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**TITOLO TESI**

**THE STRUCTURE OF FINANCIAL SUPERVISION: CONSOLIDATION  
OR FRAGMENTATION FOR FINANCIAL REGULATORS?**

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## **Dedication**

*This dissertation is dedicated to Hanna Komorovsky Feigin my great-grandmother who was one of the first women students to be accepted to medical school in Russia. Because of the First World War she couldn't complete her studies. It was her and women like her who paved the way for women to enter into universities, and this dissertation is therefore dedicated to her in loving memory.*



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# 1. INTRODUCTION

## ***1.1 Research objectives***

The sector of the world economy which is labeled 'Financial Services' on economic pie-graphs, has changed considerably over the last 25 years. Its slice of that pie has also grown, as financial institutions evolved from domestic firms engaged in distinct banking, securities, and insurance services into integrated financial services conglomerates offering a broad range of financial products across the globe. These Medusa-like firms and their products now appear even in the most unexpected places, wearing all manner of disguises, and the task of regulating them has grown astronomically. Given these developments, an assessment of the architecture and history of supervisory structures in different parts of the world is long overdue.

The financial turmoil which unfolded in 2007 has raised questions regarding the efficiency of the financial regulatory structures which existed in the world then, and those which exist today. Many questions remain unanswered, casting doubts on the approaches taken by financial regulators to financial crisis management, and on the efficiency of current national and international structures in dealing with the collapse of systemically important global financial institutions.

Following the crisis, many countries reformed their financial regulatory structures and moved from one type to another, yet these changes did not cause any convergence towards any particular type of financial regulatory structure. This puzzling phenomenon is at the heart of this research: why don't countries converge towards one type of financial regulatory structure? Can we identify a structure which performs better than others in a given situation and so helps minimize the severity or frequency of financial crises? Is there a structure which is better suited to deal with a financial crisis once it has occurred?

The structure of financial supervision is vitally important because of its impact on the efficiency of the regulator, which in turn has an effect on the costs of regulation, and on the success of regulation in meeting its statutory goals.<sup>1</sup>

In the past, the large differences between financial institutions called for a number of financial regulators with relevant expertise. One of the rationales for this breakdown was to divide the power among these regulators so that none became too influential. Nowadays, the

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<sup>1</sup> C. Briault, 'The rationale for a single national financial services regulator', (1999) 2 *Financial Services Authority*, 1, 5.

rise of financial conglomerates means the borders between different financial institutions have become vague.<sup>2</sup> This is a recent phenomenon which was made possible, at least in part, due to regulatory changes such as the cancellation of the Glass-Steagall Act of 1933<sup>3</sup> in the USA, which had, until 1999, restricted a bank holding company from owning other financial companies. The repeal of the Act effectively removed the separation which had previously existed between investment banks and depository banks, and allowed financial conglomerates to develop.

Other factors which fertilized the growth in financial conglomerates include: the impact of mergers and acquisitions;<sup>4</sup> the result of financial services firms extending through internal growth into new areas;<sup>5</sup> and new entrants to the financial services sector choosing to offer a range of financial services to their customers.<sup>6</sup>

This increase in the number and size of financial conglomerates has almost completely eliminated the boundaries between different financial products. This in turn means that the Functional Approach to financial supervision, which divides the regulatory powers among the different regulators according to the product type, is no longer as effective as it was, since it no longer matches the structure of the market or the regulated firms. Instead, regulatory oversight of a financial conglomerate as a whole has become more important, since there may be systemic risks arising within the group which are not adequately addressed by any of the solo specialist prudential supervisory authorities.<sup>7</sup> Such oversight, to be effective, relies on: an effective exchange of information; coordination of regulatory requirements across the regulators responsible for different parts of a conglomerate's business; and mechanisms for coordinated action when problems arise in a conglomerate.<sup>8</sup>

The people and corporations who favor consolidating the financial regulators into one authority assume that such consolidation might parallel developments in some multiple function firms, and solve problems of communication, coordination, cooperation, and consistency which can arise between the different regulators in a fragmented system. They

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<sup>2</sup> Conglomerates are usually defined as a group which undertakes at least two major financial services activities.

<sup>3</sup> The Banking Act of 1933 (The Glass-Steagall Act), 12 U.S.C. § 24 (Seventh) (1982), 12 U.S.C. § 378(a)(1) (1982) [hereinafter The Act].

<sup>4</sup> Such mergers occur perhaps most frequently between banks and securities firms, and between banks and insurance companies, but also involving purchases of fund managers by banks and by insurance companies.

<sup>5</sup> For example, banks setting up insurance companies and vice-versa, insurance companies selling investment products, and banks setting up securities and fund management operations.

<sup>6</sup> See *supra* n. 1, p. 13.

<sup>7</sup> See *supra* n. 1, p. 14.

<sup>8</sup> See *supra* n. 1, p. 14.

argue that the lack of these attributes across specialist regulatory bodies has become acute and increasingly difficult to manage efficiently, and that a "one stop shop" is the best solution.<sup>9</sup>

Facts can be found to support this view. Given the unclear boundaries between financial institutions, having several uncoordinated regulators can clearly lead to inefficiencies, such as gray zones or overlaps, and to regulatory arbitrage on the part of the regulated institutions. Moreover, the existence of several regulators increases the risk of incoherent regulation, which leads to uncertainty on the part of market participants.

In light of this, the consolidation of financial regulators - moving from a fragmented or diversified regulatory system which consists of a few separate financial regulatory authorities, to a system where all or some of the separate financial regulators are consolidated into one authority - seems tempting. At first sight it seems as though it might yield both more efficient regulation, plus a reduction in government expenditure; fewer authorities would call for less personnel, thereby imposing a lower financial burden on taxpayers.

However, consolidated regulation has its costs, too. Suppose that the financial regulator is mistaken in its approach to a particular issue; after all, government agencies are not free of errors, and the concentration of power into fewer hands is always a risky business. With a single financial regulator, there is no alternative forum. How can an agency be made aware of its mistakes and reform its procedures? With no competition, what will encourage innovative thinking inside the regulatory authority? Consolidated regulation might also yield a higher possibility of the regulator being captured, as interest groups would only have to target a single authority rather than a few.

Another point that needs to be addressed concerns resistance to systemic risk.<sup>10</sup> The global economy has demonstrated that it is vulnerable to such risks. To combat these risks, several important markets around the world have moved towards consolidation of financial regulatory authorities responsible for the regulation of banks, insurance companies, and securities markets. Countries which established one single regulatory authority which is responsible for the regulation of all financial institutions include the United Kingdom (prior to the 2007-2009 financial crisis),<sup>11</sup> Switzerland, Japan, Canada, and Germany.<sup>12</sup> Other countries are also in the process of adopting the consolidated model.

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<sup>9</sup> See *supra* n. 1, p. 19.

<sup>10</sup> See *infra* n. 15.

<sup>11</sup> As referred to by a number of authors including: V.V. Acharya, T. Philippon, M. Richardson & N. Roubini, 'The financial crisis of 2007-2009: causes and remedies', (2009) 18/2 *Financial markets, institutions and instruments*, 89, 89-137.

Up until recently it was believed that, in order to minimize the chance of a financial crisis occurring, there was a need for collective thinking with regards to regulation,<sup>13</sup> and that such collective thinking was best achieved in a consolidated regulatory authority. However, the latest global financial crisis has emphasized the systemic risks in financial systems and raised questions regarding the efficiency of the consolidated model; the UK with its previous consolidated model did not show greater resistance to the crisis than countries with diversified regulators such as the USA, when measured in terms of debt per GDP,<sup>14</sup> and as a result has moved back to a model of diversified regulators (i.e. the Twin Peaks Approach in the UK's case). This raises the question of whether the consolidated model is indeed more efficient. Unfortunately it may require another crisis to assess the efficacy of the Twin Peaks approach in regulating the UK's market.

Effective regulatory reform can take place only when policymakers take fundamental regulatory principles into account. One of the most important of these principles is to prevent or minimize the chance for systemic risks,<sup>15</sup> i.e., reduce externalities, which occur when each institution manages its own risks but does not consider its impact on the risk of the system as a whole.

The fact that consolidated regulation is not more resistant to systemic risks may be an argument against consolidation of regulation. If, during a crisis, all countries are affected, no matter what the structure of their financial regulatory authorities, transitioning from one structure to another may be pointless or even damaging, to the extent that moving from one system to another always incurs initial costs.<sup>16</sup> Consolidating a system entails initial costs such as opposition from the disappearing authorities and those doomed to lose power, while moving in the opposite direction would probably face no opposition but cost more in terms of staff and location.

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<sup>12</sup> After the crisis the United Kingdom changed its financial supervisory structure and is now following the Twin Peaks approach (see Chapter 3 of this research for details).

<sup>13</sup> J. Peek, E.S. Rosengren & G.M.B. Tootell, 'Synergies between bank supervision and monetary policy: implications for the design of bank regulatory structure' in Frederic Mishkin (Ed.), *Prudential supervision: what works and what doesn't*, The University of Chicago Press, Chicago 2001, pp. 273-300.

<sup>14</sup> M. Moora, 'Global Crisis and Financial Regulation: Who Determines What? Cross-Country Analysis of China, Germany, Japan, UK and USA', (2010) 1/1 *Colonial Academic Alliance Undergraduate Research Journal*, Article 10.

<sup>15</sup> Systemic risk is the risk that an entire system or market might collapse. This risk is exacerbated by links and interdependencies, where the failure of a single entity or cluster of entities can cause a cascading failure. See: Committee on Capital Markets Regulation, 'The Global Financial Crisis, A Plan for Regulatory Reform', (2009).

<sup>16</sup> As any change to the legal system is costly (M.P. Van Alstine, 'The costs of legal change', (2001) 49/3 *UCLA Law Review*, 789, 789-870).

