellamy edition.(Cambridge University Press). Pedrazzi, C., 1985. *Le Rôle Sanctionnateur du Droit Pénal*(Editions Universitaires de Fribourg).
[207] Bentham, J., 1789. *Introduction to the Principles of Morals and Legislation*(reproduction in "The Utilitarians", Rept. Garden City NY: Anchor Books, 1973, Paris). Bentham, J., 1840. *Theory of Legislation*(Weeks, Jordan, & Company, Boston).pp.35-43.
[208] Other branches of scientific disciplines express the same concept of equivalence and proportionality of legal sanctions. For example, when Michel Foucault questions the repressive philosophy, he states that the legitimacy of a sanction stands in its measure and its meticulous calculation. See Foucault, M., 1975. *Surveiller et Punir: Naissance de la Prison*(Gallimard, Paris).p.94.
[209] Bentham, J., 1811. *Punishments and Rewards*.

were reintroduced almost two centuries later by authors such as Gary Becker[210], Steven Shavell[211] and Nuno Garoupa[212].

Wrongdoers' *incentives* generally diverge from the socially optimal incentives; this refers to the economic concept of *moral hazard*. An enforcement system should aim at aligning the wrongdoer's incentives with the social ones, at the lowest possible cost. In turn, the goal of an optimal enforcement system is to achieve a welfare objective by influencing people's behavior, deterring them from committing unlawful acts and inducing compliance with the laws through the threat of sanctions[213]. More particularly, individual deterrence is aimed at preventing recidivism while general deterrence concerns people who have not yet been sanctioned[214].

Gary Becker's crime deterrence model offers a comprehensive normative framework for optimal deterrence where individuals are rational and respond to incentives created by law and its enforcement[215]. In this model, a criminal is considered to decide rationally to commit an offense if the expected utility obtained from committing the crime exceeds the utility he could get by using his time and resources for other activities.[216] Therefore rational agents decide to comply or not to comply with the law after having calculated the benefits versus the costs[217]. Values that are not direct market prices are integrated in the calculation[218] through the assessment of both intangible and monetary valuable outcomes.

The expected benefits of crime are obtained by the multiplication of the probability of success by the benefits (monetary and non-monetary) of the crime, which include the value of the material goods, the amount of money, or even the intangible valuable outcomes.

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[210] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.2.

[211] Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.

[212] Garoupa, N., 1997. The Theory of Optimal Law Enforcement, *Journal of Economic Surveys* 11, 267-295.

[213] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.p.396: "A central concern in the law and economics literature is the structure of the compliance incentives created by the alternative instruments, whether used singly or in combination", Ogus, A., 2004. *Enforcing Regulation: Do we Need the Criminal Law?*, H. Sjörgen and G. Skogh. Cheltenham edition.(Edward Elgar).p.42-56. Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[214] See Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).p.515: "The individual deterrence is the tendency of a person who has been penalized for committing an illegal act to be more deterred in the future from committing that act than he was beforehand by the prospect of sanctions while general deterrence is the tendency of people who have not yet been sanctioned to be deterred by the prospect of sanctions for committing an illegal act". See Andeaenes, J., 1974. *Punishment and Deterrence*(University of Michigan Press). "General deterrence is a concept that includes several features, among which two major are the fear of punishment and the perceived risk of detection".

[215] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

[216] Ibid.

[217] Ibid. Cooter, R., Ulen, T., 2004. *Law and Economics*, 4th edition.(Pearson).p.455-461.p.459: "The rational criminal's behavior can be explained by using mathematical notation".

[218] Ulen, T., 2000. *Rational Choice Theory in Law and Economics*(Edward Elgar, Cheltenham).

The expected sanction sets the level of deterrence and should be optimal in order to incentivize individuals to adopt a socially desirable behavior and lead to a maximization of social welfare. If the deterrence level is not optimal, it implies either under-deterrence (excessive social costs on society) or over-deterrence (excessive costs on individual taking excessive precautions)[219], which are both inefficient[220].

The *magnitude of a sanction* sets the severity of a punishment in accordance with the proportionality principle and should be based on the gain or on the harm derived from the violation[221] (this will be adressed in Chapter 3).

The expected sanction is obtained by the multiplication of the probability of the detection and conviction of the perpetrator (probability of sanction) by the monetary value of the legal sanction and the value of any non-pecuniary losses he may suffer, such as reputation (magnitude of sanction)[222].

$S = m \cdot P$

$P = Pd \cdot Pc$

S = expected sanction,

m = magnitude of the sanction,

P = probability of sanction,

Pd = probability of detection,

Pc = probability of conviction

Apart from deterrence, there is a wide variety of potential normative goals amongst which many involving non-economic considerations. The most common secondary objectives attributed to the law, by law and economics scholars, are distribution, compensation, punishment, rehabilitation and incapacitation[223].

Internalizing externalities

According to Stigler, the very first goal of enforcement is to achieve a degree of compliance with the rule of prescribed behavior that society believes it can afford[224]. In order to reach a *socially optimal level of violation of legal norms,* enforcement agents dispose of different natures of enforcement powers and different forms, natures

[219] Precautions are excessive if their cost is superior to the benefits of reduction of harm it implies. Polinsky, A. M., Shavell, S., 1998. Punitive Damages: An Economic Analysis *Harvard Law Review* 111, 869-962.p.879.
[220] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.p.528.
[221] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[222] See Ulen, T., 2000. *Rational Choice Theory in Law and Economics*(Edward Elgar, Cheltenham). p.800.
[223] Dau-Schmidt, K., 1990. An Economic Analysis of the Criminal Law as a Preferrence-Shaping Policy, *Duke Law Journal* 1, 1-38, Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts), Shavell, S., Kaplow, L., 2001. Fairness Versus Welfare, *Harvard Law Review* 114, 281-286. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.171.
[224] Stigler, G., 1970. The Optimum Enforcement of Lawsibid. 78, 526-536.

and types of sanctions. The resources spent on enforcement efforts have to be balanced with the gains they procure. Optimal enforcement is achieved when the total costs for society of such harmful activities, including the costs of enforcement, are minimized[225]. The enforcement of a rule is never complete precisely because of its cost.

In addition, the economics of enforcement regard the *optimal control of negative externalities*[226]. Harmful activities are considered as such when their social costs outweigh their social benefits[227]. Most harmful activities create negative externalities by having a negative impact on third parties.

Robert Cooter and Thomas Ulen define *externalities* as the external costs of an exchange in a market. In the theory of welfare economics, externalities are considered as one type of market failure. The reasoning is that, if these external costs are not internalized, the wrongdoer will continue his activity, thereby creating a negative externality because of the difference between the "private marginal cost and social marginal cost"[228]. Market failures involving a negative-externality can be corrected by liability rules[229], regulation[230] or Market based instrument such as taxation[231] inter alia.

To conclude, building on the basic idea that law is a means that can create incentives affecting the wrongdoer's utility and hence his decision, an optimal enforcement power should aim at internalizing externalities by inducing actors to incorporate all relevant costs and benefits of their activities into their decision-making. Consequently, the form, nature and type of the control devices should vary with the form, nature and type of the externalities caused[232]. The objective is to create optimal incentives through legal policies in order to achieve compliance or deterrence. Internalization is achieved when individuals do not perpetrate an illegal act because they want to avoid the sanction induced by it. Law and economics literature is very

[225] Becker, G. S., 1968. Crime and Punishment: An Economic Approachibid. 76, 169-217.
[226] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.
[227] Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287.
[228] Cooter, R., Ulen, T., 2011. *Law and Economics*, 6th edition.(Prentice Hall).
[229] Coase, R., 1960. The Problem of Social Cost, *Journal of Law and Economics* 15, 1-44.
[230] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.p.10.
[231] See Pigou, A. C., 1920. *The Economics of Welfare*, 4th edition.(Macmillan and Co., London). For instance, the imposition of a tax on insider trading profits was proposed as an efficient policy alternative to regulation and presented as a good compromise between the unregulated market and the deregulated market by Estrada. See Estrada, J. A., 1994. Insider Trading: Regulation, Deregulation, and Taxation, *The Swiss Review of Business Law* 5, 209-218. According to Estrada, applying a taxation policy would have a similar qualitative effect to those of a complete deregulation of insider trading and in turn, would leave society better off in terms of welfare. Scholars sustaining this change in politics argue that resources should not be spent on preventing insider from trading but on supporting total deregulation, or at worse, taxation policy, in order to increase welfare. Nevertheless, this thesis is focused on the regulation type policy and does not envisage taxation as an alternative.
[232] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.50: "In order to induce actors to make a correct weighing of all costs and benefits of their activities, the externalities should be fully internalized. Only then will actors incorporate all relevant costs and benefits in their decisions. This implies that the size of the sanction should vary with the size of the externalities caused. Tort law, regulation and criminal law differ in the way in which internalization is aimed for".

concerned with the structures of the deterrence mechanisms and compliance incentives created by alternative instruments.

(II) ABOUT THE INSIDER TRADING POTENTIAL HARM, GAIN AND PROBABILITIES OF DETECTION AND CONVICTION

In discussing the appropriateness of different insider trading law enforcement regimes, the models for determining optimal enforcement require particular attention regarding the following variables: the level of potential social harm arising from insider trading, the level of gain associated to insider trading, the probability of detection and the probability of conviction of insider trading. Special attention should be given to this section as it introduces all of these dimensions. Further discussions will refer to this section in the following Chapters 3 and 4.

Insider trading potential harm

In chapter 2, the controversy concerning insider trading was presented from both legal and economic perspectives. The legal theory argues in favor of the insider trading regulation because of its immorality[233] and its undesirability from a distributional justice theory perspective[234].
To appreciate the controversy concerning insider trading based on economic arguments, it is necessary to balance the beneficial effects of insider trading against its detrimental effects.
In the interests of clarity, the present paragraph condenses the strongest arguments presented by the economic literature claiming social harm due to insider trading. Most of these arguments are based on commensurable measures established through empirical methods, already presented in Chapter 2. To some extent this paragraph may seem to repeat what is already contained in Chapter 2 but it is necessary that these elements appear in a condensed paragraph in this section in order to define insider trading potential social harm. As previously mentioned, it is difficult to obtain a direct measure for the impact of insider trading. However, the consequences of insider trading are observable through the measure of its impact on aggregate variables of economic preformances such as the informativeness of the prices, the cost of capital, the concentration of shareholding or the stock liquidity. The main lines of the findings provided by the empirical literature are the following. First of all, insider trading has been presented as leading to stock prices that are less efficient in providing information[235]. The informativeness of a firm's stock price is an important variable of economic performance because it provides information about the risk of investing in a firm and therefore participates in defining the demand for its stocks[236].Another major detrimental effect created by insider trading denounced by

[233] Schotland, R. A., 1967. Unsafe at Any Price: A Reply to Manne, *Virginia Law Review* 53, 1425-1478.
[234] See Chapter 2.
[235] See Chapter 2 and See Fishman, M., Hagerty, K., 1992. Insider Trading and the Efficiency of Stock Prices, *RAND Journal of Economics* 23, 106-122. Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51.
[236] Hu, J., Noe, T., H., 1997. The Insider Trading Debate, *Economic Review*, 34-45.p.41.

the scholarly literature is to raise the cost of capital[237] (directly related to the cost of trading and the cost of information[238]). The cost of a firm's capital provides relevant indications on its capacity to raise new capital and therefore indirectly informs investor about its potential future performance. Insider trading has been further described as impairing stock market liquidity[239]. Liquidity is a direct indicator of the attractiveness of a market because it provides information about the efficiency of capital allocation.

In assessing potential insider trading harm, if the focus was only made on the detrimental effects of insider trading that should be internalized, the reasoning would be biased. The whole beneficial effects caused by insider trading supported by the opponents of insider trading regulation also have to be considered. From an economic perspective, potential insider trading harm measurement is therefore *controversial*.

Insider trading gain

Apart from the insider trading harm, the insider trading gain is a central element to consider in the framework of this study. For instance, several empirical studies established the average take resulting from an insider trading act. First, a study of Meulbroek regrouped data concerning 320 individuals charged with insider trading by the SEC during the period between 1980 and 1989. For this period the average gain or loss avoided was $24,124[240]. Insider trading's gain has also been the object of a study

[237] See Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845. See DelBrio, E., Miguel, A., Perote, J., 2002. An Investigation of Insider Trading Profits in the Spanish Stock Market, *Quaterly Review of Economics and Finance* 42, 73-94. Finnerty, J., 1976. Insiders and Market Efficiency, *Journal of Finance* 31, 1141-1148. Seyhun, N., 1986. Insider Profits, Costs of Trading and Market Efficieny, *Journal of Financial Economics* 16, 189-212. Jaffe, J., 1974. Special Information and Insider Trading, *Journal of Business* 47, 410-428. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.211. See Bainbridge, S. M., 1999. *Securities Law: Insider Trading*(Foundation Press, New York). Bainbridge explicitly describes four significant potential harms done to the corporation connected with insider trading among which a reputational injury to the corporation caused by insider trading, which is translated into direct financial injury. He describes that the reputational injury affect investors confidence whom are in turn willing to pay less when buying stock from a firm whose managers inside trade. He concludes that a reputational injury raises the firm's cost of capital. See Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. Enforcement of insider trading laws has a significant negative effect on cost of capital, implying that insider trading increases the cost of capital. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.10. Ang, J. S., Cox, D.R., 1997. Controlling the Agency Cost of Insider Trading, *Journal of Financial And Strategic Decisions* 10, 15-26.p.19.

[238] See Haft, R. J., 1982. The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation, *Michigan Law Review* 80, 1051-1071. Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.), Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283. Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston).

[239] Beny, L., 1999. A Comparative Empirical Investigation of Agency and Market Theories of Insider Trading, *Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series* Discussion Paper No. 264. Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. Glosten, L. R., 1989. Insider Trading, Liquidity, and the Role of the Monopolist Specialist, *The Journal of Business* 62, 211-235.

[240] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1666.

of Geis and Szockyi[241] published in 2002. They regrouped data concerning 452 individuals in the USA that were charged by the Federal Government for profiting or avoiding losses through insider trading. They established that, in the USA, the median gain or loss avoided was $25,800. Similarly, a paper of Frino et al. published in 2013 regrouped a panel of 296 trades. They collected data from litigation reports available on the SEC website regarding the period between 1996 and 2004. They found that the median gain or loss avoided for this period was $26,860[242]. They further added that the mean gain or loss avoided was $215,696. This would suggest that a few insiders accomplish astronomical takes. The later are the cases that are released in the media. The average gain or loss appears to be stable through the decades and approximates a median of $25,594. How can one interpret if this amount has to be considered as large, medium or small? In the same time period, an average take for a street crime was definitely lower. For instance in 2002, the average loss in a bank robbery was $4,763, whereas a residential burglary averaged a loss of $1,549[243] (while US income per capita was $30,906[244]). Therefore, the median gain or loss avoided thanks to an insider trading crime, whilst far from the astronomical numbers announced in the media, can still be considered as high if compared to an average take in a regular street crime, or to the US income per capita. However, an average board member, who could potentially be engaged in insider trading, does not necessarily resemble the average American; indeed, his average income can be presumed to be significantly higher.

Insider traders earn considerably higher returns than do non-informed traders[245]. From this respect, it could be considered as a tempting lucrative act to perpetrate. However, looking at insider trading law enforcement statistics (see Chapter 5), it seems that it is not a rampant phenomenon. Empirical studies suggest otherwise. For instance, some authors do not hesitate to even qualify it as one of the "most common violations of the federal securities laws"[246] or as a "widespread and, within certain circles, accepted"[247] practice. In a recent paper, Laura Beny demonstrated that illegal insider trading has

[241] See Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

[242] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.p.249: "the imputed profit or loss avoided is the dollar value of profit made or losses avoided by the insider. This value is calculated by first determining the absolute price change between the closing price the day before the insider's first trade and the closing price on the day of the news announcement. This is then multiplied by the number of shares involved in the insider's trade to calculate the imputed profit or loss avoided".

[243] See Press Release, "Uniform Crime Reporting Program Release Crime Statistics for 2002", FBI National Press Office (202) 324-3691: "Robbery resulted in an estimated $539 million loss, or an average loss of $1,281 per incident. Bank robberies resulted in the highest average loss at $4,763 per incident (…) Losses due to burglary totaled an estimated $3.3 billion in 2002, with an average value of $1,549 per offense" available at : http://www.fbi.gov/news/pressrel/press-releases/uniform-crime-reporting-program-releases-crime-statistics-for-2002, accessed the 07.30.2013.

[244] U.S. Bureau of Economic Analysis (2002), Washington, BEA available at http://www.bea.gov/newsreleases/regional/lapi/lapi_newsrelease.htm, accessed the 07.30.2013.

[245] Baesel, J. B., Stein, G. R., 1979. The Value of Information: Inferences from the Profitability of Insider Trading, *Journal of Financial and Quantitative Analysis* 14, 553-571.p.554: insiders make unusual returns. Lorie, J. H., Niederhoffer, V., 1968. Predictive and Statistical Properties of Insider Trading, *Journal of Law and Economics* 11, 35-53.p.53. Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

[246] O'Connor, M. A., 1989. Toward a More Efficient Deterrence of Insider Trading: The Repeal of Section 16(b), *Fordham Law Review* 58, 310-380.p.314.

[247] Ibid.p.314.

been intensified these past years[248]. The scholarly literature interprets the low enforcement level of insider trading as being the result of difficulties in both detecting and proving insider trading, rather than its actual rarity.

Probability of detection of insider trading

The empirical literature provides relevant elements that demonstrate the difficulty of detecting insider trading and suggests that a considerable part of insider trading remains undetected. The reasons seth forth are usually related to the immaterial and diffuse nature of insider trading, to the limited relevance of the methods used to detect insider trading and finally to the insufficience of enforcement efforts and expenses used by the public powers.

(i) About the diffuse and immaterial nature of insider trading

Considering the mere *nature of insider trading*, one could spontaneously conceive that it is a difficult act to detect. Two major characteristics of insider trading, both related to its precise nature, support this intuitive belief: its *immateriality* and its *diffuseness*.

First of all, the immaterial nature of insider trading makes it difficult to detect. Unlike other white-collar crimes that require a positive act of theft, embezzlement, copy of documents, computer hacking, surveillance equipment manipulation, etc. insider trading involves the use of *legitimately acquired confidential information*, often within the context of a regular professional activity. The offense is based on the confidential nature of the information. Empirical literature seems to establish that insider trading is more the result of one's *personal or occupational position* than of his specific skills, effort or technological knowledge[249]. A typical illustration is the case of the tippees who receive information. The tippees do not need to be particularly skilled or trained to trade on the basis of the information. Things may become more complicated when insiders use elaborate means to *cover up their illegal trade* by using off-shore accounts, nominee accounts, proxies and intermediaries that are difficult to identify[250]. Hence, insider trading occurs in an internationalized securities market framework in which a multitude of actors are involved. In conclusion, due to its immaterial nature, insider trading does not leave tracks, which partially explains the difficulty to detect it.

In addition to being immaterial, insider trading is also characterized as being *dispersed*[251], i.e. scattered over a large group. For instance, when an insider buys stocks or when informed insiders trade on inside information, any uninformed

[248] Beny, L., 2012. Has Insider Trading Become More Rampant in the United States? Evidences from Takeovers, *Law and Economics Research Paper Series, University of Michigan Law School*.
[249] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.
[250] Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.). p.5: "In addition, detecting insider trading is difficult. For one thing, insiders can disguise their identities and trade through proxies and foreign intermediaries". Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283. Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.
[251] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1663: "insider trading is widespread".

investor trading against them will lose in the transaction[252]. These people are not easy to identify because they could be any potential buyers who didn't have the opportunity to buy. When an insider sells stock, the injured parties are the actual buyers of the stock, in which case they are easier to identify. Moreover, depending on whether the insider traded in order to avoid a loss or to make a gain, the potential victims could either be within the insider's corporation (if he traded to avoid a loss that he saw coming, subsequently causing the other shareholders to suffer the loss) or outside of the corporation (potentially the whole group of third parties who could have been interested in purchasing the shares if they had had knowledge of the private information on which the insider traded to make his gain). In both cases, but especially in the case where the insider aims to make a profit, the potential number of victims affected by the insider trading can be quite large. The injured parties can include investors, shareholders and corporations.
All in all, insider trading is "secretive" because of its very immaterial and diffuse nature. Hence, the probability of detecting insider trading may be considered correspondingly very low[253].

(ii) About the methods and the sources of detection of insider trading

Considering the probability of detection of insider trading, special attention should be given to the empirical studies dedicated to the analysis of *methods of detection and the sources of detection*. They provide relevant information and suggest interesting conclusions.

The literature describes that, in order to detect insider trading, "surveillance officers look for suspicious events - typically, large price changes on large volume"[254]. Most of the competent authorities in charge of detecting insider trading use techniques of detection that are based upon a restrictive number of criteria. Larry Harris, former Chief Economist at the SEC from July 2002 to June 2004, described these criteria as follow: A very first criterion of detection is trading with concurrent abnormal price movements[255] (based on the measurement of the occurrence of abnormal returns

[252] See e.g., See Finnerty, J., 1976. Insiders and Market Efficiency, *Journal of Finance* 31, 1141-1148. Jaffe, J., 1974. Special Information and Insider Trading, *Journal of Business* 47, 410-428. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Rozeff, M. S., Zaman, M. A., 1988. Market Efficiency and Insider Trading: New Evidence, *Journal of Business* 61, 25-44. Seyhun, N., 1992. The Effectiveness of Insider-Trading Sanctions, *Journal of Law and Economics* 35, 149-182. For Spain: DelBrio, E., Miguel, A., Perote, J., 2002. An Investigation of Insider Trading Profits in the Spanish Stock Market, *Quaterly Review of Economics and Finance* 42, 73-94. For the US: Lakonishok, J., Lee, I., 2001. Are Insider Trades Informative?, *Review of Financial Studies* 14, 79-111. For Canada: Baesel, J. B., Stein, G. R., 1979. The Value of Information: Inferences from the Profitability of Insider Trading, *Journal of Financial and Quantitative Analysis* 14, 553-571. For UK: Friederich, S., Gregory, A., Matatko, J., Tonks, I., 2002. Detecting Returns around the Trades of Corporate Insiders in the London Stock Exchange, *European Financial Management* 8, 7-30. Pope, P., Morris, R., Peel, D. Insider Trading: Some Evidence on Market Efficiency and Directors Share Dealings in Great Britain, *Journal of Business, Finance and Accounting* 17, 359-380.
[253] Read, C., 2009. *Market Inefficiencies and Inequitites of Insider Trading - An Economic Analysis*(CRC Press, Boca Raton).p.11.
[254] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588.
[255] See ibid, Olmo, J., Pilbeam, K., Pouliot, W., 2009. Detecting the Presence of Informed Price Trading Via Structural Break Tests, *Department of Economics Discussion Paper Series No. 09/10*.

before sensitive markets announcements to determine suspect price movements[256]). A second criterion of detection is trading with concurrent abnormal volume movements. A third criterion of detection, though less important, is trading with apparent access to the sensitive information.

Considering the methods of detection of insider trading, a part of the scholarly literature openly critiques the use of algorithms to examine abnormal trading activities and detect insider trading[257]. It argues that a significant volume of insider trading may not be detected through this technique. Meulbroek provides relevant data supporting this approach. Her study regroups data concerning 320 individuals charged with insider trading by the SEC during the period between 1980 and 1989. It provides the different sources of SEC case investigation by percentage of insider trading episodes[258]. The first source of cases appears to be the public complaint (41% of cases), followed by the security exchange referrals (31%) and only in third position only, the SEC investigations, source of 9% of detected cases.

The fact that public complaint is actually the first source of detection may provide pertinent information. As already addressed, given the immaterial and diffuse nature of insider trading and in the context of a globalized market, the potential number of victims affected by insider trading can be quite large. One of the most sensitive aspects of private detection within insider trading prohibition hence reside in *dispersed ownership*. Therefore, the probability of someone knowing the existence of an insider trading seems quite limited. From that respect, it is most often relatives or close relations of the insider trader who are able to find out about the insider trading act, thanks to their shared intimate relationship. Given this relationship, it is likely for them to also benefit from the gain of the act. It is not surprising that Meulbroek explains that most public complaint cases arise from a person with whom the insider trader is having personal problems, such as ex-wives/husbands, former employee or fellow conspirators[259]. Therefore, in order to file a public complaint, the plaintiffs must know the insider trader well enough to find out about the act and also have a personal motivation to do so. One can imagine that this constitutes a particularly rare scenario. Nevertheless, it constitutes the first source of SEC case investigations.

The second source of cases are the stock exchange referrals (cases referred by the National Association of Securities Dealers, AMEX, New York Stock Exchange, Regional or the Chicago Board Of Trade). The cases that are initiated by an SEC investigation without an outside referral arrive in third position, with only 9% of the cases. The press stories (9%) constitute a source of cases equal to the SEC investigations. The remaining categories are the issuer referral (3%), that refer to the situation where the firm in which the inside trader makes the transaction contacts the SEC, the bidder referral (1%) occurs when the bidding firm in a takeover contacts the SEC, broker referral (2%) arises when a broker realizes that a client trades before a

[256] Olmo, J., Pilbeam, K., Pouliot, W., 2009. Detecting the Presence of Informed Price Trading Via Structural Break Tests, *Department of Economics Discussion Paper Series No. 09/10*.p.19.
[257] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.p.260. Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588.
[258] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1682: "An insider trading episode corresponds to one or more defendant trading in a given stock using specific information".
[259] Ibid.p.1982.

public announcement. Another type of source is when the SEC investigates a company for another reason and randomly discovers insider trading violations (1%).

In the study of Meulbroek, the SEC case investigations initiated by exchange referrals, by issuer or bidder referrals, by press stories, or by the SEC without an outside referral, are considered to be based on the detection methods described by Harris (involving abnormal volume or price movements of the security, or apparent access to sensitive information (direct insider)). On the contrary, the SEC case investigations that are initiated by public complaints, by broker referral or by the SEC in the framework of another investigation constitute the sources of cases that are detected with methods that do not involve abnormal price or volume movements. This later method represents the source of about 42% of the SEC case investigations. This means that more than the half of the insider trading cases prosecuted by the SEC could not have been detected with the methods used by the SEC.

A paper of Frino et al. published in 2013 confirms these numbers. They collected data concerning 296 trades from litigation reports available on the SEC website, in the time period between 1996 and 2004. They found that, out of the 296 illegal trades they studied, 185 (62,5%) were detected through one of the three main methods described in the above mentioned study of Harris[260]. They further emphasized that the 111 remaining cases were detected by different methods (37,5%).

Meulbroek's analysis further argues that the sample of insider trading that is not discovered thanks to a method involving abnormal volume or price movements is likely to exhibit resemblance to the undetected sample of informed trades[261]. Indeed, according to her, the method used by the public agencies to detect insider trading allows to detect the illegal trades that respond to calibrated characteristics of volume or prices movement. On the contrary, the part of alternatively detected insider trading involves uncalibrated characteristics, and furthermore, she suggests that it is likely that the non-detected insider traders might exhibit even more furtive behaviors[262].

These studies suggest the existence of a considerable amount of *undetected insider trading* that corresponds to the illegal trades that escape the competent authority's detection techniques. These are not denounced by a public complaint, nor randomly discovered. These authors does not intend to measure this part of undetected insider trading because the enterprise would be very speculative. Nevertheless, they however suggest that the part of alternatively detected trades provides relevant information about the randomness of detecting the less calibrated and the more furtive types of insider trading acts.

In the perspective of this study, the major contribution of Harris, Meulbroek and Frino's papers resides in two main aspects. First of all, they emphasize that the *detection methods* used by the authorities are based on specific criteria that may not be adapted to detect every kind of insider trading. Hence, these authors identify that a

[260] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).
[261] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.p.1981. Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.p.253.
[262] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

significant volume of insider trading is detected through processes that do not involve abnormal price or volume movements as criteria of detection[263]. These studies suggest a weakness in the available methods of detection and used by the competent authorities.

(iii) About the resources dedicated to public enforcement of insider trading laws

An additional and very concrete aspect of the probability of detection of insider trading relates to the *resources dedicated to public enforcement of insider trading laws*.

The prohibition of insider trading is understood to prohibit not only the trading on the basis of material, non-public information but also the disclosing or "tipping" of this information to others and finally assisting someone engaged in both of these activities. In turn, insider trading may potentially concern every information-specific trade. The question that arises is whether the enforcement efforts and expenses are adapted to enable a decent detection rate of insider trading, considering its nature and the multitude of information-specific trades that it potentially involves.

The resources dedicated to public enforcement of insider trading laws may be assessed according to two main variables: the *staff* and the *budget.* They allow to indirectly measure the effort of insider trading law enforcement and therefore, to indirectly estimate the probability of detection of insider trading.

Table 20 in Chapter 5 of this study reports the resource-based measures of public enforcement[264]. The first variable reported in this table is the *size of the regulatory staff* dedicated to the whole range of activities relative to market abuse sanctioning (full time equivalent) divided by the country's population in millions for the year 2005. It corresponds to the "staff per million population". Eight Member States are considered. For these countries, the staff per million population goes from 4,43 for Germany (followed by France, Italy, Spain, Belgium, Portugal, United Kingdom) until 315,12 for Luxembourg. The average staff per million population is 48,56 while the median is only 11,13.
Furthermore, the report "Actual use of sanctioning powers under MAD" issued by the European Securities and Market Authority provides relevant information about the *number of staff* of the administrative competent authorities dedicated to the market abuse sanctioning in most of the European Member States. The difference with the precited statistics is that it does not include the criminal enforcement data. According to this report, administrative enforcement of market abuse laws involves 10 staff members in sixteen Member States, between 10 and 30 staffs members in eight Member States, between 60 and 80 staff members in three Member States and more than 120 staff members in one Member State[265]. The activities related to market abuse sanctioning are defined as ranging from the detection of possible abnormal movement on the market to the imposition of sanctions. However, in most of the Member States,

[263] Ibid.
[264] Bank, 2007. *How Countries Supervize their Banks, Insurers and Securities Markets*, Robert Pringle edition.(Central Banking Publications). http://data.worldbank.org/.
[265] See ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.21-22. Unfortunately the report does not reveal the concerned Member States.

competent authorities declared that between two-third and half of the staff were actually dedicated to the activities of market supervision. Note that these numbers should be minored because it does not only concern insider trading but market abuses.

The second variable considered to appreciate the resources dedicated to insider trading enforcement is obviously the *budget allocated to the enforcement of market abuse law*. It is reported in table 20 of Chapter 5 as the "budget per billion US$ of GDP". It provides information about the budget in $ divided by the country's GDP in billions of US$ for the year 2005. The budget per billion US$ of GDP goes from 12,90 for Germany, followed by Belgium, France, Spain, Italy, Portugal, United Kingdom until 473,89 for Luxembourg. The average budget per billion US$ of GDP is 38,81 while the median is 91,11.

The very first comment that can be made about these numbers is that the Member States do not dedicate the same enforcement efforts to the detection of market abuse. Amongst the eight considered countries, the rank per order of staff per million population is similar to the rank per order of budget per billion of GDP. The appreciation of this rough data is difficult as it really depends on the context of each country such as its financial activity and the other policy measures. However, absolute numbers of staff and budget allocated to market abuse enforcement appear to be quite low, especially considering the very nature of insider trading. This has led scholars such as Laura Beny to question the appropriateness of the level of resources dedicated to insider trading law enforcement[266].

To conclude, several studies suggest that insider trading remains rarely detected. According to the literature, this low probability of detection of insider trading seems to be mainly explained by its immaterial and diffuse nature, combined with a limited efficacy of the methods of detection used by the public authorities and the insufficiency of staff and budget resources dedicated to insider trading detection.

Once detected, insider trading has to be prosecuted in order to obtain a conviction of the perpetrator.

Probability of conviction of insider trading

Insider trading involves the trading on the basis of material non-public information (as well as tipping and assisting). The prosecution and conviction of insider trading is therefore confronted to the establishment of major elements such as the material and the non-public qualities of the information on which the trade is based. Under certain circumstances, the intention of the insider also has to be proven.

(i) About the material and non-public qualities of the information

The definition of "material" and "non-public" are established in case law.

[266] Beny, L., 2012. Has Insider Trading Become More Rampant in the United States? Evidences from Takeovers, *Law and Economics Research Paper Series, University of Michigan Law School*.

Information is considered to be material if there is a substantial probability that a reasonable investor relies on it in order to decide to realize an investment decision.[267] It seems to be very clear in the definitions given by law or cases, but the *materiality of an information* and the distinction between its legal and illegal use is subtle to apprehend in real life. Professor Orts mentions a relevant concrete example that allows to understand this subtlety: Imagine that a trader, in the framework of his function, is able to observe that a chief executive is meeting with a merger-and-acquisition lawyer. If this trader decides to trade on the personal assumption that a merger is going to happen soon, he is realizing a legal trade. However, if this same trader had obtained information from an insider telling him about the merger, then the trade would have been illegal.[268]

Any undisclosed material information acquired during the professional activity, or through a tip or a rumor, can not be used for realizing a trade without breaking the law. The limit between inside information and legitimate information is very thin. Furthermore, from a practical point of view, it should be mentionned that the materiality of an information is often determined after its public release and mainly considering its effect upon the market.[269] The materiality of an information resides in its quality to be related to facts that may affect the company's substantial development or financial results.[270] For example they can include financial results, acquisitions or mergers offers, tender offers, joint ventures, investments, project or product developments, any changes in assets, dividends, debt, stocks, equity, litigation, changes in key personnel such as management or control, bankruptcies, etc. In turn, many types of information can actually be regarded as material. It is impossible to create an exhaustive list of types of information that can be considered as material. An information is not material *per se*[271] but it depends on the very context of the company[272] and therefore, the establishement of the materiality of an information requires specific appreciation of all of circumstances.

The other fundamental aspect to establish in order to prosecute an insider trading case is the *non-public quality* of the information on which the trade is based. From a general point of view, information is considered to be non-public if it is not available

[267] See TSC Industries, Inc. v. Northway, Inc., 426 U.S. 438, 449 (1976), for an information to be considered material: "there is a substantial likelihood that a reasonable shareholder would consider it important", see Basic v. Levinson, 485 U.S. 224, 231 (1988): Materiality "is satisfied when there is substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the "total mix" of information made available".

[268] Orts, E. W., 2009. *Why Insider Trading is Hard to Define, Prove and Prevent*. See https://knowledge.wharton.upenn.edu/article/why-insider-trading-is-hard-to-define-prove-and-prevent/

[269] See http://newscorp.com/corporate-governance/insider-trading-and-confidentiality-policy/: "As a practical matter, the materiality of the information is often determined after the fact, when it is known that someone has traded on the information and after the information itself has been made public and its effects upon the market are more certain".

[270] http://newscorp.com/corporate-governance/insider-trading-and-confidentiality-policy/.

[271] SEC, 2000. *Selective Disclosure and Insider Trading*. 17CFR Parts 240, 243, and 249 Releases Nos. 33-7881, 34-43154, IC-24599, File No.S7-31-99, RIN 3235-AH82.

[272] Basic Inc. v. Levinson, 485 U.S. 224, 236 (1988): "A bright-line rule indeed is easier to follow than a standard that requires the exercise of judgment in the light of all the circumstances. But ease of application alone is not an excuse for ignoring the purposes of the securities acts and Congress' policy decisions. Any approach that designates a single fact or occurrence as always determinative of an inherently fact-specific finding such as materiality, must necessarily be over- or underinclusive".

to investors generally[273]. If the information has been disclosed, or if the company has realized filings with the SEC and press releases, then the information is considered public.

The successful prosecution of an individual for illegal insider trading implies the establishment of the realization of a trade on the basis of material non-public information. This process is difficult, and has even been qualified as "impossible" by Larry Harris, former Chief Economist at the SEC from July 2002 to June 2004.[274]

(ii) About the establishement of a guilty mind for prosecuting

Apart from the establishment of the aforementioned elements, the prosecution of an individual for illegal insider trading may require the establishment of *mens rea*.
However, the level of culpability required to establish illegal insider trading differs depending on whether the conviction is made under tort, administrative or criminal law. Most of the time, the establishment of a certain level of culpability is only required under criminal law and differs from one country to another.
In the US the essential differences between criminal and civil enforcement actions reside in the element of intent and in the burden of proof[275]. To impose a civil sanction, it must be proven that the defendant acted "recklessly"; while for criminal sanction[276], it must be proven that the insider acted "wilfully".
Amongst the European Member States, the proof of intent is required to criminally sanction a market abuse in sixteen of the Member States[277]. The report "Actual Use of Sanctioning Powers under MAD" issued by the European Securities and Market Authority reports that the level of culpability required to impose a criminal sanction in a market abuse case differs from "negligence" to "intent": in four Member States, guilt has to be proven beyond any reasonable doubt, in five Member States, the establishement of negligence is sufficient, in one Member State gross negligence may suffice, while in other three Member States, the "indirect intent"[278] is enough. Moreover, in the absence of tangible proof of insider trading, it is possible to use a body of "serious, specific and convergent" evidence to help prove it, in 23 of the Member States. Concerning the administrative prosecution, the intent is not required to establish an insider trading in any of the Member States, except in Estonia[279].

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[273] SEC, 2000. *Selective Disclosure and Insider Trading*. 17CFR Parts 240, 243, and 249 Releases Nos. 33-7881, 34-43154, IC-24599, File No.S7-31-99, RIN 3235-AH82, See, e.g., Texas Gulf Sulphur, 401 F.2d 833, 854 (2d Cir. 1968), For purposes of insider trading law, insiders must wait a "reasonable" time after disclosure before trading. What constitutes a reasonable time depends on the circumstances of the dissemination. See Faberge, Inc., 45 S.E.C. 249, 255 (1973), citing Texas Gulf Sulphur, 401 F.2d at 854.

[274] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588.

[275] United States v. Chiarella 445 U.S. 222 (1980): "It is well established that, except for issues of intent and burden of proof, criminal and civil liability under the securities laws are coextensive".

[276] See United States v. Cassese, 428 F.3d 92, 98 (2d Cir. 2005): "Willfulness" is the element that converts a civil violation of Rule 14e-3(a) into a felony crime. *See* 15 U.S.C. § 78ff(a) ("Any person who willfully violates any provision of this chapter (…) or any rule or regulation thereunder the violation of which was made unlawful (...) shall upon conviction be fined not more than $5,000,000, or imprisoned not more than 20 years, or both")".

[277] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.112.

[278] The offender must have forseen the consequences and accepted the risk that they could occur.

[279] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.71.

The establishment of any *level of guilt* proves to be extremely difficult in insider trading matters due to their very nature. The limited empirical evidence available seems to indicate that insider trading is poorly criminally prosecuted in Europe. One problem is that the evidentiary thresholds for proving insider trading in criminal law may be very high. For instance, the literature commented that a high burden of proof reduces the probability of successful prosecution[280]. Indeed, in order to avoid costly judicial error the most stringent sanctions are usually secured with high standards of proof requirements and are consequently less likely to result in a successful prosecution[281]. For instance, in the precise case of insider trading, condemnation relies on circumstantial evidence, which is often difficult to obtain, such as the content of phone calls or informal discussions[282]. Indeed, insider trading is largely inferential and the establishment of guilt beyond a reasonable doubt, common for criminal standard, tend to be difficult[283]. It leads to the conclusion that the poor enforceability due to the burden of proof might undermine the deterrent power of the criminal law. For instance, some empirical studies show the importance of the actual enforcement in making insider trading laws effective[284]. A study of Frijns, Gilbert and Tourani-Rad shows that the trade-off between severity and enforceability makes the

[280] Beny, L., 2007. Insider Trading Laws and Stock Market Around the World: An Empirical Contribution to the Theoretical Law and Economics Debate, *Journal of Corporation Law* 32.p.265.

[281] See Engelen, P., 2006. Difficulties in the Criminal Prosecution of Insider Trading - A Clinical Study of the Bekaert Case, *European Journal of Law and Economics* 22, 121-141. Rakoff, J., Eaton, J., 1993. How Effective is U.S. Enforcement in Deterring Insider Trading?, *Journal of Financial Crime* 3, 283-287.

[282] See Rappaport, D., Sohn, J., Dewan, N., 07.07.2008. *When Is Insider Trading Subject To Criminal Prosecution?*(New York). "Insider trading can be a difficult crime to prove because the evidence tends to be largely circumstantial, which may partially help explain the historical trend toward civil enforcement by the SEC", available at http://www.dlapiper.com/files/Publication/5610abf7-7554-4507-914801ab06e00fec/Presentation/PublicationAttachment/4027cda7-0be2-4831-81ae0af0693b193a/NYLJ_July08.pdf, accessed on 08.07.2013. See Duffy, M., 2009. Insider trading: Addressing the continuing problems of proof, *Australian Journal of Corporate Law* 23, 149-177.p.155: "Regulators will often find themselves in a position where they can identify a person with inside information on a particular security, a person who traded in that security, a relationship between the two persons and even evidence of communications between them (such as telephone records). This however may still not be enough unless there is some evidence of the content of the communications and, in particular, the conveying of price sensitive information that was not generally available. Further, though a circumstantial case for communication may exist, it is usually necessary to establish what was said to identify it as price sensitive information. Also, given the seriousness of such an allegation it is unlikely that evidence of such communication can be inferred from the surrounding circumstances".

[283] IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions).
available at http://www.sec.gov/news/speech/speecharchive/1998/spch221.htm.

[284] See Bhattacharya, U., Daouk, H., 2009. When No Law is Better than a Good Law, *Review of Finance* 13, 577-627.p.2: "both theoretically and empirically, that sometimes no corporate law may be better than a good corporate law that is not enforced. This is an important issue because a number of emerging markets have adopted corporate laws, but many of them have not enforced these laws", p.28: "if a law is enacted but not enforced, only some will follow the law; the ones who do not follow the law will deviate with greater intensity in equilibrium, thereby causing law abiders more harm than they were incurring when there was no law. We next ask whether insider trading laws satisfy the above conditions. Our answer is sometimes they do. This happens when corporate insiders have very imperfect information, if the cost of acquiring perfect information is not too high nor too low, and if there are many who will not follow the insider trading law if the insider trading law is not enforced".

impact of criminal sanction ambiguous[285]. They examine the deterrence effect of criminal law by studying the impact of the introduction of criminal sanctions for insider trading in New Zealand in 2008 "without other change". Their findings suggest that the weak enforceability of criminal law, mainly due to the high standard of proof, outweighs the associated increased magnitude of the sanctions. Going further they even show that the enactment of this poorly enforceable stringent criminal law led to a worsening of the financial measures for the cost of trading, degree of information asymmetry, and probability of informed trading. They conclude that the introduction of the most severe type of sanctions through criminal law is ineffective because of the lack of successful prosecutions mainly due to high standard of proof[286]. Hence, they argue that introducing stringent criminal law but not enforcing it because of procedural difficulties could even have a potentially perverse effect. However, some argue that one has to take into account that these studies relate to the situation in New Zealand, being one of the smaller developed markets in the world[287]. Therefore these conclusions might not necessarily apply to the same extent to larger markets.

(iii) About the number of acquittals

The information that may provide a good element in appreciating the difficulty to prosecute insider trading relates to the *number of acquittals* that take place under insider trading prosecutions.
The report "Actual Use of Sanctioning Powers under MAD" issued by the European Securities and Market Authority provides information about the insider trading cases administratively prosecuted and the insider trading cases criminally prosecuted but originated by the administrative authority. In Europe, for the years 2008, 2009 and 2010, a total of 47,7%[288] of the administrative cases resulted in an acquittal. Regarding criminal prosecution, for the same period, a total of 62,7%[289] of the criminal cases resulted in an acquittal. An acquittal means that the judgement found that the defendant was not found guilty of breaking the law. The cases discharged therefore include the cases where the individuals were found innocent, but also the cases were the establishment of the elements of materiality and proof of intent could not be established. In the end, the percentage of acquittals is instructive for determining the probability of conviction of insider trading. It is of 52,3% for administrative insider trading and 37,3% for criminal insider trading.

[285] See Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.205.
[286] See ibid.p.230. See also Newkirk, T., Robertson, M., 1998. *Insider Trading - A U.S. Perspective*(Jesus College, Cambridge). "Providing stiff criminal penalties for insider trading sends a message to the community that the government considers insider trading to be a serious offense, contrary to attitudes prevailing quite recently in many markets outside the U.S. But if the law does not lead to successful prosecutions, its power as a deterrent is soon diminished".
[287] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.
[288] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.41: In total 394 natural and legal persons were administratively prosecuted for illegal insider trading. 206 were sanctionned and 188 were acquitted.
[289] Ibid.pp.83-84: In total 341 natural and legal persons were criminally prosecuted for illegal insider trading. 127 were sanctionned and 214 were acquitted.

Conclusion

These aforementioned elements concerning the rationality, deterrence, internalization, potential harm and the gain associated with insider trading, as well as the probability of detection and conviction of insider trading, are central in this study. Indeed, as addressed in the previous section dedicated to the deterrence issue, the magnitude of a sanction should be based on the gain or on the harm derived from the violation.[290] The combination of the probability of detection and the probability of conviction results in the probability of sanction. Finally, the expected sanction is obtained by the multiplication of the probability of sanction by the magnitude of the sanction[291]. Consequently, these elements are central in setting the level of deterrence and designing an optimal enforcement policy.

In Chapters 3 and 4, the choice between private and public enforcement, as well as the choice of form, nature and type of the control of devices will be considered.

[290] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[291] See Ulen, T., 2000. *Rational Choice Theory in Law and Economics*(Edward Elgar, Cheltenham). p.800.

CHAPTER 3. PUBLIC VS. PRIVATE ENFORCEMENT OF INSIDER TRADING LAWS

"Whatever the optimal degree of internalization of a negative externality, there is a debate about whether it is more efficiently achieved by private or public enforcement"[292].

This study mainly focuses on public enforcement of insider trading laws, therefore the private enforcement issue will not be extensively developed. Nevertheless, it is necessary to begin by drawing the line between private and public enforcement of insider trading laws. This line may blur when it comes to discussing the design of optimal enforcement policies because the most efficient solution may well be a combination of private and public features[293]. Consequently, the aim here is to describe the circumstances under which one nature of enforcement may be more efficient and appropriate than another, and to apply it to the specific case of insider trading.

Public law enforcement is the use of governmental agents to detect and sanction violators of legal rules[294]. It can take two forms: administrative and criminal law enforcement. On the contrary, private enforcement of law is operated by the civil court, which establishes a relationship between private parties that have initiated the enforcement. Both private and public enforcement of insider trading laws have strengths and weaknesses.

Comparing the private and public enforcement of laws in terms of deterrence, the law and economics literature alternatively introduces notions of substitutability and complementarity of these modes of enforcement. In the 1970s, Gary Becker and George Stigler consecrated a *substitute* role of private and public enforcements[295]. Indeed, they argued that both of these methods of enforcement could exercise equivalent deterrent effects. Opposed to this, Landes and Posner claimed that the deterrent effect of private enforcement was limited, especially in cases where a high probability of detection was necessary[296]. This position tends to support the *complementarity* of private and public enforcements, which was then further developed.

The debate over public enforcement versus private enforcement is associated with the question of state intervention and its role in determining and imposing sanctions[297]. The issue addressed in this section is the examination of the circumstances under which public enforcement of insider trading laws is preferable to private enforcement from an economic perspective. The literature is very prolific concerning this issue.

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[292] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.
[293] Segal, I. R., Whinston, M. D., 2006. Public vs. Private Enforcement of Antitrust Law: A Survey, *John M. Olin Program in Law and Economics Stanford Law School* Working Paper.
[294] Polinsky, A. M., Shavell, S., 2000. The Economic Theory of Public Enforcement of Law, *Journal of Economic Literature* 38, 45-76.
[295] Becker, G. S., Stigler, G. J. , 1974. Law Enforcement, Malfeasance, and Compensation of Enforces, *The Journal of Legal Studies* 3, 1-18.
[296] Landes, W. M., Posner, R. A., 1975. The Private Enforcement of Law, *Journal of Legal Studies* 4, 1-46.
[297] Cooter, R., 1984. Prices and Sanctions, *Columbia Law Review* 84, 1523-1560.

Authors such as Becker, Posner, Bowles, Faure and Garoupa, Shavell and Polinsky[298] have, implicitly or explicitly, established a certain number of economic criteria under which the use of public or private nature of enforcement mechanism is preferred. These criteria are applied to the specific case of insider trading.

If the first criteria in arbitrating the desirable public or private nature of enforcement of law relates to the costs (3.1) there are strong arguments attached to the probability of violation detection, to the level of harm and gain (3.2) and to the incentives for law enforcement (3.3), for which the society can not exclusively rely on private enforcement. In the last section of this chapter these criteria are applied to the specific case of insider trading (3.4).

3.1 COSTS OF PRIVATE AND PUBLIC ENFORCEMENT

There is one decisive reason why society must forego complete enforcement of the rule: enforcement is costly[299]. The extent of law enforcement depends on the amount of resources devoted to the task. Following the optimal enforcement theory, enforcement costs should be lower than or equal to the benefits in terms of deterrence[300]. This means that an optimal level of enforcement exists. Indeed, it is too expensive to deter all norm violation. If two enforcement instruments can procure the same deterrence effect, the cheapest one is socially desirable.

One of the main differences raised by the literature between private and public enforcement resides in the costs of formulating safety rules, of investigative powers (monitoring and detecting) and enforcement costs of their sanctions[301]. It is important to briefly describe the costs associated to each different mode of enforcement to take this parameter into consideration.

Private law is considered to be a relatively cheap instrument, composed of open norms that are easy to formulate and that only have to be specified after a violation has occurred, i.e. *ex post*[302]. Private enforcement costs include system costs and monitoring costs, both considered relatively low. Indeed, many cases are settled outside the court and thus the system costs are relatively low. Litigation costs include informational costs associated with the investigation of the law infringement, the procedural costs and the costs associated with the establishment of the damage and the causal link between the infringement and the harm. In cases that are trialed, the

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[298] See *inter alia* Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, Journal of Law and Society 35, 389-416. Garoupa, N., 1997. The Theory of Optimal Law Enforcement, *Journal of Economic Surveys* 11, 267-295. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Polinsky, A. M., Shavell, S., 2000. The Economic Theory of Public Enforcement of Law, *Journal of Economic Literature* 38, 45-76. Posner, R. A., 1977. *Economic Analysis of Law*, 2d edition.(Little Brown, Boston).

[299] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.

[300] Becker, G. S., 1968. Crime and Punishment: An Economic Approachibid. 76, 169-217.

[301] Shavell, S., 1984. Liability for Harm Versus Regulation of Safety, *Journal of Legal Studies* 13, 357-374. Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.38.

[302] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.36.

costs of lawyers and courts have to be added to the system costs. To summarize, the costs of private enforcement include time, effort, private legal expenses, and public expenses of conducting trials[303].

Public enforcement can be administrative or criminal[304].

Administrative law is composed of norms formulated *ex ante,* implying costs of normative set-up, formulation and maintenance. Regulations can be issued by different authorities, which can lead to problems of inconsistency[305] and competence competitions. Administrative enforcement of laws usually implies successive steps such as monitoring of regulatory requirement, inspection, warning, and investigation by the agency staff and possibly by specialists. These actions are expensive as they entail the verification of all behaviors (not only the deviant ones must be checked). Finally, administrative law does not provide for socially incapacitating sanctions, which are the most costly sanctions to enforce.

Criminal law is associated with the highest enforcement costs[306]. The different stages of criminal prosecution include investigation, interrogation, collection of evidence, and possible detention. The litigation is usually longer than for an administrative enforcement[307] because of the high procedural requirements[308]. There can usually be up to two appeals. The people involved in the criminal procedure include the Prosecutor, the investigator, the lawyers, the police, the judge and possibly the center of incarceration staff. Criminal sanctions may imply social incapacitation and therefore be associated with high enforcement costs. The cost of criminal law enforcement includes the maintenance of the entire public system (prison, courts,...).

In conclusion, private enforcement appears to be less costly than public enforcement. Despite that, the use of public enforcement seems indicated under specific circumstances.

3.2 LEVEL OF HARM OR GAIN AND PROBABILITY OF DETECTION

Becker's model of optimal enforcement establishes that a violation can be deterred if the expected costs of a violation are higher than its benefits[309]. Expected costs include the expected sanction, which results from a combination of the probability of detection and the severity of the sanction. Therefore, in order to attain optimal deterrence when the probability of detection is low or when the gain or the harm is high, more severe sanctions are needed in order to compensate[310].

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[303] Shavell, S., 1984. Liability for Harm Versus Regulation of Safety, *Journal of Legal Studies* 13, 357-374.
[304] Section 4.3 is dedicated to the administrative and criminal nature of sanctions.
[305] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.36.
[306] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[307] Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).p.94.
[308] See 4.3.3.3.
[309] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.
[310] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

A problem with private law enforcement may occur when the probability of detection of a wrongdoing can be low or the level of harm or gain high.

3.2.1 Relative sanction available to private and public laws

One of the major weaknesses of the private law enforcement lies in the available sanctions. It is well known from the literature that if the probability of bringing a law suit is less than 100%, the sanction for deterring a potential insider should be correspondingly high. Similarly, the more harmful or profitable an activity is, the more it should be controlled[311] and therefore potentially imply the use of a highly coercive enforcement mechanism[312]. This effect cannot be achieved through private enforcement in most European legal systems since tort law in principle only forces the injurer to compensate the victim in the amount of damage suffered. These compensations are exclusively monetary[313]. All in all, private law does not aim to punish[314]. Consequently, in cases where the probability of detection is less than 100% and the damage or the gain is high, private law remedies may not be considered appropriate[315]. Public enforcement is called for to outweigh the low detection rate and high gains.[316] Hence, public sanctions have the potential to be set at the adequate levels and to be imposed on the offender in one proceeding rather than in numerous individual trials before court. Moreover, certain types of non-monetary sanctions, such as incarceration, are exclusively available to public enforcement through criminal enforcement of law[317]. Punishment may be necessary for deterrence and public enforcement enables to achieve this punishment[318]. This constitutes a strong argument in favor of public enforcement in case of a low probability of detection[319],

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[311] Polinsky, A. M., 1980. Private Versus Public Enforcement of Fines, *Journal of Legal Studies* 9, 105-127.

[312] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.

[313] One of the biggest problems with private enforcement is its potential inability to impose severe monetary sanctions or non-monetary sanctions on wrongdoers like revoking licenses. See Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, Journal of Financial Economics 93, 207-238. See Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.

[314] Kennedy, A., 2004. Justifying the Civil Recovery of Criminal Proceeds, *Journal of Financial Crime* 12, 8-23.p.8. Skogh, G., 1973. A Note on Gary Becker's Crime and Punishment: an economic approach, *Swedish Journal of Economics* 75, 305-311.

[315] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Private law sanctions might not allow to outweigh low probabilities of detection and conviction. Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.).p.5: "A final reason why public monitoring of insider trading is desirable also concerns the low probability of detection. Where probability of detection is low, very high penalties are necessary to deter potential lawbreakers. Thus the appropriate penalty for violating an intrafirm prohibition on insider trading may include fines that are greatly above the damages associated with the activity or even imprisonment of offenders".

[316] See Skogh, G., 1973. A Note on Gary Becker's Crime and Punishment: an economic approach, *Swedish Journal of Economics* 75, 305-311. Skogh, G., Steward, C., 1982. An Economic Analysis of Crime Rates, Punishment and the Social Consequences of Crime, *Public Choice* 38, 171-179. Polinsky, A. M., Shavell, S., 2000. The Economic Theory of Public Enforcement of Law, *Journal of Economic Literature* 38, 45-76.

[317] This issue will be addressed in Chapter 4.

[318] Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).p.81.

[319] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

large harm and high gain.

Nevertheless, it could be possible to compensate for the low probability of detection through civil law by increasing the amount of compensation payable by the injurer under tort law. This is precisely the idea behind the concept of punitive damages that may be a way of reducing the necessity of public enforcement.[320] The more the working of private enforcement can be improved, the less public enforcement is needed. However, many legal systems are reluctant to introduce it.

3.2.2 Relative access to information

Access to information has a direct impact on the probability of detection and the prosecution of a violation. It is an important determinant in designing an economically optimal system of enforcement. Hence, information is crucial to initiate and to win a lawsuit. In civil court, most of the evidence concerning the case and the wrongdoer is provided by the parties themselves[321]. If private parties have a relative informational advantage in discovering law infringement (it isn't very difficult, neither very costly, to discover an infringement, the identity of the law infringer and the location of the infringement) then it may not be socially desirable to involve the state in enforcement activities. Hayek is famous for sustaining the advantage of the market system over a centrally planned economy from an informational efficiency point of view[322]. According to him, private individuals have a comparative advantage in getting *knowledge about specific circumstances of time and place*, which would be impossible to communicate to a central authority. This decentralized knowledge may be more important than any scientific centralized knowledge.

On the contrary, an imperfect detection by private parties or an informational advantage of the public enforcer in detecting the harm makes public enforcement preferable[323]. Indeed the information related to the infringement itself may be too technical or difficult to be identified or understood by a private party[324]. It can be a problem if special expertise is needed for the evaluation of the infringement[325]. Not every victim is in position of or competent enough to identify an injury. In that respect, public agencies sometimes possess more extensive expertise, experience and resources than private parties[326] in the case of specific matters. Public enforcement

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[320] See Cooter, R., 1982. Economic Analysis of Punitive Damages, *Southern California Law Review* 56, 97-101. Landes, W. M., Posner, R. A., 1981. An Economic Theory of Intentional Torts, *International Review of Law and Economics* 1, 127-154.

[321] Weber, F., 2011. Assessing Existing Enforcement Mechanisms in Consumer Law - the Unavailability of an Allrounder, *Swedish Journal of European Law* 3, 536-554.

[322] Hayek, F., 1988. *The Fatal Conceit: The Errors of Socialism*, W. W. Bartley, III edition.(The University of Chicago Press).

[323] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam). Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.p.413.

[324] Miceli, T., 2004. *The Economic Approach to Law*(Stanford University Press, Stanford).

[325] Shavell, S., 1984. Liability for Harm Versus Regulation of Safety, *Journal of Legal Studies* 13, 357-374.

[326] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238. Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.).p.5: "In addition, detecting insider trading is difficult. For one thing, insiders can disguise their identities and trade through proxies and foreign

offers specific tools to enhance revelation of information. It is very typical that public enforcers practice controls and inspections of market actors. For instance, monitoring disclosure requirements, periodic examination, inspections, and consistent accounting rules are publicly enforced measures[327] that private parties would find difficult to devise on their own, to update, and to enforce even though they may play a key role in the private enforcement process[328]. Moreover, private parties may be given investigative powers to detect infringement. Finally, it is also important to mention that some aspects of private enforcement directly depend upon public enforcement. Indeed, very often the private enforcer can rely on the precited effort of the public enforcement and hence follow upon enforcement.

As addressed in the introduction to Title I, insider trading has the characteristic to be immaterial and diffuse. It is most often close-relations to the insider that are able know about the illegal insider trading, thanks to their relationship[329]. From that respect private parties may have an advantage in accessing specific information about a specific trade. However, in general, the *anonymity* and the *immaterial* aspect of the securities markets make the identification of the injurer and of the insider trading particularly difficult and costly[330]. Therefore, the difficulties faced by private parties in accessing information relative to insider trading may thus hinder private litigation.[331]

On the contrary, as mentionned in the introduction of Title 1, most of the competent authorities in charge of detecting insider trading use techniques of detection that are based on the examination of abnormal trading activities [332]. A part of the scholarly literature openly critiques these methods[333] as they argue that a significant volume of insider trading may not be detected through them[334].

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intermediaries. The difficulty of detection presents a problem for firms attempting to enforce any contracts that restrict the trading activities of insiders and others. While this difficulty should not prevent firms from deciding for themselves what sort of prohibitions to allow, public enforcement of intrafirm prohibitions might be desirable. Considerable economies of scales are likely to be associated with the monitoring of insider's activities".

[327] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam). Administrative law is an *ex ante* tool that might require to comply with certain behavior or incentivize actors to disclose information and make the information more predictable.

[328] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[329] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

[330] Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston).

[331] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

[332] Olmo, J., Pilbeam, K., Pouliot, W., 2009. Detecting the Presence of Informed Price Trading Via Structural Break Tests, *Department of Economics Discussion Paper Series No. 09/10*.p.19. Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.p.260. Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588.

[333] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.p.260. Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588.

[334] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

Looking at the empirical literature, the study of Meulbroek showed that the first source of detection of insider trading cases appears to be the public complaint (41%), followed by the security exchange referrals (31%), the SEC investigations (9%) and press stories (9%).[335] These numbers show that the detection of insider trading cases emanate from both private and public sources. This would suggest that both public and private enforcer have advantages in accessing information regarding specific circumstances of trades. If information about specific circumstances of time and place of a trade and the identity of the wrongdoer may sometimes be easier to obtain for some private parties, a public enforcer may have an advantage over private parties in collecting and processing technical or difficult information related to abnormal prices and volume movements due to insider trading. This would therefore testify of a need to publicly enforce insider trading regulation.

3.3 INCENTIVE TO SUE

In the trade-off between private and public enforcement, one of the most important criteria is whether potential victims have sufficient incentives to file a lawsuit under private law.

The possible misalignment of the private and social interests[336] and motives tend to misalign when it comes to investing in law enforcement and filing a lawsuit. This explains why individual and social cost-benefit analyses can diverge. In some cases, a private party would engage in a case that would never be pursued by the competent public authority or even brought to its attention[337]. This is because, first of all, private enforcement accomplishes a direct compensation of the victims, which can complement the more indirect compensation of the victim realized by public enforcement. Moreover, limited budgets do not allow the public enforcer to deal with all cases. Finally, the selection of cases may sometimes be biased, due to the self-interest of the agencies.

As opposed to this, the literature has presented imperfect enforcements of the law by private parties. A private victim may for example suffer substantial damage but never choose to bring a suit. This section examines the different situations where private parties may lack incentive to sue.

3.3.1 Gains and expenses of private claim

A plaintiff's incitation to sue is driven by the gains and expenses of his claims. Therefore, private parties are supposed to initiate legal proceedings if the private benefits are higher than the private costs[338]. The private benefits are the monetary

[335] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York), Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.
[336] Shavell, S., 1997. The Fundamental Divergence Between the Private and the Social Motive to Use the Legal System, *Journal of Legal Studies* 26, 575-612. Shavell, S., 1982. Social versus the Private incentive to Bring Suit in a Costly Legal System, *Journal of Legal Studies* 11. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).
[337] Coffee, J., 1983. Rescuing the Private Attorney General: Why the Model of the Lawyer as Bounty Hunter Is Not Working, *Maryland Law Review* 42, 215-217.
[338] Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287.

transfer obtained from damages while the private costs are the litigation costs (informational costs associated to the investigation of the law infringement, the procedural costs, and the costs associated to the establishment of the damage and the causal link between the infringement and the harm).

Regarding insider trading, Jackson and Roe report that private securities lawsuits usually provide quite *small returns to the plaintiffs*[339]. Moreover, a point is also made in the literature that private enforcement mechanism may be costly for the private party. Indeed, for instance, lawyers obtain large fees from both sides; this can derive to a *rent seeking*[340] *situation.*

Here again, one possible way to remedy the lack of incentive to sue in civil law due to lack of financial compensation, would be in fact to increase the amount of compensation payable by the injurer under tort through the use of punitive damages[341].

3.3.2 Dispersed ownership, rational apathy and private interests

"The diffuseness of the losses weakens the effectiveness of private monitoring and enforcement and strengthens arguments in favor of public enforcement either through regulation or criminalization[342]".

Private parties initiate private enforcement. Therefore, one of the most sensitive aspects of private enforcement within insider trading prohibition may reside in *dispersed ownership*. As previously mentioned, the potential number of victims affected by insider trading can be quite large, and the harm, diffuse. However, since their personal loss can be relatively small, private parties may suffer from what is known in the literature as a rational apathy or a rational disinterest problem[343], leading them to abandon the idea of bringing a lawsuit[344]. Therefore, dispersed ownership may affects shareholders' capacity to litigate effectively, or to take remedial actions to control insider misbehavior[345].

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[339] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[340] Coffee, J., 2006. Reforming the Securities Class Action: an Essay on Deterrence and its Implementation, *Columbia Law Review* 106, 1534-1586.

[341] See Cooter, R., 1982. Economic Analysis of Punitive Damages, *Southern California Law Review* 56, 97-101. Landes, W. M., Posner, R. A., 1981. An Economic Theory of Intentional Torts, *International Review of Law and Economics* 1, 127-154.

[342] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.p.412.

[343] See Van den Bergh, R., 2007. *Should Consumer Protection Law Be Publicly Enforced? An Economic Perspective on EC Regulation 2006/2004 and its Implementation in the Consumer Protection Laws of the Member States*(Europa Law Publishing, Groningen).p.179, 203. Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Jensen, M. C., Mackling, W. H., 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure, *Journal of Financial Economics* 3, 305-360. Schäfer, H.-B., 2000. The Bundling of Similar Interests in Litigation. The Incentives for Class Actions and Legal Actions taken by Associations, *European Journal of Law and Economics* 9, 183-223. Shavell, S., 1984. Liability for Harm Versus Regulation of Safety, *Journal of Legal Studies* 13, 357-374.

[344] Landes, W. M., Posner, R. A., 1975. The Private Enforcement of Lawibid. 4, 1-46.

[345] Jensen, M. C., Mackling, W. H., 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure, *Journal of Financial Economics* 3, 305-360.

A solution to the rational apathy problem can be to allow *group action*.[346] Group action can either be collective actions or representative actions, brought on by associations. However, the literature has pointed out limits to the benefits of collective action. Indeed, because of the involvement of private interests, a private enforcement may be misdirected[347]. For instance, class action attorneys may control the litigation in a way that does not truly benefit all the dispersed shareholders. Above all, in cases where collective action is possible, private enforcement may be subject to a *free rider* effect amongst dispersed investors, in which every victim leaves the enforcement efforts up to the other victims in order to benefit from the gains without spending their own resources[348].

Finally, private enforcement may face the problem of private interests involvement. Meulbroek mentioned that private parties who get to know about an insider trading act are most often relatives[349]. For this reason, it is first of all possible that they are in position to benefit from the act. In that context they have no motivation to file a complaint. Furthermore, the private enforcement of insider trading law may not be satisfactory when it concerns a certain kind of corporate wrongdoing. Victims may fear *retaliation or feel sympathy for the wrongdoer*[350]. For instance, the literature demonstrates that director liability is rare within private shareholder lawsuits[351].

3.3.3 Public harm

Legal rules are not only made to protect private interests but also more *generally to protect the interests of society*. Hence, in situations where private and social interests and incentives do not coincide, there is a risk of under (or over) enforcement of the law by private parties[352]. In this case, a public enforcement mechanism seems to be

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[346] See on those issues Keske, S., Renda, A., Van den Bergh, R., 2010. *Financing and Group Litigation* (Edward Elgar, Cheltenham). (in Tuil, M. and Visscher, L. (eds.), *New Trends in Financing Civil Litigation in Europe - a legal, empirical and economic analysis*)pp.57-91. See Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.41: "For individual victims these costs are almost by definition insurmountable but associations might acquire adequate funding for such investigations by charging their members a membership fee or by means of sponsoring. Thanks to group actions economies of scale can be achieved (...) After all, the costs of the lawsuit decrease while the probability of winning the suit (and thereby the expected utility as well) increases if multiple plaintiffs have larger financial means, enabling them to have better access to evidence and get better legal advice. The problem of rational apathy is therefore reduced", p.44: "Collective actions may overcome the inefficiencies of private enforcement to some extent but cause problems of their own".

[347] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[348] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam). Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[349] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699. See introduction to Title 1.

[350] Garoupa, N., 2001. Punish Once or Punish Twice: A Theory of the Use of Criminal Sanctions, *German Working Papers in Law and Economics* 6, 410-433.

[351] Black, B. S., Cheffins, B. R., Klausner, M., 2006. Outside Director Liability, *Stanford Law Review* 58, 1055-1159.

[352] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

indicated in order to reach an optimal level of enforcement[353]. For instance, as described in Chapter 2, insider trading matters typically concern public order and market interest. The words of US District Judge Richard J. Holwell, who pronounced the sentence of Raj Rajaratnam in 2011, illustrate this purpose. He termed insider trading as "an assault on the free markets that are fundamental elements of our democratic society. There may not be readily identifiable victims, but when the playing field is not level, the integrity of the marketplace is called into question and the public suffers".[354]

In that respect, it is likely that private parties do not feel personally involved in *protecting the market interest*[355] *and the financial public order*[356]*,* nor in achieving *general deterrence*[357]. Moreover, in practice, the detection of insider trading may require the use of centralized oversight of trading markets. In that respect, private parties may have difficulties in efficiently maintaining these kinds of functions and may not be ideally situated to *undertake public regulatory functions used for capital markets*, mainly because of the transaction costs and the lack of personal interest. On the contrary, market and securities public agencies are usually *experts* and aware of the technical infringement, which can allow them to control compliance with technically complex rules and prove violations[358].

Consequently, laws relating to types of public harm may be better enforced by public mechanisms.[359]

3.4 SUMMING-UP: PUBLIC ENFORCEMENT FOR INSIDER TRADING LAWS

Considering the costs of enforcement, private enforcement should be preferred to public enforcement from an economic point of view whenever it can provide an equivalent deterrence effect. However, Becker's model of optimal enforcement establishes that in order to attain optimal deterrence when the probability of detection is low or when the gain or the harm is high, more severe sanctions are needed in order to compensate[360]. From that perspective, public enforcement has an advantage because it provides for the most stringent sanctions. Private litigation of insider

[353] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

[354] See http://wjlta.wordpress.com/2011/10/14/non-monetary-punishment-for-insider-trading/ accessed the 08-10-2013, DiMarino, F., Roberson, C., 2013. *Introduction to Corporate and White-Collar Crime*(CRC Press).p.208.

[355] The definition of the market interest being "a superior collective interest, a sort of general interest, which is intended to subordinate the individual interests of the stakeholders", Muller, A.-C., 2007. *Droit des Marchés Financiers et Droit des Contrats*(Economica, Paris).

[356] Cf. Chapter 2.

[357] Shavell, S., 1997. The Fundamental Divergence Between the Private and the Social Motive to Use the Legal System, *Journal of Legal Studies* 26, 575-612.

[358] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[359] Ibid, Weisburd, D., Stanton W., Waring, E., Bode, N., 1991. *Crimes of the Middle Classes: White Collar Offenders in the Federal Courts*(Yale University Press, New Haven). "Systemic risks and liquidity crises are not readily remedied by private contracts or ex post litigation, as the recent world-wide financial interventions illustrate, but are tasks for the public regulators".

[360] Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

trading may constitute a problem, mainly because of low probability of detection, potential high harm or gain derived from insider trading and low incentive to enforce the law (no sufficient financial gain, rational apathy, personal interest, dispersed ownership, public harm).

In summary, there is a need for stringent sanctions through public enforcement of laws in case of:

- Low probability of detection
- High social harm
- High gain
- Low incentive to enforce the law by private parties (No sufficient financial gain, rational apathy, dispersed ownership, private interest, public harm)

Considering the characteristics of insider trading potential harm, gain, probability of detection, and the low incentives to enforce the law of private parties, the first lesson to learn from an economic perspective is that the optimal enforcement of insider trading law appears to necessarily be a combination of private and public enforcement. The public enforcement is necessary in cases where private enforcement is likely to fail. In contemporary Europe, this may often happen for previously mentioned reasons.

Furthermore, at a policy level, it may then be very interesting to look at alternatives to improve the functioning of private enforcement and address private enforcement's weaknesses, thus reducing the need for public enforcement. As mentioned in this chapter, the lack of incentive to enforce the law due to insufficient financial gain or low available sanctions of private enforcement may be remedied by increasing expected sanction with *punitive damages*. Moreover, rational apathy could be solved by allowing *collective actions*. To the extent that rational apathy relates to the costs of the legal procedure, *conditional fee arrangements* could also provide an incentive to sue for potential victims, thereby shifting the risk of the legal procedure to the lawyer.[361]

In this respect, US law evolved in the past decades towards a facilitation and improvement of these specific weaknesses of private enforcement[362]. Meanwhile, EU law reforms tend to develop public enforcement, as it will be discussed in chapter 5 and 6. It is interesting to note that most European legal systems today largely prohibit contingency fees, collective action and punitive damages (although there are some nuances). There may be some steps towards considering to allow some of these devices[363] and collective action as a mechanism, in order to improve private enforcement of competition law at EU level. Moreover, in legal doctrine, the introduction of punitive damages is actively discussed.[364] However, most of these

[361] See Faure, M., Fernhout, F., Philipsen, N., 2010. *No Cure, No Pay and Contingency Fees*(Edward Elgar, Cheltenham). in Tuil, M. and Visscher, L. (eds.), *New Trends in Financing Civil Litigation in Europe - a legal, empirical and economic analysis*, 33-56.
[362] Seligman, J., Loss, L., 2003. *Fundamentals of Securities Regulation*, 5th edition.(Apsen).
[363] There is certainly a debate at the European level about the development of collective action. See Micklitz, H., Stadler, A., 2006. The Development of Collective Legal Action in Europe, especially in Germany, *European Business Law Review* 17, 1473-1503.
[364] Meurskens, R. C., Nordin, E., 2012. *The Power of Punitive Damages, Is Europe Missing Out?*(Intersentia, Antwerp).

initiatives have not yet been implemented.

CHAPTER 4. THE OPTIMAL SANCTIONS FOR INSIDER TRADING: EXPECTED SANCTION, FORM AND NATURE

Once accepted that public enforcement is necessary to enforce insider trading laws, the next issue relates to the optimal sanctions for insider trading under a public enforcement regime.

This section develops the theory of optimal enforcement of laws in the very specific perspective of optimal sanction matters, in addition to what has been briefly set out in the introduction to Title 1.

The main idea brought to light by the literature is that the mandatory rule of law is not sufficient to ensure spontaneous compliance. Indeed, individuals may voluntarily not comply with the law[365]. Nevertheless, deterrence and compliance with the law can be strongly influenced by an efficient and coherent system of sanction determination.

Sanctions may be of different magnitude and probability (4.1), form (monetary or non-monetary), type (4.2) and nature (criminal or administrative) (4.3). Their implementation does not generate the same costs, neither for the perpetrator nor for the enforcer. These parameters should be taken into consideration in order to accurately determine how to effectively deter wrongful behaviors and how to optimally enforce the law.

4.1 THE EFFICIENT SANCTION SETTING

According to the deterrence model mentioned in the introduction to Title 1, numerous legal and economics scholars assert that, under the sign of *equivalence* and *proportionality*, sanctions should be sufficient but not excessive in order to operate optimal deterrence[366]. Magnitude and probability have to be relevantly combined in devising an optimal proportional sanction in order to reach the objective of an *optimal level of deterrence* produced in society. Proportionality is supposed to ensure that sanctions are more predictable, less arbitrary and thus more appropriate for deterring the conduct at issue. This section shows a certain analogy and connection between notions contained in the legal, economic and law and economics literature. Furthermore, it should be mentioned that the reasoning based on utility and proportionality of the sanction is not strictly limited to economics and to common law countries: it is also a component that often appears in civil law contexts[367].

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[365] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

[366] Poncela, P., 2001. *Droit de la Peine*(PUF, Paris).

[367] It is relevant, in the framework of this analysis, to mention that these notions of equivalence and proportionality of the sanction also appear in "continental civil law" doctrine. As an illustration, the author Marc Domingo is particularly interested in the criminal sanction as an iconic representation of the sentence: "The function of the sanction is first and foremost to inflict suffering and to be endured by he who it strikes as a painful event, of which he fears the perspective and wishes the end. The sanction, and above all the imprisonment sanction, is a punishment which, through the mediation of the repressive apparatus, a state institution, expresses the resentment of the community when facing a major transgression of its rules of conduct. For centuries, criminal justice has thereby been a substitute mechanism to private vengeance, which is effectively its prime social utility, but also and foremost the instrument of a rational and controlled regulation of public condemnation. From the day in which this

4.1.1 Individual level: The sanction as a "price"

When applying the rational choice theory to legal decision-making, the deterrence mechanism resides in the fact that the cost incurred by the penalty (its "price") is greater than the benefit of the offense[368].

Therefore, following the utilitarian perspective, *sanctions can be perceived as similar to market prices* that must be paid in order to adopt a certain behavior, thereby translating the willingness of wrongdoers to face sanctions[369].

However, according to Shavell, the willingness to face sanctions for harmful acts does not imply that committing such acts is socially desirable. He insists on the differentiation of social value and private value of illegal gains[370]. He argues that optimal enforcement of law is precisely characterized by under-deterrence because of the costliness of enforcement efforts and limits on sanctions, which in turn may not discourage wrongdoers, as ideally expected.[371]. This position was recently reaffirmed in a work of Bowles, Garoupa and Faure[372].

4.1.2 Policy level: Optimal deterrence, expected sanction, probability and magnitude

An expected sanction is composed of a probability and a magnitude: the challenge for the policymaker is to elaborate an expected liability through an appropriate

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function is altered, criminal law grows weak. From the day it fades away, it disappears. It isn't that the deterrent role, or the role of intimidation, the curative, or the correcting functions, are without importance. But the ontological identity of criminal law fundamentally lies upon the integrity and the prevalence of this concept of punishment, from which derives the retributive function of the criminal sanction. As a result, on a strictly philosophical and legal level, the objective of efficiency is reached as soon as the inflicted sentence, whatever the virtue of its exemplary nature may be, and whatever the satisfaction granted to victim and prospects for the future given to the condemned, subjects the latter to a harm at least equivalent to the one he has caused." See Domingo, M., 2003. *Réflexions sur l'Efficacité de la Sanction Pénale*(Economica). Professor Langlais wrote that the law and economics approach of criminal law offers a relevant alternative to simplistic social and biologic determinism to describe criminal rational behaviours. He comments that this vision implies consistent criminal regulations policies implications. See Langlais, E., 2011. Analyse Economique et Droit Pénal: Contributions, Débats, Limites, *Economix Working Paper* 2011-33.

[368] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.198: "One argument made against fines is that they are immoral because, in effect, they permit offenses to be bought for a price in the same way that bread or other goods are bought for a price. A fine can be considered the price of an offense, but so too can any other form of punishment; for example, the "price" of stealing a car might be six months in jail. The only difference is in the units of measurement: fines are prices measured in monetary units, imprisonments are prices measured in time units, etc. If anything, monetary units are to be preferred here as they are generally preferred in pricing and accounting".

[369] Cooter, R., Ulen, T., 2011. *Law and Economics*, 6th edition.(Prentice Hall).p.3. See Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

[370] Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262. Shavell, S., 1997. The Fundamental Divergence Between the Private and the Social Motive to Use the Legal System, *Journal of Legal Studies* 26, 575-612.

[371] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[372] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

combination of these two components in order to reach the objective of an optimal level of deterrence produced in a society.

Magnitude of the sanction

The magnitude of a sanction sets the severity of a punishment in accordance with the proportionality principle.
One concern in the theory of optimal deterrence is whether sanctions should be based on the *gain or on the harm* derived from the violation[373]. First, according to the gain-based sanction method, the sanction should be set proportionally to the benefits achieved by the offender through the violation[374]. Second, according to the harm-based sanction, the sanction should be set proportionally to the level of social harm created by the violation.
The essential difference between the two methods is that gain-based sanctions deter all kinds of violations by clearing any benefit gained from violation, whereas harm-based sanctions will only deter violations that cause inefficiency: efficient violations can still take place[375]. A violation is said to be efficient when the actor's private gain is greater than the social cost of the violation. In that case, the violation leads to a positive social welfare. Therefore, the choice of method may here depend on what is believed to be the *primary goal of securities law*. Under this logic, the harm-based method should be preferred if the goal is to maximize total economic welfare. On the contrary, if the goal is to prevent wealth transfers from shareholders to insiders, then the gain-based method should be favored[376]. In that respect, some commentators argue that a harm-based sanction system may be preferable because it allows to achieve an *internalization goal*[377]. Indeed, it encourages potential wrongdoers to have socially correct incentives when engaging or not in a risky activity and to take the possible precautions to reduce social harm[378] by adjusting their behavior directly to the proportional expected sanction. This last argument is related to the marginal deterrence argument[379]. Moreover, Shavell and Polinsky show that, with the gain-based method, parties may be under-deterred to commit an act if they consider the possibility of judgment error, which could eventually result in an underestimation of their benefit. On the contrary, if the sanction is proportional to the harm the parties

[373] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[374] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Van den Bergh, R., 2007. *Should Consumer Protection Law Be Publicly Enforced? An Economic Perspective on EC Regulation 2006/2004 and its Implementation in the Consumer Protection Laws of the Member States*(Europa Law Publishing, Groningen).p.196. Poncela, P., 2001. *Droit de la Peine*(PUF, Paris). See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.888: "In some contexts the private gains might be identified at little cost. If this is the case, the fine (and possibly the probability) could depend on the private gain".
[375] Oded, S., 2012. *Inducing Corporate Proactive Compliance: Liability Controls and Corporate Monitors*(Rotterdam Erasmus University, Rotterdam).
[376] OECD, 2008. *OECD Policy Brief: Remedies and Sanctions for Abuse of Market Dominance*. p.4
[377] Polinsky, A. M., Shavell, S., 2000. The Economic Theory of Public Enforcement of Law, *Journal of Economic Literature* 38, 45-76. Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.
[378] Polinsky, A. M., Shavell, S., 1998. Punitive Damages: An Economic Analysis *Harvard Law Review* 111, 869-962.pp.879-882.
[379] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.

will be strongly discouraged from committing the act, even if the harm is underestimated[380].

However, *in practice*, insider trading potential harm is complicated to observe and quantify. As already described in Chapter 2 and the introduction to Title 1, insider trading is considerably harmful from a fairness point of view. It may be difficult and controversial to accurately assess insider trading potential harm. Comparatively, the gain yielded by insider trading is easier to assess. As previously mentionned in the introduction to Title 1 three different studies concerning different periods have established a median average gain obtained or loss avoided by insider trading of about $25,594[381]. For instance, looking at current regimes, most EU countries practice a gain-based sanction system.

Finally, information about the magnitude of sanctions and its perception by individuals may also be imperfect. Indeed, the final decision regarding magnitude also belongs to the judge, who enjoys relative discretion over sanctions[382]. Consequently, the magnitude of sanctions may also be difficult to assess for individuals.

Probability of the sanction

The probability of sanction represents an enforcement effort level, which is a dependent variable that determines the possibility of resorting to sanctions. It results from several policy decisions concerning parameters of enforcement such as monitoring, detection, control and procedural rules on the burden of proof and the disclosure of the evidence (etc.)[383]. The extent of law enforcement depends on the amount of resources devoted to the task established, in turn depending on many factors including staff and budget[384]. Therefore, it appears that the probability of sanction is an ambiguous parameter to identify[385].

From an economic point of view, as mentionned in the introduction to Title 1, the probability of sanction results from the combination of the probability of detection and the probability of conviction.

After having determined the probability of sanction, commentators recommend to multiply the basic amount by the inverse of the likelihood of sanctions. For example, for a 10% probability of sanction, the basic sanction amount should be multiplied by ten. If there is a 50% chance of being sanctioned, then the amount should be

[380] Shavell, S., Polinsky, A. M., 1994. Should Liability be Based on the Harm to the Victim or the Gain to the Injurer?, *Journal of Law, Economics and Organization* 10, 427-437.
[381] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699. Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.
[382] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[383] Ibid.
[384] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.
[385] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

multiplied by two[386]. In any case, these theoretical methods of calculation of multipliers are based on the availability of relevant data, which in reality may be difficult to collect. However, the detection of an illegal behavior partially depends on the apparently unstable circumstances of the violation's occurrence. Because of cost constraints, the probability of detection and conviction is always less than 100%. To take an example, a relatively easy violation to detect, such as a public abusive conduct, carried out in the open and therefore easy to detect, should be adjusted with a low multiplier. On the contrary, as developed in the introduction to Title 1, insider trading tends to be potentially difficult to detect and to prove. The main reason is the very secretive nature of insider trading and the difficulty in establishing material evidence and the eventual proof of intent necessary to its conviction. The multiplier should therefore be set correspondingly quite high.

Optimal expected sanction: Combination of probability and magnitude

The optimal design of enforcement thus requires to combine the magnitude and the probability of sanction in order to obtain the optimal expected sanction. To take a concrete example: in order to get an expected sanction of 500, several combinations can be considered. For instance, a first option could be a magnitude of 500 associated with a probability of 100 %, a second could combine a magnitude of 1,000 with a probability of 50% and last, a magnitude of 5,000 associated with a probability of 10%. The subsequent question is whether there is any reason to prefer one combination to the other from an economic point of view.

Part of the literature supports an economically advantageous policy combining a *less certain probability of detection and a severe sanction*[387]. The reason behind this stance is that a high magnitude of the sanction is considered less costly to implement than maintaining a high level of probability[388].

However, a series of arguments rises against the use of a high magnitude versus low probability combination in a systematic way.

(i) Monetary sanction: Risk of insolvency

[386] Bentham, J., 1789. *Introduction to the Principles of Morals and Legislation*(reproduction in "The Utilitarians", Rept. Garden City NY: Anchor Books, 1973, Paris). OECD, 2008. *OECD Policy Brief: Remedies and Sanctions for Abuse of Market Dominance*.p.5.

[387] One of the two majors propositions that Gary Becker formulates in his seminal article of 1968 directly relate to that issue. Indeed, his first proposition is based on the assumption that monetary fine are less costly to implement than an increased apprehension. Therefore Becker recommends to set the probability of apprehension as low as possible, with the corresponding fine as high as possible. It is designated as the "low probability - high magnitude" proposition. See Becker, G. S., 1993. Nobel Lecture: The Economic Way of Looking at Behavior, *The Journal of Political Economy* 101, 385-409. Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891. Polinsky and Shavell agrees on that proposition in the case where risk neutral individuals are targeted.

[388] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217, Cooter, R., Ulen, T., 2011. *Law and Economics*, 6th edition.(Prentice Hall). Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.

The first evident reason, regarding monetary sanctions, relates to the capacity of payment of the individuals. The *wealth constraint* should be taken into consideration and optimal fines should be relative to the wealth of the convicted[389].

(ii) Costs of implementation

A second argument relates to the fact that the costs of implementation of a sanction[390] may increase with its magnitude[391]. Indeed, the more the sanction is severe, the more the wrongdoer may be encouraged to actually take steps in covering its activity and bear strategic costs in trying to escape the detection or to minimize the probability of conviction[392]. Furthermore, some authors even recommend to use policies that support and incentivize individuals to adopt legal conduct (for example grant protection and incentives to whistleblowers in the case of insider trading) in order to increase the cost of opportunity of an illegal conduct[393].

(iii) Marginal deterrence

If severity is always at its maximum for every violation, the wrongdoer may not factor this into his behavior[394]. This argument is related to the necessity of proportionality. In that respect, Bentham emphasized that the goal of a sanction is "to induce a man to choose always the least mischievous of two offenses; therefore where two

[389] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.pp.183-185, pp.191-193. Posner, R. A., 1977. *Economic Analysis of Law*, 2d edition.(Little Brown, Boston).pp.164-172. Landes, W. M., Posner, R. A., 1975. The Private Enforcement of Law, *Journal of Legal Studies* 4, 1-46.pp.10-11. See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.880: "It is frequently argued that the probability should be as low as possible. The only constraint on lowering the probability that is recognized is the inability of individuals to pay the fine; thus, the optimal fine implied by this argument equals an individual's wealth". Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.p.2: "the government should set the fine equal to an offender's entire wealth and complement it with the appropriate probability in order to achieve optimal deterrence".

[390] It should be considered that the literature does perhaps sometimes wrongly consider that raising the magnitude is costless, for the society as well as for the wrongdoer. See the work of Becker and Garoupa assuming that imposition of monetary sanctions to be costless: Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.p.1767: "A fine is a costless transfer from the convicted offender to the government". Shavell includes expenses related to legal proceeding, locating assets of a person, and forcing him to disgorge assets in the calculation of the effective social harm.

[391] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[392] Malik, A., 1990. Avoidance, Screening and Optimum Enforcement, *RAND Journal of Economics* 21, 341-353. Nussim, J., Tabbach, A., 2008. Controlling Avoidance: Ex-ante Regulation Versus Ex-post Punishment, *Review of Law and Economics* 4, 45-63.

[393] Friehe, T., 2008. Optimal Sanctions and Endogeneity of Differences in Detection Probabilities, *International Review of Law and Economics* 28, 150-155. Nussim, J., Tabbach, A., 2008. Controlling Avoidance: Ex-ante Regulation Versus Ex-post Punishment, *Review of Law and Economics* 4, 45-63.

[394] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536. Chu, C., Jiang, N., 1993. Are Fines More Efficient Than Imprisonment?, *Journal of Public Economics* 51, 391-413.

offenses come in competition, the punishment for the greater offense must be sufficient to induce a man to prefer the less".[395]

(iv) Enforceability of laws and clearance rate

If some authors provide evidence supporting the undeniable effect of sanction magnitude on deterrence[396], some empirical studies demonstrate the importance of the *actual enforcement in maintaining the law's effectiveness,* associated with the probability of detection. For instance, the scholarly literature shows that in insider trading mattersno law at all may be better than a good law that is not enforced[397]. Using data on the criminal prosecution process in Germany, a study of Entorf establishes that the variation of crime rates appears to be related to the public prosecutor activity and, therefore, to the probability of conviction rather than to the severity of punishment (which appears to have a small and insignificant impact). These findings lead to the conclusion that a high clearance rate is essential in deterring crime[398]. Another study of Frijns et al. demonstrates that the introduction of extremely severe sanctions may be ineffective due to the lack of successful prosecutions[399]. High sentences being usually secured with high standards of proof required (under criminal prosecution for instance). A systematic low probability-high magnitude combination may therefore imply poor enforceability due to the difficulty of successful prosecution, thereby undermining deterrence.

These studies underline the importance of the enforceability of laws and of the clearance rate, and emphasize the deterrence power of the probability of sanctions. If the severity of sanction is at its maximum but the probability of being convicted is very low, the deterrence objective may not be reached.

(v) Attitude towards risk and complementarity of probability and magnitude rather than substituability

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[395] Bentham, J., 1789. *Introduction to the Principles of Morals and Legislation*(reproduction in "The Utilitarians", Rept. Garden City NY: Anchor Books, 1973, Paris).p.171.

[396] Mendes, S. M., 2004. Certainty, Severity, and Their Relative Deterrent Effects: Questioning the Implications of the Role of Risk in Criminal Deterrence Policy", *The Policy Studies Journal* 32, 59-74.

[397] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.pp.2-3: "Theoretically and empirically (…) sometimes no corporate law may be better than a good corporate law that is not enforced. This is an important issue because a number of emerging markets have adopted corporate laws, but many of them have not enforced these laws.", p.28: "if a law is enacted but not enforced, only some will follow the law; the ones who do not follow the law will deviate with greater intensity in equilibrium, thereby causing law abiders more harm than they were incurring when there was no law. We next ask whether insider trading laws satisfy the above conditions. Our answer is sometimes they do. This happens when corporate insiders have very imperfect information, if the cost of acquiring perfect information is not too high nor too low, and if there are many who will not follow the insider trading law if the insider trading law is not enforced.", See Bris, A., 2005. Do Insider Trading Law Works?, *European Financial Management* 11, 267-312.p.310: "It is worse to have a regulation that fails to prosecute those who violate it (Mexico, Norway, Russia), than no law at all. The legal reform in countries that have started it - especially in Eastern European countries - should definitely take into account that laws that are not accompanied by good enforcement are useless at best".

[398] See Entorf, H., 2011. Crime, Prosecutors, and the Certainety of Conviction, *IZA Discussion Paper*.p.29.

[399] Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.230.

"Market participation depends, in some measure, on players' abilities to 'encapsulate' or 'frame' their risks, i.e. to transform uncertainty into more manageable, acceptable, and profitable risks"[400].

A perfect substitutability of magnitude and probability of sanction would imply that any kind of less costly combination leading to the same expected sanction is equally desirable. However, probability and magnitude are not always substitutable, and therefore the proportion of these different components really matters.

The literature identifies that the most probable reason why these variables may not be substitutable relates to a case where the social optimum involves under-deterrence[401] or where attitude towards risks influences the optimal combination of probability and magnitude of the expected sanction[402].

As often as decisions are made under uncertainty, attitude towards risks of individuals matters. Risk attitude has a serious effect on the appreciation of sanctions[403]. It does not affect the rational choice assumption in any manner, but in the framework of this study, it may be understood as distorting the relative appreciation of the magnitude and probability of the expected sanction[404]. It is important to mention this concept with respect to the consequences it may have on the optimal choice of magnitude and probability of sanctions[405]. An individual may anticipate the law differently depending on whether he is risk-neutral, risk-averse or a risk-seeker[406]. For that

[400] Reichman, N., 1991. Regulating Risky Business: Dilemmas in Security Segulation, *Law and Policy* 13, 263-295.p.264.

[401] Nuno Garoupa establishes that the variables of magnitude and probability of sanction are complementary in case of *under-deterrence* and that, therefore, the optimal probability of detection does not "monoticaly" decrease with the maximal fine. See Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.p.1768: "(the substitutability between fine and probability) only holds if the social optimum involves nearly full deterrence. If there is substantial underdeterrence (the expected fine is significantly less than the social damage caused by the offense), then there is a complementary relationship between the two variables. When the fine goes up, so should the probability of detection." The optimal probability of detection is not "monoticaly" decreasing in the maximal fine.

[402] Note that going further, one can ask wether the attitude towards risks may affect the optimal monetary or non-monetary form of the sanction, or the optimal administrative or criminal nature of the sanction. Shavell affirms that the attitude towards risk does not affect the recommendations concerning the form of the sanction: fines should always be used to their fullest extent before imprisonment Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). This point will be developed in the section dedicated to the form of the sanction. Concerning the nature of the sanction (administrative or criminal), there are not yet researches concerning the relation between risk aversion and the optimal nature of the sanction.

[403] Ibid.

[404] The perception and consequences of the probability of occurrence and magnitude of punishment are influenced by the individual's attitude toward risk. See ibid.pp.413-417 .

[405] Polinsky and Shavell introduced attitude towards risks considerations in optimal enforcement reflexions. Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891. Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[406] See Cooter, R., Ulen, T., 2004. *Law and Economics*, 4th edition.(Pearson).p.50-52. A risk-neutral individual has a constant marginal utility of income and is indifferent to a certain prospect of income or an uncertain prospect of equal expected monetary value. A person is risk-averse if he considers the utility of a certain prospect of money income to be higher than the expected utility of an uncertain prospect of equal expected monetary value. Finally a risk-seeking individual has an increasing marginal utility of income and, therefore, prefers an uncertain prospect of income to a certain prospect of equal expected monetary value.

reason, an efficient deterrence strategy should take into account an individual's risk bearing nature.

One may ask what does the risk bearing nature imply regarding the optimal combination of magnitude and sanction.

Risk neutral individuals are supposed to be indifferent to any kind of combination: for them, a high fine-low probability combination is optimal because it allows to achieve deterrence at the lowest possible cost. The reasoning also works with prison sanctions.[407]

Things are different when individuals are not risk-neutral.

To begin with, when individuals display a *risk-averse attitude towards sanctions* it means that their disutility of the expected sanction rises more than in proportion to the expected sanction[408]. Therefore, when risk aversion is introduced, compared to a situation of risk neutrality, the expected sanction can be lower and still operate a similar deterrence effect. This situation arises because the risk imposed on individuals subject to the sanction has to be taken into consideration in the calculation of welfare maximization. Moreover, risk-averse individuals prefer a *certain low sanction* over an uncertain high sanction[409]. Furthermore, the scholarly literature shows that risk aversion implies that optimal sanctions *should not be maximal*[410]. Finally, risk aversion is reputed to decrease with income[411].

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[407] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).pp.413-417. See Eide, E., Rubin, P. H., Shepherd, J.M., 2006. *Economics of Crime*(Now Publisher Inc).p.47. See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.

[408] See Langlais, E., 2006. Criminals and Risk Attitude, *Munich Personal Repec Archive Paper* 1149. Hence, risk-averse individuals may be more deterred by a more probable expected sanction (100%, x) than by a less probable expected sanction (50%, 2x). Consequently risk aversion may imply an optimal sanction lower than the maximum sanction. Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[409] Chu, C., Jiang, N., 1993. Are Fines More Efficient Than Imprisonment?, *Journal of Public Economics* 51, 391-413. Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891. Kaplow, L., 1992. The Optimal Probability and Magnitude of Fines for Acts that Definitely are Undesirable, *International Review of Law and Economics* 12, 3-11.

[410] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).pp.415-416: "risk-averse individuals are more easily deterred than risk neutral individuals, the fine does not need to be as high to achieve any desired degree of deterrence (…) due to risk aversion, the probability of detection that maintains deterrence falls more than proportionally, implying that the expected fine, and therefore fine revenue, falls. This reduction in fine revenue reflects the disutility caused by imposing greater risk on risk averse individuals. If individuals are sufficiently risk averse, the decline in fine revenue associated with greater risk bearing could more than offset the savings in enforcement expenditures from reducing the probability of detection, implying that social welfare would be lower". See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.884. See Polinsky, A. M., Shavell, S., 1991. A Note on Optimal Fines when Wealth Varies Among Individuals, *American Economic Review* 81, 618-621.

[411] See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891. When difference in wealth is introduced, taking into consideration that risk aversion decreases with income, high wealth individuals are less risk-averse than low wealth people, meaning that the optimal magnitude of the sanctions imposed on high wealth individuals would be lower than the one imposed on low wealth people, and the probability higher. On top of that, optimal sanction imposed on the high wealth group would be

The opposite phenomenon should be observed when individuals display a risk-seeking attitude towards sanctions. In this case, the disutility of the sanction raises less than in proportion to the sanction[412] Thus, the use of a low fine with a higher probability of detection will deter more effectively risk-preferring individuals[413].

Insider trading and optimal combination of magnitude and probability

Regarding the elements above-mentioned, it appears interesting to further examine whether insiders seem to display a risk-neutral, a risk-seeking or a risk-averse attitude towards sanctions. This would provide information on the amount of utility lost from a decrease in income for an insider[414]. This would determine the rate at which the insider discounts the expected value of the sanction in assessing the risks and benefits from insider trading[415]. Thanks to this analysis, recommendations could be formulated in terms of sanctions and enforcement policy orientation. This issue may require further development due to its complexity. Nevertheless, it is worth mentioning the main lines of the discussion in order to understand its relevance to the problem of optimal law enforcement.

First of all, experimental literature demonstrates that the attitude towards risk is a challenging and complex issue, and that it may be difficult to categorically determine the "risk-type" of an individual. For instance, it has been shown that individuals might be prone to a risk-seeking attitude in a situation where there is either a small probability of losses or a large probability of gains. Individuals may actually display both risk aversion and risk seeking for a wide range of payoffs, depending on the probabilities associated to these payoffs and the prospects they are facing[416]. Furthermore, the attitude towards risk could potentially be determined exogenously, according to the choice of instruments in law enforcement policies, such as the probability of apprehension, the monetary fines and the non-monetary sanctions[417].

While risk aversion is a usual behavioral assumption in economics[418], criminals belong to one of the rare categories of individuals who are presented as willing to undertake a risky and dangerous activity, both for others and for themselves, despite an evident risk of being caught and sanctioned[419]. This suggests that criminals are

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even larger in comparison to the one imposed on the low wealth individuals, if both high and low wealth group were risk neutral.

[412] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).p.419.

[413] Elzinga, K. G., Breit, W., 1977. *The Antitrust Penalties: A Study*(Yale University Press).

[414] Ibid.p.120. Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.881.

[415] O'Connor, M. A., 1989. Toward a More Efficient Deterrence of Insider Trading: The Repeal of Section 16(b), *Fordham Law Review* 58, 310-380.p.361.

[416] Tversky, A., Wakker, P., 1995. Risk Attitudes and Decisions Weights, *Econometrica* 63, 1255-1280.

[417] Langlais, E., 2006. Criminals and Risk Attitude, *Munich Personal Repec Archive Paper* 1149.p.8.

[418] See work of Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891. Neilson, W., 1998. Optimal Punishment Schemes With State-Dependant Preferences, *Economic Inquiry* 36, 266-271. Cooter, R., Ulen, T., 2004. *Law and Economics*, 4th edition.(Pearson).p.51: "Economists presume that most people are averse towards risk, but somepeople are either neutral towards risk or, like gambler, rock climbers, and race car drivers, prefer risks".

[419] Langlais, E., 2006. Criminals and Risk Attitude, *Munich Personal Repec Archive Paper* 1149.

likely to exhibit a risk-seeking behavior[420]. A certain number of studies formulates conclusions going in this direction[421]. Similarly, casual observations suggest that white-collar crimes require a positive act of theft, embezzlement, copying of documents, computer hacking, surveillance equipment to pass by, etc. indicating a certain *expert-based* and *risk-seeking behavior*[422]. For instance, a study of Dohmen established that white-collar workers are significantly more risk-seeking than blue-collar workers.

However, a certain number of studies tend to differentiate insider trading from the general forms of white-collar crime.

First of all, the gender and socio economic profiles of white collar criminals and of insiders seem to differ significantly. A study made on white-collar crimes prosecuted in federal court, by Weisburd et al., as well as a study made by Hollinger et al., shows that most white-collar criminals are found to belong to *middle management*, the lower echelons of business, or to be employees in lower statuses, whilst only a few are owners or officers. Furthermore, 55 % of these criminals are male[423]. On the contrary, insider trading defendants appear to be more largely masculine (94%) and belong to the *highest compensation package agents category*. On average, they have an *occupation hierarchically* higher than regular white-collar criminals[424]. These elements do not provide direct indications on their attitudes towards risk but is interesting in showing that insiders actually differ from a regular white-collar criminals. This may be important to the extent that several plausible exogenous and

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[420] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.178.

[421] Coffee, J., 1981. No Soul to Damn: No Body to Kick: An Unscandalized Inquiry into the Problem of Corporate Punishment, *Michigan Law Review* 79, 386-459.p.395. Grogger, J., 1991. Certainety Vs. Severity of Punishment, *Economic Inquiry* 29, 297-309. Block, M., Gerety, V., 1995. Some Experimental Evidence on Differences Between Student and Prisoner Reactions to Monetary Penalties and Risk, *Journal of Legal Studies* 24, 123-138.p.138: "Students by and large evidenced an aversion (or at best, a mild indifference to risk), while prisoners showed a strong preference for risky situations". However a study of Neilson and Winter comes to complicate the picture and support that the expected utility model might not be relevant to make conclusions about attitude towards risks of criminals. This study shows that even though criminals tend to respond more to changes in certainty than in severity, it might be explained by the fact that their preferences are state-dependant and therefore it is possible for offenders to display risk aversion towards sentences while being more sensitive to changes in the certainty of punishment, Neilson, W., Winter, H., 1997. On Criminal's Risk Attitude, *Economics Letters* 55, 97-102.p.102.

[422] Dohmen, T., Falk, A., Huffman, D., Sunde Jürgen Schupp, U., Wagner, G., 2005. Some Facts About Risk Attitudes: Evidence From a Large, Representative, Experimentally-Validated Survey (First Draft), *Working Paper*.p.17: "In terms of occupation, blue collar workers are significantly more risk averse than white collar worker".

[423] Weisburd, D., Stanton W., Waring, E., Bode, N., 1991. *Crimes of the Middle Classes: White Collar Offenders in the Federal Courts*(Yale University Press, New Haven).p.55.

[424]Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.273: "Approximately 94 percent of the defendants were male"., p.276: "Approximately a third of all defendants came from the business sector (31.5 percent), whereas only 18.2 percent of the defendants were from the securities industry. Corporate officers and directors, because of their position, were more likely to have access to material nonpublic information and were far more likely to be charged for trading on such information than their employees (84.2 percent of the business defendants were business officers or directors and only 15.8 percent were lower status employees). Defendants in the securities industry, on the other hand, were unlikely to be executives: securities employees such as brokers, dealers, and analysts (77.5 percent) were more likely than securities executives such as CEOs, vice presidents, and heads of departments (22.5 percent) to be insider trading defendants".

endogenous factors put forward by the literature are likely to be *correlated* with risk aversion. These factors relate to "gender", "age", "education", "net income", "occupation", "education", "marital status" or even "employment status" [425].

Moreover, contrary to the positive act usually involved in a regular white-collar crime, a study of Szockyj and Geis shows that insider trading involves the use of *legitimately acquired confidential information*, often within the context of a regular professional activity. Insider trading would therefore appear as an opportunistic crime resulting of one's personal position rather than one's specific skills and technological knowledge[426].

Furthermore, a certain number of scholars have detected that insider traders can be risk minimizers[427]. This is probably the most significant element provided by the literature in establishing the risk attitude in the case of insider trading crimes. For instance, Reichman examines a certain specificity of stock market regulation, which he defines as a "complex and differentiated market". While regular investors show limited capacity for managing risk on their own, market players demonstrate high skills for risk management. Insiders would therefore belong to the *highly skilled* category of individuals capable to *minimize risks* and to *increase the certainty of profitable outcomes*[428]. The sophisticated step up may be when insiders use elaborate means to cover up their illegal trade by using complex international network, nominee

[425] See Dohmen, T., Falk, A., Huffman, D., Sunde Jürgen Schupp, U., Wagner, G., 2005. Some Facts About Risk Attitudes: Evidence From a Large, Representative, Experimentally-Validated Survey (First Draft), *Working Paper*.p.5: "After presenting the main results on risk attitudes, the paper reports correlations between risk attitudes and other important personal characteristics, such as net income, occupation, education, marital status, employment status, etc. These characteristics are likely to be at least partly endogenous to risk attitudes, so we refrain from making any type of causal inferences in this section". For instance, this work is based on a survey working on sample of 22,000 individuals. Moreover, the paper contributes an additional, methodological innovation by conducting a complementary laboratory experiment, and testing the ability of their survey measures to predict real behavior under real incentives. This is a uniquely strong position to study the basic determinants of risk attitudes. The study aims at providing a representative picture of the determinants of risk attitudes and reveals a number of robust facts about risk taking attitude. In this article it is shown that most of the variation in risk attitudes is explained by a single underlying factor. According to their study the gender matters and women appears to reveal more risk aversion than male (The first fact is a robust gender difference. Women are significantly more risk averse than men, as measured by self-reported willingness to take risks). Moreover, the probability of being risk averse apparently increases with age (Increasing age is associated with increasing risk aversion) and parental education (parents with higher levels of education tend to have children who are less risk averse, in most domains of life). It is also explicitly mentioned that in terms of occupation, blue collar-workers are significantly more risk-averse than white-collar workers which themselves appears to be more risk averse than self-employed individuals. Nevertheless, it is very important to consider these results with the due care. In a survey, subject's responses might reflect primarily influences of framing, information-processing strategies, and value functions, as opposed to an intrinsic risk attitude. See Schoemaker, P. J. H., 1993. Determinants of Risk-Taking: Behavioral and Economic Views, *Journal of Risk and Uncertainty* 6, 49-73.p.68. Consequently, considering the complex picture of the numerous determinants involved in influencing the risk attitude, the attempts to find generalized conclusion concerning the individual's attitude towards risks might be taken carefully.