The economic integration and institutional consolidation which have occurred over many decades in the EU make it a special case, however similar questions are still being asked there – should there be a movement toward a single European market regulator? Or will the best solution require multiple regulators operating on a European level, or the establishment of entities for coordinating national regulators?<sup>17</sup>

This study builds on the Law and Economics literature. The main research question of this study, as was presented at the beginning of this introduction, relates to the fact that even though countries keep changing their regulatory structures, they do not seem to converge towards one financial regulatory structure. The question is why? This question leads inexorably to the secondary question of whether there is an optimal structure for financial regulators and if so, what are the attributes which need to be taken into account when trying to reach such an optimal structure?

Guided by these questions, this study examines the existing structures of the financial regulators and the markets which contain them while asking what parameters should be taken into consideration when opting for one regulatory structure over another.

Due to the complexity of this subject, this study approaches the issue using three different analytical frameworks: the first looks at incentives which influence the heads of regulatory bodies, while applying game theoretical concepts; the second seeks an answer by analyzing the institutional design of the financial regulators in an attempt to find an optimal design for information–flow; the third looks for a solution for global coordination from the prism of network effects and congestions.

This study contributes to the existing literature in the above-mentioned analytical frameworks by using novel approaches and ideas, and by binding those literatures together in one study in order to provide a clearer solution to the question of what is the best way to structure the financial regulators on a local, regional, and global level.

## ***1.2 Research structure and methodologies***

This study is organized as follows:

In order to reach a position where we can choose between the different potential legal and institutional structures for financial regulators, this study starts off in Chapter 2 by defining the expectations held by society, scholars and professionals on the role of financial regulators; meaning, what are the reasonable goals of financial regulation and what is it

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<sup>17</sup> See the discussion with regards to the formation of a Banking Union in Chapter 3 of this research.

meant to achieve? It then describes the potential costs that financial regulation might incur on the industry and on society as a whole.

Thinking about these framing issues depends, in turn, on an analysis of the costs and utilities of various interventions which seek to remedy specific market failures. Of course, the issues for retail financial products may be quite different from those related to derivatives trading. But it is hard to imagine designing a good regulatory system of any kind without an explicit account of what that system is meant to do and why.

Chapter 3 of this study describes the legal and institutional framework in fifteen jurisdictions around the world. The chapter opens with the common attributes found among the reviewed jurisdictions and then moves on to describe in detail the organizational and legal situation in each jurisdiction, and what changes have taken place in those jurisdictions with regards to their financial regulatory institutional structure post the 2007-2009 financial crisis. The main finding of this chapter relates to the fact that a large number of countries chose to deviate from the four classic approaches to financial supervision and follow a Hybrid Approach to their regulatory structures. This chapter helps lay the foundations for the discussions which follow it.

After defining the goals of financial regulation, its costs and how it is structured in different jurisdictions, Chapters 4, 5 and 6 of this study offer a view of what is the optimal structure for financial supervision using three different methodologies.

These chapters make use of three different analytical tools at hand, (game theory concepts, organizational design and network effects), in order to try and reach a conclusion as to which approach is more advantageous - the fragmented or the consolidated approach to financial regulation.

Chapter 4 discusses the regulators' incentives to regulate or refrain from regulating using the private interest approach to regulation, (i.e. assuming that regulators promote their private objective functions), and applying game theory concepts in order to analyze the regulators' expected behavior in different states of the world.

This chapter departs from existing literature in its approach to the analysis of the existing financial supervisory structures, as it uses the prism of the incentives which influence regulators, and provides an innovative solution to the 'Lack of Regulation' or 'Under-Regulation' problem.

This chapter provides many fresh insights, however it does not come up with a conclusive answer as to which of the financial regulatory structures is more advantageous, so an alternative strategy is then used in the following chapters to try and reach a solution.

Chapter 5 relies on the fact that, in order to stop or prevent a financial crisis, there is a need for good information-flow in and between different financial regulators. This chapter tries to analyze the question of the optimal financial regulatory structure from an institutional design perspective and determine whether there is a structure for financial regulators which best facilitates information-flow in all situations.

With a view to better analyze the optimal structure for financial regulators, this chapter also aims to bridge the research gap that exists between the institutional design literature and the financial regulation literature, by applying tools used in the institutional design literature with regards to information-flow and coordination of firms or institutions to financial regulatory authorities.

Chapter 6 of this research is concerned with global cooperation between financial regulators, and with global standard-setting for financial regulation. This chapter goes back to the literature on network effects and congestion, and applies the insights from that literature to the area of the structure of financial regulators. It then combines insights from Chapter 5 of this research with regards to cooperation between authorities and mechanisms aimed at enhancing cooperation in order to try and solve the coordination problems which it identifies. It concludes with a solution which, according to the insights gleaned during the preceding analyses, ought to enhance global coordination between financial regulators from different jurisdictions using a combination of global forums and market-based solutions.

Chapter 7 of this study concludes. The use of the previous three approaches leads to the conclusion that, while the fragmented model for financial supervision may seem to be suboptimal with respect to the risk of lack of regulation or under regulation, it appears to be more advantageous from the point of view of institutional design and information-flow. Therefore the fragmented model of financial supervision is recommended, with enhanced cooperation mechanisms between the different authorities.

### ***1.3 Room for future research***

Having said all that, there may be other approaches to the problem which have not been covered by this study, and are consequently left open for future research. Such approaches may include advanced game theoretical models, behavioral Law and Economics, and different variations of regulatory competition models.

Another issue which is left outside the scope of the current study is the issue of accountability and observability. Some of the chapters of this research raise issues that have

to do with accountability of regulators and the observability of their regulatory work. It is safe to assume that some tradeoffs might exist between accountability and autonomy of the regulatory institutions. This is indeed an important legal aspect; however this aspect is outside the scope of this research.

The issue of what is the right portfolio of policy instruments given to each financial regulator in order to perform the regulatory task, is also left outside the borders of the discussion in this study. After deciding on the structure of the financial regulators, each jurisdiction must choose which tools to supply the regulators with, be it civil or criminal law enforcement mechanisms, rule-making tools, research and reporting, advocacy etc. Although they are important questions, the answer to them is conditional on first determining the right kind of regulatory structure.

Another question that is being left for future research is which financial regulatory authorities does a country need? The identity of the required financial regulators has not been covered by this research. As can be seen in Chapter 3 of this research, most jurisdictions around the globe have decided to divide the supervisory of their financial market into three main supervisory functions: banking supervision, insurance supervision, and market supervision. However questions can be raised with regards to the optimality of this decision.

This question is of great importance when we come to think of the structure of financial regulators in each jurisdiction, as it requires a study of the conflicting goals between different authorities. For example, one question could be whether the competition authority should be included in this discussion. On the one hand, the competition authority already regulates financial institutions and, with the growth of financial conglomerates and an increasing number of corporations issuing stock on the stock exchange, financial regulation becomes relevant to most if not all of the corporations that are also regulated by the competition authority. On the other hand, the competition authority has different goals than the "typical" financial regulator.

All of these questions impact financial regulation and the work of the financial regulatory institutions. However, these questions are outside the scope of this study and are left open for future research.

## **2. WHY DO WE NEED FINANCIAL REGULATION AND WHAT ARE THE COSTS ASSOCIATED WITH IT?**

### ***2.1 Introduction***

Since the Financial Crisis of 2007-2009, there has been a need to re-evaluate the existing financial supervisory models and their efficiency. The turmoil that occurred in the different financial markets post the 2007-2009 crisis reignited the search for the optimal structure for financial supervision. This is reflected in the fact that different countries around the world are in the process of examining and often changing their financial regulatory structures.<sup>18</sup> This discussion begs the question: why is financial regulation required and what are the costs associated with it?

Regulation tends to disrupt the market process and changes opportunities and costs for entrepreneurial discovery and profits.<sup>19</sup> If a free market is generally a desirable goal from an economic point of view, why not allow it in the financial service sector? If nothing is wrong with the free market, then financial regulation becomes worthless or even harmful. If there is something wrong with the way free market forces influence the financial services sector, then what is it exactly about the financial sector that makes the free market inefficient from an economic point of view?<sup>20</sup>

Assuming that the financial sector does require specific regulation, the second question that has to be considered is: what are the costs of such regulation? If the costs exceed the benefits of regulating, then regulating is not desirable as it causes social welfare to decrease.

In sum, prior to discussing the optimal structure for financial regulators, it is important to understand why financial regulation is necessary and what are the costs associated with it.

In the following pages this research puts together a comprehensive list of the reasons for regulation and its potential costs. Some of the costs are not quantifiable, but may have a strong impact on the efficiency of financial regulation; others are quantifiable and are used in

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<sup>18</sup> For a detailed discussion see Chapter 3 of this research.

<sup>19</sup> J.M. Hendrickson, *Regulation and instability in U.S Commercial Banking, A History of Crises*, Palgrave Macmillan studies in Banking and Financial Institutions, Palgrave Macmillan, Basingstoke 2011, pp. 4-5.

<sup>20</sup> K. Dowd, 'The case for financial Laissez – Faire', (1996) 106/436 *The Economic Journal*, 679, 679-687.

the Regulatory Impact Analysis conducted by regulators before issuing a new piece of regulation.<sup>21</sup>

This chapter is structured as follows: part two introduces the rationale behind regulation in general, part three looks into the rationale for prudential regulation, part four examines the need for conduct of business regulation, part five investigates the costs of financial regulation and part six concludes this chapter.

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<sup>21</sup> Regulatory Impact Analysis is best described as a decision method, among many other methods, which is used in order to assess regulatory decisions prior to the issuing of the regulation. The assessment is meant to assess both positive and negative impacts expected due to the issuance of the proposed regulation. This decision making tool is comprised of two stages: 1. assessing the impact of the proposed regulation; and 2. communicating the information deduced in stage one to the hands of the decision makers. See: S.H. Jacobs, An overview of regulatory impact analysis in OECD countries, *Regulatory Impact Analysis: Best Practices in OECD Countries*, Organization for Economic Cooperation and Development, Paris 1997, 1, 13-14; M. Minogue, 'Governance-Based Analysis Of Regulation', (2002) 73/4 *Annals of Public and Cooperative Economics*, 649, 649-666; C. Kirkpatrick & D. Parker, 'Editorial: Regulatory Impact Assessment—An Overview' (2004) 24/5 *Public Money & Management*, 267, 267-270; and many more.