[426] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283: "(Insiders) belong to the highly skilled category of individuals".

[427] Ibid.p.283.

[428] Reichman, N., 1991. Regulating Risky Business: Dilemmas in Security Segulation, *Law and Policy* 13, 263-295.p.264.

accounts, proxies and intermediaries who are difficult to identify[429]. This would suggest that, rather than seeking action or risk, insiders appear to be taking illegal advantages of situations when they perceived minimal risk, and moreover taking steps to *minimize risks*[430].

Finally, a study of Elzinga and Breit formally establishes that insiders tend to be risk averse[431].

4.1.3 Summing-up: Optimal enforcement of insider trading laws

The deterrence theory approach provides an economic analytical framework for the analysis of law enforcement: the goal of the law and its enforcement is to deter. It should be achieved through the setting of an optimal expected sanction.

Considering the aforementioned arguments relative to the risks of insolvency, the costs of implementation of a large sanction, the marginal deterrence and the supposed risk aversion towards sanctions of the insider traders, the use of a high sanction with a lower probability of detection may not be optimal. Moreover, according to the scholarly literature, risk aversion implies that optimal sanctions *should not be maximal*[432].

As already mentioned, this issue would require further development. Nevertheless, this reflection may provide preliminary indications that could be used to adapt the enforcement of insider trading laws in respect to risk attitude, and should encourage future work in this direction.

Finally it should be mentioned that most experiments do not take into consideration the existence of non-monetary sanctions. This may be problematic seeing as monetary

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[429] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283. Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.).p.5: "In addition, detecting insider trading is difficult. For one thing, insiders can disguise their identities and trade through proxies and foreign intermediaries. The difficulty of detection presents a problem for firms attempting to enforce any contracts that restrict the trading activities of insiders and others. While this difficulty should not prevent firms from deciding for themselves what sort of prohibitions to allow, public enforcement of intrafirm prohibitions might be desirable. Considerable economies of scales are likely to be associated with the monitoring of insider's activities". Cf. Chapter 2.

[430] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286. Grasmick, H. G., Tittle, C. R., Bursik, R. J. Jr, Arneklev, B. J., 1993. Testing the Core Empirical Implications of Gottfredson and Hirschi's General Theory of Crime, *Journal of Research in Crime and Delinquancy* 30, 5-29.

[431] Elzinga, K. G., Breit, W., 1977. *The Antitrust Penalties: A Study*(Yale University Press).pp.126-129.

[432] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).p.415-416: "risk-averse individuals are more easily deterred than risk neutral individuals, the fine does not need to be as high to achieve any desired degree of deterrence (…) due to risk aversion, the probability of detection that maintains deterrence falls more than proportionally, implying that the expected fine, and therefore fine revenue, falls. This reduction in fine revenue reflects the disutility caused by imposing greater risk on risk averse individuals. If individuals are sufficiently risk averse, the decline in fine revenue associated with greater risk bearing could more than offset the savings in enforcement expenditures from reducing the probability of detection, implying that social welfare would be lower". See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.884. See Polinsky, A. M., Shavell, S., 1991. A Note on Optimal Fines when Wealth Varies Among Individuals, *American Economic Review* 81, 618-621.

equivalents of non-monetary sanctions may not be perfect substitutes, given inter alia the monetary wealth of criminals[433]. Indeed, the relative sensitivity of offenders to the probability and magnitude of fines may depend on the presence of non-monetary sanctions, and the use of non-monetary sanctions may entail a larger marginal utility of wealth for criminals than in the state of freedom. Indeed, it is likely that marginal utility of wealth declines when combined to a state of imprisonment. This would imply a *state dependent risk aversion*.

4.2 THE MONETARY AND NON-MONETARY FORMS OF SANCTIONS

In 2009, Raj Rajaratnam was one of the richest men in the world, with a net value of approximately 1.3 billion. In 2011, he was sentenced to an eleven year prison term for insider trading, was ordered to forfeit 53.8 million of dollars in illegal profits and had to pay a fine of 10 million dollars. In this example, it can be noted that the proportion of the monetary sanction seems relatively small compared to the illegal profit and the personal wealth of the individual. Nevertheless, the monetary sanctions were complemented by a particularly heavy non-monetary sanction. This case illustrates how different available sanctions are combined to convict insiders.

This section describes the different forms of sanctions available to public authorities and intends to establish the criteria for their optimal use in the enforcement of insider trading laws.

If monetary and non-monetary sanctions are both considered as "prices" to pay[434], it appears sensitive to establish their relationship. Some authors argue that they are neither alternatives[435], nor substitutes[436], but most likely complements[437]. What appears quite clear within the literature is that non-monetary and monetary sanctions are adapted to different contexts. As described, they do not operate a deterrence effect on the same grounds. Whilst monetary sanctions affect assets, non-monetary sanctions affect freedom and reputation.

A superficial description of the main types of monetary and non-monetary sanctions is provided in the sections (4.2.1 and 4.2.2). Their definition and scope may vary from one country to the other. The law and economics scholarly literature has, implicitly and explicitly, established a certain number of economic criteria under which the use of the monetary would lead to a cost effective enforcement of law compared to the

[433] Langlais, E., 2011. Analyse Economique et Droit Pénal: Contributions, Débats, Limites, *Economix Working Paper* 2011-33.p.8.
[434] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.195: "A fine can be considered the price of an offense, but so too can any other form of punishment; for example, the "price" of stealing a car might be six months in jail. The only difference is in the units of measurement: fines are prices measured in monetary units, imprisonments are prices measured in time units, etc. If anything, monetary units are to be preferred here as they are generally preferred in pricing and accounting".
[435] Kahan, D., 1996. What Do Alternative Sanctions Mean?, *University of Chicago Law Review* 63, 591-653. Langlais, E., 2011. Analyse Economique et Droit Pénal: Contributions, Débats, Limites, *Economix Working Paper* 2011-33.
[436] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).
[437] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).

non-monetary forms, and vice versa. The goal of this section is to review and analyze these criteria and to apply them to insider trading (4.2.3).

4.2.1 Monetary sanctions

"Fines have several advantages over other punishments: for example, they conserve resources, compensate society as well as punish offenders, and simplify the determination of optimal p's and f's. Not surprisingly, fines are the most common punishment and have grown in importance over time[438]."

Monetary sanctions play a very special role in sanctioning securities violations. A central argument is that securities delinquency usually deals with the typical *homo œconomicus* guided by *animus cupidi*[439]. In turn, monetary sanctions are very efficient from a deterrence point of view because they directly affect the private property and the patrimony, to which insiders are particularly sensitive[440]. This section offers a brief overview of the different types of available monetary sanctions.

The fixed fine

The usual way to set a monetary sanction is to associate fixed fines to an offence. It is a simple system because it avoids the study of each particular case. However, fixed fines may be considered as *unfair* because their appreciation is most likely to depend on personal wealth; in other words, they may affect the poor more than the rich. Consequently, commentators sometimes argue that fixed fines should be reserved for relatively small offences, or for offences in which all the potential convicted belong to a category of offenders who can potentially pay the fines[441].

The proportional fine

The proportional fine consists in enacting a statutory maximum that is no longer fixed, but *fluctuating and proportional*. The sanction consists of a proportional basis and a multiplier.

The multiplier enables the sanction to take into account economic reality[442]. The basis of this reflection is that the multiplier should be superior to one. Moreover, the

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[438] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. "p" is the probability, "f" is the size of the punishment.

[439] Mackaay, E., 2002. *L'Analyse Economique du Droit dans les Systèmes Civilistes*(Cujas, Paris). Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).

[440] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Posner, R. A., 1980. Optimal Sentences for White Collar Criminals, *American Criminal Law Review* 17, 409-418.

[441] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).

[442] Bernardi, A., 1990. L'Amende dans une Perspective Européenne(Cujas, Paris). "Dans ce type de sanction, la première donnée numérique exprime l'importance de l'infraction, celle qui émerge de tous ses éléments objectifs et subjectifs, exception faite de l'élément constitué par la gravité du dommage causé ou du profit tiré au moyen du crime. Ce dernier élément, qui concerne la dimension économique concrète de chaque délit, devient la deuxième donnée numérique de l'amende proportionnelle"; *"In this type of sanction, the first numerical data expresses the importance of the offense, which emerges from all objective and subjective elements, except for the element consisting of the gravity of the damage or*

multiplier should be proportional to the difficulty of detecting the act[443] in order to cover the enforcement costs.

Concerning the insider trading case, the legislator often uses the gain-based proportional monetary penalty, which makes sense since wrongdoers make fluctuating profits. This choice of penalty creates a real deterrent effect under the condition that the maximum statutory fine allows to systematically absorb the realized profit. The proportional monetary sanction sets the fine according to the precepts of deterrence theory and is coherent with the precepts of equivalence and proportionality expressed in the previous section (4.1). A complementary issue would be to determine which would be the *optimal multiplier*. From a theoretical point of view, the literature does not provide a clear answer.

The day-fine sanction

A day-fine system relies on a discrimination based on *an individual's daily income*. It is a sophisticated way of relating fines to the ability of offenders to pay them and it is consistent with Posner's proportional penalty proposal[444]. The seriousness of the offence is accounted for in number of days or units, and the average daily income or the average daily surplus of the offender is then determined. The fine actually equals the number of days multiplied by the average daily income or surplus of the offender[445].

Scandinavian countries like Denmark, Sweden and Finland adopted this sanction system in the 1920's, followed by many other European countries 50 years later. Under this scheme, the penalty is measured in terms of days, and a convicted offender is fined his daily income times the penalty days[446].

Disgorgement, confiscation or forfeiture

From a general point of view, confiscation can be of two types. The first type is the general type and concerns any material or immaterial good, totally or partially belonging to the wrongdoer. The second type is the special type; it either concerns the removal of the mean or of the illegal gain of the infraction.
In this study, disgorgement or confiscation designate the removal of the illegal gain447, the proceeds from insider trading. This type of sanction enjoys an increasing popularity due to its deterrence power[448]. Indeed, employing a mix of sanctions,

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the benefit derived from crime. This last element, which constitutes the economic dimension of each specific offense, becomes the second numerical data of the proportional fine".

[443] Elzinga, K. G., Breit, W., 1977. *The Antitrust Penalties: A Study*(Yale University Press).

[444] Posner, R. A., 1985. An Economic Theory of the Criminal Law, *Columbia Law Review* 85, 1193-1231.p.1215.

[445] Friedman, G. M., 1983. The West German Day-Fine System: A Possibility for the United States, *University of Chicago Law Review* 50, 281-304. Thornstedt, H., 1975. The Day-Fine System in Sweden *Criminal Law Review* 9, 307-312.

[446] Cooter, R., Ulen, T., 1988. *Law and Economics*(Scott, Forsman and Company, London).p.558.

[447] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549.

[448] ibid.p.538: "As a result many modern statutes (…) provide for alternative types of sanctions which may be imposed at lower cost. Sometimes these measures take a direct, nonmonetary form such as the shut down of a company. Some legislatures also give the judge the possibility to order that the judgment should be published through mass media. But another direction taken by legislators searching for alternatives to conventional criminal sanctions has been the development of powers to confiscate or

including fines and confiscation of illegal gains, helps coming closer to efficient deterrence[449]. This type of monetary sanction appears to be particularly adapted to an insider-trading context. As previously mentioned, an example of confiscation of illegal gain can be found in the recent case of Raj Rajaratnam, who, in complement to a fine, was ordered to forfeit 53.8 million of dollars in illegal profits.

4.2.2 Non-monetary sanctions

Non-monetary sanctions are emblematically famous in their most severe form: imprisonment. In the financial sector, many modern statutes regulate market crimes by providing alternative non-monetary sanctions such as the shutdown of a company, the publication of the judgment through mass media, etc. These non-monetary sanctions involve different costs and utility losses.

This section offers an overview of the various types of non-monetary sanctions in order to apprehend the different options that may be considered as sanctions for insider trading crimes. This study excludes every kind of sanction that may affect physical integrity such as death penalty or corporal punishments because of their incompatibility with human rights and human dignity. The non-monetary sanctions are divided into two groups: incapacitating types and other types.

4.2.2.1 Non-monetary incapacitating sanctions

The effect of non-monetary incapacitating sanctions is to *remove wrongdoers either from the society* ("social incapacitation") or *from the market* ("economic incapacitation"). In the perspective of the *legal concepts* previously mentioned in chapter 2, both types of sanctions can correspond to the exclusion of agents that behave against the public interest (in the case of an exclusion from society) or against the market interest (in the case of an exclusion from the market).

4.2.2.1.1 Social incapacitation

"We believe that some nonviolent, first-time offenders (...) belong in prison. White-collar criminals, those who commit fraud, those who extort or embezzle, and those who conspire or cover up can be just as deserving of punishment as any street predator. And we suspect that most Americans - most people who believe in equal justice under law - agree with us."[450]

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seize assets or, more generally, the removal of illegal gain", p.547: "There is a clear parallel between these criminal sanctions and the remedies available to injured parties in various areas of civil law. 'Disgorgement' doctrines, which allow plaintiffs to recover the gains made by parties who have infringed private rights, are based on the same kind of idea as confiscation powers in criminal law (…) Another element which could help explain the increased popularity of confiscation is a change in the relative costs of imposing criminal penalties (especially fines) and of confiscating illegally-accumulated assets".

[449] Ibid.p.547: "By employing a mix of sanctions, with harm-based fines (or other punishment) plus confiscation of illegal gain, courts will be able to get closer to efficient deterrence than they can when constrained to use punishments in isolation".

[450] Bennett, W., J., Dilulio, J. J., Walters, J. P., 1996. *Body Count: Moral Poverty... And How to Win America's War Against Crime and Drugs*(Simon & Schuster).p.101.

The very specific and exclusive function of incapacitation characterizes the severity of imprisonment[451]. Even though the use of imprisonment as a form of punishment is quite recent, prisons are everywhere and this sanction is quite common[452]. In 2005, there were more than nine million people imprisoned worldwide[453].

This section contains a short description of the major alternative types of social incapacitating non-monetary sanctions.

Referral to an attendance centre / day reporting centre

This type of sanction constraints the convicted to spend a portion of the day at a dedicated facility and therefore implies taking away the fundamental right of individual liberty. This formula is particularly adapted to provide specific infrastructures, and potentially to offer specific programs, adapted to certain convicted profiles, such as drug addicts.

House arrest

Here the house of the offender becomes his prison and therefore also implies taking away the fundamental right of individual liberty. The house arrest can also be partial, meaning that a convicted could carry on his professional activity for example. The convicted is responsible for meeting his basic needs on his own and administrative costs are thereby significantly reduced compared to the costs of imprisonment.

Electronic monitoring

Electronic monitoring is a technique used for ensuring compliance with a partially incapacitating sentence and implies that the convicted is monitored through means of electronic tagging devices. The convicted is usually subject to a detailed schedule and regular controls by the probation service. He is normally under house arrest except for specific activities such as employment, training, health care or participation in specific programs submitted to authorization from the probation service. Electronic monitoring yields substantial economic gains for all parties because the convicted can continue working normally. Nevertheless, technology may be expensive and restriction of privacy can heavily affect the convicted.

In the 1990s, Sweden opted for commuting prison sentences to equivalent terms of electronic tagging. Currently, all offenders convicted up to six months can commute

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[451] Shavell, S., 1987a. A model of Optimal Incapacitation, *American Economic Review* 77, 107-110. Imprisonment is the simplest expression of incapacitation. Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).p.27: "Imprisonment has an obvious punitive element: the loss of liberty".

[452] Indeed, in the United States, 78,5% of sentences concerning financial, social and economic infringement were sanctioned by an incarceration term in 1999. Nevertheless, these sanctions are usually suspended sentences (69,1% of prison sentences in financial-related cases are in reality suspended sentences), even though a one-year suspended sentence is not comparable to one-year prison sentence in terms of deterrence. In the United States of America, 5% of the population will be incarcerated at some time during their lives Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

[453] Walmsley, R., 2005. *World Prison Population List*(King's College, London).

their incarceration sentence. All offenders serving a sentence of at least one year and a half may apply to serve the last four months under electronic monitoring[454].

Community or society service

A community service order requires an offender to perform a specific task, or to work unpaid for the community for a specific number of hours. It requires close supervision and implies taking away the fundamental right of individual liberty. Some countries offer the possibility to commute short prison sentences to community service[455].

4.2.2.1.2 Economic incapacitation

The second type of incapacitating sanction is the limitation or deprivation of the freedom to engage in a certain professional activity. This category of sanction is not exclusively criminal. Depending on the scope of the harm, the sanction aims at incapacitating the wrongdoers from some specific economic functions and at excluding him from professional circles.

Status ban penalty and shutdown of a factory

This category of sanction is called "status penalty" and denies the natural or legal person specific rights attached to their professional status in the society. This type of sanction establishes a direct link between an offense and a loss of status. It is therefore primordial that the offence relates to the professional status. For instance, a natural or legal person convicted of fraud or of corruption may be forbidden to exercise a profession of trust ever again[456].

The most common status penalty mainly concerns *revocation or suspension of licence*, which can apply to a physical or a moral person. For the latter, it may even imply their disappearance.

Different official organs, such as agencies, boards, commissions or political subdivisions of the State, issue licenses for the purpose of conducting a business[457].

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[454] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).p.41.

[455] Countries like Thailand or Zimbabwe offer the possibility to commute short prison sentences to community service. For example in Thailand, drunk drivers are given suspended sentences and put on probation with the requirement that they perform 24 hours of community service generally related to the kind of injuries they might have cause with their offence (assisting car accident victims, volunteering for road accident emergency rescue units, etc.). In Zimbabwe, authorities allow to opt for community service as a sentencing alternative in order to reduce prison overcrowding and costs associated to incarceration . See "Hospital duty for drink drivers" in The Nation, March 11, 2005; "Tough campaign launched against drink driving" in the Bangkok Post, December 17, 2004. "Community Service in Practice", Penal Reform International, 1997, On Governance and Social Development Resurce Center Website: http:www.gsdrc.org/docs/open/SSAJ27.pdf.

[456] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).

[457] See Cussen, M. P., 06.07.2013. *Breaking Down Financial Securities Licenses*. Different financial securities licences exist depending on the types of investments to be sold, on the methods of compensation and on the provided scopes of services. Taking the concrete case of the United States, the Financial Industry Regulatory Authority is a self-regulatory organization that oversees all securities licensing procedures and requirements. Amongst the many licenses corresponding to specific types of business or investment, registered representative or investment advisors mostly obtain three: the series 6 license is known as the limited-investment securities license, it authorizes licenses to sell packages of

Some laws empower enforcers or competent organs to *suspend or revoke* the licenses of entities or individuals who engage in particular illegal activities. The license subject to suspension and revocation can be of any kind: a permit, a certificate, an approval, a registration, or an authorization required by the law and issued for the purpose of operating a business in the jurisdiction.

For a corporation, the *dissolution or the shutdown of a company* corresponds to its closing or to the end of its business activity. It is a highly criticized sanction, qualified as extreme[458] because of the high cost imposed on the employees, the shareholders and society[459]. Indeed, from a legal point of view, this type of sanction hurts a basic principle of *personalized sanctions* and may imply the imposition of a sanction on innocent third parties. Therefore, the shutting down of a company as a sanction is highly controlled and submitted to a series of restrictive conditions.

Limitation of use of proper or external means of funding

The limitation or ban of using certain means of payments (material or immaterial: cash, credit or debit cards, electronic payments…) or *the limitation or ban of use of external investment* can be imposed both on natural and legal persons, and have a certain effect on the economic activity[460].

4.2.2.2 Non-monetary non-incapacitating sanctions

Suspended sanctions

A suspended sanction is when an incarceration sanction is pronounced but its implementation depends on the convicted's compliance with conditions set by the court judgment, under a certain period of time. The threat of the implementation deters the convicted.

The costs associated to suspended sanction reside in the control of the respect of the conditions set by court. In the case of infringement of these conditions, the suspension of the sanction is revoked and the sanction is implemented.

Naming and shaming sanctions

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investment products (mutual funds, variable annuities, unit investment trusts); series 7 license is known as the general securities representative license, it allows licenses to sell virtually any type of individual security (common and preferred stocks, call and put options, bonds and other individual fixed income investments, package products); series 3 license allow representatives to sell commodity future contracts. The North American Securities Administrators Association oversees the licensing requirement of three other licenses: the series 63 authorizes licenses to transact business within the state; series 65 is required for anyone intending to provide any kind of financial advice or service on a non-commission basis; series 66 is another one. These series correspond to exams; once obtained, licensees have two options. The first is to register their securities licenses with an approved broker-dealer, who hold their licenses and oversee their business. The second is to register as a registered investment advisor, with the state or the SEC (if their assets under management exceed 25$ million). Legislators and agencies issue the circumstances under which a license can be suspended or revoked. Conditions differ from one state to another.

[458] Rouquet, F., 1975-1976. Sanctions Pénales et Personnes Morales, *Revue de Droit Pénal et de Criminologie*.p.698.

[459] Verny, E., 2002. *Le Membre d'un Groupe en Droit Pénal*(LGDJ, Paris). Levasseur, G., 1975-1976. Sanctions Pénales et Personnes Morales, *Revue de Droit Pénal et de Criminologie*, 707-719.

[460] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).p.159.

The sanction of naming and shaming is used both as an autonomous or as a complementary sanction and involves the announcement or publication of the judgment. The names of the individuals will thereby be associated to the certain categories of crimes they have committed, with the aim of attracting attention, of expressing society's moral condemnation and of provoking public disapproval[461]. They are especially designed to create stigma[462]. Not only does this type of sanction *convey information about the individual's "bad character",* resulting in a feeling of shame, but it also *expresses the inappropriateness of a conduct*. Choosing this sanction is a way of refining the definition of reprehensible conducts by giving concrete examples. In a way, naming insures an educative function[463].

Dan Kahan offers an overview of the naming and shaming sanctions available in the U.S. and groups them into four categories[464]. The first category is the *stigmatizing publicity*. Aimed at magnifying the humiliation inherent to conviction, it is the communication of the offender's status to a wider audience through the publication of his name in newspapers or in community-access television channels. The second category is *literal stigmatization* and corresponds to the stamping of an offender to signal his infringement in a public sphere, like for example wearing a t-shirt "I Am a Thief" or bracelet that read "I Write Bad Checks". Another type of signal is a mark attached to property. For example, people convicted for drunk-driving have to display stickers on their cars, or convicted for sexual assaults have to post signs at their residences to warn their neighbors. The third category is the *self-debasement penalty*. It involves ceremonies or rituals that publicly disgrace the offender, usually in relation to the committed offense. For example, people guilty of urinating in public might be sentenced to cleaning the city's streets. Self-debasement sanctions are as diverse as the crimes they punish. The fourth category is the *contrition penalties,* which require individuals to publicize their own convictions and apologize.

Naming and shaming is evoked as an efficient alternative to incarceration[465] because it implies a significant deterrent effect while keeping administrative costs relatively low. Indeed, some wrongdoers may be particularly sensitive to the negative reputation caused by the publication of a court decision, which nevertheless does not constitute a costly sanction. However, lots of limitations have also been raised, particularly concerning the error costs, the potential disproportion and the lack of deterrence[466].

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[461] Escresa Guillermo, L., 2011. *Reexamining the Role of Incarceration and Stigma in Criminal Law*(Erasmus Universiteit Rotterdam, Rotterdam). X, 2003. Shame, Stigma, and Crime: Evaluating the Efficacy of Shaming Sanctions and Criminal Law, *Harvard Law Review* 116, 2186-2207. Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549.

[462] Adam, J., Engelen, P.J., Van Essen, M., 2011. *Reputational Penalties on Financial Markets to Induce Corporate Responsibility*(Springer, Heidelberg).

[463] Van Erp, J., 2008. Reputational Sanctions in Private and Public Regulation, *Erasmus law review* 1, 145-162. Van Erp, J., 2011. Naming Without Shaming: The Publication of Sanctions in the Dutch Financial Market, *Regulation and Governance* 5, 287-308.

[464] For more details and examples, see Kahan, D., 1996. What Do Alternative Sanctions Mean?, *University of Chicago Law Review* 63, 591-653.

[465] Ibid.

[466] Van Erp, J., 2011. Naming Without Shaming: The Publication of Sanctions in the Dutch Financial Market, *Regulation and Governance* 5, 287-308. Van Erp holds that naming offenders functions as a general deterrent in the market for financial intermediaries, but considerably less so in the capital market.p.292: "An undesired, but perhaps more likely potential effect is that the publication of sanctions is experienced as stigmatizing. In that case, naming offenders results in defiance,

In the financial area, empirical economics studies suggest that the revelation of a firm's misconducts will cause a depreciation of its quality by its trading partners (customers and investors), and consequently affect it in terms of trade. Armour, Mayer and Polo worked on the issue of reputational penalties and studied the impact of the announcement of financial and securities regulation enforcement by the UK's Financial Services Authority and London Stock Exchange on the market price of sanctioned firms, and then on their corporate reputation[467]. They assimilated the firm's reputational loss to a fall in equity market value, in excess of mandated payments. They calculated that the stock prices of the firms that received sanctions statistically experience significant abnormal losses (approximately nine times the fines and compensation paid). They associated this negative effect to situations where wrongdoings affect trading partners and not third parties. They concluded that reputational sanctions are very real and are a clear signal to the market of the reliability of a firm and provokes a significant reaction amongst trading partners.

4.2.3 Economic criteria for monetary vs. non-monetary nature of sanctions

Economic literature establishes a certain number of criteria under which the use of monetary sanctions would lead to a cost effective enforcement of law compared to the use of the non-monetary sanctions, or vice versa.

If the administrative and social cost is the very first consideration in arbitrating the optimal monetary or non-monetary form of the sanction (4.2.3.1), criteria attached to the individual or to the illegal act may also have their importance (4.2.3.2).

4.2.3.1 Costs of the monetary and non-monetary sanctions

The cost of monetary sanctions

The imposition of monetary sanctions is most of the time considered to be a transfer of "purchasing power"[468], which does not imply any expenditure of enforcement resources and generates money for the public budget[469]. However, this reasoning neglects the circumstances under which the administrative costs of monetary sanctions may be substantial. For instance, in order to implement a monetary sanction, it may be necessary to localize the wrongdoer, to collect the money and sometimes

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disengagement, distrust, and, expectedly, more crime". See note on X, 2003. Shame, Stigma, and Crime: Evaluating the Efficacy of Shaming Sanctions and Criminal Law, *Harvard Law Review* 116, 2186-2207. There is hence a huge danger of overdeterrence and disproportional sanctions when stigmatisation is used as the goal of criminal law. As was convincingly shown by Klement, A., Harel, A., 2007. The Economics of Stigma: Why More Detection of Crime May Result in Less Stigmatization, *Journal of Legal Studies* 36, 355-378.

[467] Armour, J., Mayer, C., Polo, A., 2012. Regulatory Sanctions and Reputational Damage in Financial Markets, *Oxford Legal Studies Research Paper* 62/2010.

[468] Shavell, S., 2003. Economic Analysis of the General Structure of the Law, *NBER Working Paper* 9699, 15.p.3.

[469] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.p.1767: "A fine is a costless transfer from the convicted offender to the government".

[469] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).

even to face potential resistance of certain individuals[470]. The wrongdoer himself may face costs in trying to escape or lower the monetary sanction[471]. Finally, the cost associated to the imposition of the sanction may even increase with its magnitude[472].

However, the monetary sanction is considered as the least costly type of sanction to impose and to enforce in society[473]. Therefore, the economic theory recommends its use in a very first position to its largest extent[474]. In order to take into consideration the differences in marginal utility of money, "the largest extent" should correspond to the calibration of the monetary sanction to the level of wealth of individuals[475]. Indeed, if the amount of the monetary sanction is too high in relation to the convicted individuals' wealth, it may create a vicious incitation for them to commit another more severe crime [476]. On the contrary, if the amount of the monetary sanction is too small compared to the individuals' wealth, he may not be deterred through the prospect of the sanction. Therefore, monetary sanctions should be factored and calibrated to wealth in order to properly deter individuals. In that respect, the day-fine sanction system appears to be designated as the most adequate form of monetary sanction.

The cost of non-monetary sanctions

On the contrary, the administrative costs of incapacitating non-monetary sanctions are always considered sizeable. First of all, for any socially incapacitating sanctions

[470] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).p.474. Kaplow, L., 1990. A Note on the Optimal Use of Non Monetary Sanctions, *Journal of Public Economics* 42, 245-247.

[471] Langlais, E., 2011. Analyse Economique et Droit Pénal: Contributions, Débats, Limites, *Economix Working Paper* 2011-33.

[472] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). Langlais, E., 2011. Analyse Economique et Droit Pénal: Contributions, Débats, Limites, *Economix Working Paper* 2011-33.

[473] See Posner, R. A., 1980. Optimal Sentences for White Collar Criminals, *American Criminal Law Review* 17, 409-418.

[474] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.213: "Fines have several advantages over other punishments: for example, they conserve resources, compensate society as well as punish offenders, and simplify the determination of optimal p's and f's. Not surprisingly, fines are the most common punishment and have grown in importance over time".

[475] In the article "Optimal use of fines and imprisonment", Shavell and Polinsky designate monetary sanctions as "fines" costless to impose. On the contrary, non-monetary sanctions are designated as "imprisonment" and are considered socially costly. See Shavell, S., Polinsky, A. M., 1984. The Optimal Use of Fines and Imprisonment, *Journal of Public Economics* 24, 89-99. The authors consider that in the situation where individuals differ by wealth, the high wealth individuals' monetary sanction should be superior to the low wealth individuals' one. They add that it is optimal to under-deter some poor individuals and argue this under-deterrence can be reduced at no social cost for individuals in the high wealth group by raising the fine for them. As Becker, they conclude that when fines and imprisonment are used together it is optimal to use the monetary sanction to its maximum and equal the wealth of the convicted party. Moreover, they add that difference in wealth also has an influence on optimal non-monetary sanctions and argue that when individuals differ by wealth, the optimal imprisonment term for the high wealth group may be longer or shorter than the term for the low wealth group. See also Bar Niv, M., Safra, Z., 2002. On the Social Desirability of Wealth-Dependant Fine Policy, *International Review of Law and Economics* 22, 53-59. Marginal utility of money depends on personal wealth, therefore monetary sanctions should be based on wealth.

[476] Standard marginal deterrence argument, cf. Posner, R. A., 1986. *Economic Analysis of Law*(Little, Brown and Company, Boston), Shavell, S., 1989. A note on optimal deterrence when individuals choose among harmful acts, *Harvard Law School Discussion Paper*. Chu, C., Jiang, N., 1993. Are Fines More Efficient Than Imprisonment?, *Journal of Public Economics* 51, 391-413.

(prison, attendance to a referral center, house arrest, community service,…), society bears the *direct costs of maintenance of the infrastructure*[477] (depending on the degree and the nature of incapacitation).

Moreover, both social and economic incapacitating sanctions imply *direct costs of control*.

Furthermore, every incapacitating sanction implies *indirect or consequential costs,* associated with preventing a convicted offender from practicing his regular professional activity for instance. Society as a whole may suffer from the scarceness of an offender's skills or from the disappearance of a company[478]. Some sanctions imply specific indirect costs, such as, for example, the recidivism subsequent to the imprisonment[479], or the spread of diseases contracted in prison[480].

Finally, incapacitating sanctions are considered as an intrusive and costly form of sanction from a private point of view, as they imply taking away the *fundamental right of individual liberty*. Individual liberty is amongst the most fundamental of human rights and is protected by numerous international human rights instruments. Therefore, the very necessity of taking away this right should be established solely in the pursuit of a societal objective that cannot be achieved through a less restrictive mean.

The economic incapacitating sanction is less costly than the socially incapacitating sanction, both from a social and from a private point of view; it should therefore always be preferred if it allows to reach the same level of deterrence.

Finally, the non-incapacitating non-monetary sanctions are considered less costly than the incapacitating ones, and should from this point of view be used before the latter. However, naming and shaming sanctions should be imposed with due care. Indeed, stigma is *unrecoverable*. It exists as soon as the committed wrongdoing is announced and the loss of reputation operates as soon as this announcement is pronounced. Some commentators mention that this sanction may imply a risk of recidivism. Indeed, a stigmatized convicted can never fully recover his loss and may therefore, in terms of opportunity cost, have more incentive than anyone to commit another offense[481].

From an economic perspective, the less costly monetary sanctions should always be used first to their largest extent. However, there are important reasons why society

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[477] Easterbrook, F. H., 1983. Criminal Procedure as a Market System, *The Journal of Legal Studies* 12, 289-332.p.293. Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).p.4: "Direct costs include building and administering prisons as well as housing, feeding, and caring for prisoners".

[478] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).

[479]Nieuwbeerta, P., Nagin, D. S., Blokland, A. A. J., 2009. Assessing the Impact of First-Time Imprisonment on Offenders' Subsequent Criminal Career Development: A Matched Samples Comparison, *Journal of Quantitative Criminology* 25, 227-257.

[480] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).p.4: "Imprisonment may affect the wider community in various negative ways. For example, prisons are incubators of diseases such as tuberculosis and AIDS, especially so when they are over-crowded. When prisoners are released, they may contribute to the further spread of such diseases".

[481] Funk, P., 2004. On the Effective Use of Stigma as a Crime-Deterrent, *European Economic Review* 48, 715-728.

cannot exclusively rely on monetary sanctions[482].

4.2.3.2 The need to use non-monetary sanctions for deterrence or incapacitation

As presented in the previous section, non-monetary sanctions are assumed to be of three sorts:

- Social incapacitating non-monetary sanctions,
- Economic incapacitating non-monetary sanctions,
- Non-incapacitating non-monetary sanctions: naming and shaming, suspended sentences

This sections aims at identifying economic criteria under which the use of these types of sanctions may be desirable.

There are two classic justifications of the use of non-monetary sanctions: incapacitation and deterrence. Incapacitation and deterrence have distinct motives[483]. Hence, preventing an individual from engaging in an activity through incapacitation is different from dissuading him to engage in an activity through the prospect of a sanction. It is a matter of time perspective. In the first situation, the dissuasive effect can occur once (it works or doesn't work on the individual)[484], whereas incapacitation aims at neutralizing "undeterrable" individuals during a certain period of time[485], particularly the ones who repeatedly commit crimes regardless of the sanctioning threat.

The use of incapacitation through a non-monetary sanction is traditionally justified in cases when the main goal to achieve is not deterrence but rather *incapacitation or rehabilitation*[486]. However, under some circumstances, the prospect of incapacitation may operate deterrence better than any other sanction. Indeed, deterrence itself might be a consequence of incapacitation. In other words, the potential wrongdoer may be discouraged from acting due to the prospect of incapacitation[487]. In that respect, and contrary to Becker's postulate, it may appear that under some circumstances fines are not necessarily more efficient than imprisonment even if deterrence is the concern (because fines and incarceration actually serve different deterrent functions to potential wrongdoers from different groups)[488].

The need to use non-monetary sanctions for deterrence

(i) Limited wealth

[482] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549.p.538. Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.
[483] Miceli, T., 2010. A Model of Criminal Sanctions that Incorporate Both Deterrence and Incapacitation, *Economics Letters* 107, 205-207.
[484] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.
[485] Miceli, T., 2010. A Model of Criminal Sanctions that Incorporate Both Deterrence and Incapacitation, *Economics Letters* 107, 205-207.
[486] Cooter, R., Ulen, T., 1988. *Law and Economics*(Scott, Forsman and Company, London).
[487] Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).
[488] Chu, C., Jiang, N., 1993. Are Fines More Efficient Than Imprisonment?, *Journal of Public Economics* 51, 391-413.

The threat of non-monetary sanctions may deter an individual that would not be deterred by monetary sanctions alone. Due to the fact that a monetary sanction is a transfer of wealth, it has been raised by the literature that the appreciation of its deterrence effect is *relative to* and *limited by* personal level of assets or wealth[489]. Indeed, a monetary sanction is efficient from a deterrence point of view only up to the point where the actor can pay it[490]. Past this point, non-monetary sanctions should be used. The level of deterrence would be inadequate if the society only relied on monetary sanctions. Indeed, in case of high gain or harm, and low probability of conviction consequently high sanctions are needed to operate deterrence[491]. Limited wealth (or insolvency) is very useful in explaining the use of non-monetary sanctions, and especially their added value compared to monetary sanctions[492].

Going further, Polinsky and Shavell established that the low-wealth-type of individuals should face maximum monetary sanctions equivalent to their wealth, whilst high-wealth-type of individuals should not be imposed with maximal monetary sanctions since this may lead to over-deterrence[493].

(ii) Opportunity cost of time

A sophisticated analysis sees in opportunity cost of time a parameter influencing the appreciation of *socially incapacitating sanctions*. Indeed, Chu and Jiang consider that the burden of imprisonment falls more heavily on individuals with higher opportunity cost of time[494]. Wage rate, rather than personal wealth, is considered as a factor influencing such opportunity cost of time. From this point of view, socially incapacitating sanctions should be lower for the *high-income type* of individuals to operate an equivalent deterrence effect. This argument also links in with the consideration of use of time. Baum and Kamas offered to measure the sanction in unit

[489] Posner, R. A., 1980. Optimal Sentences for White Collar Criminals, *American Criminal Law Review* 17, 409-418, Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.p.1236: "Since non-monetary sanctions are socially more costly to impose than monetary sanctions (…) it is easy to say where nonmonetary sanctions should be employed (…) Social welfare will be greater if only the less costly monetary sanctions are used to deter undesirable acts". Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). Non-monetary sanction is presented as a solution to operate deterrence on "poor" people.

[490] Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.pp.1236-1237: "non-monetary sanctions should be employed only when monetary sanctions cannot adequately deterundesirable act (…)". Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.208: "Offenders who cannot pay fines have to be punished in other ways".

[491] See Chapter 3, Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.p.1237: "If the likelihood of failure to deter undesirable acts, together with the expected harm in which the acts would result, is sufficiently high, then resort to nonmonetary sanctions may be desirable despite the greater social costs attending their use".

[492] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

[493] Polinsky, A. M., Shavell, S., 1991. A Note on Optimal Fines when Wealth Varies Among Individuals, *American Economic Review* 81, 618-621.

[494] Chu, C., Jiang, N., 1993. Are Fines More Efficient Than Imprisonment?, *Journal of Public Economics* 51, 391-413.

of time value instead of money value in order to address the issue of disparities in wealth[495]. However, this argument occupies little place in the literature.

The need to incapacitate for preventing further harm

(i) Incapacitation

Incapacitation corresponds to the prevention of a class of undesirable acts by barring a party from engaging in an activity that would enable the party to commit the acts[496]. Indeed, incapacitated offenders are made incapable of offending for a substantial period of time[497]. It is an effective but costly way of preventing repeated crimes.

Shavell's seminal article about incapacitation offers a normative approach to incapacitation. He establishes that it would be optimal to maintain individuals in prison when their dangerousness, or the harm they would potentially inflict, is superior to the cost-per-period of keeping them in prison[498]. Consequently, broadening the conclusions, a person's deprivation or limitation of freedom should provide a greater benefit to society than the cost imposed on him and on society. This implies that the act committed by a criminal provides information on his propensity to commit future damage. Consequently, from an incapacitation perspective, the term and conditions of deprivation of freedom should be set according to the dangerousness of an individual.

(ii) Scope of the harm: danger for society (violence) or danger for the economy

As described in the previous section, in the framework of this study, non-monetary sanctions designate a large corpus of sanctions associated with different degrees of incapacitation, which can have an administrative[499] or a criminal nature.

Total or partial incapacitating sanctions may be justified by the need to *remove an individual from a circle* because of their *potential nuisance* related to their *dangerousness*.

Therefore, commentators argue that social incapacitation corresponds to the extraction of an individual from civil society and therefore should be used when there is a necessity to *incapacitate individuals violent for society*[500]. In a similar way, it is

[495] Baum, S., Kamas, K., 1995. Time, Money, and Optimal Criminal Penalties, *Contemporary Economic Policy* 13, 72-79.
[496] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts).
[497] Ashworth, A., 2010. *Sentencing and Criminal Justice (Law in Context)*(Cambridge University Press).
[498] See Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). "If a person's propensity to do harm each period exceeds the cost of incapacitation per period, he should be incapacitated each period, that is, forever, otherwise, he should not be incapacitated at all".
[499] Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298.pp.294-295.
[500] Posner, R. A., 1980. Optimal Sentences for White Collar Criminals, *American Criminal Law Review* 17, 409-418. Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262. Kahan, D., 1996. What Do Alternative Sanctions Mean?, *University of Chicago Law Review* 63, 591-653.

necessary to ban an individual (or an entity) from a specific professional status if they need to be distanced from a specific *professional circle*[501].

One aspect of the *dangerousness* of an individual could be related to the scope of the harm. Indeed, looking at the available incapacitating sanctions, it seems that two major kinds of incapacitating sanctions can apply depending on the *scope of the harm*. One category of sanctions should be applied to harm concerning public order matters (*societal dangerousness*), whilst the other category of sanctions should be applied to harm concerning economic order matters (*market domain specific dangerousness*).

In reference to the foundations of the insider-trading ban, the parallelism of these sanctions could be founded upon the affectation of the concepts of public order and economic public order (cf. chapter 2)[502]. Indeed, both sanctions draw concentric circles representing functions of social networks involved in and harmed by the infraction[503].

4.2.4 Summing-up: Non-monetary sanctions for insider trading

From an economic perspective, an optimal law enforcement policy should be achieved by first using monetary sanctions at the maximum, using proportional and wealth-related ones, and then second by completing with non-monetary sanctions[504], starting with the less costly ones (considering control, infrastructure, maintenance, and indirect and consequential costs) and the less restrictive inducing a similar deterrent effect. From a theoretical point of view, at equal deterrence effect, non-incapacitating non-monetary sanctions should be used first, followed by the economically incapacitating ones and, finally, the socially incapacitating ones. Incarceration should always be the last resort, meaning that it should be based on the experience that other sanctions are insufficient. All the other means have to be tried and explored before.

The personal situation of wealth or occupation of an individual can have an impact on the necessity to use non-monetary sanctions for deterrence. The literature raises three specific aspects regarding this issue. First, the deterrence effect of a monetary sanction is limited by wealth and therefore non-monetary sanctions should be used in complement. Second, risk-seeking attitudes increase with wealth and therefore high wealth type individuals should not be imposed with maximum monetary sanctions. Third, individuals with high opportunity cost of time type should be imposed shorter prison terms.

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[501] Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York). See section 4.2.2.1.1 : “First category of non-monetary sanctions: incapacitation”. Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).p.143.

[502] A special attention should be given to the paragraph regarding the differentiation of the concepts of public order and economic public order developed in Chapter 2.

[503] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).p.143.

[504] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Shavell, S., 1987b. The Optimal Use of Non Monetary Sanction as a Deterrent, *American Economic Review* 77, 584-592. Shavell, S., Polinsky, A. M., 1984. The Optimal Use of Fines and Imprisonment, *Journal of Public Economics* 24, 89-99.

Non-monetary sanctions should be used for incapacitation under restricted circumstances, calibrated to the social or economic dangerousness of the offender.

Finally, it should be mentioned that most of this information is based on the assumption of a perfect information or at least, of a symmetric information; in reality, wealth and income may not be observable. In the case of asymmetric information, the lawmaker would choose a combination of uniform monetary and non-monetary sanctions that could lead to optimal level of deterrence.

Summarizing, there may be different reasons for using non-monetary sanctions:

Need for non-monetary sanctions to achieve deterrence in case of:
- Limitation of wealth (insolvency)

Need for non-monetary sanctions to achieve incapacitation in case of:
- Undeterrable offenders (repeated offences)
- Dangerousness for the economy: Need for economic incapacitation in particular
- Dangerousness for society (violence): Need for social incapacitation in particular

Application to insider trading

The particularity of this study is to focus on insider trading. A certain number of studies already describe the characteristics of wealth and income of insiders and therefore facilitate the application of the economic criteria to insider trading.

The question is whether there is a need to use non-monetary sanctions in the case of insider trading. Said differently, is there a particular risk of insider's limitation of wealth?

Coming back to the studies of Geis and Szockyj[505], Meulbroek[506] and Frino et al.[507] if one were to take a gain of $25,594 dollars in a Becker-perspective as exposed in the introduction of this chapter, if the probability of detection were to be, for example, 10% or 1%, an optimal fine (gain-based sanction) would either be of $255,940 or of $2,559,400. Depending on the particular situation of the insider, in the first situation the fine could probably be payable by the insider whereas in the second situation there may be a risk of insolvency, and hence a need for non-monetary sanctions in order to deter.

In this respect, empirical papers also show that insider traders usually belong to *high-wealth category* and occupy *hierarchically high occupation* (mostly composed of corporate officers and directors, and business executives such as presidents and vice-

[505] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.
[506] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.
[507] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263.

presidents) with, on average, a *high-compensation package*[508]. These characteristics imply that insiders have a higher payment capacity than regular wrongdoers. Therefore, monetary sanctions for insider trading crimes should consequently be proportional to an insider's high wealth and, only if necessary, completed with non-monetary sanctions. This argument was advanced in recent proposals for reforming the business law sanctioning system[509]. Furthermore, according to Shavell and Polinsky, monetary sanctions should not be maximal because insiders belong to high wealth types of individuals. Finally, given the validation of the idea of calibrating sanctions to the opportunity cost of time of the wrongdoer, incapacitation terms should be lower for insiders, though this last argument is discussable.

Finally, insider-trading is not a violent crime for which the *use of non-monetary sanctions to operate incapacitation* seems indicated. Indeed statistics indicate that 67.5% of the defendants in insider trading cases were only charged on one occasion (meaning that they are not undeterrable repeat offenders that need to be incapacitated).[510]
Consequently, a part of the literature raises the fact that social incapacitation may not be necessary in the context of financial infractions. Amongst them, Guillaume Royer states that even if the recourse to the sanction of incarceration for insider trading is not systematic, its omnipresent availability in the law makes it a powerful option. According to him, status sanctions are "sufficient" according to the law and economics precepts of deterrence[511].

To conclude, for insider trading, the need to use non-monetary sanctions in case of limited wealth seems less indicated than for the average wrongdoer, but however considerable; the need to use non-monetary sanctions in case of danger for the economy seems indicated because insider trading is characterized as potentially harming the economy[512]; the need to use non-monetary sanctions in case of undeterrability seems very limited; and in case of violence seems out of context.

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[508] See 4.1.2. Geis, G., 1998. *Antitrust and Organizational Deviance*(JAI Press, Stamford, CT). Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.pp.275-276: "Approximately a third of all defendants came from the business sector (31.5 percent), whereas only 18.2 percent of the defendants were from the securities industry. Corporate officers and directors, because of their position, were more likely to have access to material nonpublic information and were far more likely to be charged for trading on such information than their employees (84.2 percent of the business defendants were business officers or directors and only 15.8 percent were lower status employees). Defendants in the securities industry, on the other hand, were unlikely to be executives: securities employees such as brokers, dealers, and analysts (77.5 percent) were more likely than securities executives such as CEOs, vice presidents, and heads of departments (22.5 percent) to be insider trading defendants".
[509] Coulon, J.-M., 2008. *La Dépénalisation de la Vie des Affaires* (Ministère de la Justice, France).
[510] See Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.277: "Frequency of insider trading refers to the number of times that non-public information was exploited. Two-thirds (67.5 percent) of the defendants were charged with illegally trading on only one occasion".
[511] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).p.143.
[512] Cf. Chapter 2.

4.3 THE ADMINISTRATIVE AND CRIMINAL NATURE OF SANCTIONS

In this study, public law enforcement of regulations is considered to take place either through enforcement by agencies, associated here to administrative law, or by courts, associated here to criminal law.

This section starts by describing the different goals served by administrative and criminal law (4.3.1). It then underlines the special function of criminal law in the legal doctrine (4.3.2) and emphasizes the *ultima ratio* conception of criminal sanctions (4.3.3). Finally, it clarifies the economic criteria for criminalization (4.3.4).

4.3.1 Definitions and goals of administrative and criminal law enforcement

The legal definition and the compliance goal of administrative law

In the framework of this study, it is central to understand that the respective economic roles of administrative and criminal law lie in the different goals they serve: one mainly seeks compliance whilst the second mainly seeks deterrence.

Administrative enforcement of laws fits into a complicance approach. Administrative enforcement designates an *ex ante* approach to guidelines and behavioral norms, prohibiting certain behaviors or making them unattractive by subjecting them to monetary or non-monetary administrative sanctions. An independent administrative authority imposes theses sanctions after a norm violation has been established[513]. First of all, administrative enforcement provides reparatory measure. One of the major advantages administrative enforcement offers compared to private enforcement is that the magnitude of the administrative sanction is not limited by the harm, contrary to damages and similarly to criminal sanctions. Consequently, administrative monetary sanctions have a more flexible character than tort damages[514]. Furthermore, from a procedural point of view, administrative sanctions are attached to norm breaking and are not conditional to whether losses have occurred[515]; intent is usually not even required. This makes the procedure easier from a judgment proof point of view.

Even though administrative enforcement of laws operates prevention as well as deterrence[516], the main goal attributed by the literature to administrative law is to operate *compliance and restoration of harm using reparatory measures*[517].

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[513] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.34. Seerden, R., Stroink, F.A.M., 2007. *Administrative Law of the European Union, its Member States and the United States: A Comparative Analysis*, 2nd edition.(Intersentia, Antwerpen).p.419.

[514] De Geest, G., Dari-Mattiacci, G., 2003. On the Intrinsic Superiority of Regulation Plus Insurance Over Tort Law, *Working paper Utrecht University, Institute of Economics*.

[515] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

[516] Ashworth, A., 2000. Is the Criminal Law a Lost Cause?, *Law Quartely Review* 116, 225-256. Ashworth, A., Von Hirsch, A., 1998. *Principled Sentencing: Readings on Theory and Policy*(Hart Publishing, Oxford).

[517] Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam). It should be mentioned that if compliance is the very first objective of administrative law, it may happen that important sanctions pronounced by administrative authorities are qualified as "deterrent". Indeed, the European appreciation of the "monetary sanctions" pronounced by the regulatory authority is a little confusing. The European jurisprudence considers the nature or the gravity of a sanction as very

Advocates of compliance and cooperative strategy argue that policies should take into consideration that individuals may have a *law-abiding nature* and may comply with the law without fearing a sanction, even in situations where utilitarian and behavioral theories may have predicted a will to infringe the rule[518]. From that perspective, policies should be shaped in order to encourage compliance whenever possible[519] by providing repairs and information. The agency, better informed, could help the potential wrongdoers to comply with the regulation[520]. For instance, a compliance strategy is based upon a cooperative enforcement approach aimed at encouraging individual moral obligations to obey the law[521].

This implies that institutions seeking for compliance believe above all that individuals will comply. Indeed, the underlying mechanism does not rely on fear (like in the context of the deterrence strategy) but on *trust*. Trust is the basis of compliance and thereby influences the choice of individuals. Treating individuals with respect and trust, making them aware of their responsibilities and using less stringent regulatory system could potentially lead to better performances[522]. In this perspective, individuals' perception of fairness and morality and of the legitimacy of rules, institutions and organizations influence their decision to obey[523].

Finally, a compliance strategy is based upon a *continuing cooperation* between the agency and the offender in order to induce compliance[524]. Compliance can be obtained through negotiation and bargain. This is possible to achieve because, in the regulatory framework, actors are often involved in repeated games and potentially deal with the same regulatory agency[525].

Regarding conciliation and compromising attitudes to law enforcement, cooperation may sometimes be more efficient than a deterrence strategy[526]. Hence, cooperative policies create a balance by allowing a smoother functioning of the society. Under certain circumstances and for certain types of offenses, this strategy is preferred. It may be the case for example for minor harms or mistakes due to insufficient knowledge or care on the part of the wrongdoer.

However, some problems can arise in the compliance process. First of all, this

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important to qualify (CEDH, 25 aout 1987, Lutz c/ Allemagne, Série An°123(§55)). In the Société Sténuit case against France, the European commission of human rights noted that the "ministère de l'intérieur" sentences the firm of a 50 000 francs monetary sanction, but moreover that this sanction was determined proportionally to the "chiffre d'affaire" for a firm and 5 000 000 to other wrongdoers. The commission concluded that this sanction pursued a dissuasive goal.

[518] Tyler, T., 2006. *Why People Obey the Law*(Princeton University Press, Princeton, NJ).

[519] Braithwaite, J., 2002. *Restorative Justice & Responsive Regulation*(Oxford University Press, New York).

[520] Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.

[521] Braithwaite, J., 2002. *Restorative Justice & Responsive Regulation*(Oxford University Press, New York).

[522] Braithwaite, J., Makkai, T., 1994. Trust and Compliance, *Policing and Society* 4, 1-12.

[523] Tyler, T., 2006. *Why People Obey the Law*(Princeton University Press, Princeton, NJ).

[524] Hawkins, K., 1983. Bargain and Bluff: Compliance Strategy and Deterrence in the Enforcement of Regulation, *Law and Policy Quarterly* 5, 35-73. Fenn, P., Veljanovski, C., 1988. A Positive Economic Theory of Regulatory Enforcement, *The Economic Journal* 98, 1055-1070.

[525] Fenn, P., Veljanovski, C., 1988. A Positive Economic Theory of Regulatory Enforcement, *The Economic Journal* 98, 1055-1070.

[526] Hawkins, K., 1984. *Environment and Enforcement: Regulation and the Social Definition of Pollution*(Clarendon Press, Oxford).

"interactive" type of strategy can diminish the *credibility* of the threat of legal sanction, which is crucial to attain voluntary compliance[527]. Indeed, compliance strategies may fail because they do not give potential offenders enough ex-ante incentives to comply with the law in the first place. Moreover, it may appear naïve to believe that individuals are willing to obey the law, and that guidance and advice may be sufficient to obtain compliance without having recourse to any coercive means. An alternative coercive measure should be operable if individuals do not comply voluntarily; if not, the policy may suffer discredit because it appears too weak and will likely not be respected[528]. Another type of problem is the *risk of capture*. Stigler argues that regulators may be captured by the industry to a much greater extent than judges possibly can, since judges do not have long-term relationships with firms[529]. The regulators' behavior may end up considerably more biased against consumers than that of the judges. Interests groups may try to influence the position of the regulators within the decision making process. If it is the case, the regulation issued may be more likely to work in favor of the pressure group and fail at internalizing externalities to the detriment of social welfare[530].

The legal definition and the deterrence goal of criminal law

Criminal law is also *ex-ante*[531] defined in public legislation or in common law, governed by rules, and not standards, that can be primarily applied on the request of a public agent: a prosecutor or an agency. The introduction of substantive criminal rules should be consistent with the following principles: the principle of a legitimate purpose, the *ultima ratio* principle, the principle of guilt and the principle of legality.
First of all, criminal law follows the principle of legality (*nullum crimen nulla poena sin lege parlementaria*) defined by Article 7 of the European Convention on Human Rights: "No one should be held guilty of an offence on the account of any act or omission which did not constitute a criminal offence under national or international law at the time when it was committed". Therefore a *criminal act* is one defined as such in the penal code, or in other criminal statutes, by the legislature. This principle requires that criminal rules have to pass by Parliament to be legitimate[532]. The enactment of a criminal law should emanate from the people as directly as possible[533]. Some authors therefore underline the political opportunism and the contextual, historical and cultural biases[534] in deciding to criminalize an act. Creating a new criminal act would in the end just correspond to the will of a legislature to signal a step towards a stricter enforcement.

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[527] Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298.
[528] Gunningham, N., 2007. *Mine Safety: Law, Regulation, Policy*(The Federation Press, Sydney).
[529] Stigler, G., 1970. The Optimum Enforcement of Laws, *The Journal of Political Economy* 78, 526-536.
[530] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).
[531] Ashworth, A., 2006. *Principles of Criminal Law*, 5 edition.(OUP Oxford).p.536.
[532] article 7(1) ECHP, article 49(1) of the Charter of Fundamental Rights of the EU, article 6(3) TFEU
[533] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.23. Elholm, T., 2011. The Manifesto on European Criminal Policy in 2011, *European Criminal Law Review* 1, 86-103.p.90: "Since criminal law is the most intrusive of the institutions of state control, in a democratic society it must be justified by reference to as direct participation as possible by the people in the legislative process".
[534] Ashworth, A., 2006. *Principles of Criminal Law*, 5 edition.(OUP Oxford).p.52.

Furthermore, the requirement of a legitimate purpose principle stands that a fundamental legal interest worthy of protection against socially harmful conduct of significant degree is a criteria to distinguish between criminal harms and administrative infractions[535]. The equivalent in common law tradition is the "harm principle". In that respect, a criminal act should be the one that makes substantial public harm and contains a "third party interest" [536].

Another important characteristic of the legal definition of a criminal act should refer to the individual state of mind. Indeed, it is the intention of the wrongdoer that makes avoiding the harm very costly for society. According to the principle of guilt, a criminal sanction should only be imposed when a criminal act has affirmatively been proven to be the product of a "guilty mind" resulting from "mens rea". At a European level this principle result from article 48 of the Charter of Fundamental Rights of the EU[537]. However, intent is not exclusive to criminal law, neither obligatory to constitute a criminal act. Hence, it can happen that pure negligence can be accompanied by the requirement of *mens rea*[538], implying that a negligent act can also lead to criminal liability.

Moreover, criminalization proposals should come with a requisite burden to ensure that it is used as a last resort to protect fundamental interests. Setting minimum standards in criminal matters should correspond to the last reply, accordingly to the *ultima ratio* principle emanating from the principle of proportionality[539] (A special section will be dedicated to this principle in Chapter 6).

Finally, criminal law has to apply to criminal acts through *criminal sanctions,* imposed by impartial judges[540] aiming to deter and to punish. Criminal monetary sanctions offer the same flexibility as administrative fines, in the sense that their magnitude and timing are not restricted to the size and the occurrence of losses[541]. Most of non-monetary sanctions available to administrative law are available as well to criminal law. However, the specificities of criminal sanctions reside in two aspects: stigma and incarceration. Stigma is inherent to any criminal sanction, whilst a socially incapacitating sanction belongs to a category of criminal sanctions.

[535] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.15: "The requirement of a fundamental interest that is harmed in a socially significant way would be of particular usefulness in determining when the EU shall be justified in employing criminal law means to effectively implement its policies under article 83(2) TFEU".
[536] See Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.
[537] "Everyone who has been charged shall be presumed innocent until proved guilty according to law".
[538] Escresa Guillermo, L., 2011. *Reexamining the Role of Incarceration and Stigma in Criminal Law*(Erasmus Universiteit Rotterdam, Rotterdam).
[539] See Art. 5 TFEU.
[540] See Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.
[541] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

Now, regarding the goal attributed to criminal law, it is first to *compensate*[542], or in other words, to bring justice to the victims. This does not appear to be the main goal of criminal law as it can also be achieved by administrative law or tort laws. It consequently does not constitute an exclusive argument in favor of criminal law[543].

Criminal law is concerned with the prohibition of a designated act and also complies to the goal of *punishment,* considering that offenders need to be punished for their offences in order to obtain justice and operate deterrence[544]. This is not surprising insofar as criminal law is conceived as a device to punish deviations from the behavior considered as consistent to the smooth functioning of society. If an individual passes over a criminal prohibition, he is punished. Punishment makes individuals more responsive to legal standards[545]. With this concern, criminal law is intended to reflect social disapproval[546]. Nevertheless some scholars note the distinction between the function of criminal law and the function of sentencing[547]. They even sometimes consider that punishment is not an appropriate or natural response to offending[548].

Incapacitation[549] and *rehabilitation*[550] are considered by the literature as major goals of criminal law, which can be achieved respectively by incarceration and by various programs that have been already described (cf. 4.2.2). The aim of these measures is to prevent criminals from committing more harm in the future[551]. Nevertheless, it should be mentioned that, even if incarceration (social incapacitation) is exclusively available to criminal law, other administrative types of non-monetary sanctions enable to achieve potentially sufficient economic incapacitation. Indeed, incapacitation should sometimes occur prior to a deterrence effect, under certain circumstances.

Finally, the *deterrence* goal seems to be the main goal invoked by criminal law[552]. A deterrence strategy is based on the assumption that an exemplary prosecution will

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[542] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.171.

[543] Ashworth, A., 2000. Is the Criminal Law a Lost Cause?, *Law Quartely Review* 116, 225-256. Ashworth, A., Von Hirsch, A., 1998. *Principled Sentencing: Readings on Theory and Policy*(Hart Publishing, Oxford).

[544] Ashworth, A., 2006. *Principles of Criminal Law*, 5 edition.(OUP Oxford). Ashworth, A., Von Hirsch, A., 1998. *Principled Sentencing: Readings on Theory and Policy*(Hart Publishing, Oxford).

[545] Cooter, R., 1984. Prices and Sanctions, *Columbia Law Review* 84, 1523-1560.

[546] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

[547] Ibid.

[548] Ashworth, A., 2010. *Sentencing and Criminal Justice (Law in Context)*(Cambridge University Press).

[549] Ibid. Ashworth, A., Von Hirsch, A., 1998. *Principled Sentencing: Readings on Theory and Policy*(Hart Publishing, Oxford). Shavell, S., 1987a. A model of Optimal Incapacitation, *American Economic Review* 77, 107-110.

[550] Ashworth, A., 2000. Is the Criminal Law a Lost Cause?, *Law Quartely Review* 116, 225-256. Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

[551] Shavell, S., 1987a. A model of Optimal Incapacitation, *American Economic Review* 77, 107-110.

[552] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Ashworth, A., 2010. *Sentencing and Criminal Justice (Law in Context)*(Cambridge University Press). Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).

create a deterrent effect and hence lower the number of violations and harm[553]. Deterrence can occur at two different levels: individual and general. Individual deterrence seeks to deter an individual from re-offending, and his propensity to re-offend is the main determinant of the sentence[554]. On the contrary, general deterrence aims at operating with a societal value and gives a counter-incentive to commit a criminal offence by inflicting a wrongdoer a severe exemplary sanction. Part of the literature also considers that the deterrence effect of criminal law is over-estimated and that it can also be achieved by administrative or tort laws. Consequently, the deterrence effect cannot constitute an argument exclusively in favor of criminal law[555]. Nevertheless, even if deterrence can be achieved by administrative or tort law, criminal law achieves his characteristic *ultima ratio* function. A deterrence strategy should always be used when the compliance strategies pursued by the administrative agencies are likely to fail[556].

4.3.2 The subsidiary legal role of criminal law

This paragraph exposes the discussion of the legal doctrine about the role of criminal law in relation to those of other legal instruments. In the legal environment, different legal approaches support a subsidiary role of criminal law.

The sanctioning conception of criminal law

First of all, the "sanctioning" conception[557] of criminal law denies it any autonomy in the creation of the legal values it protects. Following this vision, criminal law is limited to selecting legally enshrined values in other laws and lending its sanctioning instruments to the legal reality determined by contract, commercial or social laws when they fail to generate mechanisms capable of ensuring their own compliance and deterrence. It is a kind of "legal watchdog", a "passive receptor of values determined by other branches of law"[558] that acts as a strengthening "body belt"[559]. Law and economics theory holds that individuals are rational and do not spontaneously respect the obligations set forth by the law[560]. Criminal law is able to significantly influence the conduct of individuals when a strong and convincing argument is needed. It should be applied only in exceptional cases in order to rescue contract, commercial or social law when they fail to generate mechanisms capable of ensuring their own compliance and deterrence. This vision is sometimes criticized for its simplicity. However, many authors have supported the "sanctioning" conception of criminal law.

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[553] Fenn, P., Veljanovski, C., 1988. A Positive Economic Theory of Regulatory Enforcement, *The Economic Journal* 98, 1055-1070.

[554] Ashworth, A., 2010. *Sentencing and Criminal Justice (Law in Context)*(Cambridge University Press).

[555] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Burney, E., Wikstrom, P.-O., Bottoms, A. E., Von Hirsch, A., 1999. *Criminal Deterrence and Sentence Severity: An Analysis of Recent Research*(Hart Publishing, Oxford).

[556] Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).

[557] El-Din Hindawi, N., 1979. *Essai d'une Théorie Générale de la Justification*(Rennes). Pedrazzi, C., 1985. *Le Rôle Sanctionnateur du Droit Pénal*(Editions Universitaires de Fribourg).

[558] Conte, P., Maistre du Chambon, P., 2004. *Droit Pénal Général* 7edition.(A. Colin, Paris).

[559] Merle, R., Vitu, A., 1997. *Problème Généraux de la Science Criminelle, Droit Pénal Général*(Cujas, Paris).

[560] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

Numerous scholars from all over Europe traditionally share this vision and consider that "it is not the role of criminal law to regulate but to sanction", or that criminal law is a "sanctioning law that the others rely on"[561] .

In 1762, Jean Jacques Rousseau operated a classification of the law into three groups: political law governing the State, civil law regulating relations between citizens and criminal law being a particular kind of law that is the punishment of all others[562]. Moreover, in the preliminary discourse of the draft civil code delivered the first Pluviôse IX, Portalis asserts that "criminal statutes are less of a particular kind of law than the penalty of all others"[563]. Furthermore, Jeremy Bentham supports that the role of criminal law is not to create an independent legal reality but to lend its sanctions to other laws to strengthen the deterrent mechanism. In this sense, criminal law does not create new social norms but has the function of ensuring compliance and enforcement of certain obligations issued by other laws, which are themselves "determining".

This conception has survived centuries and scholars such as Durkheim[564], Roux[565], Binding[566], Natz[567], Garraud[568] or Jimenez de Asua[569], always referred to as the sanctioning function of criminal law. The "Normentheorie" of Karl Binding developed in the book "Die Normen und irhe Ubertretung"[570], in line with the old sanctioning conception, supports that the function of criminal law is to determine the legal consequences of the offense. This means that criminal law intervenes only after the offense and imposes to the judge the duty to punish the guilty. It also means that the offense is merely fulfilling the condition for the application of criminal law without constituting a violation of criminal law. It is in a separate standard of law that the transgression of the rule constitutes a criminal offense.

However, the fundamental conception attributed to Portalis defining criminal law as a "sanctioning" subsidiary law has had its day[571]. This approach was recently criticized for granting too restrictive a role to criminal law[572] and was qualified as "simplistic"[573] and contrary to reality.

The old "determining" [574] conception of criminal law is favored by recent doctrines favor that argues its *normative* and expressive[575] dimensions. Incrimination creates a

[561] Stefani, G., Bouloc, B., Levasseur, G., 1980. *Droit Pénal Général*, 11 edition.(Dalloz, Paris).
[562] Rousseau, J. J., C762. *Livre II, chapitre XII*.
[563] Portalis, J.-E.-M., 1988. *Discours Préliminaire du Premier Projet de Code Civil* (PUAM).
[564] Durkheim, E., 2007(1893). *De la Division du Travail Social*(PUF, Paris).
[565] Crim 14 juin 1915, S. 1918.I.225 ; adde S. 1914I.116 et S.1929.I.153.
[566] Binding, K., 1965. *Die Normen und ihre Ubertretung: Eine Untersuchung Uber Die Rechtmassige Handlung Und Die Arten Des Delikts*(Aalen: Scientia).
[567] Crim 04 juin 1915, D.P. 1921.I.57, p.58.
[568] Garraud, R., 1913. *Traité Théorique et Pratique du Droit Pénal Français*, 3 edition.(Recueil Sirey, Paris).
[569] Jiménez de Asua, L., 1917. *Derecho Penal*.
[570] Binding, K., 1965. *Die Normen und ihre Ubertretung: Eine Untersuchung Uber Die Rechtmassige Handlung Und Die Arten Des Delikts*(Aalen: Scientia).
[571] Stefani, G., 1956. *Quelques Aspects de l'Autonomie du Droit Pénal*(Dalloz, Paris).
[572] Merle, R., Vitu, A., 1997. *Problème Généraux de la Science Criminelle, Droit Pénal Général*(Cujas, Paris).
[573] Seuvic, J.-F., 1984. *L'Incrimination de l'Escroquerie, Etude Législative et Jurisprudentielle*(Nancy 2).
[574] Ortolan, J.-L.-E., 1875. *Eléments de Droit Pénal*, 4 edition.(Plon, Paris).
[575] Pin, X., 2007. *Droit Pénal Général*(Dalloz, Paris).

certain independent reality, and norms in other branches of law[576]. Criminal law is "sanctioning", but not only.

The subsidiary role of criminal law: ultima ratio

The minimalist's approach of law asserts that the law's most coercive and condemnatory technique (criminal law) should be reserved for the most serious invasion of interest[577]. From this perspective, and on the following from the logic of the sanctioning conception of criminal law, the criminal sanction is conceived as the ultimate sanction that should act as a support to other branches of law. Therefore, the conditions required to make use of the criminal sanction can only be determined comparatively with the use of other sanctions; the scope of the criminal law should be limited to circumstances where other legal remedies are inadequate[578].

The *ultimum remedium* principle as a foundation of criminalization received support in the literature all over the world, even though it is a "continental" concept at its origin[579]. Jareborg developed the defensive model of criminalization[580], arguing against what he calls an inflation of criminalization, or an over-criminalization. Summester and Sullivan[581], Husak and Ashworth developed a restrictive theory of criminalization[582], asserting the use of criminal law as a last resort. In the Netherlands, Hulsman also supported that any nature of enforcement should be resorted to before the criminal one. He even went further in the 1980s, developing an abolitionist approach of the criminal law[583]. De Roos is another scholar who support that the selection of conducts worthy of criminal punishment should be very diligent, arguing that criminal law could be only justified by the occurrence of a very large harm[584].

[576] Rassat, M.-L., 2006. *Droit Pénal*(Ellipses, Paris).
[577] Ashworth, A., 2000. Is the Criminal Law a Lost Cause?, *Law Quartely Review* 116, 225-256., Ashworth, A., 2006. *Principles of Criminal Law*, 5 edition.(OUP Oxford).p.67-68: "the decision (to criminalize) should not be taken without an assessment of the possibility of tackling the problem by other forms of regulation and control".
[578] Nuotio, K., 2010. *Theories of Criminalization and the Limits of Criminal Law: a Legal Approach*(Oxford University Press).
[579] Husak, D., 2005. Applying Ultima Ratio: A Skeptical Assessment, *Ohio State Journal of Criminal Law* 2, 535-545.p.535: "Anglo-American theorists are less likely to defend principles to limit the reach of the criminal sanction than their European counterparts".
[580] Jareborg, N.Ibid. Criminalization as Last Resort (Ultima Ratio), 521-534. Jareborg, N., 1995. *What Kind of Criminal Law Do We Want?*(Pax Forlag, Oslo).pp.17-22: "Punishment is society's most intrusive and degrading sanction. Criminalization should accordingly be used only as a last resort or for the most reprehensible types of wrongdoing".
[581] Simester, A. P., Sullivan, G. R., 1999. *Criminal Law: Theory and Doctrine*(Hart Publishing). "Criminal censures should not be deployed merely as a tool of convenience, and where possible other forms of social control ought to be used in their stead".
[582] Ashworth, A., 2006. *Principles of Criminal Law*, 5 edition.(OUP Oxford), Husak, D., 2004. The Criminal Law as Last Resort, *Oxford Journal of Legal Studies* 24, 207-235.
[583] Hulsman, L. H. C., Bernat de Celis, J., 1982. *Peines Perdues: Le Système Pénal en Question*(Le Centurion, Paris).
[584] T. A. de Roos is Professor of law at the University of Tilburg, The Netherlands.

4.3.3 Economic criteria for the use of criminal enforcement of laws

Chapter 3 presented the economic criteria under which the use of public enforcement would lead to a cost effective enforcement of laws compared to the use of private enforcement. This section examines the trade-off between administrative and criminal enforcement. The literature is prolific about this issue and provides criteria according to which it is more efficient to use either administrative or criminal law in order for society to come closer to a socially optimal level of harmful activity.

Economics treats administrative and criminal laws as two mechanisms of public enforcement for controlling potentially harmful activities. They compete with alternatives such as civil law, private negotiation, or excise taxes, as means of preventing activities that impose social costs exceeding their social benefits[585]. One of the main criteria that determines whether to use a certain mechanism rather than another is that it should be the most efficient means of controlling a given activity[586]. If the administrative and social costs are the very first arguments in arbitrating the administrative or criminal nature of the sanction (4.3.3.1), the need to use criminal sanctions to operate deterrence or incapacitation (4.3.3.2) or to use criminal procedure to secure the imposition of criminal sanctions with high procedural requirements (4.3.3.3) are very important. Finally, some considerations are mentioned regarding the cumulation of sanctions and prosecutions (4.3.3.4).

4.3.3.1 Administrative and social costs of the administrative and criminal sanctions

The costs of apprehending and convicting associated with administrative and criminal enforcement of laws

As already described in the section 3.1 dedicated to the costs of private and public enforcement of laws, criminal law is associated with higher enforcement costs than administrative law[587].

Social cost[588] associated with administrative and criminal enforcement of laws

Apart form the costs of apprehending and convicting, *social costs* associated with the

[585] Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287.
[586] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.
[587] See section 3.1. See Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.pp.173-176. Faure, M., 2009. *The Impact of Behavioral Law and Economics on Accident Law* (Boom Juridische Uitgevers, The Hague). Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298. See Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.36: "Criminal law entails even higher enforcement costs than regulation. The negative impact of a conviction on the actor involved, such as the reputational loss or stigma, the possible impact on work and personal relations and time going to waste during imprisonment, calls for procedural safeguards to avoid wrongful convictions (…) Due to the safeguards in the criminal procedure, authorities have to collect more information in order to secure a conviction. This increases the enforcement costs."
[588] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.180: "The social cost of punishments is the cost to offenders plus the cost or minus the gain to others".

imposition of a sanction is an important dimension to consider. Indeed, at an individual level, the expected sanction is apprehended considering any non-pecuniary losses the convicted may suffer (such as bad reputation for example). For instance, a stigma effect and a reputational loss are associated with the punitive dimension of the criminal sanction. Stigma has been underestimated for a long time, or assimilated under the category of social norms; it is indeed a difficult component to assess. Nevertheless, social norms and law are indeed related and do influence each other[589]. Because of this punitive dimension, a wrongful criminal conviction can have serious consequences. Authorities require a great amount of information and a more complex procedure to secure a conviction. Economists generally agree that administrative law may not be able to inflict inherent stigma[590]. It is even argued that administrative authorities should not engage in "naming and shaming" of offenders because of its very high error costs. [591]

The eloquence of a criminal penalty marks the incriminated conduct of a blame that civil or administrative sanctions do not express[592]. Civil or administrative law covers domains such as accidents and negligent behavior, whilst criminal law usually covers intentional offenses that have to be established through a heavier procedural mechanism. From this standpoint, institutional properties of criminal law ensure that criminally convicted individuals are designated as bad types individuals[593]. Hence, criminalization clarifies the causality between an actor, an act and the extent of harm, thereby influencing social perception[594]. For instance, the criminal nature of the procedure confers a negative reputational effect to the sanction, so-called "stigma"[595]. According to a signaling and moral approach of criminal law, the higher standard of proof in criminal law implies that a criminal conviction conveys more reliable information about someone's guilt[596].

Criminalization conveys information about an individual's bad type as well as his bad behavior[597]. This information influences the norms by increasing the cost associated to the criminalized act[598]. A criminal conviction signals a different trait that may be considered important in an economic transaction: the convicted individual has

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[589] Escresa Guillermo, L., 2011. *Reexamining the Role of Incarceration and Stigma in Criminal Law*(Erasmus Universiteit Rotterdam, Rotterdam).

[590] See *inter alia* Galbiati, R., Garoupa, N., 2007. Keeping Stigma Out of Administrative Law: An Explanation of Consistent Beliefs, *Supreme Court Economic Review* 15, 273-283.

[591] See Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.pp.173-176.

[592] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.6: "The moral and social blame inherent in every criminal sanction remains firmly attached to the convicted criminal long after the sentence has been served".

[593] Escresa Guillermo, L., 2011. *Reexamining the Role of Incarceration and Stigma in Criminal Law*(Erasmus Universiteit Rotterdam, Rotterdam).

[594] Ibid.

[595] Ibid.

[596] Galbiati, R., Garoupa, N., 2007. Keeping Stigma Out of Administrative Law: An Explanation of Consistent Beliefs, *Supreme Court Economic Review* 15, 273-283.

[597] Van Erp, J., 2011. Naming Without Shaming: The Publication of Sanctions in the Dutch Financial Market, *Regulation and Governance* 5, 287-308. About individual's marginal productivity see Rasmusen, E., 1996. Stigma and Self-Fulfilling Expectations of Criminality, *Journal of Law and Economics* 39, 519-543.

[598] Escresa Guillermo, L., 2011. *Reexamining the Role of Incarceration and Stigma in Criminal Law*(Erasmus Universiteit Rotterdam, Rotterdam).

deviated from the average behavior. People that do obey social norms are willing to signal their individual type[599]. On the contrary, people that are criminally convicted are described as non-performing their roles (doctors are supposed to protect health, lawyers to protect rights, financial advisors to take care of their clients' assets, etc.). These elements also explain why the stigma effect arises out of individuals' concern for their social status. Consequently, the stigma associated to a certain sanction may be perceived differently according to how sensitive the convicted person when it comes to their reputation.

In the end, the negative association related to the criminal sanction complements the cost[600] of the sanction and even emphasizes the deterrent effect of the criminal monetary sanctions, which would be experienced less seriously if they were administrative. These negative associations attributed to criminal law are important to consider criminal sanctions as an *ultimum remedium*: criminal sanctions should only be applied if alternative sanctions do not produce the desired effect[601].

To conclude, all things being equal, the administrative enforcement of laws appears to be less costly than the criminal enforcement of laws, both from an administrative[602] and social point of view. Therefore, from a cost-effective point of view it seems desirable to use the less costly administrative law first, instead of criminal law, in order to achieve optimal deterrence[603]. For this reason, many have argued that policies should be more based on administrative law to enforce violations of regulations[604].

However, there are two important reasons why the penalties that efficiently deter insider-trading crimes cannot all be imposed through administrative sanctions. Indeed, criminal law may sometimes be necessary: One reason is the sanctions available to criminal law (deterrence/socially incapacitation-based criteria) and the other is the error-costs minimization ensured by the criminal procedure (procedural-based criteria).

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[599] Posner, E., 1998. Symbols, Signals, and Social Norms in Politics and the Law, *Journal of Legal Studies* 27, 765-799.

[600] Concerning the assessment of the cost associated with stigma, a certain number of empirical researches has shown that reputational sanction is experienced as a real sanction. Indeed, criminally convicted firms are punished by the market and see the value of their stock prices diminishing. Engelen and Van Essen establish that the magnitude of the decline in stock prices of firms following allegations of insider trading leads to full reputational loss, while in the case of environmental offenses this decline can be attributed to expected legal penalties, which would establish the important impact of stigma in criminalization of insider trading Adam, J., Engelen, P.J., Van Essen, M., 2011. *Reputational Penalties on Financial Markets to Induce Corporate Responsibility*(Springer, Heidelberg).

[601] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.35.

[602] See Chapter 3.

[603] See Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). Shavell supports that the use of criminal punishment is justified only if the unlawful conduct cannot be deterred through other legal mechanisms. It is the powerlessness of private or public law mechanisms that legitimizes the use of criminal sanctions. See Bentham, J., 1789. *Introduction to the Principles of Morals and Legislation*(reproduction in "The Utilitarians", Rept. Garden City NY: Anchor Books, 1973, Paris). Bentham recommends not to punish (criminally) "where it must be inefficacious: where it cannot act as to prevent the mischief" and "where the mischief may be prevented…without it: that is, at cheaper rate".

[604] See *inter alia* Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298.

4.3.3.2 Relative sanctions available to administrative and criminal law

The analysis so far has lead to the conclusion that, from an economic perspective, administrative sanctions may suffice in the case where the prospective gain or harm from insider trading and its probability of detection requires the use of public enforcement, but where deterrence can be achieved with a moderate administrative sanction.

However, it may happen that the sanction needed to optimally deter the insider would have to be higher than the one available to administrative law. Criteria under which these sanctions are required constitute criteria in favor of using criminal law rather than administrative law. The scholarly literature has established that, when the *gain* or the *harm* out of the act is *very high, for instance large, immaterial and diffuse*[605], and the *probability of detection and conviction* of the act is *very low,* the need to use the most stringent sanction is therefore necessary to operate optimal deterrence[606]. In this case, it may be necessary to use certain sanctions that are exclusively available to criminal law.

Two dimensions make the sanctions available to criminal law unique: social incapacitation and inherent stigma.

(i) Criminal law also exclusively provides for *socially incapacitating sanctions.* The criteria under which the use of social incapacitation is necessary were discussed in the previous section (the reader is invited to refer to section 4.2). They relate either to deterrence or to incapacitation objectives.

(ii) The second specificity of criminal sanctions, which is particularly deterrent, resides in their *inherent stigma*[607]. Nevertheless, exactly as for naming and shaming sanctions, some economists have doubts on the possibilities to use stigma as an effective deterrent; one problem is that it may not be possible to inflict stigma in a way that is *proportional* to the crime.[608] Another problem is that a growing amount of crime detection could result in less stigmatization.[609] Based on this literature, using stigma as a motivation for criminal law is hence not unproblematic, to say the least.[610]

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[605] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238. Polinsky, A. M., 1980. Private Versus Public Enforcement of Fines, *Journal of Legal Studies* 9, 105-127. Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).

[606] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Garoupa, N., 2001. Optimal Magnitude and Probability of Fines, *European Economic Review* 45, 1765-1771.

[607] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.pp.406-407.

[608] See note on X, 2003. Shame, Stigma, and Crime: Evaluating the Efficacy of Shaming Sanctions and Criminal Law, *Harvard Law Review* 116, 2186-2207. There is hence a huge danger of overdeterrence and disproportional sanctions when stigmatisation is used as the goal of criminal law.

[609] As was convincingly shown by Klement, A., Harel, A., 2007. The Economics of Stigma: Why More Detection of Crime May Result in Less Stigmatization, *Journal of Legal Studies* 36, 355-378.

[610] See further on those issues also Faure, M., Escresa, L., 2011. *Social Stigma*(Edward Elgar, Cheltenham).

Because of these two specificities, criminal law provides for the *most severe sanctions* in terms of magnitude. Based on a perspective of deterrence, it may be necessary to use a very high sanction in the circumstances already exposed in chapter 3. In that respect, the intent of the offender can play an important role. The intent relates to the mental state of the offender and its intention to harm increases the *probability of actually causing harm* as well as the *magnitude* of the harm and *lowers the probability of detection* (the author of the crime can purposely hide it)[611]. In the context of intentional harm, arguments in favor of a criminal enforcement seem to be strong. Indeed, intentional insider trading usually constitutes a crime.

4.3.3.3 High criminal procedural requirements

From a procedural point of view, there is a clear economic reason why society does not want to impose very stringent sanctions through an administrative proceeding. The costs of the administrative proceedings may be lower than the costs of the criminal proceedings, but the *accuracy* of the latter may be a lot higher as well, thanks to an investigation often undertaken by professional lawyers.

(i) Court errors and miscarriages of justice may have very costly impact for the convicted as well as for society.

To administratively convict someone, it is likely that the prosecution must substantiate the allegation "on the balance of probabilities". Moreover, depending on the regime, different elements of fault or knowledge on the part of the trader have to be established. They can relate to "due diligence", "reasonable mistake", or sometimes be part of a strict or absolute liability regime[612]. Most of the time, administrative agencies can negotiate with the convicted individual and try to find an agreement. Administrative law has a lower standard of proof, which may increase the risk of making a wrongful conviction. This also explains why administrative law cannot sanction with incarceration[613].

On the contrary, higher standards of proof are required to criminally convict someone[614]. Criminal proceedings are distinguishable because of their rules relating to investigation, arrest, filling of charges, trial, conviction and sentencing. Most of the time the procedure progresses with satisfaction from tests; the trial ends with a conviction when the prosecution manages to establish the suspect's guilt "beyond reasonable doubt". It is likely that, within a criminal proceeding, the intention, or at

[611] Shavell, S., 2004. *Foundations of Economic Analysis of Law*(The Belknap Press of Harvard Press University, Cambridge, Massachusetts). "Intent may be linked to the probability that a party will escape a sanction, since a party who intends to commit a harmful act is more likely to choose a particular place and time to commit the act so as to avoid identification and arrest, or to take steps thereafter to do so", **"**Intent may be correlated with the likely magnitude of harm, because a party who desires a harmful result is prone to do greater damage than one who does not".

[612] Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.

[613] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

[614] Garoupa, N., 2001. Punish Once or Punish Twice: A Theory of the Use of Criminal Sanctions, *German Working Papers in Law and Economics* 6, 410-433.

least the knowledge of fault, on the part of the wrongdoer has to be demonstrated[615]. Therefore, the accuracy of the criminal prosecution is costly. Such procedures are made to legitimate criminal justice decisions and to ensure that no costly mistakes are made, such as convicting an innocent or acquitting a guilty[616]. Indeed, when incarceration may be involved, the cost of wrongful conviction is socially more significant.

This aspect is important because the task of criminal law is not only to apply optimal sanctions to the guilty but also to avoid sanctioning the innocent. This is referred to as the goal of reduction of error costs.[617] The error cost is obviously a lot higher when very serious sanctions, like social incapacitation, may be imposed. It is therefore understandable that less costly administrative proceedings are chosen in all cases where the consequences, and thus the error cost, will not be too high in the event of a wrongful conviction[618]. Arguably, another goal of the administrative procedure is also to avoid sanctioning the innocent and thus reducing error costs, although they operate at lower standards. This explains why administrative law and the corresponding administrative procedures are reserved for cases where relatively low penalties can suffice to induce deterrence.

(ii) Courts and judges administer criminal prosecutions, whilst *agencies and specialized bodies* carry out administrative prosecutions. Therefore, it has been argued that administrative enforcement of regulations should be preferred in situations where the government possesses superior information compared to that possessed by the courts[619]. It should also be preferred when economies of scale will possibly be made thanks to the specificity of the agency structure in charge of the administrative law enforcement. After all, a more flexible law with a lower standard of proof, a specialized interpretation and a timely enforcement may be desirable to regulate certain economic and social activities[620].

4.3.3.4 Complement: Economic perspectives on cumulation of administrative and criminal prosecutions and sanctions

The scope of optimal law enforcement is to achieve optimal deterrence at a minimal cost. From that perspective, the case of *multiple prosecutions* may be problematic.

The issue of a prosecution is to impose a sanction when a violation of the law has been established. In cases where a first prosecution ends in an acquittal or in the

[615] Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.
[616] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Garoupa, N., Rizzoli, M., 2007. Why Prodefendant Criminal Procedure Migth Hurt the Innocent?, *University of Illinois Law and Economics Research Paper* 137. Posner, R. A., 1985. An Economic Theory of the Criminal Law, *Columbia Law Review* 85, 1193-1231.
[617] See Miceli, T., 1990. Optimal Prosecution of Defendents Whose Guilt is Uncertain, *Journal of Law, Economics and Organisation* 6, 189-201.
[618] Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298.
[619] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.36.
[620] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416.

imposition of an optimal sanction for a given violation of the law, any additional prosecutions may serve no useful purpose[621].

The first argument to this statement concerns the risk of *over-punishment*. Indeed, if further sanctions are added to the first optimal sanction, over-punishment may occur. The only case where a second prosecution may be desirable from an optimal sanction point of view is when the first prosecution has failed to secure an optimal sanction (sub-optimal sanction or an acquittal error). In that case, additional prosecutions are desirable up to the point where the optimal penalty is reached (implying that the first sanction has to be taken into consideration in the second prosecution).

The second argument concerns the *cost of prosecutions*[622]. Social and individual costs have to be minimized in order to respect efficient law enforcement. From this perspective, multiple prosecutions also appear undesirable. The only case where a second prosecution is desirable is when the additional costs could be outweighed by the benefits of the additional prosecution. This also corresponds to the situation where the first prosecution failed in securing an optimal sanction.

Therefore, the only reason justifying an additional prosecution from an economic point of view corresponds to the case where the first prosecution failed in securing an optimal sanction. This may occur from a lack of care in preparing and conducting the prosecution. In that respect, an appeal procedure is the solution to ensure the possibility of a "second chance".

Moreover, allowing cumulative prosecutions may have negative effects on the incentives of the prosecutor to take due care. Additional care in collecting evidences and prosecuting is not infinite and will consume scarce enforcement costs compared to those associated with an additional prosecution. The prospect of a one and only prosecution may encourage prosecutors to act with due care[623]. For instance, when different prosecutors can potentially prosecute the same violation of the law, the rule forbidding additional prosecutions increases the incentives for coordination between prosecutors. Depending on their resources, specialization, competences and power, one body can seem more adapted to prosecute a case than another. Forbidding multiple prosecutions is providing a stronger common interest in ensuring that the prosecutor who can achieve an optimal sanction at a minimal cost is the one who will prosecute the violation from the beginning[624]. Nevertheless, if an error occurs in the choice of prosecutor, the violation may not be relevantly punished.

From an overall economics perspective, the rational forbidding of cumulative prosecution contributes to efficient law enforcement in various aspects: it supports the imposition of the optimal sanction at a minimal cost and provides incentives for efficient prosecution and efficient coordination between prosecutors[625].

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[621] Wils, W., 2003. The Principle of "Ne Bis in Idem" in EC Antitrus Enforcement: A Legal and Economic Analysis, *World Competition* 26, 131-148.pp.140-141: "From the perspective of minimizing cost, multiple prosecutions would thus always appear undesirable".
[622] Coulon, J.-M., 2008. *La Dépénalisation de la Vie des Affaires* (Ministère de la Justice, France).
[623] Wils, W., 2003. The Principle of "Ne Bis in Idem" in EC Antitrus Enforcement: A Legal and Economic Analysis, *World Competition* 26, 131-148.p.142.
[624] Ibid.
[625] Ibid.p.143.

4.4 SUMMING-UP: CRIMINALIZATION FOR INSIDER TRADING

The starting point is, as already explained in the Chapter 3 dedicated to the division between private and public enforcement, that there are strong arguments in favor of the use of public enforcement of insider trading laws, most particularly because private enforcement may be too weak. However, this chapter stressed that public enforcement does not necessarily mean criminal enforcement. The possibility of improving the effectiveness of private enforcement, instead of resorting to criminalization, was previously mentioned in the study (See Chapter 3). Also, looking at the possibilities of administrative enforcement, the criteria we just mentioned do not systematically point to a need for criminalization.

The last section of the chapter described that administrative law aims at obtaining compliance through the imposition of reparatory measures while criminal law aims at obtaining deterrence through the imposition of punishment. The employment of a deterrence strategy should be used only to the extent that compliance strategies are likely to fail[626]. From a legal theory point of view, the sanctioning conception of criminal law and the *ultima ratio* principle explains the subsidiary role of criminal law. From an economic point of view, the costs of administrative proceedings being lower than the costs of the criminal proceedings, administrative sanctions should be used at the largest extent before using criminal law. Administrative enforcement of law can suffice when the harm is relatively low, when the injurer may have enough assets and stake, when the individual does not need to be socially incapacitated but economic incapacitation may suffice and when inherent stigma is not necessary to get additional deterrence.

However, there are clear economic reasons for which society cannot rely exclusively on administrative law. In the trade-off between administrative and criminal enforcement, the use of criminal law seems justified when there is a need for very stringent sanctions and accurate proceedings in order to secure the imposition of such stringent sanctions. More particularly, the use of the most severe sanctions through criminal law is desirable to operate *deterrence* when the gain or the harm is very high (for instance large, diffuse and immaterial) and when the probability of detection and apprehension is very low; or to operate *incapacitation* in case of limited wealth and violence[627]. The most severe sanctions are imposed through criminal proceeding because criminal procedure has the advantage of securing the imposition of such severe sanctions through high procedural requirements, which allow limited error costs. Moreover, inherent stigma associated to criminal law strengthens the deterrent effect of any criminal sanction.

Nevertheless, it may not always appear optimal to systematically resort to criminal law when a high sanction is required to operate deterrence. It may be relevant to keep in mind that, even if criminal law seems to offer the most coercive sanctions (through social incapacitation and inherent stigma) some sanctions such as fines, economic incapacitating sanctions or naming and shaming sanctions, may be considered as serious alternatives. Moreover, as extensively described before, criminal law achieves a very specific goal and should be reserved for harms and wrongdoers fulfilling

[626] Svatikova, K., 2012. *Economic Criteria for Criminalization*(RILE, Rotterdam).
[627] Becker 1968, 1974; Bowles, Faure, Garoupa 2008; Escresa Guillermo 2012; Shavell 1985, 1987, 1989; Shavell, Polinsky 1984, 1991, 2004, 2007; Svatikova 2012.

specific criteria. Consequently, resorting to such enforcement should be thought out very cautiously and should be based on a *necessity*.

Finally, regarding the articulation of administrative and criminal law enforcement, it seems desirable from an economic perspective to opt for a *non-cumulative system of prosecutions*.

The division between administrative and criminal law can hence, from an economic perspective, be summarized as follows:

There is a need for the most stringent sanctions through criminal law in case of:

- Very low probability of detection and apprehension
- Very high and substantial gain
- Very high social harm: large, immaterial and diffuse

The qualities of criminal law that make it a unique tool to achieve deterrence and incapacitation are:

- Exclusive availability of social incapacitation, which is needed to achieve deterrence (limited wealth) or incapacitation (violent or undeterrable offenders)
- Deterrent effect reinforced by inherent stigma
- Reduced error costs thanks to high procedural requirements

Application to insider trading

One may ask how do the previously discussed economic criteria for criminalization apply to the case of insider trading. Given that the expensive and infringing criminal law system should be considered as *ultimum remedium*, the burden of proof should be on those who want to criminalize that the same results in terms of deterring insider trading cannot be achieved with either private or administrative enforcement.

Firstly, insiders are not violent offenders and are mostly first time offenders. Consequently, a part of the literature raises the fact that the *need to use criminal law for incapacitation* may not be necessary in the context of financial infractions (See 4.2.3.2.). In this respect, economic incapacitation seems more particularly adapted than social incapacitation.

Secondly, the question of the need for criminal law really comes down to whether there is *a need to use criminal law in a deterrence perspective*. The issue to address is therefore to determine whether the potential harm caused by, or the gain obtained via insider trading, can be high enough and the probability of apprehension low enough for, the optimal administrative sanctions to fail in deterring potential insiders[628]. If it is the case, the system will require the use of the most severe sanctions through criminal enforcement.

Regarding the harm associated with insider trading, insider trading should, in the very first place, be considered wrong for a matter of fairness and justice. As explained in

[628] See section 3.2.3 for more detail about insider trading harm, gain and probability of detection.

the introduction to Title 1, potential insider trading harm measurment is controversial from an economic perspective.[629]

Furthermore, several studies established that the average gain or loss appears to approximate a median of $25,594[630]. A study of Frino et al. established that the mean gain or loss avoided was $215,696. This means that in some cases, gains were substantially lower and in others, larger. This implies that, in many cases, administrative sanctions may suffice to deter but the use of criminal law is also justifed for the biggest takes.

Regarding the probability of detection, several studies suggest that a large part of insider trading acts remains undetected. The literature explains this low probability of detection by the immaterial and diffuse nature of insider trading.[631] In that respect, some scholars critique the detection methods used by the authorities[632] and the insufficiency of staff and budget resources dedicated to insider trading detection[633]. All in all, the literature provide elements that support that insider trading is difficult to detect.

Furthermore, in order to successfully prosecute an individual charged with illegal insider trading, the material and the non-public qualities of the information have to be established. The intention of the insider also has to be proven under some circumstances, especially under criminal prosecution. This process is difficult[634]. Consequently, the probability of conviction is relatively low.[635]

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[629] See introduction to Title 1: Economic efficiency is the result of several aggregate economic variables. Through the measure of the impact of insider trading on central aggregate economic variables such as informativeness of the prices, cost of capital and the stock market liquidity, a part of the scholarly literature provides arguments showing that insider trading can have potential serious consequences on economic efficiency.

[630] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699. Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

[631] Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston), Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286. Miceli, T., 2004. *The Economic Approach to Law*(Stanford University Press, Stanford). Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*, Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.). Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).

[632] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York). Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

[633] Beny, L., 2012. Has Insider Trading Become More Rampant in the United States? Evidences from Takeovers, *Law and Economics Research Paper Series, University of Michigan Law School*.

[634] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588: Insider trading prosecution has been qualified as "impossible" by Larry Harris, former Chief Economist at the SEC from July 2002 to June 2004.

[635] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris). ESMA's report has established that the probability of conviction of insider trading is 52,3% for administrative insider trading and 37,3% for criminal insider trading.

In conclusion, if the measure of the impact of insider trading on the economy is controversial, insider trading is harmful from a fairness and justice point of view. Moreover, insider trading associated gain of loss avoided can be substantial. Furthermore, the probability of sanction (resulting from the combination of the probability of detection and conviction) tend to be quite low. Under these circumstances, criminal law is needed for deterrence.

TITLE II. INSIDER TRADING SANCTIONS AND LAW ENFORCEMENT: EU LEGISLATION AND DOMESTIC PRACTICES (FOCUS ON CRIMINAL MATTERS)

The second Title of this study explores the practices of sanctions and public enforcement of insider trading laws in a selected number of Member States and the recent proposals on market abuse matters of the Commission in the light of the law and economics literature discussed in the previous title. The objective is to verify if the normative criteria are respected in the positive law and to determine which recommendations can be formulated in order to enforce insider trading laws following the theoretical recommendations.

The first chapter of this second Title is a comparative overview of the current approaches to administrative and criminal insider trading sanctioning and enforcement regimes in a restricted number of eight selected European Member States under the form of an index (Chapter 5). The methodological approach of the first aspect of this second part is a comparative overview of the current approaches to administrative and criminal insider trading sanctioning and enforcement regimes in a restricted number of eight selected European Member States. The main sources used to collect the data are the domestic codes, the enforcement reports and the statistics of the national and European authorities and jurisdictions.

The second chapter of this part is a critical analysis of the recent European Union regulation evolution (Chapter 6). In that respect, the economic theory of federalism is used to analyze the division of labor between the Member States and EU level. This Chapter also questions the consistency of the proposal for a Directive with the principles governing the introduction of substantive criminal rules at EU level. The underlying question is, even if in particular circumstances the criminal law may be indicated for insider trading, whether criminalization should be implemented at EU level. An alternative would obviously be to respect the subsidiarity principle and allow Member States to decide on the necessity of criminalization in certain given circumstances.

This second Title builds on the conclusions of the first title and complements it in addressing the research question. It describes how is insider trading enforced in the law and in practice, and shows what are the recent perspective in European law in this domain. Therefore it will have practical and policy implications as well since it could allow to shed a critical light, using economic analysis, on the current practices of selected Member States and on the proposals of the Commission. What was discussed in theory in Title 1 is discussed here in practice

CHAPTER 5. OVERVIEW OF THE PRACTICES OF INSIDER TRADING LAWS UNDER THE 2003 MARKET ABUSE DIRECTIVE IN EIGHT MEMBER STATES

Under the current legal framework, EU criminal law can require Member States to take effective, proportionate and dissuasive[636] sanctions for a specific conduct. Member States are nevertheless autonomous concerning both the choice and the application of national sanctions. The European Commission recently pointed out that divergences in national sanctioning regimes in the European environment could be problematic.
The design and enforcement of the national law provisions relative to sanctions for insider trading raises questions as to whether they are fully effective, proportionate and dissuasive. In other words, are they capable of ensuring compliance with the law, of adequately reflecting the gravity of the violation and serious enough to deter potential authors of violations?
Whether they actually meet these requirements depends on various aspects of the sanctioning regimes such as the nature and the level of the sanctions, their effective application and the efforts dedicated to the detection of violations[637].

In the first part of the section (5.1), an index will provide an overview of current approaches to administrative and criminal sanctions and law enforcement concerning insider trading offences in eight selected European Member States. The objective is to carry out case studies in a finite number of jurisdictions in order to accurately explore the key characteristics of the different regimes of policy and practices under the MAD: Whether insider trading can give rise to criminal sanctions for natural and legal persons; the minimum and maximum amounts of a sanction for market abuse; the different categories of sanctions; the key factors that must be considered when determining sanctions according to law; whether sanction decisions must be published; whether the same set of facts can give rise both to administrative sanction proceedings and to a referral to the judicial authority within the framework of criminal proceeding; the purpose, type and formalization of the cooperation between competent authorities and judicial or other prosecuting authorities; the intensity of public enforcement of securities regulation (measured through the resources of staff and budget). Finally, the chapter describes the actual sanctions imposed during the period 2008, 2009 and 2010 in the selected countries. The exercise aims to describe how the MAD is implemented and applied in practice by different Member States. This section will pinpoint the differences in interest and challenges faced by the selected countries but will not assess the regulatory regimes.

The intention of the index is to provide an overall image of the practices and the context that motivated the European Commission to reform the Market Abuse Regulation and to issue two proposals in October 2011. It seems therefore insicated to

[636] According to the Communication 'Towards an EU Criminal Policy: Ensuring the effective implementation of EU policies through criminal law' COM(2011) 573 of 20.09.2011, p. 9: "effectiveness requires that the sanction is suitable to achieve the desired goal, i.e. observance of the rules; proportionality requires that the sanction must be commensurate with the gravity of the conduct and its effects and must not exceed what is necessary to achieve the aim ; and dissuasiveness requires that the sanctions constitute an adequate deterrent for potential future perpetrators".
[637] COM(2010) 716 final of 8.12.2010, p.4.

study the practices that were taking place during this period in order to relevantly assess the proposal for a Directive on criminal sanctions in Chapter 6.
When chosing the eight Member States to include in the study, the intention was to have a sample representing the diversity of the economic and financial activity in Europe. Following this logic, eight countries that occupy different positions in the world financial ranking[638] (London is the first and Lisbon the 74th) were chosen. Another constraint was the language[639]. Indeed, the information on insider trading sanctions and enforcement laws and practices are obtained from the law, the doctrinal texts, the literature and from the competent judicial and administrative authority's website and explicative documents as well as from documents issued by European Institutions (mainly the European Securities and Market Authority[640] and the European Commission). The chosen countries were Belgium (BE), France (FR), Germany (DE), Luxembourg (LU), Portugal (PT), Spain (ES), and United Kingdom (UK). For each of them, the year of the establishment of their main stock exchange and the year of enactment and enforcement of their insider trading laws are specified[641].

The *data* relative to the enforcement of administrative and criminal sanctions for the period 2008, 2009 and 2010 is mainly taken from the ESMA report. Firstly, this document provides data for the 27 European Union Member States and Iceland and Norway (European Economic Area Member Countries), making 29 countries in total that are designated as "Member States" in this study, just like in the ESMA's report. Secondly, this report relies on the information provided by the national competent authorities and entails a weakness: regarding criminal enforcement of laws, it provides data for only 17 countries. BE, ES, IT are amongst the 12 countries for which the ESMA's report does not provide data. It is interesting to observe that the European Authority in charge of the regulation of market abuse does not possess the information about the totality of the Member States. However, because the last part of this study is dedicated to the assessment of the proposal for a Directive on criminal sanctions for market abuse, this chapter makes the most of the report and summarize the major observations that can be made thanks to the data provided for the available 17 Member States instead of only focusing on the eight chosen Member States.

There were various methodological difficulties that appeared in drafting this particular index. Constructing a data set comparable across nations is not easy because, aside the fact that the law differs from one country to another, jurisdictions organize regulatory responsibilities and powers differently. Data is difficult to obtain and not always available for every country. Moreover, the selection and choice of variables to include in the index can be criticized. Another weakness is that this kind

[638] The selection of the countries has been made lead by the exigency of providing a picture of the divergence in E.U. According to the Global financial centers index September 2012 ranking London is 1st, Frankfurt is 13th, Luxembourg is 24th, Munich 25th, Paris 29th, Brussel 47th, Madrid 50th, Milan 51st, Rome 62nd, Lisbon 74th Cf. http://www.longfinance.net/Publications/GFCI%2012.pdf.
[639] I could only read documents written in French, English, and latin languages in general (I chose to include Germany however).
[640] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris). ESMA/2012/270.
[641] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.p.80: In there study, Bhattacharya and Daouk established were insider trading was established and when was the first prosecution under this law (in 1999, for a very large number of countries including the countries studied in the chapter).

of methodology does not allow taking into consideration tangential factors, such as the influence of culture, history or the nature of the domestic regulatory system, which are crucial in assessing a regulatory regime. Furthermore the resource-based measures of public enforcement, including the number of staff dedicated to the whole range of activities relative to market abuse sanctioning (full time equivalent) divided by the population ("Staff per million population"), and the budget dedicated to the enforcement of market abuse law divided by the GDP in US$ ("Budget per billion US$ of GDP"), is only available for the year 2005 but allows to make an interesting comparison. Secondly, all the data about the substantial and the procedural aspects were collected in 2010, and the enforcement data concern the years 2008, 2009 and 2010. Changes have occurred since then, regarding the law, the competent authorities, etc.

The chapter is organized as follow:

The index is divided in two major titles. The first title describes the major aspects of the substantive and procedural law relative to administrative and criminal sanctions and enforcement (5.1.1). The second title relates to the actual resources and enforcement data (5.1.2).

The first title (5.1.1) is divided in two subtitles:
The first subtitle focuses on issues regarding sanctions (5.1.1.1): whether insider trading can give rise to criminal sanctions for natural and legal persons; the minimum and maximum sanctions for market abuse; the different categories of sanctions; the key factors that must be taken into account when determining sanctions according to the law; whether sanction decisions have to be published. The second subtitle focuses on issues relative to the interaction and cooperation between the sanction and enforcement powers of administrative and criminal bodies (5.1.1.2): whether the same set of fact can give rise to both administrative sanction proceedings and to a referral to the judicial authority within the framework of criminal proceedings; the purpose, type and formalization of the cooperation between competent authorities and judicial or other prosecuting authorities.

The second title (5.1.2) is also divided into two subtitles:
The first subtitle focuses on the intensity of public enforcement of securities regulation (5.1.2.1), measured here through the resources dedicated to this issue, consisting of the number of staff dedicated to the whole range of activities relative to market abuse sanctioning (full-time equivalent) divided by the population, and the budget dedicated to enforcing market abuse law divided by the population. The second subtitle (5.1.2.2) focuses on the actual administrative and criminal monetary and non-monetary sanctions imposed between 2008 and 2010.