## 2.2 *The building blocks*

### 2.2.1 What are the rationales behind regulation?

Traditional economic approach lists three main purposes behind regulating markets:<sup>22</sup>

1. Promoting competition, constraining the use of monopoly power, and preventing distortions to the markets integrity;
2. Protecting consumers in cases where asymmetric information, which is costly to obtain, might harm them; and
3. Protecting against externalities where the cost of regulation is lower than the costs of the externalities.

This traditional approach to regulation is called **the public interest approach** which assumes that a market economy may produce undesirable outcomes for consumers.<sup>23</sup>

A different and more modern approach to regulation, **the self interest approach**, claims that regulation is made to serve the interest of the regulated group. In other words, the group which stands to benefit and the group which stands to be harmed both have an incentive to influence regulation in order to produce a better outcome for themselves.<sup>24</sup>

These considerations also come into play in the financial market. However, as the financial sector has a few special attributes which make it more prone to misuse consumers or suffer market failures, the considerations for regulating the financial market are slightly different than those which exist in markets in general.

When we think of modern financial regulation we can identify three main goals:

1. To prevent systemic risk;
2. To protect consumers/investors; and
3. To help design a framework for deciding monetary policy and determining exchange rates.

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<sup>22</sup> M. Brunnermeier, A. Crocket, C. Goodhart, M. Hellwig, A. D. Persaud & H. Shin, 'The Fundamental Principles of Financial Regulation', (2009) 11 *Geneva Report on the World Economy*, p. 2.

<sup>23</sup> J.M. Hendrickson, *supra* n.19, pp. 10-12.

<sup>24</sup> See as early as: J.W. Stigler, 'The economic theory of Regulation', (1971) 2 *The Bell Journal of Economics and Management Science*, 3, 3-21, S. Peltzman, 'Toward A More General Theory of Regulation'. (1976) 19 *Journal of Law and Economics*, 211, 211-240 followed by many others, including J.M. Hendrickson, *supra* n.19, pp. 10-12.

The economic rationale for regulation and supervision in banking and financial services has long been known and debated.<sup>25</sup> Generally the need for financial regulation stems from addressing the concerns and needs listed below;<sup>26</sup>

- Internalizing externalities;
- Reduction of transaction costs for an efficient allocation of financial resources;
- Enhancing consumers and investors' confidence and reliance, and preventing a race to the bottom of risk management criteria;
- Limiting and preventing unwanted herding directions;<sup>27</sup>
- Fighting crime and terror (e.g. anti-money laundering regulation);
- Correcting market failures (e.g. information asymmetries, externalities, and agency costs);
- Achieving economies of scale in monitoring and regulation<sup>28</sup>;
- Correcting behavioral biases on behalf of the consumers;
- Responding to consumer demand for regulation; and
- Reducing litigation costs by referring consumer complaints to the financial regulator.

These rationales can be divided into two general types of regulation and supervision<sup>29</sup> - prudential regulation and conduct of business regulation.

**Prudential regulation** assumes that consumers do not have enough information to assess the stability of the institution in which they place their money, nor are they in a position to assess its risk approach. In this case, regulation is needed to ensure that the financial institution does not take on excessive risk and endanger consumers' savings. Even if consumers are given information at the time contracts are signed, the information is usually

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<sup>25</sup> D. Heremans & A.M. Paccos, 'Regulation of banking and financial markets', in *Encyclopedia of Law and Economics*, 2nd edn., Cheltenham, Elgar 2011, work in progress.

<sup>26</sup> These concerns and needs were mentioned by a few scholars. See for example: D. Llewellyn, 'The economic rationale for financial regulation', (1999) *FSA Occasional papers in Financial regulation*, 1, 9-10.

<sup>27</sup> For a definition of herding and discussion of its implications, please refer to section 2.3.2 of this research.

<sup>28</sup> Economies of scale can be defined as follows: "...Economies associated with increases in all of a firm's outputs are referred to as overall economies of scale..." (J.A. Clark, 'Economies of scale and scope at depository financial institutions: A review of the literature.' (1988) 73/8 *Economic Review*, 17, 17).

<sup>29</sup> D. Llewellyn, *supra* n. 26, pp. 9-10.

provided by the financial firm providing the service, and it is not enough to protect consumers down the road from risky behavior on behalf of that financial firm.<sup>30</sup>

If we take into account systemic risk factors, the need for prudential supervision is paramount. One of the most important roles of financial regulation is to prevent or minimize systemic risks,<sup>31</sup> i.e., reduce externalities.<sup>32</sup>

**Conduct of business regulation** focuses on protecting consumers during their ongoing encounters with financial firms. Such regulation will generally cover proper disclosure rules, fair treatment of customers, and competence of advisors and other service providers.

Generally speaking, conduct of business regulation solves problems arising from asymmetric information and principle-agent relationships, and ensures proper conduct when doing business with consumers.

### 2.2.2 Why not use contracts?

The economic literature considers contracts preferable to regulation, as regulation is generally costly and is likely to yield a less efficient allocation of resources than bargaining. However, for the reasons discussed below, in the case of financial services it is likely that contracts will fail.<sup>33</sup>

Contract failure has many dimensions, such as:<sup>34</sup> (i) agency conflicts which may lead to bad advice to consumers; (ii) insolvency of the supplying firm prior to the delivery of the goods; (iii) mismatch between the consumers' expectations and the product or service delivered; (iv) fraud on behalf of the financial institution; (v) incompetence to supply the product in the expected standard; (vi) misunderstanding of the type of product or of its risk attributes by the consumer; and (vii) behavioral inclinations which offset rational decision making by consumers.

As mentioned before, financial markets are highly complex and are prone to asymmetric information, externalities, and agency costs. Those problems are intertwined with high transaction costs which make contracting inefficient to the point at which it is

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<sup>30</sup> D. Llewellyn, *supra* n. 26, p. 10.

<sup>31</sup> D. Heremans & A. M. Paces, *supra* n. 25, p. 11.

<sup>32</sup> See *supra* n. 15.

<sup>33</sup> D. Llewellyn, *supra* n. 26, pp. 37-38.

<sup>34</sup> D. Llewellyn, *supra* n. 26, pp. 37-38.

uneconomic.<sup>35</sup> For these reasons contracts are not enough to ensure a well-functioning market, and regulatory intervention is needed.

### **2.2.3 Summing up**

As previously described there are several rationales behind financial regulation. In the following subchapters these rationales are discussed in greater detail. For the sake of clarity the rationales have been divided roughly between the rationales for prudential regulation and the rationales for conduct of business regulation, although some rationales fit both categories to a certain extent.

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<sup>35</sup> R.H. Coase, 'The Problem of Social Cost', (1960) 3 *Journal of Law and Economics*, 1, 1-44, O. Hart & J. Moore, 'Incomplete contracts and renegotiation.' (1988) *Econometrica: Journal of the Econometric*, 755, 755-785.

## **2.3 The rationales for prudential regulation**

Prudential regulation can be further subdivided into: micro prudential regulation which concerns itself with the stability of the individual institutions; and macro prudential regulation which is concerned with the stability of the financial system as a whole.<sup>36</sup>

Micro-supervision concerns itself with risk monitoring and risk control and can be described as a process which includes four steps: licensing (the key to enter into business); supervision; sanctioning in cases of non-compliance with the regulation; and crisis management which includes deposit insurance and lender of last resort.<sup>37</sup> Macro-supervision concerns itself with the linkages between and among financial institutions and financial markets.<sup>38</sup>

In general the rationale for prudential regulation stems from addressing the following major points:

### **2.3.1 Reducing externalities**

Unlike the "perfect" market described in the economic literature, financial markets do, when unsupervised, allow for externalities. This is mainly due to the presence of what is known as "external diseconomies from the activity of risk taking",<sup>39</sup> meaning that a financial firm takes into consideration solely its own risk without taking into account the risks that society might suffer as a whole from its malfunction.

The results of such externalities became evident during the 2007-2009 Financial Crisis and the large "bail-out" schemes which followed. Most financial institutions avoided taking responsibility for the risks they undertook, and society as a whole had to pay the price in order to avoid an even larger turmoil.

Moreover, as some countries lacked some or all of the bail-out money, they had to increase their national debt. This is likely to produce negative effects on the economies of these countries in the future, such as inflation, fluctuation of currency, or reduction of their ability to borrow more money if needed.<sup>40</sup>

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<sup>36</sup> M. Brunnermeier, A. Crocket, C. Goodhart, M. Hellwig, A. D. Persaud & H. Shin, *supra* n. 22, p. ii.

<sup>37</sup> R.M. Lastra, *infra* n. 359, p. 1193.

<sup>38</sup> Such concerns lead to discussions with regards to cooperation between different regulators which will be discussed in greater detail in the following chapters of this research.

<sup>39</sup> R. Dodd, 'Special Policy Report 12: The Economic Rationale for Financial Market Regulation', (2002) *Derivatives Study Center Washington DC*, 1, 6.

<sup>40</sup> C.M. Reinhart & K.S. Rogoff, *This time is different, Eight Centuries of Financial Folly*, Princeton University Press, New Jersey 2009, see chapter 10 in general and p. 142 in particular. The scholars found that during the

The excessive risk-taking on the US market spread to nearly all markets around the world, affecting them and bringing down firms which, at first glance, did not have anything to do with the excessive risk-taking in the US market.

The problem with systemic risk unfolding in financial firms is that even if the risk of collapse is small, its consequences may be devastating.

Even with capital restrictions on some financial institutions such as banks,<sup>41</sup> they may still produce some externalities. Capital requirements may limit their amount of direct exposure to default, but indirect exposure is still prevalent.

As Randall Dodd rightly points out:

*"Firms do not hold capital based on the risk-taking activities of firms or individuals whose assets they do not own, i.e. who are not direct counterparties; nor do they hold capital based on conditions in the broader market or the overall economy" (p.7).<sup>42</sup>*

If capital requirements cannot prevent all externalities, could government guarantees such as deposit insurance reduce concerns with regards to risk-related externalities?