On the basis of this information, certain observations about the sanctioning regimes of the selected countries are summarized in order to reflect key issues of policy challenges. The objective is to identify and formulate implications for an effective enforcement policy in the second part of this chapter (5.2).

5.1 ADMINISTRATIVE AND CRIMINAL SANCTIONS AND ENFORCEMENT PRACTICES OF INSIDER TRADING LAWS IN EIGHT MEMBER STATES

To introduce the index, the major characteristics of the law and the administrative and criminal procedures in relation to insider trading sanctioning under the Market Abuse Directive are shortly described for each of the eight chosen countries.

5.1.1 Overview of the national laws concerning administrative and criminal procedures

In Belgium (BE), the year of the main exchange was 1801 whilst insider trading law was enacted in 1990 and the first enforcement was made in 1994. The Law of 2 August 2002 on the supervision of the financial sector and on financial services (amended by the Law of 2 July 2010) provides for both an administrative and a criminal sanctioning regime for insider trading. Regarding administrative enforcement, the Financial Services and Market Authority (FSMA) can impose administrative sanctions based on the article 25§1[642]. The administrative enforcement of laws follows this path: a supervisory and inquiry phase; an assessment of the case by the Management Committee regarding the seriousness of the offense (the committee could also potentially decide to forward the case to the judicial authority); a referral to the FSMA's Investigation Officer and the appointed "Rapporteur" who investigates the charges and defense of the case, examines the allegations and submits his findings to the perpetrator of the insider trading and to the Sanctions Committee of the FSMA, that then decides to impose an administrative sanction or not. An appeal is possible. The sanction decision is published on the website of the FSMA. Criminal sanctions for insider trading can be imposed on the basis of article 40 of the Law of 2 August 2002.

In Germany (DE) the year of the main exchange was 1585 whilst insider trading law was enacted in 1994 and the first enforcement was made in 1995. The "Bundesanstalt für Finanzdienstleistungsaufsicht" (BaFin) is the competent authority for prosecuting administrative offences based on the "Wertpapierhandelsgesetz" (Securities Trading Act) (Section 3)[643]. Firstly the BaFin is in charge of monitoring compliance with insider trading regulation. Therefore, all securities transactions data which credit and financial services institutions have to report are analyzed. If certain elements show a potential case of insider trading, the BaFin launches a formal investigation. If relevant, the offence can be reported to the Public Prosecutor office.

In France (FR) the year of the main exchange was 1826 whilst insider trading law was enacted in 1967 and the first enforcement was made in 1975. The administrative measures are provided by the articles L621-13, L621-14 and L621-15 of the "Code Monétaire et Financier"[644]. The "Autorité des Marchés Financiers" (AMF) is the competent authority to impose administrative measures and sanctions. Its role is to supervise financial instrument transactions in order to detect abnormal situations. An investigation can start based on the decision of the Secretary General, on the request of another authority or on the basis of a complaint. The AMF Board then decides to

[642] http://www.fsma.be/~/media/Files/fsmafiles/wetgeving/wet_loi/en/law_02-08-2002.ashx#art25.
[643] http://www.bafin.de/SharedDocs/Aufsichtsrecht/EN/Gesetz/wphg_101119_en.html.
[644] http://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006072026.

open an administrative sanction proceeding (or to forward the case to the public prosecutor). The case is then transmitted to the Enforcement Committee (separated and independant from the Board) that will take the decision to sanction on the basis of the report made by the "Rapporteur" and the hearing of the respondent. This decision can be reviewed by an administrative or criminal court on the demand of the defendant. The AMF Chairman is also entitled to review it based on the "Loi de régulation bancaire et financière" adopted in October 2010. The "appeals" are heard by the Paris Court of Appeal, and eventually by the Cour de Cassation (only on a point of law), and exceptionally by the Conseil d'État (for a category of professionals mentioned in the Code Monétaire et Financier). An insider can be criminally sanctioned on the basis of the article L465-1 of the Code Monétaire et Financier. A criminal proceeding can start and run simultaneously to an administrative proceeding. The Public Prosecutor decides (on its own motion or referred by the AMF) to conduct a preliminary inquiry or a judicial investigation. A public hearing is then held to the Paris "Tribunal Correctionnel" that decides which sanction to impose. An appeal may be logged in front of the "Cour de Cassation".

In Italy (IT) the year of the main exchange was 1806 whilst insider trading law was enacted in 1991 and the first enforcement was made in 1996. The "Comissione Nazionale per le Società e la Borsa" (CNSB or Consob) is the authority in charge of the supervision of the financial markets, based on Art. 184 and 187-bis of the Financial Law (58/1998). After a preliminary inquiry, the Consob starts a formal investigation in order to collect evidence, establish insider trading and finally sends a formal notification letter to the defendant. After reception, the defendant has 30 days to present his defense. The Market Abuse Investigation Unit has to wait 210 days (390 if the offender resides abroad) to move the proceeding forward before the Administrative Sanction Unit, addressing a report containing relevant elements regarding the investigation and the defense. If relevant, a report can also be sent to the Judicial Authority. The Administrative Sanction Unit has 150 days to notify the offender, eventually receive additional defensive elements, and finally make a proposal of sanction to the Commission Board that will take the final decision, published in the Consob's Bulletin. A criminal proceeding can run in parallel to an administrative proceeding. Furthermore, Consob may join the procedure as a civil claimant and therefore ask for damages for breaches of market integrity.

In Luxembourg (LU) the year of the main exchange was 1929 whilst insider trading law was enacted in 1991. The Law of 9 May 2006, amended by the Law of 26 July 2010 provides for both an administrative and a criminal sanctioning regime for insider trading, exclusively applicable according to certain criteria provided in the law. The "Commission de Surveillance des Marchés Financiers" (CSSF) is the authority in charge of the supervision of securities markets and can initiate a prosecution of administrative offences, either for self-initiated inquiries or on the demand of a foreign administrative authority. Firstly, preliminary inquiries based on internal and publicly available information are optional. Secondly, investigations are conducted by a specialized division of the CSSF that collects information from market professionals and issuers. According to its supervisory and investigative powers, the division decides to open a procedure and collect and examine the relevant facts and evidence. The suspected person is heard during a contradictory debate, sometimes assisted by a lawyer or an advisor. The final decision of the CSSF is then subject to a judicial review by the "Tribunal Administratif" and the "Cour Administrative". The whole

administrative proceeding is subject to review. If at the opening of the prosecution or even during the proceeding, the intent to obtain illicit profit or benefit is detected, the CSSF informs the State Officer. The State Prosecutor has three days to decide whether prosecution will be initiated. If it is the case, any administrative proceedings stop. If further conditions for a criminal prosecution are not fulfilled, the Prosecutor transfers the file to the CSSF.

In Portugal (PT), the year of the main exchange was 1825 whilst insider trading law was enacted in 1986. The "Comissão do Mercado de Valores Mobiliarios" (CMVM) is the authority in charge of the supervision of securities markets and can initiate prosecution of administrative offences. If the analysis of a suspicious transaction establishes facts that may be qualified as insider trading, the Executive Board formally orders the opening of preliminary investigation proceedings, followed by the issuing of the conclusion of the Trading Analysis and Enforcement Department. The conclusion results in the writing of either an administrative or a criminal report. In the case of an administrative report, the Executive Board refers the process to the Legal Affairs Department. After an investigation, the CMVM informs the defendant through a formal act of accusation specifying the facts, the potential sanction and the time they have to present their defense. After studying the arguments and evidence, the CMVM formally issues a decision. There are two possibilities of appeal to the judicial courts and to the second level court of appeal. In the case of a crime report, the Executive Board refers to the Public Prosecutor, in charge of criminal proceedings based on the "Codigo dos Valores Mobiliarios" (Titulo VIII, Crimes e Ilicitos de Mera Ordenaçao Social, Art. 404). The Executive Board should be notified of every decision taken. After a preliminary investigation, the Public Prosecutor either closes the case or accuses. The accusation can be appealed. In this case, an inquiry will be conducted through and through in order to confirm the trial or not. An appeal is possible both for the defendant (in case of a conviction) and the Public Prosecutor (in case of an acquittal).

In Spain (ES) the year of the main exchange was 1831 whilst insider trading law was enacted in 1994 and the first enforcement was made in 1998. The "Comisión Nacional del Mercado de Valores" (CNMV) is the authority in charge of administrative proceedings under the "SMA Ley 24/1998, de 28 de Julio, del Mercado de Valores" (Securities Market Act)[645]. An investigation can be opened on the CNMV's own decision, on the demand of a foreign competent authority or on a complaint. The CNMV's inspector therefore prepares a "technical report", transmitted to the CNMV's Executive Committee (EC), that can possibly ask for a "legal report", and finally decide to institute an administrative proceeding. The instructor informs the parties involved, whom have 15 days to constitute their defense. Afterwards, they receive the charge sheet including the facts and their consequences. The parties have 20 more days to complete their defense. Once the period of additional actions is over, the instructor issues the resolution proposal. The parties have 20 business days to allege. The CNMV EC finally issues a resolution. A criminal proceeding can only be carried out by the Judge, based on the Article 285 of the Criminal Code.

In the United Kingdom (UK) the year of the main exchange was 1773 whilst insider trading law was enacted in 1980 and the first enforcement was made in 1981. The

[645] http://noticias.juridicas.com/base_datos/Fiscal/l24-1988.html.

authority in charge of enforcing insider trading law is the Financial Service Authority (FSA)[646]. Firstly, when an insider trading case is found or signaled, the Market Division and the Enforcement and Financial Crime Division (EFCD) jointly decides to open an administrative or a criminal investigation, based on certain criteria. If an administrative procedure is opened, the "target" of the investigation is designated and a preliminary investigative report on the case made by the FSA is issued and sent to the FSA's independent Regulatory Decisions Committee (RDC). This committee is composed of practitioners and non-practitioners appointed to represent the public interest. The RDC then issues a notice. The target can appeal the decision to the Upper Tribunal. The final decision is published. Settlement is possible at any stage of the administrative procedure. If the FSA suggest a criminal proceeding, it has to be agreed by the RDC. The criminal prosecution is then instigated by the FSA through a request that a court summons the target to attend the court, or by asking the police to charge the target and require him to attend the court. A lower court decides whether the matter is sufficiently serious to be tried in front of a jury (most often) or if a lower court Magistrate may suffice.

The index is organized as follows:

Variable/ Component	Description	Source
	Laws / Competent authorities: - BE: Financial Services and Market Authority (FSMA)'s Website[647], Law of 2 August 2002 on the supervision of the financial sector and on financial services[648] (Art.25§1) - DE: "Bundesanstalt für Finanzdienstleistungsaufsicht" (BaFin)'s Website[649], "Wertpapierhandelsgesetz" (Securities Trading Act) (Section 3)[650] - ES: "Comisión Nacional del Mercado de Valores"(CNMV)'s Website[651], SMA Ley 24/1998, de 28 de Julio, del Mercado de Valores (Securities Market Act)[652], Crim. Code (Art.285) - FR: "Autorité des Marchés Financiers" (AMF)'s Website[653], Act of 1st August 2003 ("loi n°2003-706"), amended by an Act of 4 August 2008 and by an Act of 22 October 2010, "Code Monétaire et Financier" (Art. L.621-13,-14,-15, Art. L.465-1, Art. L.466-1)[654] - IT: "Comissione Nazionale per le Società e la Borsa"(CNSB)'s Website[655], Art. 184 and 187-bis of the Financial Law (58/1998)[656]	

[646] Since then, the Financial Conduct Authority (FCA) was created with the Financial Services Act 2012 and replaced the FSA.
[647] www.fsma.be.
[648] http://www.fsma.be/~/media/Files/fsmafiles/wetgeving/wet_loi/en/law_02-08-2002.ashx#art25.
[649] http://www.bafin.de/DE/Startseite/startseite_node.html.
[650] http://www.bafin.de/SharedDocs/Aufsichtsrecht/EN/Gesetz/wphg_101119_en.html.
[651] http://www.cnmv.es/portal/home.aspx.
[652] http://noticias.juridicas.com/base_datos/Fiscal/l24-1988.html.
[653] http://www.amf-france.org/.
[654]http://www.legifrance.gouv.fr/affichCode.do;jsessionid=012DB0E1862383D4DFBF874B07627052.tpdjo12v_3?idSectionTA=LEGISCTA000006170504&cidTexte=LEGITEXT000006072026&dateTexte=20131112.
[655] http://www.consob.it/.
[656]http://www.consob.it/mainen/documenti/english/laws/fr_decree58_1998.htm#sdfootnote1sym.

	- LU: "Commission de Surveillance du Secteur Financier" (CSSF)'s Website[657], Law of 9 May 2006, amended by the Law of 26 July 2010[658] - PT: "Comissão do Mercado de Valores Mobiliarios", (CMVM)'s Website[659], "Código dos Valores Mobiliários", Securities Code, Art. 378/1; Crim. Code, Titulo VIII, Art. 47/1, Crimes e Ilícitos de Mera Ordenação Social, Art. 404[660] - UK: the Financial Service Authority (FSA)[661] became the Financial Conduct Authority (FCA)[662] with the Financial Services Act 2012: Website	
5.1.1 Categories of administrative and criminal sanctions and procedures for insider trading: content of the law		
5.1.1.1 Categories of administrative and criminal sanctions		
5.1.1.1.1 Administrative sanctions		
Table 1. Administrative sanctions for natural / legal persons	Can administrative sanctions apply to natural and/or legal persons?	Law / Website of Competent Authorities / "Report: Actual Use of Sanctioning Powers under MAD", (April 2012), ESMA's report) (p.38)
Table 2. Availability of administrative monetary sanctions	Minimum and maximum administrative monetary sanctions provided by legislative or constitutional provisions and principles	Law / Website of Competent Authorities / ESMA's report (p.44-5)
Table 3. Key factors for administrative sanctions	Factors that have to be taken into account in determining administrative monetary sanctions according to the law	Law / Website of Competent Authorities/ ESMA's report (p.55)
Table 4. Availability of administrative non-monetary measures and sanctions	Categories of measures and sanctions	Law / Website of Competent Authorities / ESMA's report (p.63) / "Report on Administrative Measures and Sanctions as well as the Criminal Sanctions available in the Member States under MAD" (November 2007, CESR/07-693)
Table 5. Publication of administrative sanction decisions	- Does the law require that administrative sanction decisions be made public in principle? - Is there a possibility to make the decisions anonymous?	Law / Website Competent Authorities / ESMA's report (p.134)
5.1.1.1.2 Criminal sanctions		
Table 6. 1 Criminal sanctions for natural / legal persons	Can criminal sanctions apply to natural and/or legal persons?	Law / Website of Competent Authorities / ESMA's report (p.73)
Table 7. Availability of criminal monetary sanctions	Minimum and maximum criminal monetary sanctions provided by legislative or constitutional provisions and principles	Law / Website of Competent Authorities / ESMA's report (p.87)
Table 8. Key factors for criminal sanctions	Factors that have to be taken into account when determining criminal monetary sanctions according to	Law / Website of Competent Authorities / ESMA's report (p.97, 103)

[657] http://www.cssf.lu/.
[658] http://www.legilux.public.lu/leg/a/archives/2006/0083/a083.pdf.
[659] http://www.cmvm.pt/cmvm/Pages/default.aspx.
[660]http://www.cmvm.pt/EN/Legislacao_Regulamentos/Codigo%20Dos%20Valores%20Mobiliarios/Pages/Title%20VIII%20-%20Crimes%20and%20administrative%20offences.aspx?nrmode=unpublished.
[661] http://www.fsa.gov.uk/.
[662] http://www.fca.org.uk/.

	the law	
Table 9. Availability of incarceration	Minimum and maximum length of imprisonment terms provided by the law	Law / Website of Competent Authorities / ESMA's report (p.106-107)
Table 10. Availability of other criminal non-monetary sanctions	Different categories of other non-monetary sanctions?	Law / Website of Competent Authorities / ESMA's report (p.111) / "Report on Administrative Measures and Sanctions as well as the Criminal Sanctions available in the Member States under MAD" (November 2007, CESR/07-693)
Table 11. Publication of criminal sanction decisions	- Does the law require that criminal sanction decisions be made public in principle? - Is there a possibility to make the decisions anonymous?	Law / Website of Competent Authorities / ESMA's report (p.138)
5.1.1.1.3 Interaction between administrative and criminal enforcement		
Table 12. Articulation of administrative and criminal proceedings	- Exclusive or cumulative use of enforcement and sanctions? - Whether the same set of facts can give rise to both administrative sanction proceedings and to a referral to the judicial authority within the framework of criminal proceedings	Law / Website of Competent Authorities' website / ESMA's report (p.27, 28)
Table 13. Cooperation between competent administrative and judicial authorities	Purpose, type and formalization of the cooperation between competent authorities and judicial or other prosecuting authorities	Law / Website of Competent Authorities / ESMA's report (p.29, 31)
5.1.1.2 Procedure for administrative and criminal sanctions		
5.1.1.2.1 Administrative procedures for measures and / or sanctions		
Table 14. Availability of settlement within administrative proceeding		Law / Website of Competent Authorities / ESMA's report (p.29, 36)
Table 15. Authority, body entrusted to take decisions and inflict administrative measures and / or sanctions	- Authority responsible for inflicting the administrative measures and / or sanctions - Bodies or persons entrusted to take sanctioning decisions in relation to insider trading	Law / Website of Competent Authorities / ESMA's report (p.23) / "Report on Administrative Measures and Sanctions as well as the Criminal Sanctions available in the Member States under MAD" (November 2007, CESR/07-693)
Table 16. Administrative procedural conditions to sanctions	Required evidence / Standard of proof	Law / Website of Competent Authorities / ESMA's report (p.67)
Table 17. Ability of the administrative authority to criminally prosecute market abuse in front of judicial courts within the framework of criminal proceedings		Law / Website of Competent Authorities / ESMA's report (p.79)
5.1.1.2.2 Criminal procedures for measures and / or sanctions		
Table 18. Authority or body entrusted to take decisions and inflict criminal sanctions		
Table 19. Criminal procedural conditions to sanction	Required evidence / Standard of proof	Law / Website Competent Authorities / ESMA's report (p.112,

		114)

5.1.2 Administrative and criminal sanctions: Resources and enforcement data		
Variable / Component	Description	Source
5.1.2.1 Public enforcement effort: Resources in 2005		
Table 20. Staff per million population	Number of staff dedicated to the whole range of activities relative to market abuse sanctioning (full-time equivalent) divided by the population	- "How countries Supervise Their Banks, Insurers and Securities Markets", Central Banking Publications of London[663]; - Population Data from World Bank Data and Statistics Web site[664]
Table 20. Budget per million GDP (in $)	Budget dedicated to the enforcement of market abuse law divided by the GDP	- "How countries Supervise Their Banks, Insurers and Securities Markets", Central Banking Publications of London; - Population Data from World Bank Data and Statistics Web site
5.1.2.2 Administrative and criminal sanction decisions in 2008, 2009 and 2010	Review period: 2008/2009/2010	ESMA's report
5.1.2.2.1 Administrative sanction decisions		
Table 21. Administrative monetary sanction decisions		(p.41, 48, 54)
Table 22. Administrative non-monetary sanction decisions		(p.64)
5.1.2.2.2 Criminal sanction decisions		
Table 23. Criminal monetary sanctions		(p.90-93)
Table 24. Cases originated by CA and transmitted to criminal court		(p.81)
Table 25. Incarceration sanction decisions		(p.109-110)
Table 26. Criminal non-monetary sanctions alternative to incarceration decisions		(p.111)

[663] Central Bank, 2007. *How Countries Supervize their Banks, Insurers and Securities Markets*, Robert Pringle edition.(Central Banking Publications).
[664] http://data.worldbank.org/.

5.1.2 Categories of administrative and criminal sanctions and procedure for insider trading: Content of the law

5.1.2.1 Categories of administrative and criminal sanctions for insider trading

5.1.2.1.1 Administrative sanctions

Table 1. Administrative sanctions for natural / legal persons

Administrative sanctions for natural / legal persons	BE	DE	ES	FR	IT	LU	PT	UK
Natural (27MS)	X	X	X	X	X	X	X	X
Legal (27MS)	X	X	X	X	X	X	X	X

Table 2. Availability of administrative monetary sanctions

Availability of administrative monetary sanctions	BE	DE	ES	FR	IT	LU	PT (CMVM)	UK
Minimum administrative monetary sanctions	€2,500 for the same offence or the same totality of offences	€5	€30,000 for very serious infringements; €12,000 for serious infringements	O	€100,000	€125	€25.000	O
Maximum administrative monetary sanction	€2,500,000 Where the infringement has resulted in the offender obtaining a capital gain, that maximum shall be raised to twice the capital gain and, in the event of a repeat offence, to 3 times	€200,000*	Up to the highest of the following amounts: - five time the gross profit obtained as a result of the acts or omissions comprising the infringement; 5 per cent of the infringing firm's own funds;	Up to €10,000,000 or ten times the profit realized (for supervised entities and natural persons placed under its authority of, or acting on its behalf, or, any other person)*	€15,000,000	€1,500,000	€5,000,000	O

	the capital gain.		five per cent of the total funds, owned by the firm or third parties, that were used in the infringement; €600,000	(and up to €100,000,000 for insider trading committed from October 24, 2010 onwards**)				

*amount of profit obtained or value of transaction may increase the maximum.
** with an exception for insider trading committed by individuals acting under the authority of, or acting on behalf of, financial markets professionals mentioned in the relevant legal provisions of the French Monetary and Financial Code for whom the maximum cannot exceed €1,5 million or ten times the amount of any profit realized.

Table 3. Key factors for administrative sanctions

Key factors that are taken into account when determining administrative monetary sanctions to impose according to law.

Key factors for administrative sanctions	BE	DE	ES	FR	IT	LU	PT	UK
Seriousness of the violation (23CAs)	X	X	X	X	X	X	X	X
Amount of Financial benefit derived from the violation (22CAs)	X	X	X	X	X	X	X	X
Cooperative behavior of the author of the violation with the competent authority (19CAs)	X	X	X	O	X	X	X	X
Financial strength and/ or size (18CAs)	X	X	X	X	X	X	X	X
Duration of the violation (18CAs)	X	X	X	O	X	X	X	X
Impact on market and consumers (22CAs)	X	X	X	X	X	X	X	X
Loss incurred by clients or those impacted (18CAS)	X	X	X	X	X	X	X	X
Extent to which the author of the violation may have taken steps to compensate those impacted by the violation (17CAS)	X	X	X	X	X	X	X	X
Degree of culpability on the part of the author of the violation (19CAs)	X	X	X	X	O	X	X	X
Repetitive nature of the violation (19CAs)	X	X	X	X	X	X	X	X
Compliance history of the author of the violation if it is a regulated entity (19CAs)	X	X	X	X	X	X	X	X

Level of responsibility / seniority of an individual (19CAs)	X	X	X	X	X	X	X	X
Other factors (8CAs)	X	O	X	X	X	O	X	X

Table 4. Availability of administrative non-monetary measures and sanctions

Availability of administrative non-monetary measures and sanctions	BE	DE	ES	FR	IT	LU	PT	UK
Injunction to cease practice				X		X	X	X
Emergency suspension				X			X	X
Disciplinary sanctions against professional entities (supervision warning, reprimand, or temporary / permanent prohibition from providing some or all of the services offered)		X	X	X	X	X	X	X
Notification to Public	X		X	X	X		X	X
Sequestration of assets				X			X	X
Temporary suspension from professional activities	X	X	X	X		X	X	X
Seeking an emergency court order to comply or end irregularity				X			X	
Withdrawal of licenses		X		X		X	X	

Table 5. Publication of administrative sanction decisions

Publication of administrative sanction	BE	DE	ES	FR	IT	LU	PT	UK
The law requires that administrative sanction decisions must be made public in principle (16MS)	X	O	X**	X*	X	O	X**	X*
Possibility of anonymity of the administrative decisions (only the content is made public) (18MS)	X(1,2)	X(1,2)	O	X(2)	X(1,2)	X(1,2)	X(2)	X***

* Exceptions to publication when disproportionate damage might be caused to the financial market or to the parties involved

** Minor sanctions (low seriousness of the infraction and culpability of the defendant) may not be published

*** In practice there is no anonymity

Main criteria in deciding anonymity relates to:

(1) Risk of causing serious damages to the integrity of the market

(2) Avoid disproportionate damage to the parties

5.1.2.1.2 Criminal sanctions

Table 6. Criminal sanctions fo natural / legal persons

Criminal sanctions for natural / legal persons	BE	DE	ES	FR	IT	LU	PT	UK
Natural	X	X	X	X	X	X	X	X
Legal	X	O	X	X	X	O	O	X

Table 7. Availability of criminal monetary sanctions

Availability of criminal monetary sanctions	BE	DE	ES	FR	IT	LU	PT	UK
Minimum criminal monetary sanctions	€275	€5	O but the benefit obtained from the infringement puts a minimum limit	O but the benefit obtained from the infringement puts a minimum limit	€40,000	€125 (minimum the profit realized)	€50	O
Maximum criminal monetary sanctions	€55,000	€10,800,000	O or Up to the triple of the obtained or favoured benefit	€1,500,000 or ten times the profit realized (for natural person) and five times the amount imposed on natural person (legal person)	€6,000,000	€1,500,000 or ten times the profit realized	€180,000	O

Table 8. Key factors for criminal sanctions

Key factors for criminal sanctions	BE*	DE	ES	FR	IT	LU	PT	UK
Seriousness of the violation (21CAs)	X	X	X	X	X	X	X	X
Amount of Financial benefit derived from the violation (18CAs)	X	X	X	O	X	X	X	X
Cooperative behavior of the author of the violation with the competent authority (16CAs)	O	X	X	O	X	X	X	X

Financial strength and/ or size of the author of the violation (17CAs)	O	X	X	X	X	X	X	X
Duration of the violation (17CAs)	O	X	X	O	X	X	X	X
Impact on the market in general and on consumers (18CAs)	O	X	X	O	X	X	X	X
Loss incurred by clients or those impacted (17CAs)	O	X	X	O	X	X	X	X
Extent to which the author of the violation may have taken steps to compensate those impacted by the violation (15CAs)	O	X	X	O	X	X	X	X
Degree of culpability on the part of the author of the violation (18CAs)	X	X	X	O	X	X	X	X
Repetitive nature of the violation (16CAs)	O	X	X	O	X	X	X	X
Compliance history of the author of the violation if it is a regulated entity (13CAs)	O	X	X	O	X	X	X	X
Level of responsibility / seniority of an individual (14CAs)	O	X	X	O	X	X	X	X
Amount of planning that went into committing the offence (2CAs)	O	X	O	O	O	O	X	X
Criminal records of the defendant (2CAs)	O	X	O	O	O	O	O	
Personality of the offender (3CAs)	O	O	O	O	X	O	O	X
Protection of the public order (1CA)	O	O	O	O	X	O	O	O
Consideration of general prevention (2CAs)	O	O	O	O	X	O	O	O
Existence of family responsibilities (1CA)	O	O	O	O	O	O	O	X
Effect of conviction on the offender (1CA)	O	O	O	O	O	O	O	X
Preservation of trust to the market (1CA)	O	O	O	O	O	O	O	O
Low risk of detection (1CA)	O	O	O	O	O	O	O	O
Professionalism (1CA)	O	O	O	O	O	O	O	O
Any other circumstances of the case (1CA)	O	O	O	O	O	O	O	X

* BE clarified that the main two factors taken into account in it jurisdiction are the seriousness of the violation and the degree of culpability of the offender and that the other factors listed are sub-elements of those two main factors.

Table 9. Availability of incarceration

Availability of incarceration	BE	DE	ES	FR	IT	LU	PT	UK
Minimum length	Up to six month	Up to six month	1 year	O	2 years	Up to six month	O	O
Maximum length	1years	5years	6years	2years	12years	2years	3years	7years

Table 10. Availability of other criminal non-monetary sanctions

Availability of other criminal non-monetary sanctions	BE	DE	ES	FR	IT	LU	PT	UK
No other type of sanctions in addition to fines and prison (8CAs)	O	X	O	O	O	X	O	O
Disqualification from the practice as agent of the profession or activity associated with the crime, including prohibition of the practice of management, administration, control or supervision and, in general, representation of any financial intermediary							X	
Publication of the conviction at the expense of the defendant in newspaper							X	

Table 11. Publication of criminal sanction decisions

Publication of criminal sanction decisions	BE	DE	ES	FR	IT	LU	PT	UK
The law requires that criminal sanction decisions must be made public in principle (19MS)	X	O	X	X	X	O	X	X*
Possibility of anonymity of the criminal decisions (only the content is made public) (11MS)	X	X	O	O	O	X	O	X

* The decision will not be published if there are particular issues of concern, for example where the offender is known to have a specific vulnerability and publication might risk unwarranted adverse consequences or where wider disclosure might undermine a police investigation.

5.1.2.1.3 Interaction between administrative and criminal enforcement

Table 12. Articulation of administrative and criminal proceedings

Articulation of administrative and criminal proceedings	BE	DE	ES	FR	IT	LU	PT	UK
National legislation provides for both administrative and criminal sanctions but in practice, regarding insider dealing, the same set of facts can be subject either to one or to the other kind of proceeding (15MS)	O	X*	X*	O	O	X*	O	O
Regarding insider dealing the same set of facts can be subject to both kinds of sanctions cumulatively (10MS)	X	O	O	X	X**	O	X	X**$^{+}$***
Criminal sanction proceedings may halt the administrative proceedings (14MS)	O	X	X	O	O	X	O	O
When administrative and criminal monetary sanctions can be imposed for the same facts, there is a limit to the total amount of the sanctions that can be imposed in total (4MS)	X****	O	O	X****	O	O	X	O
When administrative and criminal monetary sanctions can be imposed for the same facts, admin. and judi. authority take into account what has been imposed by the other authority in order to avoid / limit the situation of cumulative sanctions	X	O	O	X	X	O	O	X

* Reasons on which the decision is taken whether to pursue administrative or criminal sanctioning proceedings are based on legal descriptions of the respective administrative and criminal offences. This approach might involve differentiation between groups of offenders (DE), depend on the amount of benefit obtained or loss avoided by the wrongdoer (ES), be according to the wrongdoer's conduct (for example dealing with intent) (LU).

** Competent authority and judicial authority will take into account what has been imposed by the other authority but 5 MS including IT and UK have, in principle, no specific figure limiting the total cumulative administrative and criminal monetary sanctions which can be imposed.
*** Also this is legally permissible, the FSA's published policy is not to pursue both criminal and administrative market abuse cases in practice
****Principle of proportionality (The French Conseil constitutionnel stated that the proportionality principle requires that the combined amount of sanctions which might be imposed cannot exceed the highest penalty provided for in the law)

Table 13. Cooperation between competent administrative and judicial authorities

Purpose and type of the cooperation between competent authorities and judicial or other prosecuting authorities	BE	DE	ES	FR	IT	LU	PT	UK
Cooperation at the beginning of the proceeding (28MS)	X	X	X	X	X	X	X	X
Provide information, including opinions on the case or on point of law (29MS)	X	X	X	X	X	O	X	X
Provide other kind of assistance (7MS)	O	O	X	O	O	O	O	X
Cooperation at later stage (13MS)	X	X	X	X	O	O	X	X
Influence on the outcome of the proceedings (6 MS)	O	O	O	O	X	O	O	X

Are cooperation between administrative authorities and judicial authorities formalized?	BE	DE	ES	FR	IT	PT	LU	UK
Yes (13MS)	O	X	O	O	X	X	O	X
Formalized by legal provisions (6MS)	O	X	O	O	X	O	O	O
Formalized by cooperation agreements (7MS)	O	O	O	O	O	X	O	X
Formalized cooperation regulates the exchange of information (13MS)	O	X	O	O	X	X	O	X

5.1.2.2 Procedure for administrative and criminal sanctions

5.1.2.2.1 Procedure for administrative measures and sanctions

Table 14. Availability of settlement within administrative proceeding

Availability of settlement within administrative proceeding	BE	DE	ES	FR	IT	LU	PT	UK
Yes	X	X*	O	O	O	O	O	X*

* In DE and UK the outcome of the settlement is considered to constitute a sanctioning decision[665]

Table 15. Authority and body entrusted to take decisions and to inflict administrative measures and/or sanctions

Authority and body entrusted to take decisions and to inflict administrative measures and / or sanctions	BE	DE	ES	FR	IT	LU	PT	UK
Authority responsible for inflicting the administrative measures and / or sanctions	Commission bancaire et financière et des assurances (CBFA)	Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)	Minor and serious infringements: Comision nacional del Mercado de valores (CNMV)' s Board; Very serious infringements: Ministry of Finance at the proposal of the CNMV's Board	Autorité des marchés financiers (AMF); Indirectly AMF through "Tribunal de Grande Instance de Paris" for measures such as request of sequestration of assets; Request temporary suspension from profession	Commissione nazionale per le societa e la borsa (CONSOB)	Commission de surveillance du secteur financier (CSSF)	Comissao do Mercado de Valores Mobiliarios (CMVM)	Measures: Financial Services Authority (FSA) Sanctions numbered 1) and 2) are imposed by the civil courts of England & Wales on application by the FSA. Sanction numbered 3) is imposed by the

[665] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.36.

				al activities; Seeking an emergency court order to comply or end irregularity				FSA. Any person subject to a such a decision of the FSA may refer that decision to the FSMT, which is entirely independent of the FSA, where the matter will be heard de novo[666]
Body or persons responsible for taking sanctioning decisions	A Dedicated Sanctioning Committee	The Enforcement Department	The Board / Governing Body of the CA (or Minister of Finance)	A Dedicated Sanctioning Committee	The Board / Governing Body of the CA	The Board / Governing Body of the CA	The Board / Governing Body of the CA	Settled case: the decision is taken by 2 Directors of the CA who have not been involved in the case / Contested cases: the decision is taken by a Regulatory Decisions Committee made up of practitioners and non-practitioners appointed by the Board and representing the public interest

Table 16. Administrative procedural conditions to sanctions

Administrative procedural conditions to sanction	BE	DE	ES	FR	IT	LU	PT	UK
In the absence of tangible proof of insider trading, CAs are able to use "serious, specific and convergent evidence" to prove the case (24MS)	X	X	X	X	X	X	X	X
Intent is not a requirement to prove a wrongdoing within administrative proceeding (25MS)	X	X	X	X	X	X	X	X

Table 17. Ability of the administrative authority to criminally prosecute market abuse in front of judicial courts within the framework of criminal proceedings

Ability of the administrative authority to criminally prosecute market abuse in front of judicial courts within the framework of criminal proceedings	BE	DE	ES	FR	IT	LU	PT	UK
Yes (4MS)	O	O	O	O	O	O	O	X

5.1.2.2.2 Procedure for criminal sanctions

Table 18. Authority and body entrusted to take decision and to inflict criminal sanctions

Availability of criminal monetary sanctions	BE	DE	ES	FR	IT	LU	PT	UK

Authority responsible for inflicting the criminal monetary sanction	Judicial Authority	Criminal Court	Criminal court	“Tribunal Correctionnel” (Chambre du Tribunal de Grande Instance de Paris), Criminal Court	Judicial Authority	"Tribunal d'Arrondissement siègeant en matière pénale" Criminal Court	Criminal Court	The FSA has power to prosecute those committting the offence of insider dealing as defined in the CJA s. 52 and the offence of misleading statements and practices as defined in FSMA s. 397. Other government prosecutor may also prosecute insider dealing under the CJA.) Prosecutions are brought in the criminal courts so responsibility for imposing the sanction lies with the court.

Table 19. Criminal procedural conditions to sanctions

Criminal procedural conditions to sanctions	BE	DE	ES	FR	IT	LU	PT	UK
In the absence of tangible proof of market abuse it is possible to use a body of “serious,	X	X	X (“beyond reasonable doubt”)	X (this method has been used in a very few cases: the person	O	O	X (possibility to indirectly prove and judge according	X

specific and convergent" evidence to help proving it (23MS)				accused did not acknowledge the facts and wrongdoings)			to the rules of experience, on the basis of a "pattern of insider" evidence	
Proof of intent* is required in order to have a guilty verdict in a insider trading case (16MS)	X	O	O	X	X	X	X	O
- Level of culpability required in order to have a guilty verdict in a market abuse case (notion of "guilty mind" differs across MS)	Intent	Gross negligence or indirect intent is sufficient	Negligence is sufficient: In insider trading cases there is a presumption that those who trade when in possession of inside information are using this information and intend to use it	Intent (Precision: there is no notion of "level of culpability")	Intent (It is necessary to prove that the offender acted knowingly and willingly; indirect intent is not sufficient)	Intent (Guilt has to be proven beyond any reasonable doubt)	Intent	Proof of intent is not required but it is necessary to prove that the person knew both that he/she had inside information and that it was from an inside source

5.1.3 Administrative and criminal sanctions: Resources and enforcement data

A measure of the intensity of public enforcement of securities regulation is based on regulators' budgetary resources and staffing level of the year 2005 and is completed by the data relative to the actual sanctions imposed during the years 2008, 2009 and 2010.

5.1.3.1 Public enforcement effort: Resources in 2005

Table 20 presents the resource-based measures of public enforcement including the number of staff dedicated to the whole range of activities to market abuse sanctioning (full time equivalent) divided by the population for the year 2005 ("Staff per million population") and the budget dedicated to enforcement of market abuse law divided by the GDP in dollars for the year 2005 ("Budget per billion US $ of GDP").

Table 20. Public enforcement effort: Resources in 2005

Public enforcement effort: Resources in 2005	BE	DE	ES	FR	IT	LU	PT	UK
Staff per million population	13,76	4,43	8,5	5,91	7,25	315,12	14,5	19,04
Budget per billion US$ of GDP	27,276	12,903	29,873	28,851	61,239	473,894	75,562	80,902

5.1.3.2 Administrative and criminal sanction decisions in 2008, 2009 and 2010

5.1.3.2.1 Administrative sanction decisions

Table 21. Administrative monetary sanction decisions

Administrative monetary sanction decisions	BE	DE	ES	FR	IT	LU	PT	UK
- Natural person								
2008 (12MS)	X: 1 sanction 3 discharges	O: 0 sanction 2 discharges	X: 2 sanctions 3 discharges	X (highest number of sanctions by a CA: 29): 29 sanctions 38 discharges	X: 5 sanctions 0 discharge	O: 0 sanction 2 discharges	O	X: 6 sanctions 0 discharges
2009 (12MS)	O: 0 sanction 5 discharges	O	X: 1 sanctions 0 discharge	X: 5 sanctions 39 discharges	X (highest number of sanctions by a CA: 14): 14 sanctions 0 discharge	O: 0 sanction 3 discharges	X: 3 sanctions 0 discharges	X: 5 sanctions 0 discharge
2010 (9MS)	X: 1 sanction 7 discharges	O	X: 15 sanctions 0 discharge	X (highest number of sanctions by a CA: 14): 14 sanctions 16 discharges	X: 12 sanctions 3 discharges	O	O	X: 10 sanctions 1 discharge
- Total amount of issued								

monetary sanctions								
2008	€5,000 to 9,999	O	€1m to 4,999,999	€5m+	€1m to 4,999,999	O	O	€100,000 to 999,999
2009	O	O	€20,000 to 49,999	€1m to 4,999,999	€5m+	O	€20,000 to 49,999	€100,000 to 999,999
2010	€20,000 to 49,999	O	€100,000 to 999,999	€1m to 4,999,999	€1m to 4,999,999	O	O	€5m+
- Legal person								
2008 (3MS)	O: 0 sanction 1 discharge	O	O	X: 1 sanction 3 discharges	X: 1 sanction 0 discharge	O	O	O
2009 (5MS)	O: 0 sanction 4 discharges	O	X: 1 sanction 0 discharge	X (highest number of sanctions by a CA: 2): 2 sanctions 8 discharge	X (highest number of sanctions by a CA: 2): 2 sanctions 0 discharge	O	X: 1 sanction 0 discharge	O
2010 (4MS)	O	O	X: 4 sanctions 0 discharge	O: 0 sanction 3 discharges	X: 1 sanction 0 discharge	O	O	O
Total amount of administrative monetary sanctions								
2008	O	O	O	€20,000 to 49,999	€100,000 to 999,999	O	O	O
2009	O	O	€20,000 to 49,999	€1m to 4,999,999	€1m to 4,999,999	O	€20,000 to 49,999	O
2010	O	O	€100,000 to 999,999	O	€100,000 to 999,999	O	O	O

Table 22. Administrative non-monetary sanction decisions

Administrative non-monetary sanction decisions	BE	DE	ES	FR	IT	LU	PT	UK
2008 (4MS)								

Reprimand addressed to a regulated entity (2MS)							(1)	
Other (3MS)					(10)			
2009 (7MS)								
Reprimand addressed to a regulated entity (2MS)							(2)	
Withdrawal of licenses (2MS)								
Other (4MS)					(24)		(12)	(4)
2010 (6MS)								
Reprimand addressed to a regulated entity (2MS)							(1)	
Temporary prohibition to provide financial services (1MS)								(1)
Permanent prohibition to provide financial services (1MS)								(1)
Withdrawal of licenses (3MS)								
Other (4MS)				(3)	(25)			

Table 23. Cases originated by the competent authorities and transmitted to criminal courts

Cases originated by the administrative competent authorities and transmitted to criminal courts	BE	DE	ES	FR	IT	LU	PT	UK
2008	X: 1 case	X: 59 cases	X: 1 case	X: 20 cases	X: 6 cases	O	X: 4 cases	O
2009	X: 6 cases	X: 88 cases	O	X: 16 cases	X: 7 cases	O	X: 3 cases	O
2010	X: 2 cases	X: 72 cases	X: 10 cases	X: 16 cases	X: 8 cases	X: 3 cases	X: 4 cases	O

5.1.3.2.2 Criminal sanction decisions

The data relative to criminal sanctions taken by criminal courts are based on the report of ESMA relying on the information provided by the administrative authorities. I chose the 8 countries in considering their relative place in the world financial place. UK is the first one and Portugal is the 74th. They are representative of all the layer of the economies. The report of the ESMA comport a weakness: it does provide data for only 17 countries regarding criminal enforcement of laws. BE, ES, IT are amongst these 17 countries.

Table 24. Criminal monetary sanction decisions

Criminal monetary sanction decisions	BE	DE	ES	FR	IT	LU	PT	UK
- Natural person								
2008 (8MS)	NA	X: 5 sanctions	NA	X: 2 sanctions	NA	O	X: 2 sanctions	O
2009 (2MS)	NA	X: 23 sanctions	NA	O	NA	O	O	O
2010 (8MS)	NA	X: 37 sanctions	NA	X: 1 sanction	NA	O	X: 3 sanctions	X: 1 sanction
Total amount of criminal monetary sanctions								
2008	NA	€10,000 to €99,999	NA	€10,000 to €99,999	NA	O	€10,000 to €99,999	O
2009	NA	€100,000 to €999,999	NA	O	NA	O	O	O
2010	NA	€100,000 to €999,999	NA	€100,000 to €999,999	NA	O	€100,000 to €999,999	€10,000 to €99,999
- Legal persons								
2008 / 2009 (2MS) / 2010 (1MS)	NA	O	NA	O	NA	O	O	O

Table 25. Cases criminally prosecuted by administrative authorities in front of criminal courts

Cases criminally prosecuted by administrative authorities in front of criminal court	BE	DE	ES	FR	IT	LU	PT	UK
Natural and legal persons								
2008 (1MS)	O	O	O	O	O	O	O	O
2009 (1MS)	O	O	O	O	O	O	O	X: 4 sanctions 0 discharge
2010 (3MS)	O	O	O	O	O	O	O	X: 2 sanctions 3 discharges

Table 26. Incarceration sanction decisions

Incarceration sanction decisions	BE	DE	ES	FR	IT	LU	PT	UK
2008 (4MS)	NA	O	NA	X: 2 sanctions (6 months; 1 year)	NA	O	O	O
2009 (4MS)	NA	X: 2 sanctions (1yr and 3months; 3 years)	NA	O	NA	O	O	X: 4 sanctions (>1yr and 3months; <3years)
2010 (3MS)	NA	O	NA	X: 1 sanction (1year)	NA	O	O	X: 2 sanctions (1 year and 9 months; 2 years)

A table 27 should list the number of criminal non-monetary sanctions alternative to incarceration decisions. However, no one of the five chosen MS for which the information is available imposed non-monetary sanctions different from fines and incarceration.

5.2 OBSERVATIONS ABOUT THE SANCTIONING ENFORCEMENT PRACTICES OF THE EIGHT SELECTED MEMBER STATES: CHALLENGES AND IMPLICATIONS FOR EFFECTIVE ENFORCEMENT POLICY

First of all, it is important to mention that the development and practices of insider trading laws are quite recent, as shown by the dates at which the countries passed and enforced their insider trading laws[667] reported in the introduction of this chapter. For indication, the years in which the countries' main exchange stock exchange was established was also reported[668]. The review of current practices allows to identify general divergences and convergences in the sanctioning and enforcement regimes of the selected countries. Some specific observations must be made.

5.2.1 Observations about substantive law: Categories of administrative and criminal sanctions and their interaction

5.2.1.1 Divergences in levels of sanctions: The magnitude of sanctions varies widely across Member States

(i) Divergences in minimum and maximum amount of monetary administrative sanctions / criminal sanctions; Divergences in minimum and maximum length of criminal incarceration

Most of the time legislative and constitutional provisions limit the minimum and the maximum sanctions available to the Member States; this results in significant differences. Firstly, the administrative minimum amounts available in 2010 ranged from €5 in Germany to €100,000 in Italy following this ranking: [DE] < [LU] < [BE] < [PT < ES] < [IT][669], with an average administrative minimum monetary sanction of €26,271 and median of €13,750 (see table 2). Secondly, the administrative maximum amounts available ranged from €200,000 in Germany to €100,000,000 in France following this ranking [DE < ES] < [LU < BE < PT] < [IT] < [FR]. The average administrative maximum monetary sanction was €17,828,571 and the median €2,500,000. In a European comparison, the case of Estonia is famous for having the lowest maximum administrative monetary sanction for insider trading of only €1,200.

As for criminal sanctions, the minimum amounts available ranged from €5 in Germany to €40,000 in Italy following this ranking: [DE] < [PT] < [LU < BE] < [IT]. The average criminal minimum monetary sanction was €8,091 and the median €275. IT displayed a particularly high criminal minimum monetary sanction, actually comparable to BE's criminal maximum monetary sanction. Secondly, the maximum

[667] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.
[668] Ibid.
[669] (each [ ] regrouping the countries belonging to the same order of 10 or so).

amounts available ranged from €55,000 in Belgium to €10,800,000 in Germany following this ranking: [BE] < [PT] < [LU = FR < IT] < [DE]. The average criminal maximum monetary sanction was €3,339,166 and the median 1,500,000€ (See table 7). In a European comparison, the cases of Netherlands and Estonia were famous for respectively providing a maximum criminal monetary sanction of €18,500 and €16,000,000 (which contrasts Estonian's maximum administrative monetary sanctions mentioned in the previous paragraph).

The range of the minimum length of incarceration applicable for insider trading violation varies from "up to six month" in BE, DE and LU to 2 years in IT following this ranking: BE = DE = LU < ES < IT. The average minimum length of incarceration is 0,9 year; the median is 0,5 year (See table 9). The range of the maximum length varies from one year in BE to 12 years in IT following this ranking: BE < LU = FR < PT < DE < ES < UK < IT. The average maximum length of incarceration is five years; the median is four years. In a European comparison, the minimum term ranged from 15 days in Slovenia to three years in Slovakia, while the maximum term ranged from 30 days in Estonia to 12 years in Italy and Slovakia.

From a general point of view, there are wide differences in the administrative and criminal minimum and maximum monetary and non-monetary sanctions for insider trading in the eight selected Member States, and in Europe in general[670]. There is apparently no specific coherence in the setting of minimum or maximum quanta or magnitude of a sanction for insider trading. The literature comments that sanctions tend to be the arbitrary result of different successive criminalization policies[671]. For instance, regarding the minimum administrative monetary sanctions, the order varies from 1 to 10,000 times.
Some specific observations can be formulated. The average and the median criminal minimum and maximum monetary sanctions are respectively lower than the average and the median administrative minimum and maximum monetary sanctions. Moreover, BE, FR, IT and PT all provide for maximum administrative monetary sanctions that are higher than their maximum criminal monetary sanctions. These observations can appear surprising because the theory usually considers that criminal law provides for more stringent sanctions than administrative law, as it is the case in DE or ES for instance.
Regarding notable tendencies, it can be observed that DE simultaneously displays the lowest minimum administrative and criminal monetary sanctions and the maximum administrative monetary sanctions; and the highest maximum criminal monetary sanctions. IT displays the highest minimum administrative and criminal monetary sanctions, the second highest maximum administrative and criminal monetary sanctions and the highest maximum prison term.
In a European comparison, the case of Estonia emblematically illustrates the extreme cases and policy choices in setting the sanctions for insider trading. Indeed, this country both provides for the lowest maximum administrative monetary sanction (€1,200) and the highest criminal monetary sanction (€16,000,000).

[670] See ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).
[671] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).

From an economic point of view, as presented in section 4.2.4, an optimal enforcement of law policy should be achieved by using monetary sanctions at the maximum and to complement them with non-monetary sanctions[672]. Therefore, Member States should preferably provide efficient, proportional and dissuasive maximum monetary sanctions. It may be questionable whether an administrative maximum monetary of €1,200 fulfills such conditions.

(ii) The sanctions are not set according to the same factors

Firstly, the key factors used to determine the imposable administrative monetary sanctions appear to be very similar in the eight examined countries (See table 3). Secondly, for the criminal monetary sanctions, whilst DE, ES, IT, LU, PT and UK determine the imposable monetary sanctions based on a similar set of key factors than for determining administrative sanctions, BE and FR seem to focus on a more restricted number of key factors, starting with the "seriousness of the violation" (See table 8).

According to theory, from an economic perspective, an optimal law enforcement policy should be achieved by using proportional and wealth-related monetary sanctions at the maximum. However, the competent authorities do not exactly take into account the same factors when determining sanctions according to the law. The level of harm is taken into consideration under the factor entitled "seriousness of the violation" and the level of gain under "amount of financial benefit derived from the violation". Some member states such as BE, DE, ES, FR and LU factor the maximum monetary sanctions to the realized profit. In FR, the financial strength and/or size of the author of the violation is explicitly taken into account; in DE the criminal fine is imposed in so-called daily units calculated on the basis of the offender's economic situation[673]. Hence, only two countries (DE and FR) take into account factors relating to the wealth of the individual even though wealth-related proportional monetary sanctions constitute one of the key recommendations of the law and economics literature for obtaining optimal enforcement of insider trading laws.

From an economic point of view, it would also be preferable for Member States to take into consideration factors relating to the wealth of the individuals when determining the applicable sanctions in order to reach an optimal enforcement of insider trading laws.

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[672] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.208: "Fines have several advantages over other punishments: for example, they conserve resources, compensate society as well as punish offenders, and simplify the determination of optimal p's and f's. Not surprisingly, fines are the most common punishment and have grown in importance over time. Offenders who cannot pay fines have to be punished in other ways, but the optimality analysis implies that the monetary value to them of these punishments should generally be less than the fines". Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.pp.1236-1237: "non-monetary sanctions should be employed only when monetary sanctions cannot adequately deterundesirable act(…)". Shavell, S., Polinsky, A. M., 1984. The Optimal Use of Fines and Imprisonment, *Journal of Public Economics* 24, 89-99. Shavell, S., 1987b. The Optimal Use of Non Monetary Sanction as a Deterrent, *American Economic Review* 77, 584-592.

[673] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).pp.103-104.

5.2.2.2 Divergences in types of sanction

Divergences exist in the nature, categories and forms of sanctions at the disposal of competent administrative and judicial authorities. The most important element of this issue concerns the alternatives to fines and prison.

(i) Under an administrative proceeding, BE, DE and UK provide the possibility of making a settlement for insider trading. The outcome of a *settlement* is conceived as a sanctioning decision in DE and UK (See table 14).

(ii) Some competent authorities only provide for monetary sanctions and incarceration, and thus cannot address *alternative non-monetary sanctions.*

Under administrative law, the eight countries considered all provide for diverse alternative non-monetary sanctions such as disciplinary sanctions, prohibition of activity or temporary suspensions (See table 4).

Under criminal law only six MS' judicial authorities declared to be able to impose other types of sanctions in addition to fine and imprisonment. Germany and Luxembourg reported to not provide for alternative sanctions to fines and prison (See table 10). In a European comparison, it is also the case for Estonia, Greece, Latvia, Lithuania, and Malta. Moreover, only a few countries provide for economically incapacitating sanctions. Amongst the eight countries considered in the index, only PT provides for disqualification of the practice. In a European comparison, Finland provides for business prohibition orders, Poland provides for license suspensions[674]. Only one country (Denmark) declared providing for socially incapacitating sanctions as an alternative to prison through the form of community service.