The idea behind government guarantees is that consumers should not be forced to face the consequences of actions that were not under their control.<sup>43</sup> However, in order for deposit insurance to protect against a run on the financial institution, the coverage of the insurance has to be one hundred percent. This is not the current situation in most countries.<sup>44</sup>

The problem with the idea of granting insurance coverage for deposits is that it induces moral hazard problems. If the banks know that the depositors will be compensated by

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modern era real government debt increases on average by 86 percent during the 3 years following a banking crisis. Furthermore, their research shows that the same is true for advanced and emerging market economies.

<sup>41</sup> S.G. Cecchetti, 'The Future of Financial Intermediation and Regulation: An Overview', in 'Why and How Do We Regulate?', (1999) *Current issues in economics and finance*, Federal Reserve Bank of New York, 1, 1-5, J.M. Hendrickson, *supra* n. 19, pp. 21-42: Capital restrictions come to minimize the chance for externalities resulting from the fact that the money being used to make the loans is that of the depositors and not of the bank itself. This, in turn, creates the potential for moral hazard problems. This problem had already been identified during the antebellum era (1781-1863) by the bank regulators in the U.S who decided to limit the type of loans that banks could extend to creditors (Virginia was the first state to enact reserve requirements) . In 1837 the state demanded that banks maintain 20 percent of their notes in circulation as cash reserves.

<sup>42</sup> R. Dodd, *supra* n. 39, p. 7.

<sup>43</sup> Deposit insurance is the classic example for public-interest regulation. The idea of deposit insurance came up in discussions at state level in the U.S in 1830 and at the national level in 1893 when William Jennings Bryan proposed a national deposit insurance bill to the congress. The idea was to protect the helpless depositors from losing their money due to bad bank management or bad economy. See J.M. Hendrickson, *supra* n. 19, p. 96.

<sup>44</sup> The deposit insurance in the U.S, for example, covers deposits in a sum of up to one hundred thousand dollars (see Table 8 in the Appendix of this research), the idea is that the insurance is meant to protect the small helpless customers and not the sophisticated customers who are able to diversify their portfolios and take all risks into account.

the deposit insurance company they will take less care in controlling against risk, due to the fact that if the risk materializes, the insurance company will be the one to bear it – banks might thus be tempted to take on more risks and to operate with less capital.<sup>45</sup>

Depositors on the other hand might seek banks who take on more risk as they can receive higher interest rates as long as the bank is solvent, and still be compensated if the bank goes bankrupt.

But if the deposit insurance is anything short of 100% the incentive for a run on the bank in specific circumstances remains.<sup>46</sup> The situation can therefore be viewed as a tradeoff between preventing bank runs and preventing moral hazard problems.

As deposit insurance removes the incentives of liability holders in the financial institution to oversee the financial institutions, there is need for regulatory intervention which guarantees that the behavior of the insured institutions is not irresponsible.<sup>47</sup>

In a way, financial regulation is expected to bring a cure to the liability holders' inherent moral hazard problem.<sup>48</sup>

Externalities are also present with regards to pricing of some securities, such as derivatives, OTC's (Over The Counter) and other securities which are based on an underlying asset. It is thought that the price of securities reflects the risk levels inherent to the underlying asset. A more "risky" security, i.e. the one which yields more variance, will have a lower price.<sup>49</sup>

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<sup>45</sup> For definition of Moral Hazard please see: D.G. Baird, R.H. Gertner & R.C. Picker, *Game Theory and the Law*, Harvard University Press, Cambridge Massachusetts 1998, p. 309., Indeed history has proven this assumption to be true; at the early stages of introduction of deposit insurance in the U.S, before it became a federal requirement, New York chartered banks that were covered by the NY insurance system had a failure rate of 11.1 percent as opposed to chartered banks which were not covered by the NY insurance system and had zero failure rate. Similarly insured banks in Vermont demonstrated a much higher failure rate than uninsured banks (J.M. Hendrickson, *supra* n. 19, p. 44).

<sup>46</sup> D. Llewellyn, *supra* n. 26, p. 17.

Such was the case of the run on the United Kingdom's Northern Bank. The British government provided for partial insurance, yet panicked depositors formed long queues in front of the bank in September 2007 which eventually forced the government to take over the bank and provide for a full backup of its liabilities (C.M. Reinhart & K.S. Rogoff, *supra* n. 40, Preamble pp. xl - xli)

<sup>47</sup> From the early stages of deposit insurance in the U.S it was clear that financial supervision is necessary to reduce moral hazard problems. Indiana, Iowa, and Ohio established a mutual guarantee system which was designed to reduce moral hazard problems by subjecting banks to special assessments. In addition to the mutual guarantee provisions the Indiana Fund created a supervisory board, comprised of individual member banks, which had the authority to examine member banks each six months to make sure they were adhering to capital requirements which were set by the supervisory board. That board also had the authority to shut down member banks which were decided to be "unhealthy". As the board was comprised of the member banks themselves there was great incentive to ensure that all banks operate within an acceptable risk range (J.M. Hendrickson, *supra* n. 19, p. 44).

<sup>48</sup> S.G. Cecchetti, *supra* n. 41, pp. 3-4.

<sup>49</sup> R. Dodd, *supra* n. 39, pp. 7-10.

However that is only true for direct ownership of the security. The risk associated with risky securities extends beyond direct ownership. That extra risk is not priced nor calculated within the price of such securities.<sup>50</sup>

What is special to the type of externalities in the financial market is that they cannot be solved by self-regulation even if the financial institutions agreed to it, as any single financial institution alone is not aware of the magnitude of the risk involved in its activities. This is due to the recurring fact that financial institutions only take into account the risks which will affect them, and are unable to take into account the risks which might be caused to the entire system due to their failure.

### **2.3.2 Controlling herding**

Prudential regulation is also needed in order to prevent and limit unwanted herding directions. It is thought that investors influence other investors and this influence has a first order effect.<sup>51</sup>

Herding is a concept which is hard to define, yet when we refer to herding in the financial sector context we refer to it as decision making by entire populations which can lead to systemic erroneous, or sub-optimal choices. Herding is the power behind bubbles, bank runs, noise trading, and other unwanted phenomena in the financial markets which lead to distraction of wealth.<sup>52</sup>

Bankers and other financial employees can also suffer from herding when comparing their actions to the actions of other financial employees in their sector, and so mimicking them. Thus in time of crisis there can be unwanted behaviors on behalf of financial employees, such as shortage of credit in the market due to the fact that one bank decides to cut down on its loans and all other banks react and follow.

Herding does not require coordination, but simply an ability to collect information about what others are doing in the market. There are two views with regards to herding; the first claims that investors/financial employees are not rational and simply behave like cattle in a herd, blindly following the lead of others. The second views investors/financial

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<sup>50</sup> R. Dodd, *supra* n. 39, pp. 7-10.

<sup>51</sup> A. Devenow & I. Welch, 'Rational Herding in Financial Economics', (1996) 40 *European Economic Review*, 603, 603-615.

<sup>52</sup> A. Devenow & I. Welch, *supra* n. 51, pp. 603-615.

employees as rational players and puts its focus on externalities; the distortion of optimal decision making is explained away by lack of information or sub optimal incentives.<sup>53</sup>

Either way, one of the goals of financial regulators is to reduce unwanted herding to a minimum and to redirect the power of herding towards wealth-maximization by: providing reliable information to the market; monitoring in order to try and prevent the unwanted effects of bubbles which are created due to herding;<sup>54</sup> and solving credit crunches once they have already formed.

### **2.3.3 Efficient allocation of financial resources and strengthening investors' confidence**

Prudential regulation is also necessary in order to allocate financial resources efficiently. The financial market and the institutions operating in this market are essential for economic growth.<sup>55</sup> Banks, insurance companies, the stock exchange and other financial institutions allow for the concentration of savings and for the efficient allocation of these resources to investment projects that generate economic growth.<sup>56</sup>

Financial regulators play a crucial role in reducing information asymmetries with regards to products, and providing a satisfactory level of probity for the financial institutions and for the financial stability of the country in which these institutions operate.<sup>57</sup>

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<sup>53</sup> A. Devenow & I. Welch, *supra* n. 51, pp. 603-615.

<sup>54</sup> One of the most famous babbles was what is now known as "The South Sea" bubble. The South Sea Company was a British company that traded in South America during the 18th century. As part of a treaty during the war of the Spanish Succession, the British company was granted a monopoly to trade in the Spanish colonies in South America. In exchange, the company took on the national debt England had incurred during the war. The South Sea Bubble which occurred in 1720 was caused due to speculation in the stock of the company and led, upon its explosion, to a large financial crisis.

Another famous bubble which occurred around the same time was the French Mississippi Company bubble; In May 1716, the Banque Générale Privée ("General Private Bank"), which developed the use of paper money, fell prey to a scheme plotted by John Law. It was quite a complicated scheme, but at the base Law convinced investors that one of his companies was richer than it really was. This led to wild speculation on the shares of the company in 1719. Law's plan was to have the success of the Mississippi Company (a company operating at the time under his ownership) combine the wealth of its Louisiana prospects into a joint-trading company. The company's shares were so popular that a demand for bank notes was created. When shares generated profits the investors were paid out in paper bank notes. In 1720, the bank and the company were united and Law was appointed Controller General of Finances. Law's pioneering note-issuing bank was successful until the French government was forced to admit that the number of paper notes being issued by the Banque Royale was not equal to the amount of metal coins it held. The "bubble" burst at the end of 1720. For description and discussion of these bubbles see: P.M. Garber, 'Famous First Bubbles', (1990) 4/2 *The Journal of Economic Perspectives*, 35, 35-54.

<sup>55</sup> See *infra* n. 56, p. 12.

<sup>56</sup> H. Geiger and O. Wuensch, 'The Fight Against Money Laundering – An Economic Analysis of a Cost-Benefit Paradoxon', (2007) *Journal of Money Laundering Control*, 91, 102.

<sup>57</sup> The first true international debt crisis is thought to have its roots in loans provided by rich Italian merchants to England in the late 13<sup>th</sup> century. During that time, Italy was the developed financial center and England was a country rich with valuable resources such as wool. Italian loans helped finance wars between England and

This in turn strengthens investors' confidence and allows them to invest not only in the financial institutions, but also in the country itself, knowing that in high probability, their investment will be returned, sometimes with a profit.<sup>58</sup>

#### 2.3.4 Providing information to the market

A financial regulator plays an important role in providing information to the market, mainly through disclosure requirements, which in turn helps the market assign the right price tag to its products and prevents the problem of a market for lemons.<sup>59</sup>

A market for lemons relates to the problem of quality and uncertainty. In such a market there are good and bad products being sold and the buyers cannot tell the good from the bad. This leads to buyers being willing to pay a sum which averages out the value of the good and bad products. However, the sellers of the good products will not be willing to sell for the average price as they know that their products are worth more. In this situation the sellers with the good quality products will leave the market. Now the buyers know that the price they are expected to pay is much higher than what the bad products are worth so they will lower the price of what they are willing to pay, causing sellers with medium quality

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France. A series of bank runs hit Florence's economy when Edward the third, king of England at that time, defaulted in 1340. Two major Italian banks, the Peruzzi Bank and the Bardi Bank, went bankrupt in 1343 and 1346 respectfully.

England then went through several sovereign external defaults before it eventually reached the status of a non-defaulter. What helped England abandon its position as a serial defaulter was the start of the Glorious Revolution in 1688 which led to strengthening parliaments' power. For the first time, the Bank of England, by providing a delegated bureaucratic monitoring instrument to oversee the governments' debt, provided the ultimate instrument through which the parliament expressed its power. Although meant as a political tool at first, the happy consequence of such bureaucratic monitoring was moving England away from the serial defaulter position and enhancing investors' confidence, thus contributing to the economic prosperity in England of that time (C.M. Reinhart & K.S. Rogoff, *supra* n. 40, pp. 69-71).

<sup>58</sup> When we look at the willingness to pay (rather than the ability to pay) we see that during the 16<sup>th</sup> to 18<sup>th</sup> centuries it was not at all evident that as an investor you would ever see your money again. In those days France and Spain borrowed money to fuel their wars and maintain their armies. As a foreign investor you could hardly expect to collect back your debt by force. During the 19<sup>th</sup> century super powers intervened from time to time in order to enforce debt contracts. Britain often intervened and even occupied countries which refused to pay back their debts (Egypt in 1882, Turkey in the beginning of the 1876 default). The U.S did the same (Debt repayment concerns were partly behind the U.S's "gunboat diplomacy" which began in the mid 1890's in Venezuela, Haiti's occupation by the U.S as of 1915 was rationalized by the need to secure debt collection) (C.M. Reinhart & K.S. Rogoff, *supra* n. 40, pp. 54-55). Today, as most countries borrow and lend to one another, the risks are diversified among countries and reduce the incentives of a country to promote a non-repayment of debt policy.

<sup>59</sup> D. Llewellyn, *supra* n. 26, p. 18.

In the U.S for example The Securities Act of 1933, compiled at 15 U.S.C §§77 a et. seq. was enacted in order to prevent fraudulent securities offerings and to ensure that adequate information is given to the public with regards to the issuer and the nature of the securities that are offered on the market. This act was the first general federal law to regulate the issuance of securities and it required certain issuers of securities to file registration statements with the Federal Trade Commission and to provide a prospectus to investors. In order to insure that the act is complied with and that the investors are protected, the FTC had been given the power to issue stop orders to prevent the sale of an issuer's securities.

range products to leave the market as well. At the end the market which is left is filled with very low quality products, also known as lemons.<sup>60</sup>

A recent example of what can happen when financial markets are wracked by uncertainty can be taken from the 2007 crisis where, after the crisis, banks were reluctant to trade with other banks and financial institutions due to the uncertainty of their stability; some banks held a huge amount of toxic assets, most of which were residential mortgage-backed securities (MBS), while others did not.

However, banks could not tell the "intoxicated" banks from other banks that were "clean". In order to release the "frizz" in the market the government had to buy the toxic assets from the financial institutions thus allowing the trade to resume.<sup>61</sup>

This was a classic example of a market for lemons. In this case, as in others, regulation helped clear the market of lemons.

In some cases regulation sets minimum standards for products and by doing so it helps clean the market of lemons.<sup>62</sup>

Minimum standards are also needed in order to prevent adverse selection, i.e to prevent "good" or "careful" firms from being driven out of the market.<sup>63</sup> Adverse selection refers to a problem of hidden information. When parties hold private non-verifiable information they can in theory impose higher costs on their contracting parties which cannot tell the reliable service providers from the dangerous or more costly ones. The parties which impose the highest costs will be disproportionately likely to enter a contract at a given price as they know that they can extract more rent. However, the contracting party knows that the more risky party will be the one drawn to the contract and will thus raise the price of the contract, ultimately driving out the "good" parties, as they know that they are not risky and will not be willing to contract at such a high price.<sup>64</sup>

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<sup>60</sup> G.A. Akerlof, 'The Market for "Lemons": Quality Uncertainty and the Market Mechanism', (1970) 84/3 *The Quarterly Journal of Economics*, 488, 488-500.

<sup>61</sup> O. Armantier, C.A. Holt and C.R. Plott, 'A reverse Auction for Toxic Assets', (2010) *Social Science Working Paper* 1330.

<sup>62</sup> D. Llewellyn, *supra* n. 26, p. 26. One example given by Llewellyn is the substantial fall in the purchase of personal pensions and life insurance in the UK during 1994-1995 due to a series of scandals and risky selling practices.

<sup>63</sup> After the panic of 1907 in the U.S, five states established state deposit insurance programs, but as membership was not compulsory for all banking institutions, severe adverse selection problems occurred. By 1931 all of the deposit insurance programs ceased to exist due to bank failures and lack of funds (J.M. Hendrickson, *supra* n. 19, p. 96).

<sup>64</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.300.

There are some similarities between the situation described above and the tragedy of the commons,<sup>65</sup> as banks race for higher profits they drive risk management criteria down - a situation which may lead to the collapse of the system.

We could look at risk management criteria as a sort of common – when appropriate risk management criteria are in place, all sides benefit from it as it protects banks from collapsing. In theory, all banks should vote for appropriate risk management criteria.

However, without regulation the dominant strategy<sup>66</sup> of each bank is not to invest in appropriate risk management, due to the fact that risk management is costly as it restrains the business from acting more aggressively and therefore cuts down on short term profits. As all banks do the same, the Nash equilibrium<sup>67</sup> is then set on all banks not investing in appropriate risk management and eventually collapsing.

Moreover, due to the systemic connections between banks, if one bank behaves irresponsibly and collapses, it may bring down other banks, including those banks that have behaved responsibly in managing their risks while giving up on the extra profits attainable from high-risk, high-reward bets.<sup>68</sup>

Financial regulation is needed in order to solve this race to the bottom by setting common minimum standards and ensuring compliance with the standards. Such standards will not always differ from the standards that would have been set by the industry if each financial institution could ensure that its competitors would also follow these standards.<sup>69</sup>

This situation may be referred to as a prisoner's dilemma game, which describes a collective action problem. The strategy combination that is in the interests of all competitors, i.e., set common minimum standards, is not played because each player finds that the strategy of setting common minimum standards is strictly dominated by the strategy of lowering the

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<sup>65</sup> G. Hardin, 'The Tragedy of the Commons', (1968) 162 *Science*, 1243, 1243-1248.

<sup>66</sup> A dominant strategy is defined as: "A strategy that is a best choice for a player in a game for every possible choice by the other player..." D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n .45, p.306.

<sup>67</sup> Nash equilibrium is defined as: "The central solution concept in game theory. It is based on the principle that the combination of strategies that players are likely to choose is one in which no player could do better by choosing a different strategy given the ones the others choose... We establish whether a particular strategy combination forms a Nash equilibrium by asking if either player has an incentive to deviate from it..." D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n .45, p.310.

<sup>68</sup> An example of what might happen when banks are allowed to deal with more "risky" assets may be found in the debt crisis of the 1980's. Bank loans were made instead of bond loans. The thinking at the time was that due to the fact that individual banks took up large loans, there would be an incentive for information-gathering and monitoring on behalf of those banks. The truth was that Western banks were lured into these loans by the chance of making huge profits and had readily relaxed their monitoring and risk criteria. In August 1983, due to steeply higher real interest rates together with a collapse of global commodity prices, Mexico defaulted on its loans. Shortly after a large number of emerging markets countries defaulted as well. Commodity prices were cut down by 70 percent or more from their peak and a fully-fledged global crisis had begun (C.M. Reinhart & K.S. Rogoff, *supra* n. 40, pp. 17 - 18)

<sup>69</sup> D. Llewellyn, *supra* n. 26, pp. 27-28.

standards. The individual self-interests of each financial firm leads to actions which are harmful for itself and for all other financial firms as well.<sup>70</sup>

In other words, financial regulation is sometimes useful in order to coordinate competitors in situations in which the Nash equilibrium dictates that each firm defects, even though it is in their interest to cooperate.

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<sup>70</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.312.

## ***2.4 The rationales for conduct of business regulation***

Over the years scholars have played with the idea of an "efficient" financial market, i.e., a market in which there are no information gaps or asymmetries, in which the price of securities accurately reflects the value of the firm, and in which investors have access to all the relevant and needed information and are able to analyze it properly.<sup>71</sup> In such a market, agency costs, externalities, and moral hazard would not exist. Therefore, in such a market there would be no need for regulation, as financial regulation is costly and therefore should be avoided whenever possible.

The rationale for financial regulation, as for all regulation, is to correct market failures and imperfections. Such market imperfections and failures are abundant in the financial markets<sup>72</sup> and include:

- Lack of information or wrong information on behalf of the consumers which then leads to agency costs deriving from the fact that the financial institution is better informed than its consumers.
- Potential for conflict of interest, both between the financial institution and its consumers, and between two consumers of the same financial institution.
- Inability of consumers to assess the stability of the financial institution,<sup>73</sup> the quality of the service or the product they receive,<sup>74</sup> or inequality in their ability to assess the information given to them.
- "Free riders" problem arising from the fact that each consumer tends to assume that other consumers must have devoted time and means to assess the quality of the service and products supplied by the financial institution.