From a general point of view, there are more types of alternative non-monetary sanctions available under administrative law than under criminal law. From a theoretical point of view, as mentioned in Chapter 4, society cannot rely exclusively on monetary sanctions; indeed, non-monetary sanctions are needed under particular circumstances previously specified. An optimal law enforcement policy should be achieved by using monetary sanctions at the maximum, and then completing with non-monetary sanctions[675], starting with the less costly (in terms of control, infrastructure, maintenance, indirect and consequential costs) and the less restrictive, for a similar deterrent effect. At equal deterrence effect, non-incapacitating non-monetary sanctions should be used first, followed by the economic incapacitating ones and finally, the socially incapacitating sanctions. Incarceration should always be a last resort. The theory highly recommends providing alternatives to socially incapacitating sanctions, starting with settlement[676], then turning to economically

[674] Ibid. p.111.

[675] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549, Shavell, S., 1987b. The Optimal Use of Non Monetary Sanction as a Deterrent, *American Economic Review* 77, 584-592. Shavell, S., Polinsky, A. M., 1984. The Optimal Use of Fines and Imprisonment, *Journal of Public Economics* 24, 89-99. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.

[676] Considered as a sanction in some MS, while not in others. See ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.34.

incapacitating sanctions and ultimately using socially incapacitating sanctions different than prison[677].

From an economic point of view, Member States should preferably use alternative sanctions to fines and prison such as referral to an attendance center or day reporting center, house arrest, community or society service, or electronic monitoring, in order to reach an optimal enforcement of insider trading laws. Incarceration should be used as an *ultimum remedium*.

(iii) Some competent authorities cannot address criminal sanctions to legal persons

In Germany, Luxembourg and Portugal, insider trading can give rise to criminal sanctions only for natural persons. In a European comparison, a total of eight countries cannot impose criminal sanctions on legal entities for insider trading (on top of the three former: Bulgaria, Czech Republic, Greece, Poland, Sweden) (See table 6).

(iv) Some competent authorities cannot publish sanction decisions

For administrative and criminal sanctions in DE and LU, convictions are not to be made public in principle. On the contrary, BE, ES, FR, IT, PT and UK administrative and criminal authorities have an obligation to publish the decisions in principle. Publications can even be made preserving anonymity of the sanctioned person under specific conditions, though less easily under criminal law (not possible in ES, FR, IT, PT) than under administrative law (not possible in ES). In a European comparison, publicity of sanction decisions is a principle in 19 MS for criminal sanctions and in 16 MS for administrative sanctions, and anonymity is an option in 18 MS for criminal sanctions and 11 MS for administrative sanctions (See table 5 and 11).

The publication of sanctions belongs to the category of non-monetary non-incapacitating sanctions, and more precisely to naming and shaming sanctions. As presented in Section 4.2.2.2, the publication of sanctions is an efficient sanction because it has a highly deterrent power and is considered as being non-costly. However, the scholarly literature shares doubt about its deterrent power and the difficulty to proportion it and recommends using this sanction in the context of a criminal procedure in order to avoid error costs, which can be high and furthermore unrecoverable. Therefore, publication of sanctions should be preferably made under a criminal procedure or maybe a reinforced administrative procedure.

5.2.2.3 Procedural differences concerning cooperation and cumulation of sanctions

(i) In some countries, the cumulation of administrative and criminal prosecutions and sanctions is possible and organized, whilst in others prosecutions are separated and exclusive

In BE, FR, IT, PT and UK, insider trading can be subject to administrative and criminal sanctions proceedings cumulatively. It is not the case in DE, ES and LU where the prosecution is exclusive (See table 12). The cooperation between

[677] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).

administrative and judicial authorities is formalized in DE, IT, PT and UK, as in nine other MS in total (See table 13). Cooperation can occur at different stages (in the beginning of the proceeding in 29 MS; at a later stage in 13 MS) and can be of different nature (from the assistance in seven MS, to the exchange of information in most of the MS (See table 13)).

In organizing the articulation between the two kinds of procedures, the criminal one halts the administrative one in DE, ES, LU and in 11 other MS. Moreover, in BE, FR, IT and UK (which are the countries where administrative and criminal sanctions can be cumulated), the competent administrative and judicial authorities take into account what has been previously imposed by the other authority (See table 12). PT is the only country where there is a limit to the total amount of sanctions that can be imposed but where the competent authorities do not take into consideration what has been imposed by the other authority. On the contrary, in IT and UK, insider trading can be subject to both administrative and criminal sanctions cumulatively but there is no limit to the total cumulative administrative and criminal monetary sanctions. Considering that in IT the maximum administrative monetary sanction is €15,000,000 and the maximum criminal monetary sanction is €6,000,000, and that there is no statutory maximum in UK at all, the monetary sanction resulting from the cumulation of administrative and criminal sanctions can indeed be very high.

From a theoretical point of view, as mentioned in the section 4.3.3.4, two major problems may occur from multiple prosecutions. The first problem is over-deterrence and the second problem is the multiplication of procedural costs.

Some countries provide relevant solutions to overcome the problem of over-deterrence by limiting the total amount of sanctions imposed or by asking authorities to take into consideration what the previous prosecuting authority has imposed. It is consistent with the principle of proportionality and with the will to limit over-deterrence. These solutions do not however prevent from the multiplication of costs induced by the double administrative and criminal prosecutions. Therefore, according to the literature, countries should favor cooperation and non-cumulation of prosecutions in order to obtain an optimal enforcement of insider trading law and thereby to rule out the possibility of having two cumulative, parallel and independent prosecutions. Cooperation at an early stage allows to choose the relevant competent authority to prosecute the case from the beginning. For instance in DE, ES and LU, criminal prosecutions may halt administrative proceedings; or in UK, the competent administrative authorities are allowed to prosecute criminal insider trading in front of the competent criminal court.

(ii) Some competent authorities can criminally sanction insiders without establishing their intent

Proof of intent is not required for administrative sanctions in any of the eight countries considered, as it is the case for most European countries, except Estonia. It should be observed that, as previously mentioned, Estonia provides for a maximum administrative monetary sanction of only €1,200. This combination may appear surprising since the literature recommends securing the sanction imposition with a highly rigorous procedure (in order to avoid error costs) only when sanctions are very stringent. Moreover, most of the time, in the absence of tangible proof of insider

trading, competent authorities use serious, specific and convergent evidence. It is the case for all the eight MS considered (See table 16).

To impose criminal sanctions, a particular state of mind of the accused is required: guilt. The level of culpability required to prove a guilty criminal insider varies across the different MS, from "negligence" to "intent". For instance, intent has to be established in five of the MS considered, but not in DE, ES and UK, where the establishment of negligence may suffice. In Europe, proof of intent is required only in 16 MS. Moreover, in the absence of tangible proof of insider trading, it is possible to use a body of "serious, specific and convergent" evidence to help prove it, in six of the selected MS (but not in IT and LU) as well as in 23 MS (See table 19).

Taking the cases of the three selected MS where the intent does not have to be established to criminally convict someone, it should be observed that DE provides for the highest maximum criminal monetary sanctions (amongst the eight chosen countries) while ES and UK are the only 2 countries that do not set a maximum for criminal monetary sanctions. Moreover, DE is also the only country amongst the eight chosen to provide for a maximum criminal monetary sanction higher than its administrative maximum monetary sanctions (See table 2 and 7). On the contrary, BE, FR, IT and PT all provide for maximum administrative monetary sanctions higher than maximum criminal monetary sanctions and require the establishment of intent to criminally convict someone.
Moreover, DE also provides for a maximum of five years of imprisonment term, six years in Spain and seven years in the UK, which are the longest terms amongst the eight chosen MS (See table 9).

The fact that such potentially high stringent sanctions may be imposed without the need to establish the intent of the offender may be criticized from a theoretical point of view (See section 4.3.2, 4.3.3). Indeed, according to the literature, criminal conviction should require higher standards of proof[678]. Criminal proceedings should be distinguishable because of their investigation, arrest, filing of charges, trial, conviction, sentencing, etc. Most of the time this procedure progresses with the satisfaction of each step and the trial only ends with a conviction when the prosecution manages to establish an accused individual's guilt "beyond reasonable doubt". It is therefore likely that the intent, or knowledge of fault of the trader, would have to be demonstrated[679]. The accuracy of criminal prosecution should be thoroughly maintained in order to legitimate criminal justice decisions and ensure that no costly mistakes are made (such as convicting an innocent or acquitting a guilty)[680]. Indeed, when criminal sanction is involved, the cost of wrongful conviction is socially more significant due to its inherent stigma and the possible incarceration. This is

[678] Garoupa, N., 2001. Punish Once or Punish Twice: A Theory of the Use of Criminal Sanctions, *German Working Papers in Law and Economics* 6, 410-433.
[679] Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.
[680] Bowles, R., Faure, M., Garoupa, N., 2008. The Scope of Criminal Law and Criminal Sanctions: An Economic View and Policy Implications, *Journal of Law and Society* 35, 389-416. Garoupa, N., Rizzoli, M., 2007. Why Prodefendant Criminal Procedure Migth Hurt the Innocent?, *University of Illinois Law and Economics Research Paper* 137. Posner, R. A., 1985. An Economic Theory of the Criminal Law, *Columbia Law Review* 85, 1193-1231.

referred to as the goal of reduction of error costs.[681] The error cost is obviously a lot higher when very serious sanctions, like social incapacitation, are at stake. It is therefore understandable that less costly administrative proceedings are chosen in cases where the consequences, and thus the error cost, will not be too high in the event of a wrongful conviction[682]. Arguably, it is also a goal of administrative procedure to avoid punishing the innocent and reducing error costs, even though they operate at a lower standard. This explains why the literature considers administrative law, and the corresponding administrative procedure, to be reserved for cases where relatively low penalties can suffice to deter (said differently when no socially incapacitating sanctions are involved).

To conclude, from a theoretical point of view, Member States should preferably require a proof of intent when establishing the guilt of criminal insider trading in order to reach an optimal enforcement of insider trading laws.

5.2.3 Administrative and criminal sanctions: Resources and enforcement data description

5.2.3.1 The staff and budget effort allocated to public enforcement of insider trading laws vary widely across Member States

Resources dedicated to public enforcement of insider trading laws are assessed according to two main measures. The first is the size of the regulatory staff dedicated to the whole range of activities relative to market abuse sanctioning (full time equivalent) divided by the country's population in millions for the year 2005. It corresponds to the "staff per million population"[683]. The second one is the budget allocated to the enforcement of market abuse law in $ divided by the country's GDP in billions of US$ for the year 2005. It is designated as the "budget per billion US$ of GDP".

In the eight MS considered, the staff per million population goes from 4,43 for DE to 315,12 for LU, following this order: DE < FR < IT < ES < BE < PT < UK < LU. The average staff per million population is 48,56 while the median is only 11,13.
The budget per billion US$ of GDP goes from 12,903 for DE to 473,894 for LU, following this order: DE < BE < FR < ES < IT < PT < UK < LU. The average budget per billion US$ of GDP is 38,81 while the median is 91,11 (See table 20).
Amongst the eight considered countries, the rank per order of staff per million population is similar to the rank per order of budget per billion of GDP. Luxembourg allocates the highest number of staff to the capital market's oversight compared to its population and the highest budget compared to its GDP while Germany allocates the lowest number of staff compared to its population (about 70 times lower than LU) and the lowest budget compared to its GDP (about 36 times lower than LU).

The staff per million population and the budget per million GDP are two variables that allow to indirectly measure the effort of insider trading law enforcement and

[681] See Miceli, T., 1990. Optimal Prosecution of Defendents Whose Guilt is Uncertain, *Journal of Law, Economics and Organisation* 6, 189-201.
[682] Ogus, A., Abbot, C., 2002. Sanctions for Pollution: Do We Have the Right Regime?, *Journal of Environmental Law* 14, 283-298..

therefore, of the probability to sanction insider trading. The probability of sanctions should be assessed in combination with the magnitude of the sanction. Looking at the maximum administrative and criminal monetary sanctions, Germany provides for the lowest maximum administrative monetary sanction (€200,000) and the highest criminal one (€10,800,000) and a maximum 5 years prison term. Luxembourg provides for both a €1,500,000 maximum administrative and criminal monetary sanction and a maximum of 2 years. Looking at the cases of the other considered Member States, the variable of magnitude and the variable of probability of sanctions does not seem to coordinate. There is no evident interrelation in the setting of these two variables contrary to the literature recommendations, as presented in section 4.1.

From an economic point of view, Member States should preferably make the setting of the probability and the magnitude of the sanctions taking into consideration the other variable in order to reach an optimal expected sanction, and therefore an optimal enforcement of insider trading laws.

5.2.3.2 Enforcement of insider trading laws varies widely across Member States

The last part of the index is dedicated to the actual application of sanctions across Member States for the period 2008, 2009 and 2010. The ESMA's report provides data regarding the enforcement of market abuse laws for the 27 European Union Member States, Iceland and Norway (European Economic Area Member's Countries). The data provided are complete regarding administrative enforcement. However, the report contains a weakness regarding information about criminal law enforcement because data is only available for 17 countries, excluding BE, ES and IT.
In this part, information about all of the 29 countries for administrative enforcement is included and about the 17 countries with available data for criminal enforcement. It is valuable information to share in the framework of this study and this section will paint a more exhaustive picture of the practices in the whole of Europe.

(i) Administrative enforcement of laws

- Regarding *administrative sanctions* the report shows that in Europe, 14 competent authorities out of 29 imposed 78[684] administrative sanctions on natural and legal persons in 2008[685], 15 for 40[686] sanctions in 2009, and 14 for 70 sanctions[687] in 2010 (without distinction between monetary and non-monetary sanctions).

The highest number of administrative sanctions imposed in the review period was 30 on natural and legal persons in 2008 in FR (while it was only 16 in Italy in 2009 and 19 in Spain 2010) [688].

- As for the eight chosen Member States, in BE the administrative competent authority imposed on average 0,6 sanction per year against natural and legal persons;

[684] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).pp.41-71: on natural person, p.7: on legal persons.
[685] Ibid.p.41, 48 and 63: monetary and non monetary.
[686] Ibid. p.41, 33: on natural persons and 7 on legal persons.
[687] Ibid. 57: on natural persons and 13 on legal persons.
[688] Ibid. p.41.

in ES eight sanctions; in FR seventeen sanctions; in IT five sanctions; in PT one sanction and in UK seven sanctions.
Moreover, the following observations can be made: no administrative sanctions were imposed in DE and LU, whilst sanctions were imposed exclusively on natural persons in BE, ES and UK. In total only 4 sanctions were imposed in PT in 2009. IT is the only Member State where sanctions were imposed on both legal and natural persons each year. Over the three years, the highest number of sanctions (53) and the highest number of discharges (107) were imposed in FR, not only considering the eight but for the whole 29 MS. Finally, comparing the total amount of issued monetary sanctions with the number of sanction decisions, one can observe that the average amount of sanctions appears to be much lower than the maximum administrative monetary sanction stipulated by law. Sanctions provided for in legislation often just stipulate the maximum penalties, but are not revealing as to what is effectively imposed by the competent authority (For example in BE the average administrative monetary sanction imposed was €21,250 while the maximum administrative sanction provided by law was €2,500,000) (See tables 2 and 21).

- In total, *other types of administrative sanctions* were imposed in 11 MS in the three years covered. Amongst the eight selected MS, PT's competent authority (CA) addressed a reprimand to a regulated entity and a temporary disqualification of natural persons, FR's CA addressed a reprimand on a natural person, and IT's CA, and UK's CA imposed temporary prohibition to provide financial services (See table 22).

- With regards to *administrative sanctions imposed on legal persons* on Europe, seven administrative sanctions were imposed on legal persons in 2008, seven in 2009 and thirteen in 2010[689]. The highest number of sanctions imposed in the review period was seven for legal persons in Greece in 2010 (while it was only five by Greece's CA in 2009 and two by Italy's CA and France's CA in 2009).

(ii) Criminal enforcement of laws

In the report, a distinction is made between the sanctions pronounced in cases originated by the administrative competent authority and transmitted to the judicial authority, and the monetary sanctions, the incarceration sanctions and the alternative types of sanctions pronounced in cases originated by and dealt by the judicial authority.

- First of all, the report shows that, in the 17 countries for which data is available, ten competent jurisdictions (CJ) criminally prosecuted 139 natural persons in *cases originated and transmitted by the administrative competent authority* (22 were sanctioned and 117 were discharged) in 2008; eight jurisdictions prosecuted 88 natural persons (45 were sanctioned and 43 were discharged) in 2009; ten jurisdictions prosecuted 116 natural persons (55 were sanctioned and 61 were discharged) in 2010[690].
Finland, Norway and The Netherlands are the three Members States where five legal persons were imposed by judicial criminal courts to pay fines in cases originated and

[689] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.41.
[690] Ibid.p.83.

transmitted by the administrative competent authority[691]. Only two legal persons were discharged in 2009 in Finland.

In the eight considered MS, the report shows that UK's administrative authority did not transmit any cases to the judicial authority, whilst the highest number of sanctions pronounced in cases transmitted by the CA was 219 in Germany over the entire considered period. The rank per number of sanctions pronounced in cases originated by the administrative authority and transmitted to the judicial authority is the following: UK < BE < ES = PT < IT < FR < DE (See table 23).

- From an overall point of view, in the 15 countries for which the data is available, judicial authorities imposed less *monetary sanctions* than administrative authorities (in number).
In 2008, 18 pecuniary sanctions were imposed in a total of eight countries, in 2009, 36 pecuniary sanctions were imposed in three countries, and in 2010, 56 pecuniary sanctions were imposed in eight countries[692]. The highest number of monetary sanctions imposed by judicial authorities in the review period was 37 for natural persons in 2010 in Germany (while it was only five in 2008 and 23 in 2009 always in Germany) and two for legal persons in Finland in 2009 (one in Finland in 2010, no sanction in 2008)[693].

Regarding the specific case of the five selected Member States for which data is available, criminal sanctions were imposed by the judicial authority on natural persons in DE, FR and PT for the years 2008 and 2010, and in DE only for the year 2009. None of the Member States imposed criminal sanctions on legal persons for this period (See table 24). Finally, the UK is the only MS where six cases were prosecuted by administrative authorities in front of judicial criminal court in 2009 and 2010 (See table 25). Comparing the total amount of issued monetary sanctions with the number of sanction decisions, one can observe that the average amount of sanctions appears to be much lower than the criminal maximum monetary sanction stipulated by law. Here again sanctions provided for in legislation often just state the maximum penalties, but are not revealing of what is effectively imposed by judges (For example in FR the average criminal monetary sanction imposed was €605,000 while the maximum criminal sanction provided by law was €1,500,000) (See table 7 and 24).

- *Incarceration sanctions* are rare and their terms are relatively short. In a European comparison, data is available for 17 countries. In 2008, eight imprisonment sanctions were imposed in four countries (longest term: one year). In 2009, ten imprisonment sanctions were imposed in four countries (longest term: three years) and in 2010, six imprisonment sanctions were imposed in three countries (longest term: three years)[694].
Amongst the chosen MS, the DE's judicial competent authority imposed two incarceration sanctions, the FR's three sanctions and the UK's six sanctions (See table 26). Here again, the incarceration terms imposed were lower than the maximum incarceration terms provided by law (See table 9).

[691] Ibid.p.84.
[692] Ibid.pp.90-91.
[693] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).pp.83-84.
[694] Ibid.p.109.

- The data shows that the imposition of *criminal sanctions alternative to fines and incarceration* remains rare. On Europe, eight MS including Germany, Estonia, Greece, Lithuania, Luxembourg, Latvia and Malta reported that no other type of sanctions were used in addition to pecuniary sanctions or imprisonment in cases of market abuse violation[695]. Only five MS have indicated that judicial authorities imposed other types of sanctions in addition to fines and imprisonment, including community service in Denmark, business prohibition order in Finland, money donation to foundation and license suspension in Poland, and conditional sentence combined with fines in Sweden.

Regarding the specific case of the five selected Member States for which data is available, LU's judicial authority did not impose any criminal sanction for the reviewed period, in DE the judicial authority imposed on average 22,3 sanctions (fines and incarceration) per year against natural and legal persons; in FR two sanctions; in PT 1,6 and in UK 4,3 sanctions (See table 24 and 26). When comparing the data regarding the imposition of administrative and criminal sanctions for the five MS for which we have both information, DE's judicial authority imposed the highest amount in total of criminal sanctions but did not impose any administrative sanctions at all.

5.3 SUMMING-UP

From an overall point of view, the substantive and procedural content of insider trading administrative and criminal law consistently diverges in Europe. Chapter 6 will question whether this is necessarily a problem. This conclusive part confronts actual law and practices and the theoretical recommendations formulated in Chapters 3 and 4. Indeed, concerning the elaboration of optimal enforcement of insider trading laws, the literature produced relevant observations that should preferably inspire the Member States.

First of all, theory recommends that insider trading regulation should preferably provide for proportional and dissuasive maximum monetary sanctions in order to satisfy the deterrence objective. In that respect, Member States should preferably take into consideration factors relating to the wealth of the individuals when determining sanctions to inflict in order to optimally induce deterrence.

In practice, the use of alternative administrative sanctions is low and the use of alternative criminal sanctions is almost inexistent. Incarceration is used. Member States should then develop administrative and criminal non-monetary sanctions alternative to prison, such as those designated as economically incapacitating sanctions (e.g. referral to an attendance center or day reporting center, house arrest, community or society service, electronic monitoring) in order to reach an optimal enforcement of insider trading laws. It should be reminded that incarceration should always be used as an ultimum remedium.

Moreover, the scholarly literature recommends the publication of the sanction preferably under a criminal procedure in order to avoid error costs, which may be high and furthermore unrecoverable. Therefore, the publication of sanctions should

[695] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.111.

preferably be made under a criminal procedure or eventually a reinforced administrative procedure.
The literature also offers a viewpoint on the question of articulation and cumulation of proceedings. To obtain an optimal enforcement of insider trading law, it recommends to favor cooperation and non-cumulation of prosecutions, instead of enabling the possibility of having two cumulative, parallel and independent prosecutions. Cooperation at an early stage allows the choice of a relevant competent authority who will prosecute the case from the beginning. Finally, from a theoretical point of view, Member States should preferably require a proof of intent to establish guilt of criminal insider trading in order to avoid high error costs.

Secondly, resources and enforcement of insider trading laws also significantly diverge in Europe. For the 15 countries for which the data is complete in the report, one can observe that they display a total of 101 administrative sanctions and a total number of 155 criminal sanctions[696]. Incarceration sanctions occupy a relative importance because they represent 39 of the sanctions for these Member States over the studied period. Their terms are relatively short compared to the legal provisions limiting the maximum. MS allocate different amounts of staff and budget resources to public enforcement of insider trading laws. However there is no correlation established between these resources and the level of law enforcement.
For instance, out of the 8 MS considered, LU allocated the highest budget per billion US$ GDP and the highest number of staff per million population to public enforcement of insider trading law and did not pronounce any sanction for insider trading during the reviewed period. Germany allocated the lowest number of staff compared to its population (about 70 times lower than LU) and the lowest budget compared to its GDP (about 36 times lower than LU) and at the same time the highest number of monetary sanctions imposed by judicial authorities in the review period was 65 for natural persons in Germany over the entire period. Finally, legal persons are rarely administratively prosecuted and sanctioned and even less so criminally prosecuted and sanctioned.

There are considerable differences between both the fines and the prison sanctions provided by law and sanction decisions. The question arises whether that is necessarily a problem. Fines and prison sanctions do not only differ between Member States as far as insider trading is concerned, but for many other violations as well. This often has to do with the legislative tradition (particularly concerning criminal law) in the various Member States. However, these differences do not indicate that the system of enforcement in one Member State is necessarily more effective than in another. In this respect, it should be stressed that the sanctions provided for in legislation often just stipulate the maximum penalties, but are not revealing of what is actually imposed by regulators or judges, as observed in the index and mentioned in the observations. From an economic perspective, this would only be a problem if the sanctions provided by the legislation were of such nature that they would make it impossible in practice to impose effective sanctions for insider trading when taking into account the economic criteria.

[696] Ibid.pp.41, 91, 111: Number of monetary and non-monetary sanctions imposed on natural and legal persons.

CHAPTER 6. HARMONIZATION OF CRIMINAL INSIDER TRADING LAWS AT EU LEVEL

For a long time, it was generally held that the EU had no competence in the area of criminal law. The EU made directives, but the essence of a directive was that Member States decided on the method of implementation. Only the result was binding, not the instrument chosen.

However, starting with the domain of environmental law, the European Commission wished to force Member States to sanction violations of national legislation implementing EU law with criminal sanctions. In a landmark decision of 13 September 2005, the European Court of Justice decided that when the application of effective, proportionate and dissuasive criminal penalties by the competent national authorities is an essential measure for combating serious environmental offences, criminal law may be prescribed on the condition that it is necessary in order to ensure that the rules which it lays down on environmental protection are fully effective.

Meanwhile, the European Commission has used these powers in the environmental area with the so-called Environmental Crimes Directive of 19 November 2008[697] and through Directive 2009/123 on Ship Source Pollution of 21 October 2009.[698] These powers of the EU to force Member States to use criminal law have now also been laid down in the Lisbon Treaty.

Although initially limited to the domain of environmental criminal law, the Commission apparently intends to broaden EU criminal law also to the area of economic law and more particularly insider trading. On 20 October 2011 the European Commission launched a proposal for a Directive on criminal sanctions for insider dealing and market manipulation.[699] The idea is to introduce minimum rules on criminal offences which will have to be transposed into national criminal law and applied by the criminal justice systems of the Member States. The reason is that today Member States' enforcement practices significantly diverge. The Commission argues that this may provide incentives for persons to carry out market abuse in Member States which do not provide for criminal sanctions for these offences or provide weak enforcement.

This proposal is in line with the policy of the Commission to increasingly introduce *common EU minimum criminal law standards*, arguing that only the criminal law can demonstrate social disapproval of a qualitatively different nature compared to administrative sanctions or compensation mechanisms under civil law.

The goal of this chapter is to critically analyze this proposal concerning criminalization of insider trading at EU level from an economic perspective. In that respect, the following approach is used: even if in particular circumstances the criminal law may be indicated, the question also arises whether it should be introduced at EU level. The economic theory of federalism, which analyzes the

[697] OJ L328/28 of 6.12.2008. It had to be implemented by 26 December 2010 by the Member States.
[698] OJ L280/52 of 27.10. 2008. It had to be transposed by 16 November 2010.
[699] Proposal for Directive on criminal sanctions for insider dealing and market manipulation COM(2011) 654 of 20.10.2011

division of labour between the Member States and the EU level, is used to analyze whether criminalization should be implemented at EU level. An alternative would obviously be to respect the subsidiarity principle and to allow Member States to decide on the necessity of criminalization in particular circumstances.
This last chapter will hence contribute to the economic theory of federalism by indicating whether such a criminalization should be imposed on EU or rather on Member State level and therefore will have practical and policy implications as well since it could allow to shed a critical light, using economic analysis, on the proposals of the Commission.
The remainder this chapter will be structured as follows: after this introduction, the legal background for harmonization of criminal law in the EU as well as the contents of the proposal for a directive on criminal sanctions for insider dealing and market manipulation as well as the reactions in the literature on this proposal are sketched (6.1); next the question whether such a criminalization should be realized at EU or rather at member state level is adressed (6.2). A few concluding observations finish the chapter (6.3).

6.1 LEGAL AND POLICY BACKGROUND: CONTEXT OF THE ISSUING OF THE DIRECTIVE ON CRIMINAL SANCTIONS FOR MARKET ABUSE

6.1.1 Harmonization of criminal law in the EU

Criminal law, a traditional state sovereignty matter

Criminal law is one of the fundamental expressions of State sovereignty: the *right to punish*. It intrinsically expresses fundamental values of the society by determining the censurable behaviors. The criminal procedure is the process through which criminally sanctionable conduct can be made an offence.

Beyond that, the holding of a criminal trial and the realization of criminal sentences might require and imply that certain fundamental freedoms be infringed.

Therefore, criminal law results in the confrontation of the State's right to punish and the *guarantee of citizens' civil liberties*. For these reasons, the rules relating to criminal law fall within the competence of the legislature. Parliamentary democratic oversight is strongly involved in its elaboration.

Because of all these characteristics, it is difficult to achieve progress at an international level in the sensitive field of criminal law.

Indeed, criminal law actually embodies fundamental values of the society such as culture, religion, history, etc. Within the EU, it differs from one country to another. Consequently, as presented in the index in Chapter 5 the same behaviors might not be equally punished in different Member States, procedures might not correspond to the same demands, and the nature of sanctions might diverge significantly.

EU criminal law

For a long time, it was generally held that the EU had no competence in the area of criminal law. Indeed, EU criminal law is a *contested field of EU action* because it presents a challenge to State sovereignty in the potentially tougher domain of law. Consequently, the power of the EU in this field is limited because it can only address criminal sanctions through the issuing of Directives.

Behind the use of criminal law, there is the will of the Commission to "demonstrate social disapproval of a qualitatively different nature compared to administrative sanctions or compensation mechanisms under civil law (…) to improve deterrence (…) to take serious enforcement action."[700]

Before the Lisbon Treaty

In 1993, the Maastricht Treaty introduced the three pillars of the EU legal structure. The third pillar was dedicated to police and judicial cooperation in criminal matters (PJCC)[701] and the powers of the Commission, the European Parliament and the European Court of Justice were limited with respect to the Council. The Maastricht Treaty was the beginning of the creation of a European criminal law-enforcement area[702].

Nevertheless, before the Lisbon Treaty, because of the lack of an explicit legal basis, only very few measures have been taken for the purpose of strengthening the enforcement of EU policies[703].

This changed with the decision of the Court of Justice of 13 September 2005 in case C-176/03 where the Court had argued that although 'as a general rule, neither criminal law nor the rules of criminal procedure fall within the community competence', 'the last-mentioned finding does not prevent the community legislature, when the application of effective, proportionate and dissuasive criminal penalties by the competent national authorities is an essential measure for combating serious environmental offences, from taking measures which relate to the criminal law of the Member States which it considers necessary in order to ensure that the rules which it

[700] This statement comes from the recital in the Environemental Crime Directive 2008/99/EC and it is repeated in the Proposal for a Directive on criminal sanctions for insider dealing and market manipulation COM(2011) 654 final p.3.

[701] Called "Justice and Home Affairs" ("JHA") from 1993 until the entry into force of the Amsterdam Treaty in 1999.

[702] Before Maastricht, measures were not really aimed at creating a European criminal justice area. The Council of Europe attempted to create interoperable mechanisms for the judicial systems of its members by addressing the issue of "mutual assistance in criminal matters" through two conventions respectively on extradition (1957; CETS No.:02) and mutual assistance (1959; CETS No.:03) in criminal matters. Moreover, TREVI should be mentioned as well. TREVI (Terrorism, Radicalism, Extremism, Violence International) was the forum of the operational cooperation between ministries of justice and internal affairs of the Member States from 1975 until 1993. One of the first step towards operational cooperation in criminal matters in EU was the Schengen Treaty of 14 June 1985, executed through Schengen Convention of 19 June 1990.

[703] Directive 2008/99/EC on the protection of the environment through criminal law, OJ L 328/28 of 6.12.2008; Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements, OJ L 280/52 of 27.10.2009; and Directive 2009/52 providing for minimum standards on sanctions and measures against employers of illegally staying third-country nationals, OJ L 168/24 of 30.6.2009; Council Framework Decision of 29 May 2000 on increasing protection by criminal penalties and other sanctions against counterfeiting in connection with the introduction of the euro, OJ L 140/1 of 14.6.2000.; See COM(2011) 573 final of 20.9.2011.

lays down on environmental protection are fully effective'.[704] In a second decision of the Court of Justice of 23 October 2007 in case 176/03 the Court, however, specified: 'By contrast, and contrary to the submission of the Commission, the determination of the type and level of the criminal penalties to be applied does not fall within the community's sphere of competence'.[705] With that decision, it was made clear that within the conditions set by the decision of 13 September 2005 the Commission may prescribe the use of criminal penalties (if the necessity conditions are fulfilled and the topic falls within its sphere of competence). However, the EU level is clearly not competent, so it was held by the Court, to 'determine the type and level of the criminal penalties to be applied'.[706]

As it was meanwhile equally already made clear in the introduction to this chapter, the European Commission has used the new powers that were allocated to her with the promulgation of the Environmental Crime Directive of 19 November 2008 and the directive on Ship-Source Pollution of 21 October 2009. Both directives had already to be implemented by the end of 2010. Since then, the landscape has changed considerably as a result of the extension of the powers in the domain of criminal law under the Lisbon treaty.

The Lisbon Treaty

In 2009, the Lisbon Treaty[707] introduced three specific competences to the European Union for criminal law[708], providing for a new legal framework for criminal legislation and giving a strong role to the European Parliament, the European Council and the European Court of Justice. The new legal framework under the Lisbon Treaty aims at providing means to develop consistent and coherent EU criminal law legislation. It allows the Member States to work together with the Institutions[709] by providing national parliaments a stronger role in the field of criminal law than in the context of other EU policies[710]. They can give their views on proposals, and monitor the respect of the principle of subsidiarity[711].

Moreover, the Lisbon Treaty made the Charter of Fundamental Rights legally binding, protecting citizens[712].

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[704] Par. 48 of the decision of 13 September 2005.
[705] Par. 70 of the decision of 23 October 2007.
[706] For further details see Faure, M., 2008. The Continuing Story of Environmental Criminal Law in Europe after 23 October 2007, *European Energy and Environmental Law* 17, 68-75.
[707] The Lisbon Treaty amends the Maastricht Treaty (Treaty on European Union) and the Treaty of Rome (Treaty establishing the European Community) which form the constitutional basis of the European Union. The Treaty of Rome was renamed the Treaty on the Functioning of the European Union (TFEU).
[708] OJ C 326/47 of 26.10.2012 .
[709] COM(2011) 573 final of 20.09.2011, p.4.
[710] See Protocol on the role of national parliaments in the European Union C83/203 of 30 of March 2010.
[711] OJ C 326/47 of 26.10.2012 art. 5 and Protocol on the application of the principles of subsidiarity and proportionality OJ C83/206 of 30 of March 2010, article 7(2): "Where reasoned opinions on a draft legislative act's non-compliance with the principle of subsidiarity represent at least one third of all the votes allocated to the national Parliaments in accordance with the second subparagraph of paragraph 1, the draft must be reviewed".
[712] Communication from the Commission "Strategy for the effective implementation of the Charter of Fundamental Rights by the European Union", COM(2010) 573 final of 19.10.2010.

Finally when a Member State considers that a proposal dealing with criminal or criminal procedure touches upon fundamental aspects of their national criminal justice system they have the option to refer it to the European Council[713].

Article 83 of the Treaty on the Functioning of the European Union (TFEU) defines the substantive competences of the European Union in criminal matters by providing two specific legal basis for *substantive criminal law*[714].

Article 83(1)[715]

First of all, according to Article 83(1) of the TFEU, the EU can adopt directives providing for minimum rules regarding the definition of criminal offences for the so-called listed "Euro crimes": terrorism, trafficking in human beings and sexual exploitation of women and children, illicit drug trafficking, illicit arms trafficking, money laundering, corruption, counterfeiting of means of payment, computer crime and organized crime. The Euro crimes are crimes that are considered as meriting an EU approach because of their serious nature and cross-border dimension.

On 5 February 2013, on the basis of this article, the Commission proposed a new Directive on the protection of the euro and other currencies against counterfeiting through criminal law (COM (2013/42) replacing Council Framework Decision 2000/383/JHA).

Article 83(2) TFEU[716] allows the European Parliament and the Council, on a proposal from the Commission, to establish 'minimum rules with regard to the definition of criminal offences and sanctions if the approximation of criminal laws and regulations of the Member States proves essential to ensure the effective implementation of a Union policy in an area which has been subject to a harmonization measure'.

In addition, article 325 (4) of the Treaty provides for the specific possibility to take measures to fight against misuse of EU public money and to prevent fraud affecting

[713] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "Towards an EU Criminal Policy: Ensuring the effective implementation of EU policies through criminal law" COM(2011) 573 final of 20.09.2011, p.4.

[714] Miettinen, S., *Criminal Law and Policy in the European Union*(Routledge), 2012, p.42.

[715] OJ C 326/47 of 26.10.2012 art. 83(1): "The European Parliament and the Council may, by means of directives adopted in accordance with the ordinary legislative procedure, establish minimum rules concerning the definition of criminal offences and sanctions in the areas of particularly serious crime with a cross-border dimension resulting from the nature or impact of such offences or from a special need to combat them on a common basis. These areas of crime are the following: terrorism, trafficking in human beings and sexual exploitation of women and children, illicit drug trafficking, illicit arms trafficking, money laundering, corruption, counterfeiting of means of payment, computer crime and organised crime. On the basis of developments in crime, the Council may adopt a decision identifying other areas of crime that meet the criteria specified in this paragraph. It shall act unanimously after obtaining the consent of the European Parliament".

[716] OJ C 326/47 of 26.10.2012 art. 83(2): "If the approximation of criminal laws and regulations of the Member States proves essential to ensure the effective implementation of a Union policy in an area which has been subject to harmonization measures, directives may establish minimum rules with regard to the definition of criminal offences and sanctions in the area concerned. Such directives shall be adopted by the same ordinary or special legislative procedure as was followed for the adoption of the harmonization measures in question, without prejudice to Article 76".

the financial interests of the Union.

The proposal for a Directive on criminal sanctions for insider dealing and market manipulation of 20 October 2011, that constitutes the starting point for this last chapter, is based on this new article 83(2) TFEU. It should be added that on 20 September 2011, the Commission issued the Communication 'Towards an EU Criminal Policy: Ensuring the effective implementation of EU policies through criminal law', intending to provide, amongst other things, some specific guidance regarding the article 83 (2) of the TFEU[717]. It is mentioned that this article provides the possibility for EU institutions to determine which EU policies require the use of criminal law as an additional enforcement tool.

The Treaty explicitly requires a test of whether criminal law measures are 'essential' to achieve the goal of an *effective policy implementation*. According to the Communication, in order to establish that the effective implementation of a specific EU policy requires the use of criminal law, the Commission has to carry out an assessment of the national enforcement regimes in place, based on clear factual evidence,[718] and of the added value of common EU minimum criminal law standards, taking in account the principles of necessity, proportionality[719] and subsidiarity. In this Communication, market abuse is the first policy area cited amongst the ones for which EU criminal law is desirable. Once the need for criminal law established, the next step concerns the concrete criminal measure to adopt at EU level.

Under article 83 of the Treaty, EU legislation is limited to *'minimum' rules on criminal law*. Consequently, full harmonization is impossible. Moreover, article 83(2) TFEU mentions that the objective to reach is an 'approximation of criminal laws and regulations of the Member States', meaning a reduction of the variation degree between the national systems.[720] Nevertheless, according to the principle of legal certainty and proportionality, it is important to clearly define what conduct may be considered criminal, as well as the result to be achieved through the implementation of EU legislation.

The concept of 'minimum' rules would gain to be clarified[721] to avoid any ambiguity. Regarding sanctions, EU criminal law can require Member States to take effective,

[717] COM(2011) 573 of 20.09.2011, p.6.
[718] The clear factual evidence should treat about the nature or effects of the crime and about a diverging legal situation in all Member States, which could be problematic for the effective enforcement of an EU Policy subject to enforcement. These proofs should preferably be statistical data allowing to assess the factual situation.
[719] The Institutions have to establish a test of whether criminal law measures are "essential" to achieve the goal of an effective policy implementation. It implies that the legislators need to analyse whether measures other than criminal law measures could not sufficiently ensure the Policy implementation and whether criminal law could address the problem more effectively; COM(2011) 573 of 20.09.2011, p.7. Moreover, the condition of necessity applies on the level of deciding which criminal law; measures to include in a particular legislative instrument. The Article 49 of the Charter of Fundamental Rights "the severity of the penalty must not be disproportionate to the criminal offense" applies here; COM(2011) 573 of 20.09.2011, p.8. See further Groenhuijsen, M., Ouwerkerk, J., 2013. *Ultima ration en criteria voor strafbaarstelling in Europees perspectief*(Kluwer, Deventer).p.258.
[720] COM(2011) 573 of 20.09.2011, p.9.
[721] See Miettinen, S., 2012. *Criminal Law and Policy in the European Union*(Routledge).p.44: "The choice of instruments and their inherent limits will also remain a point of contention. Express provisions on approximation refer to directives as the legal instrument by which the Union may create

proportionate and dissuasive criminal sanctions for a specific conduct. The Commission's interpretation of 'minimum rules' is clear: several documents specify that 'EU law sometimes specifically determines which types and/or levels of criminal sanctions are to be made applicable'.[722] In each case, the EU instrument may only set out which sanctions have to be made 'at least' available to the judges in each Member State[723].

6.1.2 Harmonization of EU insider trading law

The European Community was created after the Second World War to ensure integration and co-operation with the scope of establishing peace and stability[724].

The EU aims at creating a single common market[725], through harmonization, towards an ideal of *federation*. Nevertheless, political and cultural differences persist. Moreover, member states are usually skeptical about giving total control to a central body. Consequently, the EU usually uses flexible legal instruments only binding in relation to the "result that is to be achieved"[726]: directives[727]. National regulators can thereby keep the control over implementation. The existing EU legislation is restricted to administrative sanctions and measures. Member States enjoy considerable autonomy in terms of choice and application of national sanctions.

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minimum rules. Given substantial limitations to the directive as an instrument, and to the potential lack of direct effect to instruments containing minimum rules, the question arises whether any provisions on the new Area of Freedom, Security and Justice (AFSJ) may allow directly applicable rules on criminal law to be created in the form of Regulation, or whether either these or other competences ostensibly outside the AFSJ can be exercised to circumvent AFSJ references to directives. If the narrative on the development of EU criminal competences can be seen as a contest between the centralizing effects of EU law and the desire of the Member States to retain criminal law as a relatively decentralized policy area, then Lisbon has changed the rules but has not ended the game. What, for example, are 'minimum rules'?".

[722] The possibility to make a proposal in the field of criminal law including type and level of criminal sanctions included in EU directive appears in the COM(2011) 573 of 20.09.2011, p.8: "Regarding sanctions, "minimum rules" can be requirements of certain sanction types (e.g. fines, imprisonment, disqualification), levels or the EU-wide definition of what are to be considered aggravating or mitigating circumstances"; It also appears in the Communication of the Commission on reinforcing sanctioning regimes in the financial services sector, COM(2010) 716 final of 8.12.2010, p.14: "Any proposals in the field of criminal law should aim at ensuring appropriate coherence and consistency across different sectors, in particular when considering the type and level of criminal sanctions included in EU directives"; The European Commission page dedicated to the criminal law policy is also specifying that "The EU can adopt directives providing for minimum rules regarding the definition of criminal offences, i.e. rules setting out which behavior is considered to constitute a criminal act and which type and level of sanctions are applicable for such acts" available at http://ec.europa.eu/justice/criminal/criminal-law-policy/, accessed on 08.05.2013.

[723] COM(2011) 573 of 20.09.2011, p.8-9.

[724] Craig, P., de Burca, G., 2008. *EU Law, Text and Materials*(Oxford University Press, Oxford).p7.

[725] OJ C 340 of 10.11.1997 (Art. 2, Treaty of Amsterdam).

[726] OJ C 326/47 of 26.10.2012 (Art. 249).

[727] Currently the European directives and regulations in place in the area of financial law deal with four principal issues: (1) coordination of the power to impose sanctions between several Member States; (2) obligation for Member States to provide for the application of appropriate administrative sanctions and measures and ensure that they are effective, proportionate, and dissuasive; (3) sanctions for specific infringements; (4) provision for the authorities to publish the measures and sanctions under certain circumstances; See COM(2010) 716 final of 8.12.2010.

The harmonization of the European Union securities regulation started in the 80's with a legislative framework for common market exchanges,[728] introducing a model of mutual recognition and minimum harmonization aimed at consolidating the internal market and opening the European market for investments. Amongst these measures, the 1989 Insider Dealing Directive[729] was the first to prohibit insider trading at EU level.

In 1999, the Commission adopted the Financial Action Service Plan (FASP),[730] containing 42 legislative measures, amongst which was the Market Abuse Directive.[731] Some years later, in the continuity of the FSAP, the Lamfalussy process[732] gave place to the creation of a new first level general legislative framework for European financial markets,[733] complemented by a series of more detailed second level legislative measures,[734] providing technical details relative to the Market Abuse Directive.[735] The European Securities Committee (ESC)[736] and the Committee of European Securities Regulators (CESR)[737] were created.

Adopted in early 2003, the Market Abuse Directive (MAD) 2003/6/EC introduced a comprehensive framework to tackle insider dealing and market manipulation practices. In order to ensure the enforcement of Directive 2003/6/EC, Member States were required to implement appropriate administrative measures and sanctions. This requirement did not imply any consequences on Member States' criminal dispositions.

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[728] The Admission Directive, Council Directive 79/279/EEC (OJ 1979 L66/21) of 05.03.1979 ; the Listing Particular Directive, Council Directive 80/390/EEC (OJ 1980 L100/1) of 17.03.1980); the Interim Reports Directive, Council Directive 82/121/EEC (OJ 1982 L66/21) of 02.1982 ; the Major Share-holdings Directive, Council Directive 88/627/EEC (OJ 1988 L348) of 12.12.1988 ; consolidated in 2001 by the Consolidated Admission and Reporting Directive, Council Directive 2011/34/EC (OJ 2001 L184/1) of 28.05.2001; The 1985 White Paper, COM(85) 310 of 14.06.1985 ; the Single European Act (OJ 1987 L 169) of 29.06.1987 ; the Single Market Programme ; the Undertaking for Collective Investments in Transferable Securities Directive, Council Directive 85/611/EEC (OJ 1985 L375/3) of 12.1985 ; the Public Offers Directive, Council Directive 89/298/EEC (OJ 1989 L124) of 17.04.1989 ; Investment Service Directive, Council Directive 93/22/EEC (OJ 1993 L141) of 10.05.1993.

[729] Council Directive 89/592/EEC (OJ 1989 L334) of 13.11.1989.

[730] Financial services : Implementing the Framework For Financial Markets : Action Plan, COM(99) 232 of 11.05.1999.

[731] Directive 2003/6/EC of the European Parliament and of the Council on insider dealing and market manipulation of the 28.01.2003.

[732] The Committee of Wise Men, Final Report of the Committee of Wise Men On The Regulation of European Securities Markets (2001).

[733] First level legislation involve the EU Commission, Council and Parliament.

[734] Second level legislation involve the EU Commission, the European Securities Committee and the Committee of European Securities Regulators.

[735] Directive 2003/124/EC implementing Directive 2003/6/EC of the European Parliament and of the Council as regards the definition and public disclosure of inside information and the definition of market manipulation ; Directive 2003/125/EC implementing Directive 2003/6/EC of the European Parliament and of the Council as regards the fair presentation of investment recommendations and the disclosure of conflicts of interest ; Directive 2004/72/EC implementing Directive 2003/6/EC of the European Parliament and of the Council as regards accepted market practices; Regulation (EC) No. 2273/2003 on Market Abuse.

[736] Commission Decision establishing the European Securities Committee, COM(2001) 1493 of 06.06.2001. The ESC is constituted of officials of Member States government and Commission officials.

[737] Commission Decision establishing the Committee of European Securities Regulators, COM (2001)1501 of 06.06.2001. The CESR is constituted of representatives of Member States' national regulators and Commission representatives.

Nevertheless, according to the Commission, the current system did not achieve the *effective protection of the financial markets*[738] as desired. In December 2010, the European Commission issued a communication on "Reinforcing sanctioning regimes in the financial services sector".[739]

The European and Securities Market Authority (ESMA)[740] replaced the Committee of European Securities Regulation on the 1st of January 2011. ESMA's work on securities legislation aims at contributing to the development of a single rulebook in Europe by improving *co-ordination* and *co-operation* amongst securities regulators, as well as acting as an advisory group to assist the European Union Commission. ESMA is in charge of issuing guidance on the common operation of the Market Abuse Directive.

6.1.3 Proposal for a directive on criminal sanctions for market abuse

The proposal for a Directive on criminal sanctions is the first legislative proposal based on the new Article 83(2) of the TFEU, which as already mentioned provides for the adoption of common 'minimum rules with regards to the definition of criminal offences and sanctions if the approximation of criminal laws and regulations of the Member States proves essential to ensure the effective implementation of a Union policy in an area which has been subject to a harmonization measure'.

On the 20th of October 2011, the Commission issued *two proposals* to review the EU regime dealing with market abuse. The first aspect of this reform proposition consists of a proposal for a Regulation,[741] which basically replaces the MAD and incorporates major elements of the Directives implementing it, cited here above. This proposal for a Regulation suggests modifications to the prohibition, to the supervisory[742] and enforcement powers[743] as well as to the administrative measures and sanctions[744],

[738] Proposal for Directive on criminal sanctions for insider dealing and market manipulation COM(2011) 654 of 20.10.2011, p.3.
[739] Communication of the Commission on reinforcing sanctioning regimes in the financial services sector, COM(2010) 716.
[740] http://www.esma.europa.eu/.
[741] Proposal for a Regulation on insider dealing and market manipulation of 20.10.2011 (COM(2011) 651, final).
[742] Two important modifications relate to the expansion of the scope of the prohibition on insider trading (and the definition of attempted market manipulation), See COM(2011) 651, Article 6 "Inside information", p.29: "(e) information not falling within paragraphs (a), (b), (c), or (d) relating to one or more issuers of financial instruments or to one or more financial instruments, which is not generally made available to the public, but which, if it were available to a reasonable investor, who regularly deals on the market and the financial instrument or a related spot commodity contract concerned, would be regarded by that person as relevant when deciding the terms on which transactions in the financial instrument or a related spot commodity contract should be effected". The notions of "precise nature" and "significant effect on prices" relative to insider information in all the other paragraphs (a), (b), (c) and (d) are missing in this one. It consequently considerably extends the definition of inside information. cf. Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205. p.10.
[743]See COM(2011) 651, Article 17 "Powers of competent authorities", p.39: "Regarding regulators power, the regulation introduces reporting of suspicious orders and OTC transactions; ensure access to data and telephone records of telecommunications operators to investigate and sanction market abuse, subject to a judicial warrant; ensure access to private premises to seize documents to investigate and sanction market abuse, subject to a judicial warrant; grant protection and incentives to whistleblowers.

directly applicable by the Member States. The Commission justified this choice with the fact that a Regulation would be the most appropriate legal instrument to define the market abuse framework within the Union because it actually reduces the regulatory complexity related to the diversity of legislation across the Union. Indeed, it would offer greater legal certainty for those subject to the legislation across the Union, introducing a harmonized set of core rules, thereby contributing to the functioning of the Single Market.[745]

Secondly, on the basis of the article 83(2) TFEU, the European Commission's proposition entails a Draft Directive on criminal sanctions, applicable to insider trading and market manipulation.[746] The motivation is that today Member States use divergent criminal measures to enforce the prohibition of insider trading. The Commission argues that this may provide incentives for persons to carry out insider trading in Member States which provide weak measures for this offence.

This proposal is in line with the policy of the Commission to increasingly introduce common EU minimum criminal law standards, arguing that only the criminal law can demonstrate social disapproval of a qualitatively different nature compared to administrative sanctions or compensation mechanisms under civil law.

Because the Commission can only address criminal matters by the way of directives, it produced a proposal for a Directive which only addresses approximation in insider trading criminal matters and general minimum rules.

The proposal requires Member States:

- to take the necessary measures to ensure that insider dealing (as well as inciting, aiding, abetting and attempting) constitutes a criminal offence (not the case in one country: Bulgaria)…
- …when committed intentionally (Art.3) (not the case in 10 Member States Cyprus, Germany, Denmark, Spain, Finland, Latvia, Malta, Netherlands, Sweden, United Kingdom[747])
- to take the necessary measures to ensure that the criminal offences are subject to 'effective, proportionate and dissuasive' criminal sanctions (Art. 5)

Article 19 "Obligation to cooperate", Article 20 "Cooperation with third country": Cross-border cooperation will be reinforced.

[744] See COM(2011) 651, Chapter 5 "Administrative measures and sanctions", pp.47-48: One of the most revolutionary aspects of the proposal for a Regulation is that administrative measures and sanctions will be harmonized: "administrative pecuniary sanctions of up to twice the amount of the profits gained or losses avoided because of the breach where those can be determined (…) in respect of a natural person, administrative pecuniary sanctions of up to €5,000,000 (…) in respect of a legal person, administrative pecuniary sanctions of up to 10 % of its total annual turnover in the preceding business year (…) Every administrative measure and sanction imposed for breach of this Regulation shall be published without undue delay, including at least information on the type and nature of the breach and the identity of persons responsible for it, unless such publication would seriously jeopardise the stability of financial markets".

[745] COM(2011) 651, p.5.

[746] COM(2011) 654.

[747] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.112: "Is proof of intent required in order to have a guilty verdict in a market abuse case? No: Cyprus, Germany, Denmark, Spain, Finland, Latvia, Malta, Netherlands, Sweden, United Kingdom".

- to ensure that legal persons can be held liable for criminal insider trading (Art. 6) (not the case in 8 Member States: Bulgaria, Czech Republic, Germany, Greece, Luxembourg, Poland, Portugal, Sweden[748]).