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<sup>71</sup> W.F. Sharpe, 'Stock Market Price Behavior. A Discussion', (1970) 25/2 *Journal of Finance*, 418, 418-420.

<sup>72</sup> D. Llewellyn, *supra* n. 26, pp. 21-22.

<sup>73</sup> In extreme cases such inability to assess the stability of the financial institution (especially when it comes to banks) might cause a run. If many banks suffer from runs at the same time a financial crisis will be triggered. Bank runs have been around since the 16th century when English goldsmiths issuing promissory notes suffered severe failures due to bad harvests. The Dutch Tulip mania which occurred in 1634-1637 and which is considered to be the first recorded bubble is another example; after the collapse of the bubble for tulip bulb prices Holland suffered from a series of runs on its banks further spiraling it deeper into a large financial crisis. See: A. Devenow & I. Welch, *supra* n. 51, pp. 603-615.

<sup>74</sup> Such inability to assess the value of the product, especially when increased by an atmosphere of panic, might bring on a fully-fledged financial crisis. Take for example the financial crisis of 1860 which occurred in the U.S, the fear of war caused paper, which under regular conditions would have been liquidated by the future goods on which it was based, to become worthless. This in turn caused banks to cut back on loans and to refuse to accept notes of other banks which were not backed up by cash (J.M. Hendrickson, *supra* n. 19, pp. 51-52).

It is worth mentioning that although these market failures may be behind both Conduct of Business regulation and Prudential Regulation there are still important differences between the two.

The main difference is that Conduct of Business regulation concerns the relationship between the financial institution and its investors and aims at promoting efficient transactions which might otherwise not take place due to asymmetric information, while Prudential Regulation concerns individual and systemic stability of the financial institution. The rationale for Conduct of Business regulation stems from addressing the above-mentioned market failures, and is mainly based on the ideas described in the following sub-chapters.

#### **2.4.1 Asymmetric information**

The problem of asymmetric information and lack of ability to assess the financial product are enhanced by the existence of products which mature over a large number of years. Such products include pension funds, insurance policies, options with a long duration date, saving accounts which are closed for a long period of time, funds, current accounts, etc. Moral hazard issues may come into play causing the supplier of the product to behave differently prior to the purchase of the product then post the purchase.

Moral hazard problems are solvable by contracts only when it is not too costly to contract.<sup>75</sup> In the case of financial institutions and their customers or investors, the costs of contraction are too high due to information asymmetries and collective action problems. Consequently there is no way, other than by regulation, to prevent moral hazard problems from occurring between financial institutions and their customers or investors.<sup>76</sup>

For this reason, regulation which enforces disclosure is essential. Moreover, such regulation, if assembled correctly might also encourage competition between financial firms which, under the assumption that stability is not at risk due to competition, further enhances consumers' welfare.<sup>77</sup>

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<sup>75</sup> B. Holmstrom, *infra* n.422, pp. 74-91.

<sup>76</sup> D. Llewellyn, *supra* n. 26, p. 38.

<sup>77</sup> An example of such competition-enhancing regulation can be found in the 'Banks fees reform for household consumers' introduced by the supervisor of banks in Israel in mid-2008. Prior to the reform, each bank could set its own fee for each type of service it offered household consumers and call it by a different name. The reform restricted banks to a given number of fees attached to financial products purchased by household consumers, which now have the same name in each bank, thus enabling household consumers to compare the prices charged by each bank for the same service. The comparison of various bank fees is available on the web site of the Bank of Israel (the Israeli supervisor of banks).

But simply providing the consumers with information is not always enough. The existence of complex financial products makes it difficult for unprofessional customers to monitor the financial institution.

#### **2.4.2 Monitoring**

One of the goals of financial regulators is to monitor financial enterprises and assist in monitoring investments and management performance in these firms.<sup>78</sup> Financial regulators are better equipped to monitor financial products, partly due to the fact that they develop the relevant expertise in monitoring over an extended period of time.

Monitoring is important in this market as one of the attributes of financial products is the fact that the contracts attached to the products are usually long-term contracts.<sup>79</sup> This in turn creates several problems, chief among which are Principle-Agent problems and monitoring problems.

Another monitoring role of financial regulators involves reducing information asymmetries with regards to risk. In recent developments, some bank regulators require banks to divide their clients into types and advise them with regards to the purchasing of financial products based on the consumer's level of expertise and ability to understand the advice. This ensures that the clients themselves invest in products which they have the ability to monitor. Under this role the financial regulator assists customers in monitoring their own accounts.

Due to the benefits of economies of scale, the concentration of expertise in the regulatory institutions, and the high cost of monitoring for private consumers, it is economically rational to leave the responsibility to monitor financial products partially in the hands of the financial regulators.

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The results of this reform (as taken from The official website of the Bank of Israel: <<http://www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/091115h.aspx>> accessed 20.05.2013) are as follows:

- As of the beginning of 2009 there has been a 7% drop in the average cost of holding a credit card.
- As of 1.7.2008 (the beginning of the reform) there has been an average drop of 10%-21% in the cost of fees for basic services in current accounts.
- Most banks now offer new consumers a discount on current account fees and some banks now offer consumers a fees-free current account.
- Banks are using the data in their commercials to try and convince consumers to switch a bank.

<sup>78</sup> W. Dobson, 'International business – Global Lessons from the 2008 Financial Crisis', in *'The Finance Crisis and Rescue, What went wrong? Why? What lessons can be learned'* (2008) experts' views from the Rotman School of Management, 95, 95-106.

<sup>79</sup> D. Llewellyn, *supra* n. 26, pp. 23-25.

### 2.4.3 Consumers' behavioral biases

The first thing that should be considered when we talk about consumer contracts is the existence of huge asymmetries between the parties to the contract. One such asymmetry is characterized by the existence of behavioral biases on the side of the consumer, while the other side is a sophisticated firm taking advantage of these behavioral human flaws.<sup>80</sup>

In consumer contracts, sophisticated firms will try and make use of consumers' behavioral biases in order to expropriate more profit. Competitive forces push sellers to take advantage of their consumers, creating a need for financial regulation to correct for such bias.<sup>81</sup>

Due to these behavioral biases, financial regulation is needed in order to protect consumers from themselves and from abuse by the financial intermediaries, and to make sure that the financial firms do not take advantage of these biases.

### 2.4.4 Consumers' demand for regulation and low cost dispute settlement mechanism

Consumers themselves demand regulation in order to satisfy their need for quality reassurance.<sup>82</sup> Consumers are aware of the fact that financial markets are highly complicated

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<sup>80</sup> O. Bar Gil, *infra* n. 81, pp. 1-66. An example of such expropriation occurs in the credit card market in the U.S; card issuers deviate from the efficient marginal-cost pricing while designing the credit card contract in order to take advantage of consumers' under-estimation of their future purchasing behavior. This is what stands behind some of the features of the credit card contracts in the U.S such as zero annual and per transaction fees, high interest rates, high fees for over limit or late payment, teaser rates and negative amortization rates. The first underlying bias identified by Bar Gil is the "imperfect self-control bias"; this is the type of bias which also plays a role when we make a new year's resolution to attend the gym frequently but forget about it when February replaces January. See S. DellaVigna & U. Malmendier, 'Overestimating Self-Control: Evidence from the Health Club Industry', (2002) *Research paper series*, Research Paper No. 1880, Stanford graduate school of business.

Under this bias the consumer will end up borrowing much more on his or her credit card than he or she initially planned to. This bias also causes people not to save enough for retirement, even though they plan to do so (O. Bar Gil, *infra* n. 81, pp. 2-3).

The second bias which is relevant for this discussion is the "optimism bias"; consumers tend to underestimate future occasions under which they will need to borrow money (for example: loss of job, illness either to oneself or to his family, injuries which cause medical bills to accumulate etc.), thus they tend to overlook the sections in the credit card contract that mention high fees in case of over limit or late payment (O. Bar Gil, *infra* n. 81, p. 3). Competition in the credit card market forces issuers to compensate for these long-term profits by cutting down on short-term profits (which are not subjected to consumer bias). That is why below-marginal costs are sometimes observant in the credit card market when it comes to short-term, non-contingent elements of the credit card contract (O. Bar Gil, *infra* n. 81, pp. 3-4).

<sup>81</sup> O. Bar Gil, 'Seduction by Plastic', (2004) *American Law and Economics Association Annual Meetings*, paper 12, 1, 1-66.

<sup>82</sup> D. Llewellyn, *supra* n. 26, pp. 30-32.

The issue of consumers as a class which needs protection is a relatively late phenomenon. Laws protecting consumers only began to appear in Europe during the 1960's - 1970's although problems occurred long before.

and require a degree of expertise; most consumers are also aware that they themselves do not possess such expertise, and so most consumers would like an external regulator to monitor and set standards in the financial industry so that they know what they are getting.<sup>83</sup>

Furthermore, in the absence of a financial supervisor, each consumer/investor is left on his or her own to deal with injustices caused to him or her by the financial institution. The existence of a financial regulator provides the consumer/investor with an address to which he or she can turn in order to complain about unjust behavior by or on behalf of the financial institution. This in turn reduces the need to turn to courts in order to solve petty disputes.<sup>84</sup>

Moreover, the existence of a financial regulator enables all consumers to complain without distinguishing between them on the basis of their wealth, and provides them with a low-cost dispute settlement mechanism. This in turn induces the financial institutions to treat their consumers fairly.

Under this role the financial supervisor prevents the financial institutions from imposing externalities on their consumers/investors and prevents some of the principal – agent problems that exist between financial institutions and their clients.

## ***2.5 Summing up***

Over the years a number of positive theories have been developed in order to explain how and when government intervention occurs in markets, and what drives changes in regulation.<sup>85</sup>

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In Italy, for example, the national securities regulator, Consob, was created in 1974 with the aim of overseeing listed companies only after the growth of the stock market and the rising level of investments in securities listed therein had made clear that investors in listed securities needed additional protection from a dedicated market authority independent of Government. The scope of Consob supervisory powers was then strengthened and extended in the 80's to cover every sale of securities to the retail public following cases of issuance and sales of investment certificates held out as direct ownership interests in properties. The failure of many of the issuers had prompted fury among investors, who had been cheated into believing their securities were backed by real estate assets as a collateral while such securities were simply granting them a junior claim against the assets of the issuer on an equal footing with other classes of creditors (See: G. Ferrarini, 'Sollecitazione del risparmio e quotazione in borsa', in vol. 10.2, *Trattato delle società per azioni*, edited by G.E. Colombo & G.B. Portale, Turin 1993, p. 12 ff, R. Costi, *Il mercato mobiliare*, 6th ed., Cedam, Turin 2010, p. 27 ff., G.F. Campobasso, *Diritto Commerciale*, 3, *Contratti, titoli di credito, procedure concorsuali*, 4th edition by M. Campobasso, Turin 2008, p. 242 s).

<sup>83</sup> When financial regulation is lacking, consumers (i.e retail investors) tend to avoid using the financial system. For example, studies have shown that private investors tend to invest less in institutions that were inflicted with corruption. See: J.L. Strachan, D.B. Smith, & W.L. Beedles, 'The Price Reaction of (Alleged) Corporate Crime', (1983), 18/2 *The Financial Review*, 121, 121-132.

<sup>84</sup> During 2010, for example, 2757 complaints were referred to the Bank of Israel, the Israeli banks' regulator, 25 percent of which were found just. (<<http://www.boi.gov.il/press/heb/110405/110405p.htm>> accessed on 04.03.2011)

<sup>85</sup> R.S. Kroszner, 'The Economics and Politics of Financial Modernization', (2000) *FRBNY Economic Policy Review*, 25, 26.

A few different approaches have been used to study this issue, one of which relates to the “public interest”; according to this view regulation is essential in order to correct market failures resulting from externalities, and to fix the information gaps between the industry and the consumers. From this perspective regulation is needed in order to enhance social welfare.

A key challenge to this approach lies in the fact that regulation is not always optimally designed to enhance social welfare; there are many cases in which designing the regulation differently would be more beneficial from a social welfare point of view, yet it is not done. Why? The simple answer would be due to costs.

## ***2.6 What are the costs associated with financial regulation?***

There are many different types of costs which prevent regulators from reaching optimal solutions. When we talk about the optimal design of financial regulators it is important we take these costs into account.

Costs are also related to the test of proportionality.<sup>86</sup> The principle of proportionality originated in Prussia in the late nineteenth century. The idea behind this concept is that of private autonomy. Since private autonomy is a value we would like to promote, state intervention should always be justified.<sup>87</sup>

State intervention can be justified if it contains the following three stages: (1) the proposed regulation can solve the problem identified by the regulator; (2) if there are several suitable measures for solving the problem, the measure chosen should be the less harmful to private autonomy; and (3) the chosen measure should not be out of proportions to the end result we would like to achieve.<sup>88</sup>

This idea has been largely accepted by modern states around the globe and has become part of the culture of the OECD. In order to enact a new piece of regulation under any OECD country regime there should be: (i) a public interest which the regulation comes to advance; (ii) a rule of law enabling the regulator to regulate; and (iii) the regulation should be proportionate to the goal it is trying to achieve.

Proportionality is also required at an EU level; Article 5 (1) of the Consolidated Version of the Treaty on European Union states that: "...The use of Union competences is governed by the principles of subsidiarity and proportionality..."<sup>89</sup> Article 5(4) further elaborates: "Under the principle of proportionality, the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties..."<sup>90</sup>

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<sup>86</sup> R. Nebel, 'Regulation as a source of systemic risk: The need for Economic Impact Analysis', (2004) 29/2 *The Geneva Papers on Risk and Insurance*, 273, 273.

<sup>87</sup> J. Schwarze, *European Administrative Law*, Sweet & Maxwell, London 1992, p. 685.

<sup>88</sup> D. Chalmers, G. Davies, & G. Monti, *European Union law: cases and materials*, Cambridge University Press 2010, p. 362.

<sup>89</sup> The Consolidated Version of the Treaty on European Union, Official Journal of the European Union C 83/15, March 2010, art. 5(1).

<sup>90</sup> Consolidated version of the Treaty on European Union, Official Journal of the European Union, *supra* n. 89, art. 5(4).

The white paper on European governance<sup>91</sup> states that legislative proposals should be evaluated on the basis of whether: a) Public action is necessary; b) The EU level is the most appropriate one to achieve the goal; and, c) The measures chosen are proportionate to the goal the statute is trying to achieve.

The principle of proportionality has been well established in EU court cases.<sup>92</sup> In order to determine whether a regulation is proportionate or not, countries have to consider the costs of the proposed regulation compared with the costs which might be incurred by an alternative regulation which can be used to achieve the same goal.

Financial regulation is no different; before enacting or amending existing regulation, regulators and governments must take into consideration the costs that the new regulation might inflict on the markets, the financial firms, and the individuals who are engaged with these firms.

The costs of financial regulation are listed in the following sections.

### **2.6.1 Capture of the financial regulator**

Regulation has major distributional effects and is costly to the regulated firms, because it restricts them from operating in a way which maximizes their profits and, if effective, makes them internalize their costs. Therefore it is in the interests of the financial firms to exert influence over the formulation of the regulations they will have to comply with, and limit what they perceive to be its "damage" to them.

This is also known as the "private interest" theory of regulation, or the economic theory of regulation.<sup>93</sup> This theory describes the regulatory process as a competition between two interest groups, in which the well-organized, well-coordinated group is able to extract dividends at the expense of the more dispersed, less informed groups.<sup>94</sup> Under this theory, the strong, organized interest group is able to capture the regulator and influence its regulation,

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<sup>91</sup> Commission of 25 July 2001 "European governance - A white paper" ((2001) 428 final - Official Journal C 287 of 12.10.2001).

<sup>92</sup> See for example: Case C – 331/88 R v. Minister of Agriculture, Fisheries and Food, ex parte Fedesa (1990) ECR I – 4023, Case C-476/99 Lommers [2002] ECR I-2891, paragraph 39, Case C-144/04 Werner Mangold v. Rüdiger Helm (2005) ECR I – 9981 and many more.

<sup>93</sup> J.W. Stigler, *supra* n, 24, pp. 3-21.

<sup>94</sup> G.S. Becker, 'A Theory of Competition Among Pressure Groups for Political Influence', (1983) 98/3 *The Quarterly Journal of Economics*, 371, 371-400; and R.S. Kroszner, *supra* n.85, p. 26.

thus promoting the interests of the regulated firms. A captured regulator will act against its own mandate, which is to promote the common good.<sup>95</sup>

From a welfare perspective a captured regulator might yield one of the most serious costs associated with financial regulation, as a captured regulator has the capability to heavily damage the general social welfare in order to promote his other, sometimes personal, goals.<sup>96</sup>

### 2.6.2 Cost of mistakes

Mistakes are another potential cost. If the regulator issues regulation based on wrong perceptions of either a market failure or the approach which is needed to be taken in order to correct it, then such a mistake will be spread out to the entire regulated market.

This is sometimes referred to by the literature as "Macroeconomics distortions".<sup>97</sup> Such distortions could increase existing market deficiencies and undermine the objectives intended for the regulation in the first place.

In some cases, mistakes in financial regulation may increase the magnitude of a financial crisis or even cause it.

Strict risk limits, when applied to financial institutions, can lead to forced sales in a time of a crisis. A regulatory regime that prevents financial institutions from investing in non-investment-grade bonds could trigger financial instability on the basis of worries that certain bond issuers' investment grade might be downgraded.<sup>98</sup>

Harsh capital requirements may also lead to a financial crisis – in uncertain times financial regulators tend to increase capital requirements for banks. This in turn leads to a decrease in loans, due to the fact that banks have less money to lend to creditors, which may lead to the failure of some creditors. If large, systemically important creditors fail, it can cause turbulence in the market, and even trigger a full scale financial crisis.<sup>99</sup>

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<sup>95</sup> D.C.L. Hardy, 'Regulatory capture in Banking', (2006) WP/06/34 *International Monetary Fund Working Paper*, 1, 3.

<sup>96</sup> Such was the case in the U.S prior to the Free Banking period (which started in 1838); pressure groups influenced legislators not to issue new charters (which were needed in order to open a bank in the U.S at that time) in order to prevent competitors from entering the market (J.M. Hendrickson, *supra* n. 19, p. 24).

<sup>97</sup> R. Nebel, *supra* n. 86, p. 276.

<sup>98</sup> R. Nebel, *supra* n. 86, p. 276.

During the antebellum and national banking eras in the US (1781-1912) some banks were required to purchase federal bonds in order to issue banknotes. This meant that the bank's revenue was tied to the yield on government bonds and the bank could not use this money to try and gain revenues elsewhere. This type of regulation changes the cost and revenues opportunities for banks which in turn contribute to bank instability (J.M. Hendrickson, *supra* n. 19, pp. 70-71).

<sup>99</sup> R. Nebel, *supra* n. 86, p. 280. A prominent example is the Banking Capital Accord of 1988 which encourages banks to increase credit expansion in times of financial prosperity while requiring them to hold more capital in times of recession.

### 2.6.3 Systemic risk arising from financial regulation

As discussed earlier, one of the major goals of financial regulation is to prevent systemic risk. However, financial regulation may by itself cause systemic risk if it is deficient, and especially if that deficiency spreads to a global level.

Treaties or global regulation are often a political compromise between the countries involved, and thus are not easily adaptable to the needs of a specific market. For example, what if Basel III is wrong or not suitable for the local market?<sup>100</sup>

If Basel III's proposed risk management strategy and unified risk assessment criteria for financial institutions worldwide is mistaken or does not take into account specific circumstances of specific markets, the result could be dire for worldwide financial stability, especially in cases where financial institutions face the same economic environment.