Moreover, article 9 of the proposed directive holds that four years after the entry-into-force of the Directive the Commission should provide a report to the European Parliament and the Council on the application of the Directive and, if necessary, on the need to review it, in particular with regard to the appropriateness of introducing common minimum rules on types and levels of criminal sanctions. The Commission hence explicitly wishes to reserve the right to introduce common minimum rules on the types and level of criminal sanctions based on Article 83(2) TFEU.[749]

6.1.4 Comments in the literature

The proposal for a Directive has already been critically received by some legal doctrine.
First of all, it should be mentioned that authors do not seem to contest per se the criminalization of insider trading at EU level and express more preoccupation about the content of the Regulation because of its direct applicability. Nevertheless, it appears that commentators seem concerned about the *enlargement of the scope* of insider trading prohibition contained within the Regulation, which may have a repercussion on the scope of the criminal law[750]. Indeed, the major changes provided by the proposals for Regulation and for a Directive regarding insider trading relate, on the one hand, to the expansion of the scope of the prohibition on insider trading, and on the other hand, to the requirement of the Member States to consider intentional insider dealing as criminal offences. According to the literature, both changes may not be compatible. Indeed, according to the principle of legal certainty criminally enforceable norms should take on specific qualities and need to live up to high quality requirements. Consequently, some commentators harshly criticize the enlarged scope of the prohibition on insider trading.
According to the MAD, the prohibition on insider trading currently contains three key elements: the information should be "precise", should have a "significant" effect on the price, if it was made public, and the individual should "use" the information.[751]
The proposal for Regulation on Market Abuse introduces two definitions of inside information. A differentiation is made between the inside information that cannot be abused, related to the insider trading prohibition, and the inside information that listed companies have to disclose, because of the obligation to disclose.
While the disclosure of information relies on the same definition of inside information given under the current MAD, the notion of inside information that should not be

[748] Ibid.p.73: "Market Abuse can not give rise to criminal sanctions: Bulgaria, Czech Republic, Germany, Greece, Luxembourg, Poland, Portugal, Sweden".
[749] See COM(2011) 573final, p.8: Minimum rules with regards to the definition of sanctions, according to the Communication of the European Commission, "rule out the possibility of full harmonization" (p.7) but at the same time "Regarding sanctions, "minimum rules" can be requirements of certain sanction types (e.g. fines, imprisonment, disqualification), levels or the EU-wide definition of what are to be considered aggravating or mitigating circumstances".
[750] COM2011(654) final, Art.2 : ""Inside information" means information within the meaning of Article 6 of Regulation (EU) No…of the European Parliament and the Council on insider dealing and market manipulation".
[751] Directive 2003/6/EC of the European Parliament and of the Council on insider dealing and market manipulation of the 28.01.2003, article 1(1).

abused is enlarged through article 6.1 (e) of the proposal for Regulation. Indeed, the proposal for Regulation prohibits trade if a person has non-public information that a reasonable investor would consider "relevant when deciding the terms on which transactions (...) should be effected".[752] This definition considerably broadens the notion of inside information. This modification also implies an impact on the scope of the prohibition on tipping.[753]

The proposal for the Directive requires the national legislator to treat intentional insider trading as a criminal offense. While they seem to implicitly express their approval in requiring Member States to provide criminal sanctions for insider trading, commentators specify that the violation should be carefully described. Due to the requirement of making the *criminal enforcement* of these norms available, the prohibition needs to meet *high quality requirements*.[754]

Commentators doubt that the modified definitions and consequently the prohibition on insider trading set by the proposals respond to these qualities. Indeed, they consider that the definitions provided by proposals are *loose* and that the key notions related to insider dealing are *not precise enough*.[755] All in all, they feel that the prohibition on insider trading is a *poorly defined norm*, which may not satisfy the *quality of criminally enforceable norms.*

A first argument in favor of providing precisions would be to avoid uncertainty and allow citizens to easily and clearly understand what constitutes an abuse.[756] A second argument is that precise norms avoid discretion for interpretation at a national level. Indeed, as experienced with the MAD, the different stages of development of capital markets across Europe and the different level of expertise amongst regulators and courts might be problematic regarding interpretation.[757] It seems that uncertainty is one of the reasons why many Member States today do not apply the MAD.[758] Moreover, it can also leave space for interpretation errors or deliberate evasion of EU norms through creative judicial interpretations.[759]

Finally, criminalizing uncertainly defined violations as well as extending the scope of violation might be problematic by having a negative impact on markets. For example, financial intermediaries will be incentivized to limit their trades because of the unclear potential risk they imply. The consequences of this limitation could be a reduction of liquidity on European stocks.[760]

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[752] Proposal for a Regulation on insider dealing and market manipulation of 20.10.2011 (COM(2011) 651 final), Article 6.1 (e).

[753] Article 7(3) and (4) proposal for a Regulation on Market Abuse

[754] See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.205.

[755] It appears for example that notions such as "price-sensitivity", "misleading", "artificial", "abnormal" remains non explicitly defined.

[756] See Di Noia, C., 2012. Pending Issues in the Review of the European Market Abuse Rules, *ECMI Policy Brief* 19.p.2.

[757] See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.201.

[758] See Di Noia, C., 2012. Pending Issues in the Review of the European Market Abuse Rules, *ECMI Policy Brief* 19.p.1.

[759] See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.206.

[760] According to Noia, there is also a risk to see the corporate governance dialogue between companies and shareholder reducing if the later feel restricted in their ability to trade. It may also reduce the corporate governance dialogue, often encouraged by European institutions, between companies and shareholders, if the latter feel restricted in their ability to trade. It may also severely limit the possibility for companies to act in general and operate on their shares (despite the provision of Art. 3) and to use variable compensation schemes for managers instead of granting only fixed compensation, irrespective

In sum, legal doctrine has formulated substantial criticisms both on the proposal of a Regulation and on the proposal for a Directive. Some of those relate to a too broad definition of insider trading and hence more on the contents of the rules; another criticism relates precisely to the fact that this broadened notion of insider trading is combined with a criminalization. Applying criminal law to vague norms would violate the *lex certa* principle which is fundamental to criminal law.

The fundamental question relates to whether, from an economic perspective, a need to criminalization of insider trading should be imposed at EU level.

6.2 CRIMINALIZATION OF INSIDER TRADING AT EU LEVEL?

6.2.1 Criminalization and harmonization

Starting point for the analysis was the proposal of the European Commission to come to a Directive on criminal sanctions for insider dealing and market manipulation. The difficulty is hence that in fact two issues are occurring at the same time. On the one hand, the question arises whether insider trading should be criminalized; that is the question focused on in section 4.3 of Chapter 4. The other question is when one has decided that there should be a role for criminal law, whether this criminal law should be mandated at EU level. They seem like separate questions, but in the proposal for a Directive they come together. Yet an additional analytical complication is that the question whether criminalization should be promulgated at EU level cannot be seen separately from the question whether rules regarding insider trading and market manipulation themselves should be harmonized at EU level.[761] The latter question is no longer an issue which will be addressed for the simple reason that insider trading has been regulated at EU level. However, the mere fact that the norm (in this case prohibition of insider trading) has been promulgated at EU level does not necessarily imply that the enforcement measure (criminal law) should be prescribed at EU level as well. Recently, van Zeben has rightly indicated that as far as the allocation of competences within a federal system like the EU is concerned, one should distinguish between competences for standard setting (making the norm) implementation and enforcement, whereby in both cases a choice between allocation to the Member State or the Member State level based on economic criteria would be possible.[762] The question therefore can be asked whether the mere fact that the norm itself (prohibition of insider trading) has been promulgated at EU level should necessarily imply that the method of enforcement (i.e. use of the criminal law) should be harmonized as well.[763]

These questions are addressed by first looking at the economic criteria for centralization (6.2.2) and then looking at the issue from an European legal perspective

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of the results of the companies. Di Noia, C., 2012. Pending Issues in the Review of the European Market Abuse Rules, *ECMI Policy Brief* 19.).

[761] A similar problem arises when discussing the desirability of harmonization of procedural law. This issue is also strongly related to the harmonization of the substantive private rules as well. See on that issue Visscher, L., 2012. *A Law and Economics View on Harmonization of Procedural Law*(Springer).p.65-91.

[762] See Van Zeben, J., 2014. *Competence Allocation and Regulatory Functioning. A Study of the European Emission Trading Scheme*(Cambridge University Press).

[763] Recently, Klip rightly held that at a European level the subsidiarity principle should therefore also be considered as a criterion for criminalization See Klip, A., 2012. European Criminal Policy, *European Journal of Crime, Criminal Law and Criminal Justice* 20, 6-7.

(6.2.3). However, from the outset it should be stated that it may be difficult to apply the economic criteria for the simple reason that those have been developed mainly to examine whether there would be arguments in favor of centralization of normative legal standards (prohibition of insider trading), not so much for the question whether enforcement measures would have to be harmonized as well. In that respect, only the general need for harmonization of the method of enforcement (criminalization) is questioned. The theoretical framework does not allow to provide an answer to whether a specific modality of this criminalization such as the procedural requirement of intent or the criminal liability of legal person is desirable.

6.2.2 Economics of federalization criteria for centralization of norms settings

6.2.2.1 Transboundary externalities

The economic criteria in favor of centralization of powers, as mentioned, usually relate to the normative legal rules and less to the enforcement issues. Arguments that play a role in that respect are the fear of transboundary externalities, the race-for-the-bottom risk and the diminution of transaction costs.[764] Interestingly, those arguments are to some extent also advanced as criteria by criminal lawyers for harmonization of the criminal law.[765] The danger of cross-border crimes is also advanced by the European Commission in favor of the use of EU common criminal law to prevent unpunished offences against EU law, in certain policy areas (such as the protection of the environment and finance).[766] This is the traditional transboundary or inter-jurisdictional externalities argument which would justify harmonization.

Of course, it is not difficult to make the argument that securities markets have become increasingly *transboundary* and even *global.*

The 80s and the 90s have led to the advent of the current global marketplace. During the 80s, restrictions on cross-border capital flows were gradually relaxed within the major industrial countries.[767] Internationalization of the securities markets can be illustrated by the significant increase in securities transactions that occur across the borders of several countries. Investors have access to foreign securities and issuers can tap the major stock markets in the United States or Europe to raise equity capital.[768] Indicators showing the reality of the internationalization of the securities market include cross listing of securities,[769] cross-country hedging and portfolio

[764] See Faure, M., 2001. *Regulatory Competition vs. Harmonization in EU Environmental Law*(Oxford University Press, Oxford).pp.283-286.
[765] See Klip, A., 2002. *Conditions for a Corpus Iuris Criminalis*(Intersentia, Antwerp).pp.110-115.
[766] COM(2010) 716 final of 8.12.2010.
[767] See Steinberg, M. I., Michaels, E., 1999. Disclosure in Global Securities Offerings: Analysis of Jurisdictional Approaches, Commonality and Reciprocity, *Michigan Journal of International Law* 20, 207-266.
[768] Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.100.
[769] See Scarlata, J.G., 'Institutional Developments in the Globalization of Securities and Futures Markets'p.18, available at: http://research.stlouisfed.org/publications/review/92/01/Developments_Jan_Feb1992.pdf., Cross-listing means that a company incorporated in one country lists its securities on an exchange in another country. See Coffee, J., 2002. Competition Among Securities Markets: A Path Dependant Perspective, *Columbia Law and Economics Working Paper* 192.p.17: "the number of foreign companies listed on

diversification,[770] open national stock market[771] and 'passing the book'.[772] All of these practices have significantly increased in the past decades.[773]

Internationalization of the world's securities market has challenged traditional notions of regulation and enforcement.[774] In order to ensure operational and informational efficiency of their market, domestic regulators have to deal with cross border cases. This means that they have to be in a position to assess the nature of activities within foreign markets. As a direct effect of the globalization, financial and technological innovations, cross-border activities, cross-asset effects and broader financial and economic policy issues are changing.[775] Most modern securities markets are regulated on a national basis, the current territorial approach to regulation suffers from numerous weaknesses. Regulators can be captured or pressured by local interest groups in the securities industry. They can also be subject to opportunism whilst trying to maximize their personal prestige and act in favor of their carrier through

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the two principal U.S. stock markets (the NYSE and Nasdaq) grew from 170 in 1990 to over 750 in 2000 (or roughly a 450% increase)", Claessens, S., Djankov, S., Klingebiel, D., 2000. Stock Markets in Transition Economies, *World Bank Financial Sector Discussion Paper* 5.

[770] Cross-national portfolio investment is the degree to which investors of a country buy securities listed in another country. See Scarlata, J.G., 'Institutional Developments in the Globalization of Securities and Futures Markets' p.18 available at: http://research.stlouisfed.org/publications/review/92/01/Developments_Jan_Feb1992.pdf, p.18: "A U.S. trader, for example, can diversify a portfolio composed of U.S. stocks by buying stocks of a U.K. firm in London through a London broker.", See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.72: "In the 1950's, foreign investors held a little more than 2 percent of U.S. securities; by mid-1988 it was nearly 12 percent".

[771] See ibid.p. 72: "Many countries opened their exchanges for membership by foreign firms in 1980s. Holding membership in another country's exchanges is another form of internationalization. Before December 1997, only 45 nations offered serious market-opening measures in the World Trade Organization (WTO) context. In December 1997 WTO issued an accord to liberalize worldwide financial markets. The current agreement commits over 102 WTO members to liberalize their domestic markets and provide access to foreign financial services providers".

[772] See Scarlata, J.G., 'Institutional Developments in the Globalization of Securities and Futures Markets' p.18 available at: http://research.stlouisfed.org/publications/review/92/01/Developments_Jan_Feb1992.pdf. "Passing the book" is the expression describing that the "control of trading is passed between traders at exchanges around the globe. This enables 24 hour trading of a financial instrument." It consists in transferring the handling instructions between trades and mostly concern foreign exchange and bullion, not equities.

[773] See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.70-73.

[774] See Geiger, U., 1998. Harmonization of Securities Disclosure Rules in the Global Market - A Proposal *Fordham Law Review* 66, 1785-1836.p.1786-1787. Choi, S. J., 2001. Assessing Regulatory Responses to Securities Market Globalization, *Theoretical Inquiries in Law* 2, 613-647. See IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions).p.63: "What these developments suggest is that the environment of securities regulation no longer appears to be limited in scope (…) A major implication for regulators in these jurisdictions therefore, is that they will have to consider whether the regulatory framework within which they operate has sufficient capacity and appropriate structure to accommodate a wider and more complex set of objectives".

[775] See IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions).p.63: "This has certain implications for securities regulators— and particularly for emerging market regulators. It is likely that they would be increasingly expected to deal with issues outside of their traditional scope of responsibilities, in particular, those involving cross-border activity, cross-asset effects and broader financial and economic policy issues". Available at: http://www.sc.com.my/clients/sccommy/Links/ioscosept98.pdf.

complicated regulations.[776] Moreover, different levels of expertise amongst regulators and courts might be problematic regarding interpretation.[777]

These arguments clearly show that the securities market is transboundary, but that does not necessarily show that Member States would be able to externalize harm to other Member States if e.g. one Member State would decide to criminalize insider trading and another would not. The powerful argument in favor of centralized rule making based on the risk of externalities between jurisdiction relates to the question whether preferences for divergent national rules in criminal insider trading matters within the European Union eventually risk to imply the report of negative externalities from one Member State to another Member State[778]. The underlying reasoning being that in a situation where a harm caused by an insider trading may occur in more than one country the domestic criminal laws may not guarantee a full internalization of the negative externalities occurring outside the insider's home state. If the costs of a legal rule can not remain in the Member State that enacted it, centralization should be favored.

6.2.2.2 Race-to-the-bottom

The second type of argument that is related to the former would be that there may be a *race-to-the-bottom* in enforcement of insider trading laws. That scenario would imply that some Member States would not be interested in seriously enforcing insider trading laws e.g. by enforcing it through very weak enforcement mechanisms[779]. There is, however, no evidence that such a race-for-the-bottom in this area would take place. One problem is that all Member States (with one exception, Bulgaria) have, as showed in Chapter 5, *de facto* criminalized insider trading, although the level of penalties differs. It is, however, doubtful, whether those differences in levels of penalties can be qualified as an attempt of states to engage in a race-for-the-bottom which would lead to a destructive competition in order to attract insider traders. There is no evidence whatsoever that such a scenario is likely to occur between European Member States.

Some, more particularly Roberta Romano, have even advocated the likelihood of a race-to-the-top. The race-to-the-top refers to the fact that investors would not be willing to pay as much for securities of firms incorporated in states that have a legal regime which is detrimental to shareholders' interest and benefits management too much. The reasoning is that lenders will not make loans to these firms without compensation on the risk associated with managers' lack of accountability. The result would consequently be a rise of these firms' cost of capital, and a decline of their earnings. For these reasons, corporate managers have strong incentives to implant

[776] See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.100.
[777] See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.199.
[778] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.51: "Consequently, the need to cope with externalities between legal orders is a major argument in favour of centralized decision-making".
[779] Cox, J. D., 1999. Regulatory Duopole in US Securities Markets, *Columbia Law Review* 99. Fox, M. B., 1999. Retaining Mandatory Disclosure: Why Issuer Choice is not Investor Empowerment, *Virginia Law Review* 85, 1335-1419.

their companies in countries offering rules preferred by investors.[780]

6.2.2.3 Transaction costs

Thirdly, centralization may allow *transaction costs saving*[781]. This argument is often advanced by European legal scholars pleading for harmonization of private law in Europe, and is based on the argument that differences in legal systems are very complex[782]. Concerning insider trading, issuers and investors may face transaction costs associated with the international aspect of a trade. Divergences in sanctions and enforcement of insider trading laws from one country to another may create transaction costs for issuers and financial institutions in obtaining the information as well as in undertaking actions to comply with host countries regulation, in addition to complying with home country regulations. If a company seeks to export and expand its operations into a foreign country, it faces transactions costs[783]. These transaction costs vary depending on the area of laws. For example, a commissioner for Internal Market and Services identified that amongst the 250 E.U. issuers listed in the United States, the largest companies spend between $1 million and $10 million per year to reconcile International Accounting Standards (IAS) to the United States Generally Accepted Accounting Principles (U.S. GAAP)[784].

The costs associated to the divergence of regimes may reduce the advantages of investing internationally and might prevent investors and companies from participating in the international securities market. From this point of view, harmonization could be beneficial. Full harmonization would completely eliminate the problem, as companies would only need to comply with a unique set of regulatory requirements[785]. However, so far, there is no empirical evidence supporting that substantial transaction costs saving in the particular fields of criminal insider trading matter could constitute a strong argument in favor of harmonization of method of enforcement.

6.2.2.4 Internal market?

Economic arguments in favor of a harmonization of the enforcement mechanism do hence not seem to be very convincing. There is little evidence of particular risk of externalization, transactions costs nor of a race-to-the-bottom. It is also not clear that

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[780] See Romano, R., 1985. Law as a Product: Some Pieces of the Incorporation Puzzle, *Journal of Law, Economics and Organization* 1, 225-283. (The Delaware case). Romano, R., 1998. Empowering Investors: A Market Approach to Securities Regulation, *Yale Law Journal* 107, 2359-2430. R. Romano holds that a competitive legal market supplants a monopolist federal agency in the fashioning of regulation as it will produce rules more aligned with the preferences of investors, whose decisions drive the capital market.

[781] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).

[782] This is one of the arguments made by the Danish scholar Lando in favour of harmonised private law. Lando, O., 1993. *Die Regeln des Europäischen Vertragsrecht*(Nomos, Baden Baden).pp.473-474.

[783] Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.100.

[784] McCreevy, C., 2005. *E.C.Strategy on Financial Reporting: Progress on Convergence and Consistency*(European Commission. European Federation of Accountants' (FEE) Seminar on International Financial Reporting Standards IFRS, Bruxelles).

[785] Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.101.

the internal market would be endangered without a harmonization of criminal sanctions with respect to insider trading. Differences between legal rules, as has often been stated, only endanger the internal market when those differences would endanger the free movement of services, capital goods or persons.[786] Currently, insider trading law seems not to be a big issue in any of the Member States, i.e. there are not many cases of enforcement of insider trading through criminal law. Hence, the Commission were to have a point if e.g. one Member State would fanatically enforce insider trading and throw insiders systematically in jail whereas others would not and would in that way try to attract insiders. There is no evidence of such a behaviour whatsoever and hence no evidence that the current situation would cause any social harm. Moreover, it should also not be forgotten that investors are informed of the applicable insider trading laws in the countries where they buy shares and of the way in which they are enforced. Hence, in an application of the Coase Theorem[787] if one Member State were e.g. not to enforce insider trading laws effectively, investors would presumably react to this by offering lower prices for the concerned shares (if that were the case at all).

6.2.2.5 Benefits of differentiation

Finally, economic analysis of harmonization and the law and economics of federalism have often pointed at the substantial benefits of differentiated legal rules. First of all differentiated legal rules allow the satisfaction of *heterogeneous preferences*. This corresponds with the Tiebout framework of competition between legal orders where citizens are free to choose the insider trading legal rule quality that corresponds optimally with and vary according to their preference[788]. In that respect, one advantage of decentralization is to enable Member States to provide for rules which best serve the *goals preferred* by the local population[789]. As presented, criminal law is a traditional State sovereignty matter. Consequently, States are very attached to their competences in this particular domain of law. Criminal law embodies States' cultural, historical, political specificities and is particularly representative of local individual preferences. Therefore, the substantial benefit from differentiation of criminal insider trading legislation should not be neglected.
Another benefits of the differentiated legal rules is that through the application of different legal rules *substantial learning effects* can be obtained.[790] A disadvantage of

[786] See Ogus, A., 1999. Competition between National Legal Systems: a Contribution of Economic Analysis to Comparative Law, *International Comparative Law Quarterly* 42, 405-418. See Faure, M., 2000. Product Liability and Product Safety in Europe: Harmonization or Differentiation?, *Kyklos* 53, 467-508.
[787] Coase, R., 1960. The Problem of Social Cost, *Journal of Law and Economics* 15, 1-44.
[788] Developed by Ogus, A., 1994. *Standard Setting for an Environmental Protection*(Maklu).pp.25-30 and more generally in Ogus, A., *l.c.*, 413. Tiebout, C. M., 1956. A Pure Theory of Local Expenditures, *Journal of Political Economy* 64, 416-424.
[789] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.50. Romano, R., 1985. Law as a Product: Some Pieces of the Incorporation Puzzle, *Journal of Law, Economics and Organization* 1, 225-283.p.281: "a centralized system could impose a welfare loss on firms, to the extent that it would be difficult to duplicate the important transaction-specific assets that serve to safeguard the interests of the parties".
[790] See *inter alia* Van den Bergh, R., 2000. Towards an Institutional Legal Framework for Regulatory Competition in Europe, *Kyklos* 53, 435-466.

a harmonization at the European level is that those learning effects would be gone.[791] Especially in this new domain of the enforcement of insider trading, where learning about the most effective methods of enforcing insider trading law may be quite important, learning from the experiences in different Member States could provide valuable insights on the most effective tools to remedy insider trading[792]. Those benefits of mutual learning would be gone in a model of harmonization of criminal law as the Commission is currently proposing in its directive.

6.2.3 Commission legal perspective: Member States' enforcement deficit

Of course, the perspective from the European Commission may be a totally different one than the economics of federalism. Starting point for the European Commission is not the economic theory that would address e.g. whether there are interjurisdictional externalities or a race-to-the-bottom, but whether criminal law is needed to encourage the *compliance with EU directives*, in this case concerning insider trading. This idea to criminalize insider trading should hence be seen within the context of the general worry at EU level that there is a considerable implementation deficit with respect to EU law, although this is stronger in some areas than in others. Therefore, a major focus of European law during the past thirty years has been on the issue how implementation of European law can be improved by requiring a correct implementation from Member States. In this respect, we can e.g. point at evolutions in case law:

- Although Member States remain free in the choice of instruments for the implementation of a directive, case law holds that these sanctions in case of a violation of implementing legislation should at least be *effective, proportional and dissuasive*.[793] Hence, one can now find in many directives the obligation for Member States to provide sanctions which are 'effective, proportionate and dissuasive'.[794]

- Case law also held that the lack of effective prosecution against violators of implementing legislation can be considered as a violation of European law.[795] Hence, Europe has increasingly received effective remedies to cope with the implementation deficit. However, most recently, starting with the environmental crimes directives we mentioned in the introduction, the EU now also wishes to cure the implementation deficit by forcing Member States to choose a particular type of sanction, in this particular case the criminal law.[796] The question can, however, be asked whether a

[791] See Visscher, L., 2012. *A Law and Economics View on Harmonization of Procedural Law*(Springer).pp.84-85.
[792] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.50: "Differences in rules allow for different experiences and may improve an understanding of the effects of alternative legal solutions to similar problems. This advantage relates both to the formulation of the substantive rules and their enforcement".
[793] See ECJ 21 September 1989, case C-68/88 (Greek Corn).
[794] This is also the formula used in article 6 of the proposal for a directive COM (2011) 654 final.
[795] ECJ 9 December 1997, case C-265/95 (Spanish Strawberries).
[796] A few years ago, Corstens and Pradel, two leading legal scholars in criminal law in Europe, still wrote: "Such a method requiring Member States to use criminal penalties is compatible with neither the character of a directive, nor the opinion that the communities do not have authority to require Member States to impose criminal penalties" This statement was obviously written in a time before the Lisbon Treaty. See Corstens, G., Pradel, J., 2002. *European Criminal Law*(Kluwer Law International, The Hague).

harmonization of the criminal law, as currently proposed, is indeed necessary to guarantee a *correct implementation* of European law and in this particular case the Market Abuse Directive.

Chapter 5 presents enforcement of insider trading laws data about 15 Member States for wich the information was available for the years 2008, 2009 and 2010. As far as insider dealing is concerned, all the Member States provide criminal sanctions except for Bulgaria.[797] Moreover, one can observe that they display a total number of 155 criminal sanctions[798] imposed over the entire period; higher than the total of 101 administrative sanctions. This information does not seem to support a Member State's enforcement of criminal insider trading law deficiency.

6.2.3.1 Effectiveness doubtful

The overview offered in Chapter 5 shows that all Member States, with the exception of Bulgaria, do have criminal sanctions, but that there may be considerable differences in modalities of sanctions. It should be stressed that the current directive will, at least in the first phase imply little change. First, the directive will merely force Member States towards criminalization which, with the exception of Bulgaria, all Member States already do.
Regarding the *modalities of this criminalization*, for all other Member States, as far as the sanctions are concerned, two things may change. First the Directive requires to provide for criminal liability of legal persons (which is not the case in 8 Member States currently in Europe)[799]. Second, the Directive requires the establishment of "intent" to prove a guilty criminal insider trading (which is not the case in 10 Member States) [800].
The remaining differences will hence remain into existence and would only change if the European Commission would use its powers according to article 9, introducing common minimum rules on the types and levels of criminal sanctions. However, even if that were the case, one always has to take into account that it still will be impossible to constrain the prosecution policy of public prosecutors nor the discretionary powers of the judiciary as far as the application of penalties is concerned. Even if one were hence, according to article 9, to harmonize the rules on types and levels of criminal

[797] Bulgaria does not provide criminal sanctions for market manipulation either. Hungaria only does not provide it for market manipulation (but does for insider dealing). See Document of the Council of Europe, 'Bulgaria Progress report and written analysis by the Secretariat of Core Recommendations', p.6: "According to the Bulgarian authorities, at present, a new Concept for Criminal Policy of the Republic of Bulgaria was adopted in July 2010. The above mentioned Concept envisages the elaboration and adoption of a new Penal Code. One of the main purposes of the new Penal Code is to address the necessity to criminalize modern types of criminal activity, including those provided for under the international agreements undertaken by the Republic of Bulgaria. The timescale for the drafting and adoption of the new Penal Code is estimated to be 2014.", It is understood that market manipulation and insider trading are taken into consideration in the concept of the new Penal Code; available at http://www.coe.int/t/dghl/monitoring/moneyval/Evaluations/Progress%20reports%202y/MONEYVAL(2011)5_ProgRep2_BLG.pdf.
[798] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).pp.41, 91, 111: Number of monetary and non-monetary sanctions imposed on natural and legal persons.
[799] Ibid.p.73: Bulgaria, Czech Republic, Germany, Greece, Luxembourg, Poland, Portugal and Sweden
[800] Ibid.p.112: "Is proof of intent required in order to have a guilty verdict in a market abuse case? No: Cyprus, Germany, Denmark, Spain, Finland, Latvia, Malta, Netherlands, Sweden, United Kingdom".

sanctions, this may to a large extent remain a symbolic window dressing operation that should not necessarily change anything in the practice of the Member States, except perhaps facilitating mutual recognition and cooperation.

It can therefore be concluded that this attempt to harmonize the method of enforcement of insider trading laws through criminalization at a EU level will be symbolic with limited effects as far as the sanctions that will be implied in practice are concerned.

6.2.3.2 Arguments of the Commission not convincing

In this respect, the motivation provided by the European Commission can also be criticized. A first argument in favor of criminal sanctions at EU level is that 'the sanctions currently in place to fight market abuse offences are lacking impact and are insufficiently dissuasive which results in ineffective enforcement of the Directive'[801]. First, the Commission does not provide any empirical basis for this strong statement. Second, since we mentioned that the Directive merely forces criminalization in one Member State, the introduction of criminal liability in 8 Member States and introduce a tougher procedural condition to criminal sanction for 10 Member States, it remains a puzzle how the Commission thinks that merely providing theses changes will change the 'ineffective enforcement of the Directive'. Third, the Commission argues that the current 'divergence undermines the internal market' and even argues that perpetrators would be able 'to carry such abuse in jurisdictions which do not provide for criminal sanctions for a particular offence'. Basically, the Commission here relies on a race-to-the-bottom argument. As we mentioned, the only Member State for which this holds true is Bulgaria. In the hypothesis of the Commission, Bulgaria should then become a 'insider traders haven' for which there is *no empirical proof* whatsoever. Fourth, the Commission stresses the importance of criminal law 'to ensuring the effectiveness of this union policy by demonstrating social disapproval of a qualitatively different nature compared to administrative sanctions or compensation mechanisms under civil law'. This shows that the Commission believes strongly in the 'stigma' effect of the criminal law on which economic literature, as we showed, had serious doubts. Moreover, since 26 out of 27 Member States[802] already have criminal law in place, questions can be asked on the added value of European action in this respect. Finally, the importance of criminal law is also stressed to 'improve deterrence as they demonstrate to potential offenders that the authorities take serious enforcement action'. Again, this strongly stresses the symbolic value, not only of criminalization, but also of criminalization at EU level. Questions can, however, be asked on the real effectiveness of this entire enterprise.

6.2.3.3 Inconsistency with European policy

Finally, it should also be mentioned that it is remarkable that the European Commission is in this area (of insider dealing and market manipulation) stressing the need to introduce criminal sanctions, whereas in another domain, more particularly competition policy, apparently another strategy is followed. Competition policy in Europe has for years been based on an administrative sanctioning by the European

[801] COM(2011) 654, p.2.
[802] Croatia was not yet part of the E.U. when Chapter 5 was written.

Commission without criminal penalties. Many have stressed the importance to introduce criminal penalties to be applied to severe violations of competition law, like hard core cartels,[803] but these voices have not been heard.[804]

Moreover, in the area of competition policy increasing attention is now given to possibilities of private enforcement and methods to provide incentives to potential plaintiffs to bring suits in the area of competition law (like introducing treble damages, class actions etc.) are now also discussed in the area of competition policy.

It is striking that in this related domain of insider dealing the European discussion on enforcement mechanisms seems to focus on criminalization and not e.g. on ways of improving private enforcement in order to increase deterrence. This not only shows that there is apparently little consistency in the general enforcement strategy at EU level, but also that the Commission should probably learn from the experience with competition policy to look at ways, other than criminalization, to improve enforcement. In that way, criminal law could truly remain an *ultimum remedium.*

6.2.4 Fundamental principles of European criminal law: Qualitative problems

It may be difficult to identify when the EU shall be justified in employing criminal law under article 83(2). This section questions the consistency of the proposal for a Directive with the principles governing the introduction of substantive criminal rules at a EU level. For instance, the Manifesto on European Criminal Policy[805] published in 2009 by the European Criminal Policy Initiative aimed at clarifying the major principles of criminal law rooted in European law: the principle of a legitimate purpose, the *ultima ratio* principle, the principle of guilt, the principle of legality, the principle of subsidiarity, and the principle of coherence.

6.2.4.1 The principle of proportionality

From an overall point of view, the principles of legitimate purpose, the *ultima ratio* principle and the principle of guilt may be perceived as directly emanating from the principle of proportionality.

First, of all the principle of proportionality is a fundamental principle of European law stated in the third paragraph of Article 5 TFEU 'Any action by the Community shall not go beyond what is necessary to achieve the objectives of this Treaty.'
From this principle directly results *the requirement of a legitimate purpose principle*: The resort to criminalization at EU level could be regarded as proportionate and legitimate only if a fundamental legal interest worthy of protection against socially harmful conduct of significant degree[806] can be justified. In that respect the need to

[803] Wils, W., 2005. Is Criminalization of EU Competition Law the Answear?, *World Competition* 28, 117-159.
[804] For an overview of the enforcement of EU competition policy, see Van den Bergh, R., Faure, M., 2011. *Critical Issues in the Enforcement of the Anti-Monopoly Law in China: a Law and Economics Perspective*(Edward Elgar, Cheltenham).pp.54-75.
[805] Available at http://www.zis-online.com/dat/artikel/2009_12_383.pdf, accessed the 18.12.13.
[806] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.15: "The requirement of a fundamental interest that is harmed in a socially

reach the objectives of the EU cannot constitute a good motivation for harmonization. Of course, it should be observed that fundamental legal interests may eventually differ and diverge at national and European levels.

Second, the *ultima ratio* principle is absolutely major in this context. The EU is now competent to bind its Member States as to the minimum standards of criminal law to larger extent than ever thanks to the new article 83(2). These new competences should call for great caution. With respect to the application of the *ultima ratio* principle any criminal law proposal at EU level should come with a requisite burden to ensure that it is used as a *last resort to protect fundamental interests*[807]. Setting minimum standards in criminal matters should correspond to the last reply, meaning that the EU tried every other solution before. The question should then be whether administrative sanctions could not be at least equally effective to ensure the effective implementation of the Union's policy in the insider trading field. Wouldn't administrative law be sufficient to ensure an equivalent protection? Previous legislative initiatives should be carefully assessed. The adoption of criminal dispositions at EU level should be based on the experience that other sanctions are insufficient[808]. Criminal law should be used as an additional means. Finally, some commentators argue that harmonization may be perceived like encouraging a movement towards an increased repression[809], making *criminal law a principle.*
In that respect, it should be noted that the fact that the proposal for Regulation provides for administrative sanctions for noncriminal actions is consistent with the idea that there is a softer alternative to criminal law at EU level. However, the Commission issued at the same time both the Proposal for a Regulation and the Proposal for a Directive. This may not demonstrate that all the means were explored and tried *before* resorting to criminal law. Improvement of the 2003 MAD does not automatically imply the resort to criminal law.

Third, according to the principle of guilt (nulla poena sine culpa), a criminal sanction can only be imposed when a criminal act has affirmatively been proven to be the product of a "guilty mind" resulting from "mens rea". At a European level this principle results from article 48 of the Charter of Fundamental Rights of the EU[810]. Therefore, the principle of guilt seems to be the one that guided the Commission to

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significant way would be of particular usefulness in determining when the EU shall be justified in employing criminal law means to effectively implement its policies under article 83(2) TFEU". Elholm, T., 2011. The Manifesto on European Criminal Policy in 2011, *European Criminal Law Review* 1, 86-103.p.87: "The legislative powers of the EU in relation to criminal law issues should only be exercised in order to protect fundamental interests if: (1)These interests can be derived from the primary legislation of the EU; (2)The Constitutions of the Member States and the fundamental principles of the EU Charter of Fundamentals Rights are not violated, and (3)The activities in question could cause significant damage to society or individuals".

[807] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.18.

[808] Böse, M., 2011. The Principle of Proportionality and the Protection of Legal Interests, *European Criminal Law Review* 1, 35-43.p.34.

[809] Asp, P.Ibid. The Importance of the Principles of Subsidiarity and Coherence in the Development of EU Criminal Law, 44-55.p.44: "criminal law is a legal area which, by its very nature, is repressive, which (in turn) means that harmonization in this area will – at least in practice – focus on increased repression".

[810] OJ C 326, 26.10.2012, pp.391-407. Article 48 of the Charter of Fundamental Rights of the EU: "Everyone who has been charged shall be presumed innocent until proved guilty according to law".

require Member States to establish "intent" to criminally sanction an insider trading and to provide for criminal liability of legal persons. As already mentioned in Chapter 5 the level of culpability required to prove a guilty criminal insider trading varies across the different Member States from "negligence" to "intent". Moreover, some Member States reject the criminal responsibility of legal persons partially because of *its incompatibility* to their *conception of the principle of guilt*[811]. Finally, a part of the literature supports that the proof of intent regime and the criminal liability of legal persons should be decided at a national level[812]. Therefore, the dispositions contained in the proposal for Directive relative to criminal liability of legal entities and the degree of culpability (intent) to be held liable may face resistance at Member States' level. Furthermore, the EU already made exceptions in the past regarding this aspect and accepted that "the intentional nature of an act or omission (…) may be inferred from objective, factual circumstances"[813] and that "each Member States shall take the necessary measures to allow (these persons) to be declared criminally liable in accordance with the principles defined by its national law"[814] in the Convention on the Protection of the European Union's financial interests.

6.2.4.2 The principle of legality

The principle of legality[815] regroups different sub-principles: the *lex certa,* the *nullum crimen nulla poena sin lege parlementaria*[816]*,* the requirements of non-retroactivity and the principle of *lex mitior.*
The *lex certa* principle is the most relevant in this context. This principle holds that an individual shall be able to predict actions that will make him criminally liable. We

[811] Kaiafa-Gbandi, M., 2011. The Importance of Core Principles of Substantive Criminal Law for a European Criminal Policy Respecting Fundamental Rights and the Rule of Law, *European Criminal Law Reveiw* 1, 6-33.p.31. See "Manifesto on European Criminal Policy" ZIS 2009, p.697 et seq. available at http://www.zis-online.com/dat/artikel/2009_12_383.pdf, accessed the 18-12-13, p.711: "There are framework decisions that obligate the Member States to impose sanctions on legal person. However, it should be positively noted that as yet it is up to the Member States whether they fulfil this obligation by means of criminal law".
[812] Elholm, T., 2011. The Manifesto on European Criminal Policy in 2011, *European Criminal Law Review* 1, 86-103.p.88: "This does not predetermine the answer to the question of whether legal entities can be held criminally liable. There is a decisive difference between guilt of an individual and that of a legal entity. Rules concerning criminal liability of legal entities must thus be elaborated on the basis of criminal law provisions at the national level", p.96: "In some Member States rules on criminal liability for legal persons would not be compatible with their concept of the principle of guilt, forming the basis of their national criminal law system. There are framework decisions that obligate the Member States to impose sanctions on legal person. However, it should be positively noted that as yet it is up to the Member States whether they fulfil this obligation by means of criminal law".
[813] OJ 1995 C 316, Art.1(4).
[814] OJ 1995 C 316, Art.3 "Criminal liability of heads of businesses".
[815] Article 7(1) European Convention on Human Rights: "No one shall be held guilty of any criminal offence on account of any act or omission which did not constitute a criminal offence under national or international law at the time when it was committed", article 49(1) of the Charter of Fundamental Rights of the EU, article 6(3) TFEU.
[816] Firstly, the *nullum crimen nulla poena sin lege parlementaria* requirement requires that criminal rules have to pass by Parliament to be legitimate. The enactment of a criminal law should emanate from the people as directly as possible. The objective is to respect the constitutional traditions that particularly matter concerning legality. Even though the Lisbon Treaty improved this aspect as underlined in the introduction of this chapter, this dimension remains particularly problematic at a European Union level in criminal matters. However, it is a general remark valid for all legislative proposal at EU level, and not especially relevant for the proposal assessed here.

should repeat what has been stated above, when summarizing the critical literature with respect to this directive, being that in some cases the formulation of the standard for insider trading is formulated even more broadly than before as a result of which individuals will be exposed to the danger of criminal sanctions on the basis of *a vague norm*. The legality principle in criminal law prescribes that criminal provisions should be formulated as precisely as possible and that vague notions should to the extent possible be avoided. This was also stressed in an important case Procura della Repubblica Italiana v. X[817] which concerned criminal proceedings in Italy against persons unknown for presumed breaches of a legislative decree concerning the use of display screen equipment. The ECJ held in this respect:

'It is clear from the wording of that provision that the question whether the time habitually spent by a worker at a display screen amounts to a significant part of his work is to be assessed in relation to that person's normal work. The phrase cannot be defined in the abstract, and it is for the Member States to specify its import when adopting national measures implementing the directive.'

In view of the vagueness of the phrase in issue, the Member States must be accorded a broad discretion when adopting such implementing measures, which in any event, by virtue of the principle of legality, in relation to crime and punishment called at paragraph (25) above precludes any reference by the competent national authorities to the relevant provisions of the directive when contemplating the institution of criminal prosecutions in the field covered by the directive.'

This important decision of the ECJ shows that also the ECJ attaches great importance to the *lex certa* principle and refers explicitly to the case law of the European Court on Human Rights with respect to article 7 of the European Convention on Human Rights in which the *lex certa* principle has also been incorporated. The ECJ therefore holds that a criminal provision cannot be based on the 'habitual use of display screen equipment', since that would violate the *lex certa* principle. We showed above that the current Directive in its proposal contains a lot more vague notions that are hence problematic from a *lex certa* principle. Vague notions should be avoided in any criminal provision[818] and also for that reason forcing criminalization of insider trading via EU law should be avoided since it reduces the quality of criminal provisions.

6.2.4.3 Principles of subsidiarity and coherence

According to the article 5(3) TFEU "the Union shall, in areas that do not fall within its exclusive competence, act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States."
Said differently, as far as the national legislator is capable of dealing effectively with a given issue the European legislator should not intervene in criminal matters. This principle insures the protection of the differentiated legal rules and the satisfaction of heterogeneous preferences. As already mentioned these dimensions are of particular importance in criminal matters since they reflect national identities. It is a way to restrict the EU competence and is related to the principle of coherence that states that

[817] C74/95 (1996) ECR I-6609.
[818] See further Faure, M., 2010. Vague Notions in Environmental Criminal Law (Part.1), *Environmental Liability* 4, 119-133. Faure, M., 2010. Vague Notions in Environmental Criminal Law (Part.2), *Environmental Liability* 5, 163-170.

one shall not, without good reasons, disturb or interfere with the coherence of the national criminal law systems[819]. In the case where instruments dealing with criminal matters are enacted, article 4(2) TFEU calls for paying a special attention to the coherence of the national criminal law systems, part of the *national identities* of the Member States. The coherence of the criminal law system lies upon the idea that the entire regime is rooted in historical and cultural national values particularly sensitive to external influence[820]. This principle is closely related to the notions of democracy, self-governance and State sovereignty. In that respect, it seems that no sufficiently convincing element was advanced so far to support the failure of national enforcement of criminal insider trading laws, as mentioned in Chapter 5.

The above analysis allows to deduce the following conclusions: Criminal law being the most stringent mechanism of control that deeply affects fundamental civil liberties, any initiative in that field of the Commission should therefore be consistent with the principles governing the introduction of substantive criminal rules at EU level.
In that respect the proposal for a Directive on criminal sanction may be criticized in various aspects. The most problematic may be the vagueness of some notions relative to the definition according to the *lex certa* principle. The fact that the proposal for Directive was issued at the same time as the proposal for Regulation may also be problematic regarding the principle of proportionality and the principle of *ultima ratio*. The principles of subsidiarity and coherence can be raised as principles supporting legal rules diffentiations.
To conclude, the point is not to contest the legitimacy of the EU in criminal matters but to enlighten the importance to restrain the content of the Directive to the strict minimum in order to facilitate its implementation in a manner that respects civil liberties and citizens preferences. The Treaty of Lisbon mentions the guarantee of the fundamental rights of the citizen as a goal. The proposal for a Directive should therefore reflect this will and should be consistent with such guarantee in practice.
Finally, it should be mentioned that Member States would be able to oppose the proposal for a Directive by invoking the emergency clause of article 83(3) TFEU. Indeed, when legislating on substantive criminal law or criminal procedure, Member States can express their opposition and refer to the European Council[821] if they consider that proposed Directive touches upon *fundamental aspects of their national criminal justice system*[822], or breach of one of the fundamental principles of criminal law outlined above.

[819] Asp, P., 2011. The Importance of the Principles of Subsidiarity and Coherence in the Development of EU Criminal Law, *European Criminal Law Review* 1, 44-55.p.46: "The principle of subsidiarity is founded on the idea that society is built from the bottom to the top and not the other way around. This means that the central – or in the case of the EU: the supranational – authorities should fulfil only those tasks that cannot be fulfilled effectively by actions on a decentralized, local or regional, level. In this way one ensures that decisions will be taken as closely to the citizens as is possible having regard to the demands of society".
[820] Ibid.p.44, Elholm, T., 2011. The Manifesto on European Criminal Policy in 2011, *European Criminal Law Review* 1, 86-103.p.91: "criminal law is also a value system, and as such it is a component part of the 'national identities' of the Member states".
[821] COM(2011) 573 final.
[822] Denmark is not participating in newly adopted measures on substantive criminal law, while the United Kingdom and Ireland only participate in the adoption and application of specific instrument after a decision to "opt" in.

6.3 SUMMING-UP

The proposal for a Directive on criminal sanctions for insider dealing and market manipulation has been critically analyzed in this last chapter. The core of the proposal is that insider dealing and market manipulation as defined in the Directive and accompanying Regulation will have to be criminalized when committed as an intentional offence and criminal liability of legal person will have to be provided. Using an economic perspective, the question whether there is a need to impose criminalization of insider trading at a European level was addressed.
In the light of the economic theory of harmonization there is a doubt whether at this stage there is a large practical need of imposing criminal sanctions at the EU level. Even when (in some limited cases) criminal enforcement may have a role to play in insider trading cases (more particularly there where private enforcement and administrative law may fail) it is yet unclear that there would today be a serious enforcement problem in the law of the Member States. Today, 26 out of the 27 EU Member States have criminal law to back-up insider trading legislation. Hence, the added value of European legislation in this respect is limited. Moreover, the mere imposition of criminal sanctions at EU level will of course not guarantee that problems with the effective enforcement of insider trading law, that would currently exist in the Member States, would be solved. Moreover, the Commission refers to a current 'ineffective enforcement' of insider trading law, but there is not much empirical proof that is provided to back this up. If the Commission would refer to the fact that there are few cases, then the problem of course is that merely forcing criminalization via the EU level will as such not solve that problem.

Moreover, looking at the specific provisions proposed at EU level, the literature has been quite critical of the proposal, more particularly since the proposal amounts to a criminalization of vague notions which is at odds with the fundamental principles of european criminal law, more particularly the *lex certa* principle which is derived from the legality principle, but also the *ultima ratio* principle and the principle of guilt.

It is therefore hold that, even though there is a specific role to play for criminal law in enforcing insider trading (more particularly *ultimum remedium*) there is currently no evidence that the enforcement of insider trading laws at Member State level would be ineffective, nor can it be expected that the mere introduction of criminal sanctions via the EU level would remedy those enforcement problems.

CHAPTER 7. CONCLUSIONS

In this chapter, I seek to answer the research questions presented in the introduction of this thesis, as well as their implications for scholarly and policy debates and future research.

This study's research questions have been:
First, is under all circumstances criminal law necessary to enforce insider trading laws? Second, even if criminal law is prescribed in certain circumstances, should it be introduced at EU level?

In order to answer these research questions, this study addressed distinct sub-questions:
First, what is the optimal type, nature and form of sanctions that create an efficient insider trading law enforcement policy according to the deterrence theory?
Next, are the current European public law enforcement strategies regarding insider trading prohibition coherent with the theoretical law and economics recommendations?
And finally, should insider trading criminalization be centralized at EU level according to the economics of federalism?

7.1 MAJOR FINDINGS

Chapter 2 begins with a brief introduction to the underlying legal and economics theoretical debate and arguments surrounding insider trading regulation. These preliminary considerations enable one to understand the objectives targeted by the theoretical corpus, which should be addressed by insider trading laws and enforcement.

The controversy concerning insider trading was presented from both legal and economic perspectives. The legal theory argues in favor of the insider trading regulation because of its immorality[823] and its undesirability from a distributional justice theory perspective[824]. In this respect, it is crucial to understand, that the core theoretical foundations for regulating insider trading fundamentally lies in the ethics and distributional justice considerations. Even in the case where economic arguments were considered to some extent ambiguous or unsatisfying, moral theory would above all remain an autonomous deontological fundamental reason for regulating insider trading. Some legal scholars further argue that, even in the case were insider trading would be proven to be economically beneficial state regulation should still intervene because the immorality of insider trading makes it undesirable[825] *per se*.

According to economic theory, the goal of regulation is economic efficiency and the maximization of welfare. However, schools of thought have diverse strategies to

[823] Schotland, R. A., 1967. Unsafe at Any Price: A Reply to Manne, *Virginia Law Review* 53, 1425-1478.
[824] See Chapter 2.
[825] Schotland, R. A., 1967. Unsafe at Any Price: A Reply to Manne, *Virginia Law Review* 53, 1425-1478.

reach maximization of welfare. Considering insider trading, the economic theory analysis is difficult to apprehend since economic scholars have different viewpoints regarding its effect. In turn, deciding whether insider trading impairs or improves overall efficiency is complex. However, the consequences of insider trading should be observable through the measure of its impact on indicators of economic preformances (such as the informativeness of the prices, the cost of capital, the concentration of shareholding or the stock market liquidity). Most of the arguments are based on commensurable measures established through empirical methods. First of all, the empirical literature presents insider trading as introducing noise into stock prices, which are in turn less efficient in providing information[826]. According to the literature, another detrimental effect created by insider trading is to raise the cost of capital[827], the cost of trading and the cost of information[828]. Finally, insider trading has also been described as impairing stock market liquidity[829] and therefore impacting its attractiveness.

All in all, distributional justice theory, the equal access theory, the equality theory, the financial public order, the agency theory, the market theory and the property rights theory all provide relevant arguments lending support to the insider trading regulatory intervention and offer multiple perspectives on how it may result in better outcomes for the market. From that perspective, insider trading laws should aim at protecting

[826] See Chapter 2 and See Fishman, M., Hagerty, K., 1992. Insider Trading and the Efficiency of Stock Prices, *RAND Journal of Economics* 23, 106-122. Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Hu, J., Noe, T., H., 1997. The Insider Trading Debate, *Economic Review*, 34-45.p.41.

[827] See Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845. See DelBrio, E., Miguel, A., Perote, J., 2002. An Investigation of Insider Trading Profits in the Spanish Stock Market, *Quaterly Review of Economics and Finance* 42, 73-94. Finnerty, J., 1976. Insiders and Market Efficiency, *Journal of Finance* 31, 1141-1148. Jaffe, J., 1974. Special Information and Insider Trading, *Journal of Business* 47, 410-428. Seyhun, N., 1986. Insider Profits, Costs of Trading and Market Efficieny, *Journal of Financial Economics* 16, 189-212. Georgakopoulos, N. L., 1993. Insider Trading as a Transactional Cost: A Market Microstructure Justification and Optimization of Insider Trading Regulation, *Connecticut Law Review* 26, 1-51. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.211. See Bainbridge, S. M., 1999. *Securities Law: Insider Trading*(Foundation Press, New York). Bainbridge explicitly describes four significant potential harms done to the corporation connected with insider trading among which a reputational injury to the corporation caused by insider trading, which is translated into direct financial injury that raises the firm's cost of capital. See Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. Enforcement of insider trading laws has a significant negative effect on cost of capital, implying that insider trading increases the cost of capital. Frijns, B., Gilbert, A., Tourani Rad, A., 2013. Do Criminal Sanctions Deter Insider Trading?, *The Financial Review* 48, 205-232.p.10. Ang, J. S., Cox, D.R., 1997. Controlling the Agency Cost of Insider Trading, *Journal of Financial And Strategic Decisions* 10, 15-26.p.19.

[828] See Haft, R. J., 1982. The Effect of Insider Trading Rules on the Internal Efficiency of the Large Corporation, *Michigan Law Review* 80, 1051-1071. Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.). Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.283. Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston).

[829] Beny, L., 1999. A Comparative Empirical Investigation of Agency and Market Theories of Insider Trading, *Harvard Law School John M. Olin Center for Law, Economics and Business Discussion Paper Series* Discussion Paper No. 264. Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108. Glosten, L. R., 1989. Insider Trading, Liquidity, and the Role of the Monopolist Specialist, *The Journal of Business* 62, 211-235.

equality, fairness[830], morality[831], financial public order[832], market interest, transparency, informational efficiency[833], stock market price accuracy[834], market liquidity[835], and an optimal allocation of property rights in information[836].

Based on this, the study examines if the insider trading prohibition should be criminally enforced (7.1.1), compares the current practices in Europe (7.1.2) and assesses the European Commission proposal for a Directive on criminal sanction for Market Abuse (7.1.3).

7.1.1 Criminalization of insider trading: an economic perspective

The first part of the thesis analyzes under which circumstances public or private enforcement would lead to a more cost effective insider trading laws enforcement (7.1.1.1). Then, considering that public enforcement of insider trading laws can be necessary, the question is raised of whether optimal sanctions should be monetary or non-monetary, or if public enforcement should take the form of administrative or criminal law enforcement. Criminalization implies particular criteria (7.1.1.2). The next section applies these economic criteria to the case of insider trading (7.1.1.3) and argues that there is a specific role to play for criminal law, and that more attention should be paid to alternative legal procedures. Both from an economic and a legal perspective, criminal law should be considered as a last resort remedy (*ultimum remedium*) (7.1.1.4), respectively based on the fact that the costs of applying the criminal law are very high and that criminal law provides the strongest infringements to human rights and individual civil liberties.

7.1.1.1 Public versus private enforcement of insider trading regulation

Chapter 3 develops the rationale for public enforcement of insider trading law, that is, questions why society cannot rely exclusively on private enforcement of law to control undesirable insider behavior. It explores the economic theory criteria under which the use of public law enforcement should be preferred over private enforcement.

Considering the costs of enforcement, private enforcement should be preferred to public enforcement from an economic viewpoint, as long as it is less costly and it can

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[830] Manovre, M., 1989. The Harm from Insider Trading and Informed Speculation, *Quarterly Journal of Economics* 104, 823-845.
[831] Deffains, B., Stasiak, F., 2002. *Les Préjudices Résultants des Infractions Boursières: Approche Juridique et Economique*(Sorbonne, Paris). Pietrancosta, A., 1999. *Le Droit des Sociétés Sous l'Effet des Impératifs Financiers et Boursiers*(Université Paris 1 Panthéon Sorbonne, Paris). Strudler, A., Orts, E., 1999. Moral Principles in the Law of Insider Trading, *Texas Law Review* 78, 375-438.
[832] Muller, A.-C., 2007. *Droit des Marchés Financiers et Droit des Contrats*(Economica, Paris).
[833] Fox, M., Randall, M., Yeung, B., Durnev, A., 2003. Law, Share Price Accuracy, and Economic Performance: The New Evidence, *Michigan Law Review* 102, 331-386.
[834] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*.
[835] Bhattacharya, U., Daouk, H., 2002. The World Price of Insider Trading, *Journal of Finance* 57, 75-108.
[836] Ang, J. S., Cox, D.R., 1997. Controlling the Agency Cost of Insider Trading, *Journal of Financial And Strategic Decisions* 10, 15-26.

provide an equivalent deterrence effect[837]. Moreover, Becker's model of optimal enforcement establishes that, when the probability of detection is low or when the gain or the harm is high, more severe sanctions are needed in order to compensate and attain optimal deterrence[838]. From this perspective, public enforcement has an advantage because it provides for the most stringent sanctions.

In the trade-off between private and public enforcement, the most important criterion is whether potential victims will have sufficient incentives to file a lawsuit under private law. There could be many reasons why victims could suffer substantial damage but nevertheless never bring suit, even in insider trading cases. An important reason is that their losses are often dispersed. They may therefore suffer from what is known in the literature as rational apathy or a rational disinterest problem: since their losses appear to be very small, they are rationally disinterested to bring suit.[839] Another reason is that the harm may be public. In that case private parties do not feel personnally involved.

The other major problem with private law enforcement is related to the fact that access to information can be difficult and consequently the probability of private detection can be low due to the mere nature of insider trading. Nevertheless, 41% of the sources of SEC investigation cases appears to be the public complaint. Meaning that private parties have access to a certain type of information. Regarding the detection, private and public enforcement both seem adapted to certain types of illegal insider trading, and complement each other.From a deterrence perspective, the sanction for deterring a potential insider should be set correspondingly to the probability of sanction. However, it was seen in the introduction to Title 1 that the probability that a sanction for insider trading would be imposed was low. In that case, public enforcement is called for to outweigh the low insider trading detection and prosecution rates.[840]

Hence, private litigation of insider trading may constitute a problem because of rational apathy and low probability of detection. However, another possibility to remedy the low probability of sanction would be in fact to increase the amount of compensation payable by the injurer under tort law. This is precisely the idea behind the concept of punitive damages.[841] Also, the rational apathy problem created by the

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[837] Shavell, S., 1984. Liability for Harm Versus Regulation of Safety, *Journal of Legal Studies* 13, 357-374. Shavell, S., 1993. The Optimal Structure of Law Enforcement, *Journal of Law and Economics* 36, 255-287. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.38.

[838] Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Jackson, H. E., Roe, M. J., 2009. Public and Private Enforcement of Securities Laws: Resource-Based Evidence, *Journal of Financial Economics* 93, 207-238.

[839] Schäfer, H.-B., 2000. The Bundling of Similar Interests in Litigation. The Incentives for Class Actions and Legal Actions taken by Associations, *European Journal of Law and Economics* 9, 183-223. Van den Bergh, R., 2007. *Should Consumer Protection Law Be Publicly Enforced? An Economic Perspective on EC Regulation 2006/2004 and its Implementation in the Consumer Protection Laws of the Member States*(Europa Law Publishing, Groningen).p.179-203.

[840] See Skogh, G., 1973. A Note on Gary Becker's Crime and Punishment: an economic approach, *Swedish Journal of Economics* 75, 305-311.
and Skogh, G., Steward, C., 1982. An Economic Analysis of Crime Rates, Punishment and the Social Consequences of Crime, *Public Choice* 38, 171-179.

[841] See Cooter, R., 1982. Economic Analysis of Punitive Damages, *Southern California Law Review* 56, 97-101. Landes, W. M., Posner, R. A., 1981. An Economic Theory of Intentional Torts,

potentially widespread nature of damages could be resolved by allowing collective action by victims.[842] It is also possible to resolve these problems partially with conditional fee arrangement[843]. Currently, these systems do not exist, or only to a limited extent, in most European legal systems. However, it is argued that, before using criminal law, the focus should be made first on possibilities to improve the functioning of private enforcement of insider trading law for instance[844].

From an economic perspective, a first lesson is that public and private enforcement of insider trading are complementary. A second lesson is that pubic enforcement (including criminal enforcement) is only needed insofar as private enforcement fails. At policy level, it may then however be more interesting to look at alternatives to improve the functioning of private enforcement, thus reducing the need for criminalization.

Summing-up

There is a need for public enforcement of laws in case of:

- Low probability of detection
- High social harm
- High gain
- Low incentive to enforce the law by private parties (No sufficient financial gain, personal interests, rational apathy, dispersed ownership, public harm)

7.1.1.2 Administrative versus criminal law and criteria for criminalization

The deterrence theory approach provides an economic analytical framework for the analysis of law enforcement: the goal of the law and its enforcement is deterrence and should be achieved through the setting of optimal expected sanctions.
Based on this theoretical framework and according to the law and economics theory objectives, the regulator's numerous options to elaborate optimal policies addressing insider trading regulation are introduced and discussed. The central concern of Chapter 4 is the sanction, and more precisely its type, nature and form.

Optimal expected sanction

The use of a high sanction with a lower probability of detection may not be optimal considering arguments relative to the risks of insolvency, the costs of implementation

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International Review of Law and Economics 1, 127-154. Meurskens, R. C., Nordin, E., 2012. *The Power of Punitive Damages, Is Europe Missing Out?*(Intersentia, Antwerp).

[842] See on those issues Keske, S., Renda, A., Van den Bergh, R., 2010. *Financing and Group Litigation* (Edward Elgar, Cheltenham). There is certainly a debate at the European level about the development of collective action. See Micklitz, H., Stadler, A., 2006. The Development of Collective Legal Action in Europe, especially in Germany, *European Business Law Review* 17, 1473-1503. Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.32, 44.

[843] Faure, M., Fernhout, F., Philipsen, N., 2010. *No Cure, No Pay and Contingency Fees*(Edward Elgar, Cheltenham).

[844] Decriminalization is considered important in the literature, see Van Zyl Smit, D., 2007. *Handbook of Basic Principles and Promising Practices on Alternatives to Imprisonment*(United Nations Publication, New York).p.13. Coulon, J.-M., 2008. *La Dépénalisation de la Vie des Affaires* (Ministère de la Justice, France).

of a large sanction, the marginal deterrence and the supposed risk aversion towards sanctions of the insider traders. Moreover, according to the scholarly literature, risk aversion implies that optimal sanctions should not be maximal[845].

Monetary and non-monetary sanctions

Regarding the trade-off between monetary and non-monetary sanctions, the major conclusions are the following: Society cannot exclusively rely on monetary sanctions and furthermore, there are circumstances under which the use of non-monetary sanctions is necessary to operate either deterrence or incapacitation.

The personal situation of wealth or occupation of an individual can have an impact on the necessity to use non-monetary sanctions for deterrence. The literature raises three specific points regarding this issue. First: the deterrence effect of a monetary sanction is limited by wealth and thus non-monetary sanctions should be used in complement. Second, risk-seeking attitudes increase with wealth; high wealth types of individuals should therefore not be imposed with maximum monetary sanctions. Third, individuals with high opportunity cost of time should be imposed shorter prison terms.

Furthermore, non-monetary sanctions should be used for incapacitation under restricted circumstances, calibrated to the social or economic dangerousness of the offender.

From an economic perspective, an optimal law enforcement policy should be achieved by first using monetary sanctions at the maximum, and furthermore by using proportional and wealth-related ones, and then by complementing with non-monetary sanctions[846], starting with the less costly ones (considering control, infrastructure, maintenance, and indirect and consequential costs) and the less restrictive, in order to induce a similar deterrent effect. From a theoretical point of view, at equal deterrence effect, non-incapacitating non-monetary sanctions should be used first (Naming and shaming sanctions should be dealt with carefully because of the irreversible stigma they impose, error costs and the potential disproportion[847]), followed by the

[845] See Polinsky, A. M., Shavell, S., 2007. *Handbook of Law and Economics*, 1st edition.(Elsevier, Boston).p.415-416. See Polinsky, A. M., Shavell, S., 1979. The Optimal Trade-Off Between the Probability and Magnitude of Fines, *American Economic Review* 69, 880-891.p.884. See Polinsky, A. M., Shavell, S., 1991. A Note on Optimal Fines when Wealth Varies Among Individuals, *American Economic Review* 81, 618-621.

[846] Bowles, R., Faure, M., Garoupa, N., 2000. Economic Analysis of the Removal of Illegal Gains, *International Review of Law and Economics* 20, 537-549. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217. Shavell, S., 1987b. The Optimal Use of Non Monetary Sanction as a Deterrent, *American Economic Review* 77, 584-592. Shavell, S., Polinsky, A. M., 1984. The Optimal Use of Fines and Imprisonment, *Journal of Public Economics* 24, 89-99. Becker, G. S., 1968. Crime and Punishment: An Economic Approach, *The Journal of Political Economy* 76, 169-217.p.208. Shavell, S., 1985. Criminal Law and the Optimal Use of Non Monetary Sanctions as a Deterrent, *Columbia Law Review* 85, 1232-1262.pp.1236-1237.

[847] Van Erp, J., 2011. Naming Without Shaming: The Publication of Sanctions in the Dutch Financial Market, *Regulation and Governance* 5, 287-308. Van Erp holds that naming offenders functions as a general deterrent in the market for financial intermediaries, but considerably less so in the capital market.p.292: "An undesired, but perhaps more likely potential effect is that the publication of sanctions is experienced as stigmatizing. In that case, naming offenders results in defiance, disengagement, distrust, and, expectedly, more crime". See note on X, 2003. Shame, Stigma, and Crime: Evaluating the Efficacy of Shaming Sanctions and Criminal Law, *Harvard Law Review* 116,

economically incapacitating ones (status ban penalty, withdrawal of licenses, disqualification of managers) and, lastly, by the socially incapacitating ones. Economic incapacitation should be applied to harm concerning public order matters (*societal dangerousness*), whilst the social incapacitation should be applied to harm concerning economic order matters (*market domain specific dangerousness*). Incarceration should always be last resort, meaning that it should be based on the experience that other sanctions are insufficient: All the other means have to be explored and tried before.

Summing-up

There is a need for non-monetary sanctions to achieve deterrence in case of :

- Limitation of wealth (insolvency)

There is a need for non-monetary sanctions to achieve incapacitation in case of :

- Undeterrable offenders (repeated offences)
- Dangerousness for the economy: Need for economic incapacitation in particular
- Dangerousness for society (violence): Need for social incapacitation in particular

Administrative and criminal sanctions

Finally, in the trade-off between administrative and criminal enforcement, all things being equal, the administrative procedure has the advantage of being less costly than criminal procedure[848]. However the use of criminal law seems only justified when there is a need for very stringent sanctions and accurate proceedings in order to secure the imposition of such stringent sanctions (reduction of error cost[849]). When criminalizing, the principle of legitimate purpose, the *ultima ratio* principle, the principle of guilt and the principle of legality should always be carefully respected.

The use of the most severe sanctions through criminal law is desirable to operate deterrence when the gain or the harm is very high (for instance large, diffuse and immaterial) and when the probability of detection and apprehension is very low. They can also be needed to operate incapacitation in cases of limited wealth or violence[850]. The most severe sanctions should be imposed through criminal proceedings because criminal procedure offers the advantage to secure the imposition of such severe sanctions through high procedural requirements, which guarantee limited error costs. Moreover, the inherent stigma associated with criminal law enables the strengthening

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2186-2207. There is hence a huge danger of overdeterrence and disproportional sanctions when stigmatisation is used as the goal of criminal law. As was convincingly shown by Klement, A., Harel, A., 2007. The Economics of Stigma: Why More Detection of Crime May Result in Less Stigmatization, *Journal of Legal Studies* 36, 355-378.

[848] See Faure, M., Ogus, A., Philipsen, N., 2009. Curbing Consumer Financial Losses: The Economics of Regulatory Enforcement, *Law and Policy* 31, 161-191.p.173-176.

[849] See Miceli, T., 1990. Optimal Prosecution of Defendents Whose Guilt is Uncertain, *Journal of Law, Economics and Organisation* 6, 189-201.

[850] Becker 1968, 1974; Bowles, Faure, Garoupa 2008; Escresa Guillermo 2012; Shavell 1985, 1987, 1989; Shavell, Polinsky 1984, 1991, 2004, 2007; Svatikova 2012.

of the deterrent effect of any criminal sanction. Nevertheless, it may not always seem optimal to systematically have recourse to criminal law when a high sanction is required. It may be relevant to keep in mind that, even if criminal law seems to offer the most coercive sanctions through social incapacitation and inherent stigma, some sanctions, such as economic incapacitating sanctions, naming and shaming sanctions or classic fines, can be considered as serious alternatives. Moreover, and as extensively described before, criminal law achieves a very specific goal and should be reserved for harms fulfilling specific criteria. Consequently, the recourse to such enforcement should be thought through very cautiously. Every criminalization should be consistent with the principle of a legitimate purpose, the *ultima ratio* principle, the principle of guilt and the principle of legality.
Finally, regarding the cumulation of administrative and criminal enforcement of laws, from an economic perspective it seems desirable to opt for a *non-cumulative system of prosecutions* (over punishment and costs of prosecution)[851].
Summing-up, administrative enforcement of law can suffice when the harm is relatively low, when the injurer may have enough assets and stake, when the individual does not need to be socially incapacitated but economic incapacitation may suffice and when inherent stigma is not necessary to get additional deterrence.

There is a need for the most stringent sanctions through criminal law in case of :

- Very low probability of detection and apprehension
- Very high and substantial gain
- Very high social harm: large, immaterial, diffuse

Qualities of criminal law that makes it a unique tool to achieve deterrence and incapacitation:

- Exclusive availability of social incapacitation: needed to achieve deterrence (limited wealth) or incapacitation (violence or undeterrable offenders)
- Inherent stigma reinforces the deterrence effect
- Reduction of error cost: High procedural requirements

7.1.1.3 Criminalization of insider trading?

How do the economic criteria for criminalization, discussed here above, apply to the case of insider trading?

Firstly, the question of the need for criminal law really comes down to whether there is *a need to use criminal law in a deterrence perspective*. The issue to address is therefore to determine whether the potential harm caused by, or the gain obtained via insider trading, can be high enough and the probability of apprehension low enough for, the optimal administrative sanctions to fail in deterring potential insiders.

If the insider trading effects on economic efficiency is delicate and controversial to assess, insider trading should be considered wrong for a matter of fairness and justice.

[851] Wils, W., 2003. The Principle of "Ne Bis in Idem" in EC Antitrus Enforcement: A Legal and Economic Analysis, *World Competition* 26, 131-148.pp.140-141: “From the perspective of minimizing cost, multiple prosecutions would thus always appear undesirable”.

Furthermore, the average gain or loss appears to be stable through the decades and approximates a median of $ 25,594[852]. Also, it obviously means that gains were substantially lower in some case and substantially larger in other cases. This means that, in many cases, administrative sanctions may suffice to operate deterrence. However, a study of Frino et al. established that the mean gain or loss avoided was $215,696. This would suggest that a few insiders accomplish astronomical takes. The later are the cases that justify the use of criminal law.

Adressing the probability of detection, the literature relevantly underlines several challenges in detecting insider trading. Even if the scholars have not yet been able to measure the quantity of undetected insider trading, several studies suggest that insider trading is a rampant and common practice that remains too rarely detected. According to the literature, this low probability of detection of insider trading seems to be mainly explained by its immaterial and diffuse nature. Hence, the essence of insider trading is based on legitimately acquired but confidential information that one receives from a personal position.[853] Moreover, financial instruments and trade are considered to be international, anonymous, technical and immaterial.[854] Insiders may also hide their trade, using proxies or intermediaries.[855] Finally, regarding the secretive nature of insider trading, the scholarly literature questions the limited efficacy of the methods of detection used by the public authorities[856] and the insufficiency of staff and budget resources dedicated to insider trading detection[857]. They also suggest that a large part of insider trading cases remain undetected[858]. All in all, the literature provides elements that support that insider trading is difficult to detect.

Once detected, insider trading has to be prosecuted in order to convict the insider. Insider trading involves the trading on the basis of material non-public information. The establishment of the material and the non-public qualities of the information on which the trade is based are central to successfully prosecute and convict illegal insider trading. Under certain circumstances, the intention of the insider also has to be proven. This process is difficult, if not "impossible"[859]. Most of the time, the establishment of a certain level of culpability is only required under criminal law . The establishment of any level of guilt proves to be extremely difficult in insider

[852] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699. Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

[853] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.

[854] Easterbrook, F. H., 1985. *Insider Trading as an Agency Problem*(Harvard Business Press, Boston), Miceli, T., 2004. *The Economic Approach to Law*(Stanford University Press, Stanford).

[855] Kraakman, R., 1991. *The Legal Theory of Insider Trading Regulation in the United States*, Macey, J. R., 1991. *Insider Trading: Economics, Politics and Policy*(AEI Press, Washigton D.C.).

[856] Frino, A., Satchell, S., Wong, B., Zheng, H., 2013. How Much Does an Illegal Insider Trade?, *International Review of Finance* 13, 241-263. Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York). Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

[857] Beny, L., 2012. Has Insider Trading Become More Rampant in the United States? Evidences from Takeovers, *Law and Economics Research Paper Series, University of Michigan Law School*.

[858] Meulbroek, L. K., 1992. An Empirical Analysis of Illegal Insider Trading, *The journal of Finance* 47, 1661-1699.

[859] Harris, L., 2003. *Trading and Exchanges*(Oxford University Press, New York).p.588: Larry Harris was former Chief Economist at the SEC from July 2002 to June 2004.

trading matters due to their very nature. Finally an ESMA's report has established that the probability of conviction of insider trading is 52,3% for administrative insider trading and 37,3% for criminal insider trading[860].

It has been established that insider trading can prove to be unfair and, more controversialy, potentialy harmful for the economy. Morevover, insider trading associated gain of loss avoided can be substantial. Furthermore, the probability of sanction (resulting from the combination of the probability of detection and conviction) tend to be quite low. Under these circumstances, criminal law would be needed for deterrence.

Secondly, the study has further examined the two aspects that make criminal law a unique tool (stigma and social incapacitation) and has questionned their efficiency for the case of insider trading.

Looking at the effect of stigma on insiders, some literature suggests that first time offenders would particularly suffer social and economic consequences from being criminally convicted.[861] Statistics also indicate that 67.5% of the defendants were only charged with insider trading on one occasion.[862] This literature and these numbers seem to indicate that insiders belong to the category of wrongdoers who are especially receptive to stigma. On the one hand, this may be an argument to use criminal law for its stigmatizing effect; on the other hand, the potential dangers of criminal law have to be seriously taken into account. As a result, it is doubtful that criminalization would be warranted merely to impose stigma. This characteristic could nevertheless constitute an argument to consider the possibility of criminalization when it is really needed.

Empirical papers show that insider traders usually belong to *high-wealth category* and occupy a *hierarchically high occupation* (mostly composed of corporate officers and directors, and business executives such as presidents and vice-presidents) with, on average, a *high-compensation package*[863]. These characteristics imply that insiders have a higher payment capacity than regular wrongdoers. In turn, the need to use non-

[860] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).

[861] See Adam, J., Engelen, P.J., Van Essen, M., 2011. *Reputational Penalties on Financial Markets to Induce Corporate Responsibility*(Springer, Heidelberg). Van Erp, J., 2011. Naming Without Shaming: The Publication of Sanctions in the Dutch Financial Market, *Regulation and Governance* 5, 287-308.

[862] Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.277: "Frequency of insider trading refers to the number of times that non-public information was exploited. Two-thirds (67.5 percent) of the defendants were charged with illegally trading on only one occasion".

[863] See 4.1.2. Geis, G., 1998. *Antitrust and Organizational Deviance*(JAI Press, Stamford, CT). Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.pp.275-276: "Approximately a third of all defendants came from the business sector (31.5 percent), whereas only 18.2 percent of the defendants were from the securities industry. Corporate officers and directors, because of their position, were more likely to have access to material nonpublic information and were far more likely to be charged for trading on such information than their employees (84.2 percent of the business defendants were business officers or directors and only 15.8 percent were lower status employees). Defendants in the securities industry, on the other hand, were unlikely to be executives: securities employees such as brokers, dealers, and analysts (77.5 percent) were more likely than securities executives such as CEOs, vice presidents, and heads of departments (22.5 percent) to be insider trading defendants".

monetary sanctions in case of limited wealth seems less indicated than for the average wrongdoer, but however considerable.

Furthermore insider-trading is not a violent crime for which the *use of non-monetary sanctions to operate incapacitation* seems indicated. Indeed statistics show that 67.5% of the defendants in insider trading cases were only charged on one occasion. This means that they are not undeterrable repeat offenders that need to be incapacitated.[864] From that perspective, the need to use non-monetary sanctions in case of undeterrability seems very limited; and in case of violence seems out of context.
Finally, the need to use non-monetary sanctions in case of danger for the economy seems indicated because insider trading is characterized as harming the economy[865]. A part of the literature supports that economic incapacitating sanctions are "sufficient" according to the law and economics precepts of deterrence[866].

In conclusion, the resort to criminal law in order to operate social incapacitation in the context of insider trading seems very limited.

7.1.1.4 Ultimum Remedium

Following this analysis, it should be reminded that criminal law must be considered in all circumstances as an *ultimum remedium*, a remedy of last resort, not only given its high social costs, but also the high thresholds for applying it and the highly negative social consequences for the people involved. Criminal law should only be employed when other remedies (private law or administrative enforcement) are not capable of reaching the same goal. Above all incarceration, the most stringent sanction available to criminal law, is itself the last resort tool of the criminal sanctions: Non-monetary sanctions alternatives to prison should be favored, starting with the non-incapacitating ones, following with the economically incapacitating ones and finishing with the socially incapacitating ones.

Also, as far as administrative enforcement is concerned, there are quite a few possibilities to make use of it. There is a possibility of using administrative fines for cases where there is no insolvency risk due to limitation of wealth for instance (where the gain is not too high and the probability of detection not too reduced). There are, moreover, administrative sanctions that prove to be particularly efficient in the context of insider trading regulation that should be further developed. Hence, the sanctions belonging to the category of the economically incapacitating sanctions deserve to be more often used. It includes for example the sanction of prohibition to be director in a particular corporation during a specified amount of time,or the revocation of a license as well as the prohibition to exercise a particular profession.

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[864] See Szockyj, E., Geis, G., 2002. Insider Trading: Patterns and Analysis, *Journal of Criminal Justice* 30, 273-286.p.277: "Frequency of insider trading refers to the number of times that non-public information was exploited. Two-thirds (67.5 percent) of the defendants were charged with illegally trading on only one occasion."
[865] cf. Chapter 2.
[866] Royer, G., 2009. *L'Efficience en Droit Pénal Economique - Etude du Droit Positif à la Lumière de l'Analyse Economique du Droit*(LGDJ, Paris).p.143.

7.1.2 Actual practices of sanctions and enforcement of insider trading laws in Europe

Chapter 5 confronts actual practices of insider trading law enforcement in eight Member States and the theoretical recommendations formulated in Chapter 3 and 4. Indeed, concerning the elaboration of optimal enforcement of insider trading laws, the literature produced relevant observations that should preferably inspire the Member States.

Regarding the content of the insider trading laws in the eight chosen Member States[867], the major observations are the following. First of all, there are divergences in levels of sanctions. Minimum and maximum amount of monetary administrative and criminal sanctions as well as minimum and maximum length of criminal incarceration varies widely. For instance, the maximum amounts for the maximum administrative monetary sanctions amounts ranges from €200,000 in Germany to €100,000,000 in France; for the criminal maximum monetary sanctions amounts ranges from €55,000 in Belgium to €10,800,000 in Germany and the range of the maximum length varies from one year in BE to 12 years in IT[868]. Furthermore The sanctions are not set according to the same factors. There are also divergences in types of sanction. For instance, some countries did not provide for alternatives to fines and incarceration. Another major observation is that some competent authorities cannot address criminal sanctions to legal person. Some competent authorities cannot publish sanction decisions. In some countries, the cumulation of administrative and criminal prosecutions and sanctions is possible and organized, whilst in others prosecutions are separated and exclusive. Finally some competent authorities can criminally sanction insiders without establishing their intention.

Firstly, theory recommends that Member States should provide for proportional and dissuasive maximum monetary sanctions in order to satisfy the deterrence objective. In this respect, Member States should take into consideration factors relating to the wealth of individuals when determining sanctions to inflict, in order to optimally induce deterrence. In practice, the use of alternative administrative sanctions is low and the use of alternative criminal sanctions is almost inexistent. Incarceration is however used. Member States should therefore develop administrative and criminal non-monetary sanctions alternative to incarceration (economically incapacitating sanctions and socially incapacitating sanctions alternative to prison) in order to reach an optimal enforcement of insider trading laws. It should be reminded that incarceration must always be used as an *ultimum remedium*. Moreover, the scholarly literature recommends to only publish the sanction under a criminal procedure in order to avoid error costs, which may be high and furthermore unrecoverable. Therefore, the publication of sanctions should preferably be made under a criminal procedure or perhaps under a reinforced administrative procedure (or anonymity). The literature also offers a viewpoint on the question of cumulation of proceedings. To obtain an optimal enforcement of insider trading law, it recommends to favor cooperation and non-cumulation of prosecutions, instead of enabling the possibility of having two cumulative, parallel and independent prosecutions. Cooperation at an early stage allows the choice of a relevant competent authority who will prosecute the case from the beginning. Finally, from an economic point of view, Member States

[867] Belgium, France, Germany, Italy, Luxembourg, Spain, United Kingdom.
[868] For the countries providing for maximum sanctions.

should preferably require a proof of intent to establish guilt of criminal insider trading in order to avoid high error costs and secure criminal sanctions.

Secondly, resources and enforcement of insider trading laws also significantly diverge in Europe. In the report, the 15 countries for which the data is complete display a total of 101 administrative sanctions and a total number of 155 criminal sanctions[869]. Incarceration sanctions occupy a relative importance because they represent 39 sanctions in total for these Member States. Their terms are relatively short compared to the legal provisions limiting the maximum. MS allocate different amounts of staff and budget resources to public enforcement of insider trading laws but it was not possible to establish a link with the actual enforcement of laws. Finally, legal persons are rarely administratively prosecuted nor sanctioned, and even less so criminally prosecuted and sanctioned. These observations lead to the conclusion that liability of legal persons for insider trading is rarely used in practice.

In the end, there are considerable differences between both the sanctions provided by law and sanction decisions amongst the 8 examined Member States. The question arises whether that is necessarily a problem. Sanctions differ for many violations between Member States because of the different legislative traditions. However, these differences do not indicate that the system of enforcement in one Member State is necessarily more effective than in another. The sanctions provided for in legislation just stipulate the maximum penalties and don't revealing of what is actually imposed by judges. From an economic perspective, this would only be a problem if the sanctions provided by the legislation were of such nature that they would make it impossible in practice to impose effective sanctions for insider trading.

7.1.3 Criminalization and harmonization

According to the European Commission, the divergences of practices amongst the Member States justify the need for harmonization of sanctions and enforcement powers. On the 20th of October 2011, the Commission issued a proposal for a Directive on criminal sanctions, applicable to insider trading and market manipulation[870], on the basis of the article 83(2) TFEU. Chapter 6 offers a critical analysis of this proposal from a perspective of economics of harmonization and of fundamental legal principles.

7.1.3.1 Economics of federalization

Economics of federalization provide a relevant framework for questioning whether harmonization is desirable, depending on the characteristics of a certain domain. The assessment is made on the basis of four criteria: inter-jurisdictional externalities, jurisdictional competition, transaction costs and benefits of differentiation.

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[869] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.41, 91, 111. Number of monetary and non-monetary sanctions imposed on natural and legal persons.

[870] Proposal for Directive on criminal sanctions for insider dealing and market manipulation (COM(2011)654).

Transboundary externalities

Internationalization of the world's securities market has challenged traditional notions of regulation and enforcement.[871] In order to ensure operational and informational efficiency of their market, domestic regulators have to deal with cross-border cases. As a direct effect of the globalization, financial and technological innovations, cross-border activities, cross-asset effects and broader financial and economic policy issues are changing.[872] However, this does not necessarily imply that Member States should be able to externalize harm to other Member States, for example if one Member State decided to criminalize insider trading when another would not.

Race-to-the-bottom

The second type of argument related to the former is that there may be a race-to-the-bottom in the enforcement of insider trading laws. This scenario implies that some Member States are not interested in seriously enforcing insider trading law, for instance by enforcing it through very weak mechanisms. There is, however, no evidence that such a race-for-the-bottom should take place in this geographical zone. Indeed, despite the numerous divergences, insider trading is actually criminalized in all of the Member States except for Bulgaria. Finally, some, and more particularly Roberta Romano, have on the contrary advocated the likelihood of a race-to-the-top scenario[873].

Transaction costs

Divergences from one country to another regarding sanctions and enforcement of insider trading laws may create transaction costs for issuers and financial institutions when obtaining information, and when undertaking actions to comply with host countries regulation, in addition to complying with home country regulations. The

[871] See Choi, S. J., 2001. Assessing Regulatory Responses to Securities Market Globalization, *Theoretical Inquiries in Law* 2, 613-647. Geiger, U., 1998. Harmonization of Securities Disclosure Rules in the Global Market - A Proposal *Fordham Law Review* 66, 1785-1836. IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions). p.63. Indicators showing the reality of the internationalization of the securities market include crosslisting of securities, cross-country hedging and portfolio diversification, open national stock market and 'passing the book'. All of these practices have significantly increased in the past decades. See Scarlata, J.G., 'Institutional Developments in the Globalization of Securities and Futures Markets'. p.18 available at: http://research.stlouisfed.org/publications/review/92/01/Developments_Jan_Feb1992.pdf, See Coffee, J., 2002. Competition Among Securities Markets: A Path Dependant Perspective, *Columbia Law and Economics Working Paper* 192.p.17. Claessens, S., Djankov, S., Klingebiel, D., 2000. Stock Markets in Transition Economies, *World Bank Financial Sector Discussion Paper* 5. See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.72.

[872] See IOSCO, 1998. *Report: Causes, Effects and Regulatory Implications of Financial and Economic Turbulence in Emerging Markets* (Emerging Markets Committee of The International Organization of Securities Commissions). p.63. available at: http://www.sc.com.my/clients/sccommy/Links/ioscosept98.pdf. See Zhao, L., 2008. *Securities Regulation in the International Environment*(University of Glasgow, Glasgow).p.100. See Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.p.4.

[873] See Romano, R., 1985. Law as a Product: Some Pieces of the Incorporation Puzzle, *Journal of Law, Economics and Organization* 1, 225-283.

costs associated to the divergence of regimes may reduce the advantages of investing internationally and may thereby prevent investors and companies from participating in the international securities market. From this point of view, harmonization could be beneficial. However, in the particular field of criminal insider trading matters, there is so far little empirical evidence supporting that substantial transaction cost savings could constitute a strong argument in favor of a harmonization of enforcement methods.

Benefits of differentiation

Finally, economic analysis of harmonization and law and economics of federalism have often pointed out the substantial benefits of differentiated legal rules. First of all, differentiated legal rules allow the satisfaction of heterogeneous preferences. In this respect, one advantage of decentralization is to enable Member States to provide for rules which best serve the goals preferred by the local population[874]. As already mentioned, this dimension is particularly important in criminal matters. Another benefit of differentiated rules is that, through the application of different legal rules, substantial learning effects can be obtained.[875] A disadvantage of harmonization at European level is that these learning effects would disappear.

7.1.3.2 Qualitative problems of the Directive

Chapter 6 also questions the consistency of the proposal for a Directive with the principles governing the introduction of substantive criminal rules at EU level, contained in the Manifesto on European Criminal Policy published in 2009 by the European Criminal Policy Initiative: the principle of a legitimate purpose, the *ultima ratio* principle, the principle of guilt, the principle of legality, the principle of subsidiarity, and the principle of coherence.

The proposal for a Directive on criminal sanctions may be criticized from various respects. The most problematic may be the vagueness of certain notions: in some cases, the formulation of the standard for insider trading is formulated even more broadly than before. As a result, individuals could be exposed to the danger of criminal sanctions on the basis of a vague norm. Moreover, the fact that the proposal for a Directive was issued at the same time as the proposal for Regulation may also be problematic regarding the principle of proportionality and the principle of *ultima ratio*. The principles of subsidiarity and coherence can be raised as general principles. The point is not to contest the legitimacy of the EU in criminal matters but to enlighten the importance to restrain the content of the Directive to the strict minimum in order to facilitate its implementation in a way that respects civil liberties and citizen preferences. The Treaty of Lisbon mentions the guarantee of the fundamental rights of citizens as a goal. The proposal for a Directive should therefore reflect this will and be consistent with such guarantee.

[874] Van den Bergh, R., Visscher, L., 2008. *Optimal Enforcement of Safety Law*(Erasmus University Rotterdam, RILE Working Paper Series No. 2008/04, Rotterdam).p.50.

[875] See Van den Bergh, R., 2000. Towards an Institutional Legal Framework for Regulatory Competition in Europe, *Kyklos* 53, 435-466. Revesz, R., 1992. Rehabilitating Interstate Competition: Rethinking the Race for the Bottom Rational for Federal Environmental Regulation, *New York University Law Review* 67, 1210-1254.

Finally, it should be mentioned that Member States are able to oppose the proposal for Directive by invoking the emergency clause of article 83(3) TFEU. Indeed, when legislating on substantive criminal law or criminal procedure, Member States can express their opposition and refer to the European Council[876] if they consider that the issued directive touches upon fundamental aspects of their national criminal justice system, or breaches one of the fundamental principles of criminal law outlined here above.

7.1.4 Symbolic or undesirable legislation?

The core of the proposal for a Directive on criminal sanctions is that insider dealings must be criminalized when committed as an intentional offence. All Member States, with the exception of Bulgaria, have criminal sanctions, but with considerable differences in the types, forms, and nature of these sanctions.
It should also be stressed that the current directive will, at least in the first phase, imply little change. First, the directive will merely force Member States towards criminalization, which, with the exception of Bulgaria, all Member States already practice. Regarding the modalities of this criminalization for all other Member States, two things may change as far as the sanctions are concerned. First, the Directive requires to provide for criminal liability of legal persons (which is not currently the case in eight Member States)[877]. Second, the Directive requires the establishment of "intent" to prove guilt of criminal insider trading (which is not the case in 10 Member States)[878].
Above all, these changes may be criticized from a qualitative perspective. Indeed, these two dispositions may not be consistent with the principles governing the introduction of substantive criminal rules at EU level: the *ultima ratio* principle, the principle of guilt, the principle of legality, the principle of subsidiarity, and the principle of coherence.
All the remaining differences will persist, and would in fact only change if the European Commission would use its powers, according to article 9, and introduce common minimum rules on the types and levels of criminal sanctions.

7.2 POLICY IMPLICATIONS

Using an economic perspective, this study has asked the question whether there is a need for criminalization of insider trading and moreover, whether there is a need to impose such a duty at European level. As far as the first question is concerned, it has been argued that criminal law has an important role to play but should in all circumstances be considered as an *ultimum remedium*, a remedy of last resort and should therefore only be employed when other remedies (private law or administrative enforcement) cannot reach the same goal. In other cases, possibilities of improving the functioning of private enforcement (e.g. through result-based remuneration systems for lawyers, collective enforcement and punitive damages) and to looking at possibilities of improving administrative enforcement as well

[876] COM(2011) 573 final.
[877] ESMA, 26.04.2012. *Report: Actual Use of Sanctioning Powers under MAD, ESMA/2012/270*(European Securities and Market Authority, Paris).p.73: Bulgaria, Czech Republic, Germany, Greece, Luxembourg, Poland, Portugal and Sweden.
[878] Ibid.p.112 "Is proof of intent required in order to have a guilty verdict in a market abuse case? No: Cyprus, Germany, Denmark, Spain, Finland, Latvia, Malta, Netherlands, Sweden, United Kingdom".

(developing economically incapacitating sanctions) should be seriously considered.

Moreover, there are doubts about whether there is a large practical need for imposing criminal sanctions at this stage at EU level. At least, the economics of harmonization does not provide a strong support in that direction. Furthermore, to reply to the Commission's main argument ('the sanctions currently in place to fight market abuse offences are lacking impact and are insufficiently dissuasive which results in ineffective enforcement of the Directive'[879]), even when criminal enforcement may have a role to play in insider trading cases (more particularly where private enforcement and administrative law may fail), it is yet unclear whether there actually is today a serious enforcement problem in the laws of Member States. All Member States except Bulgaria have criminal law to back-up insider trading legislation and actually enforce it. Hence, the added value of European legislation in this respect is limited. Moreover, the mere imposition of criminal sanctions at EU level and the requirement to provide for criminal liability of legal persons and to establish "intent" to prove guilt of criminal insider trading, cannot guarantee to solve the problems faced when effectively enforcing insider trading law. Moreover, the Commission refers to a current 'ineffective enforcement' of insider trading law, but there is not much empirical proof provided to back up this observation. If the Commission refers to the fact that there are very few trialed cases, then merely forcing criminalization at EU level will not solve such a problem.

Moreover, the specific provisions proposed at EU level may be problematic from a qualitative point of view. Indeed, the proposal contains a tendency to criminalize vague notions, which is at odds with fundamental principles of criminal law, more particularly the *lex certa* principle derived from the legality principle. From a general point of view, the proposal may be criticized from the *ultima ratio* principle, the principle of guilt, the principle of subsidiarity, and the principle of coherence perspective.

This study therefore holds that, even though there is a specific role to play for criminal law in enforcing insider trading law (more particularly *utlimum remedium*), there is currently little evidence that the enforcement of insider trading laws at Member State level would be ineffective, nor can it be expected that the mere introduction of criminal sanctions at EU level would remedy any current enforcement problems.

7.3 SUGGESTIONS FOR FURTHER RESEARCH

As already mentioned, one of the limitations of this research concerns the availability of the data. Constructing a data set comparable across nations was not easy because data was difficult to obtain and not always available for every country. Firstly, the resource-based measures of public enforcement, including the "Staff per million population" and the "Budget per billion US$ of GDP" was only available for the year 2005 because no more recent databases were available. Secondly, all the data about the substantial and the procedural aspects were collected in 2010, and the enforcement data concern years 2008, 2009 and 2010. Changes have occurred since then, regarding the law, the competent authorities, etc. In the framework of this study, the intention of

[879] COM(2011) 654 final, p.2.

the index was to provide an overall image of the practices and the context that motivated the European Commission to reform the Market Abuse Regulation and to issue two proposals in October 2011. Therefore, it was sufficient to have an idea of the practices that were taking place during this period in order to relevantly assess the proposal for a Directive on criminal sanction in Chapter 6. More problematically, the data relative to the enforcement of administrative and criminal sanctions for the period 2008, 2009 and 2010 (mainly taken from the ESMA report) entails a weakness: regarding criminal enforcement of laws, it provides data for only 17 countries. Three of the eight countries I chose to study more in detail (BE, ES, IT) are amongst the 12 countries for which the ESMA's report does not provide data. It would be valuable to complete the data for these 12 countries.

Moreover, following this analysis, one major conclusion is that criminal law has to be considered as *ultimum remedium*, not only given its high social costs, but also the high thresholds for applying it and the highly negative social consequences for the people involved. In that respect, research concerning alternatives to prison should be developed, starting with the possibilities of improving the functioning of private enforcement (e.g. through result-based remuneration systems for lawyers, collective enforcement and punitive damages) and of administrative enforcement (developing economically incapacitating sanctions).

Furthermore, I believe the topic of the criminal liability of a legal person deserves to be researched.

Finally, the proposal for a Directive is now passed on to the European Parliament and to the Council for negotiation and adoption. Once adopted, Member States will have two years to transpose the Directive into national law. Even if insider trading is already criminally sanctioned in all the Member States (except for Bulgaria), the consequences of this Directive should be taken seriously. In the future, The Commission, the ESMA or the CJEU may draw clear lines. Indeed, the proposal for Regulation mentions that the ESMA shall submit draft implementing technical standards in financial services for matters covered by the Regulation[880]; the guidance of the Regulation may assist the interpretation of the terms of the Directive[881]. Moreover, the proposal for a Directive includes an article requiring the Commission to report to the European Parliament and Council within four years of the Directive's entry into force[882] on the application of this Directive. It is foreseen that the Commission will assess the need to review the Directive, particularly with regards to the appropriateness of introducing common minimum rules on types and levels of criminal sanctions. If appropriate, the report shall be accompanied by legislative proposals[883]. If this happens, it should be necessary to refine the literature recommendations. Law and economics could contribute to this assessment.

In this respect, a natural experiment would be particularly adapted. For example, relations between means and outcomes could be tested by comparing their evolution before and after the introduction of new regulatory practices. The means could

[880] COM(2011) 651 final, Article 44.
[881] Siems, M., Nelemans, M., 2012. The Reform of the EU Market Abuse Law: Revolution or Evolution, *The Maastricht Journal of European and Comparative Law* 19, 195-205.
[882] COM(2011) 654 final, Article 9.
[883] COM(2011) 573 final.

correspond to various practices (measures, sanctions,…) and the outcome could be the bid-ask spread for example. This could be the object of a future work.

SUMMARY

The recent financial crisis triggered an increasing demand for financial regulation to counteract the potential negative economic effects of the evermore complex operations and instruments available on financial markets. As a result, insider trading regulation counts amongst the relatively recent but particularly active regulation battles in Europe and overseas. Claims for more transparency and equitable securities markets proliferate, ranging from concerns about investor protection to global market stability. The internationalization of the world's securities market has challenged traditional notions of regulation and enforcement. In order to ensure operational and informational efficiency of their market, domestic regulators have to deal with cross border cases. This means that they must be capable of assessing the nature of activities within markets and legal regimes that differ from their own environments. Regulators have to ensure they have sufficient capacity and a relevant structure to adapt their measures to a dynamic environment.

Considering that insider trading is currently forbidden all over Europe, this study follows a law and economics approach in identifying how this prohibition should be enforced. More precisely, the study investigates first whether criminal law is necessary under all circumstances to enforce insider trading; second, if it should be introduced at EU level.

This study provides evidence of law and economics theoretical logic underlying the legal mechanisms that guide sanctioning and public enforcement of the insider trading prohibition by identifying optimal forms, natures and types of sanctions that effectively induce insider trading deterrence. The analysis further aims to reveal the economic rationality that drives the potential need for harmonization of criminal enforcement of insider trading laws within the European environment by proceeding to a comparative analysis of the current legislations of height selected Member States. This work also assesses the European Union's most recent initiative through a critical analysis of the proposal for a Directive on criminal sanctions for Market Abuse.

Based on the conclusions drawn from its close analysis, the study takes on the challenge of analyzing whether or not the actual European public enforcement of the laws prohibiting insider trading is coherent with the theoretical law and economics recommendations, and how these enforcement practices could be improved.

Firstly, this study holds that criminal law play a specific role and should in all circumstances be considered as a remedy of last resort and should therefore only be employed when other remedies (private law or administrative enforcement) cannot reach the same goal. In that respect the study stresses the possibility of using administrative fines for cases where the harm and the gain are not too high and the probability of detection not too reduced. Moreover, economic incapacitating administrative sanctions (such as the revocation of a licence or a prohibition to exercise a particular profession) should be developed.

Secondly, even though there is a specific and last resort role to play for criminal law in enforcing insider trading, there is also a doubt whether at this stage there is a large practical need of imposing criminal sanctions at the EU level from an economics of

federalization point of view. There is currently little evidence that the enforcement of insider trading laws at Member State level would be ineffective, nor can it be expected that the mere introduction of criminal sanctions via the EU level would remedy those enforcement problems. In that respect, the study suggests that the Commission should better focus first on possibilities to improve the functioning of administrative or private enforcement. Finally, the study stresses that the specific provisions proposed at EU level may be problematic from a qualitative point of view. Indeed, the proposal contains a tendency to criminalize vague notions, which is at odds with fundamental principles of criminal law, more particularly the *lex certa* principle derived from the legality principle.

All in all the analysis contained in this study encourages the construction of a legally and economically consistent and responsive apparatus of public enforcement of insider trading laws.

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Samenvatting

De recente financiële crisis heeft een groeiende vraag naar financiële regelgeving in beweging gezet om tegenwicht te bieden aan de mogelijke negatieve economische effecten van de steeds complexere processen en instrumenten die momenteel op de financiële markten beschikbaar zijn. Als gevolg hiervan is regelgeving ter bestrijding van handel met voorkennis, als deel van de relatief recente, maar buitengewoon actieve strijd van de regelgever zowel binnen Europa als ook wereldwijd tot stand gekomen. Eisen voor meer transparantie en een rechtvaardige effectenmarkt nemen toe, variërend van zorgen over bescherming van beleggers tot stabiliteit van de wereldmarkt. De globalisering van de wereldeffectenmarkt heeft de geldende opvattingen over regelgeving en publieke handhaving ter discussie gesteld. Om de operationele en informatieve productiviteit van hun market zeker te stellen, moeten binnenlandse regelgevers het hoofd bieden aan grensoverschrijdende problemen. Dit betekent dat ze in staat moeten zijn om de aard van activiteiten binnen geografische en tijdelijke markten die verschillen met hun eigen omgeving in te schatten. Regelgevers moeten zorgen dat ze voldoende capaciteit hebben en een relevante structuur bieden om hun maatregelen aan een dynamische omgeving aan te passen.

Aangezien handel met voorkennis overal in Europa is verboden, volgt dit onderzoek een rechtseconomische benadering om na te gaan hoe dit verbod gehandhaafd zou moeten worden. Meer specifiek, allereerst wordt onderzocht of de toepassing van strafrecht onder alle omstandigheden noodzakelijk is om het verbod op handel met voorkennis te handhaven; ten tweede, of dit op Europees niveau geïntroduceerd zou moeten worden.

Dit onderzoek toont de rechtseconomische theoretische logica aan die ten grondslag ligt aan juridische instrumenten voor sancties en handhaving van het verbod op handel met voorkennis door optimale vormen, wijze en types van sancties te determineren, die effectieve preventie van handel met voorkennis zouden moeten bewerkstelligen.

Het onderzoek tracht verder de economische rationaliteit aan te tonen die de mogelijke behoefte aan harmonisering van strafrechtelijke handhaving van het verbod op handel met voorkennis binnen Europa beweegt, door een vergelijkende analyse uit te voeren van de huidige wetgeving van acht lidstaten. Dit proefschrift bespreekt ook het meest recente initiatief van de Europese Unie door een kritische analyse van het voorstel van een Richtlijn voor strafrechtelijke sancties voor marktmisbruik.

Gebaseerd op de conclusies van deze diepgaande analyse, gaat dit onderzoek de uitdaging aan om te bezien of de huidige Europese publieke handhaving van de wetgeving die handel met voorkennis verbiedt al dan niet coherent is met de theoretische rechtseconomische aanbevelingen en hoe de handhavingspraktijk zouden kunnen worden verbeterd.

Ten eerste claimt dit onderzoek dat strafrecht in alle omstandigheden als laatste redmiddel moet worden gezien en derhalve alleen moet worden toegepast als met andere maatregelen (privaatrechtelijke of bestuursrechtelijke handhaving) niet hetzelfde doel kan worden bereikt. In dat opzicht benadrukt dit onderzoek de mogelijkheid om administratieve boetes op te leggen voor zaken waar de schade en het voordeel niet te hoog zijn en de pakkans redelijk hoog. Daarbij zouden economische beperkende bestuursrechtelijke maatregelen (zoals het intrekken van een vergunning om een bepaald beroep uit te oefenen) moeten worden ontwikkeld.

Ten tweede, zelfs al is er voor strafrecht in enige vorm een rol als laatste redmiddel weggelegd als middel om het verbod op handel in voorkennis te handhaven, dan is er ook twijfel of er in dit stadium een grote behoefte bestaat aan het opleggen van strafrechtelijke sancties op Europees niveau vanuit het oogpunt van de optimale werkverdeling tussen Europa en de lidstaten. Op dit moment is er weinig bewijs dat de handhaving van het verbod op handel met voorkennis op het niveau van de lidstaten niet effectief zou zijn, noch kan worden verwacht dat de introductie van strafrechtelijke sancties via het Europese niveau op zich deze handhavingsproblemen zou oplossen. In dat opzicht stelt dit proefschrift voor dat de Europese Commissie beter eerst zou kunnen focussen op mogelijkheden om het functioneren van de privaatrechtelijke of bestuursrechtelijke handhaving te verbeteren. Tenslotte benadrukt dit onderzoek dat de specifieke bepalingen voorgesteld op EU niveau wellicht een probleem zouden kunnen zijn vanuit een kwalitatieve invalshoek. Inderdaad heeft het voorstel de neiging om vage begrippen te criminaliseren, wat haaks staat op de basisprincipes van het strafrecht, meer in het bijzonder het *lex certa* beginsel dat van het legaliteitsbeginsel is afgeleid.

Alles bij elkaar genomen bevordert de analyse zoals uitgevoerd in dit proefschrift de ontwikkeling van een juridisch en economisch consistent en responsief hulpmiddel in de publieke handhaving van wetgeving ter bestrijding van de handel met voorkennis.

Summary

The recent financial crisis triggered an increasing demand for financial regulation to counteract the potential negative economic effects of the evermore complex operations and instruments available on financial markets. As a result, insider trading regulation counts amongst the relatively recent but particularly active regulation battles in Europe and overseas. Claims for more transparency and equitable securities markets proliferate, ranging from concerns about investor protection to global market stability. The internationalization of the world's securities market has challenged traditional notions of regulation and enforcement. In order to ensure operational and informational efficiency of their market, domestic regulators have to deal with cross border cases. This means that they must be capable of assessing the nature of activities within geographic and temporal markets that differ from their own environments. Regulators have to ensure they have sufficient capacity and a relevant structure to adapt their measures to a dynamic environment.

Considering that insider trading is currently forbidden all over Europe, this study follows a law and economics approach in identifying how this prohibition should be enforced. More precisely, the study investigates first whether criminal law is necessary under all circumstances to enforce insider trading; second, if it should be introduced at EU level.

This study provides evidence of law and economics theoretical logic underlying the legal mechanisms that guide sanctioning and public enforcement of the insider trading prohibition by identifying optimal forms, natures and types of sanctions that effectively induce insider trading deterrence. The analysis further aims to reveal the economic rationality that drives the potential need for harmonization of criminal enforcement of insider trading laws within the European environment by proceeding to a comparative analysis of the current legislations of eight selected Member States. This work also assesses the European Union's most recent initiative through a critical analysis of the proposal for a Directive on criminal sanctions for Market Abuse.

Based on the conclusions drawn from its close analysis, the study takes on the challenge of analyzing whether or not the actual European public enforcement of the laws prohibiting insider trading is coherent with the theoretical law and economics recommendations, and how these enforcement practices could be improved.

Firstly, this study holds that criminal law should in all circumstances be considered as a remedy of last resort and should therefore only be employed when other remedies (private law or administrative enforcement) cannot reach the same goal. In that respect the study stresses the possibility of using administrative fines for cases where the harm and the gain are not too high and the probability of detection not too reduced. Moreover, economic incapacitating administrative sanctions (such as the revocation of a licence or a prohibition to exercise a particular profession) should be developed.

Secondly, even though there is some last resort role to play for criminal law in enforcing insider trading, there is also a doubt whether at this stage there is a large practical need of imposing criminal sanctions at the EU level from an economics of federalization point of view. There is currently little evidence that the enforcement of insider trading laws at Member State level would be ineffective, nor can it be expected that the mere introduction of criminal sanctions via the EU level would remedy those enforcement problems. In that respect, the study suggests that the Commission should better focus first on possibilities to improve the functioning of administrative or private enforcement. Finally, the study stresses that the specific provisions proposed at EU level may be problematic from a qualitative point of view. Indeed, the proposal contains a tendency to criminalize vague notions, which is at odds with fundamental principles of criminal law, more particularly the *lex certa* principle derived from the legality principle.

All in all the analysis contained in this study encourages the construction of a legally and economically consistent and responsive apparatus of public enforcement of insider trading laws.