Some scholars argue that diversity and competition between different legal regimes fosters a discovery process to find the best approach.<sup>101</sup> These scholars argue against rigid global standard setting mechanisms and instead promote the idea of a "*high level principle based framework with flexible provisions*" (p.281).<sup>102</sup>

Another source of systemic risk resulting from regulation comes from a regulatory attitude promoting complex and detailed regulation. This attitude can cause financial institutions to rely solely on the regulation without using common sense to protect against dangers which were neglected by the regulation, or unexpected changes in risks. On the other hand, it can cause consumers, investors, internal auditors and financial regulators to feel overly confident with regards to the stability of the financial system.<sup>103</sup>

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<sup>100</sup> R. Romano, 'For diversity in the International Regulation of Financial Institutions: Rethinking the Basel Architecture', *forthcoming, Yale Law School, NBER and ECGI* (2011), 1, 1-109.

<sup>101</sup> R. Nebel, *supra* n. 86, p. 281 refers to a collection of articles dealing with the effects of harmonizing financial systems: G. Wood, 'Competition, Regulation and Financial Stability', in *The Regulation of Financial Markets*, the Institute of Economic Affairs 2003, p. 80, P. Booth, 'Competition in Financial Regulation', in *The Regulation of Financial Markets*, the Institute of Economic Affairs 2003, 121, 121-137; A. Ridley, 'Priorities for International Financial Regulation', in *The Regulation of Financial Markets*, the Institute of Economic Affairs 2003, 138, 138-160.

<sup>102</sup> R. Nebel, *supra* n. 86, p. 281.

Regulation constrains the opportunities to diversify. An example can be found in the U.S where most national banks were prohibited from extending real estate loans for many years and from investing in corporate equities. These restrictions limited the diversification of the banks' asset base and tied banks (especially in small remote areas) to one or two firms which were receiving loans from these banks. This approach has left these banks extremely fragile as, if that one firm would go bankrupt, the bank would have to declare bankruptcy as well (keep in mind that in the past branching was not allowed in the U.S, which meant that these small banks were not part of a bigger banking group) (J.M. Hendrickson, *supra* n. 19, p. 16).

<sup>103</sup> R. Nebel, *supra* n. 86, pp. 281 - 282.

Given the complexity of reality, the constant change of threats, and different sources of risk, even the most experienced and competent regulator cannot regulate against every threat that might arise or cover for any mistake that might be made by the financial institutions it regulates. This is why it is important to leave room for the common sense of the employees of the financial institutions, and incentivize consumers and investors to check their accounts for mistakes made by the financial institution in which they invest their money.

#### **2.6.4 Distortion of competition**

Financial regulation often creates barriers to entry. The need for a bank license and capital requirements are two prominent examples.<sup>104</sup>

As regulators are concerned with stability and preventing systemic risks, they can tend to be "over protective" and put up demands which leave "large margins" for protection against a collapse of a financial institution. For example, regulators may require high capital requirements from the financial firm, oblige it to have a very large board of directors, keep a vast compliance department, or ask the owner to provide a personal guarantee to secure some of the debts of the financial institution. Such an attitude may prevent or discourage new firms from entering the market.

Concerns of systemic risks may lead the financial regulator to keep financial institutions "alive" even in situations which otherwise, given a fully competitive market, would have led to the restructuring or removal of the financial institution from the market.<sup>105</sup>

Financial regulation may also interfere with competition within the market itself by demanding accelerated disclosure, i.e. very vast disclosure requirements which have gone beyond the efficient level of disclosure. If all information is disclosed there is less room left for competition.<sup>106</sup>

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<sup>104</sup> In this aspect regulation shapes the way the market looks; in the US for example regulation has created a market which is consistent of thousands of small banks (when measured by the dollar value of assets). The large number of banks is the result of charting and asset restrictions, limits on branching and free banking laws which were born in NY in 1838 and spread to other states. These laws stated that anyone who met certain requirements was free to enter the banking business, and came as a reaction to charter "selling" and pressure groups influencing legislators not to issue new charters in order to keep the industry small. Canada is the opposite example; in Canada there were less regulatory limitations on banks and so Canada ended up with a bank market structure consisting of a few large banks. The empirical evidence indicates that the Canadian banking market structure is much more stable than that of the US (J.M. Hendrickson, *supra* n. 19, pp. 16 - 17).

<sup>105</sup> If the financial supervisor is also responsible for encouraging competition in the regulated market he might be faced with contradicting goals, as there might be a tradeoff between stability and competition. Therefore, such a regulator might chose to promote stability at the expense of competition. Such concerns led Italy in 2005/2006 to deprive the Italian central bank of antitrust powers regarding banks.

<sup>106</sup> R. Nebel, *supra* n. 86, p. 277.

Moreover, a rigid and detailed regulatory regime does not leave room for innovation on behalf of the financial institutions, thus distorting competition in the market. Strict conduct of business regulation restricts the range of financial products available for consumers, further limiting the ability of financial institutions to compete.<sup>107</sup>

Capital requirements further effect competition in markets in general, extending beyond the financial markets themselves, as excessive capital demands often create a shortage in credit and/or insurance supply which negatively effects the development of different markets.<sup>108</sup>

### **2.6.5 Costs of fragmentation of the regulatory regime**

Fragmentation in the context of regulation is a term used in order to describe a situation in which there is more than one supervisory authority active in the market. In such a case we would consider the market to be "fragmented" from a regulatory point of view, as there is more than one regulator imposing regulatory policies and demands on the regulated firms in the market.

The question of whether fragmentation is desirable or not is a complex one. It ultimately depends on a cost-utility analysis; is the chosen regulatory structure better than the regulatory structure that was not chosen?<sup>109</sup>

Either way, there is no doubt that fragmentation incurs costs; as mentioned in the introduction to this research, the existence of several regulators acting without coordination in the market may lead to inefficiencies and cause regulatory arbitrage on the part of the regulated institutions, i.e., if the regulated firms can profit from loopholes in the regulatory system, then in order to avoid unwanted regulation, they will move their activity so as to be regulated under the regulations more favorable to them. This in turn implies the formation of conflict of jurisdiction,<sup>110</sup> lack of regulation, or overlapping regulation.<sup>111</sup> All of these activities are unwanted as they are costly, and not wealth-enhancing.

Moreover, the existence of several regulators increases the risk of incoherent regulation resulting in uncertainty on the part of market participants.

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<sup>107</sup> After the Great Depression in the U.S. for example, regulators placed limits on the interest rates banks could pay to attract deposits. This altered the competition between banks and also limited the costs of obtaining deposits (J.M. Hendrickson, *supra* n. 19, p. 17).

<sup>108</sup> R. Nebel, *supra* n. 86, pp. 277-278.

<sup>109</sup> J.P. Trachtman, *The Future of International Law: Global Government*, Cambridge University Press, Cambridge 2013, p. 217.

<sup>110</sup> A conflict between two different states, each claiming to have authority over a particular case.

<sup>111</sup> For further discussion on these issues please see Chapter 4 of this study.

## 2.6.6 Other

**Administrative costs** - Regulatory agencies, like any agency, cost money. As financial regulation is a public good, the financial regulatory agency is financed by the government using public money. Needless to say this money has an alternative opportunity cost.

The question is then, how big should the regulatory agency be? More staff for the regulatory agency means more resources can be dedicated to designing and controlling compliance with the regulation, but it also means more resources are needed.

**Cost of compliance on behalf of the financial institutions** - Regulatory compliance demands place a heavy financial burden on financial institutions, especially on smaller market participants. The cost of regulation exhibits strong economies of scale, sometimes resulting in smaller financial institutions being "panelized" twice as much as larger institutions.<sup>112</sup>

**Innovating around the regulator** - A profit-seeking firm will invest great efforts in order to extract more profit from the market, thus it will be willing to invest a lot to find a way to innovate around regulation. In some cases, innovating around the regulation is costly and does not generate greater social welfare, since it does not provide the market with a new product or service that is materially different from the existing products on the market.

In the words of Sir Mervyn King, Governor of the Bank of England: *"That is why we feel so strongly that the culture of regulation needs to get away from this game in which the regulators write ever more complex regulations and the banks and their lawyers write new products, which are essentially the same as the previous ones but are defined in such a way as not to be caught by the latest rule and regulation. This leads to a very expensive and unnecessarily complex system..."*<sup>113</sup>

Moreover, putting harsh regulatory restrictions on regulated financial institutions may facilitate the growing of shadow banking,<sup>114</sup> which will carry with it, as it is not exposed to regulatory demands, the risks that the regulatory regime tries to prevent.<sup>115</sup>

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<sup>112</sup> H. Geiger and O. Wuensch, *supra* n. 56, p. 98.

<sup>113</sup> M. King, P. Tucker & A. Bailey, 'Oral Evidence Taken Before the Joint Committee on the Draft Financial Services Bill', (2011), *House of Lords and House of Commons*, 1, 24.

<sup>114</sup> Shadow Banks are non-bank financial intermediaries which provide their customers with similar services to those provided by traditional banks.

<sup>115</sup> D.W. Diamond and P.H. Dybvig, 'Banking Theory, Deposit Insurance, and Bank Regulation', (1986) 59/1 *The Journal of Business*, 55, 55-68.

**Moral hazard resulting from a rigid regulatory regime** - A rigid, detailed and protective regulatory regime can remove the responsibility from the employees of financial institutions and transfer it to the employees of the financial regulator, thus causing the employees of the financial institution to behave recklessly.

As financial regulation cannot prevent all financial crises, nor should it aim to do so; consumers must take into account the possibility that their financial institution might fail. A good regulatory regime provides firms with the incentives to avoid engaging in excessive risk-taking activities,<sup>116</sup> and provides consumers/investors with tools to supervise what their financial institution is doing with their money, thus taking some of the responsibility for the risk involved in the financial institutions' activities.

The use of deposit insurance creates a Moral Hazard problem on behalf of financial institutions - they do not internalize the effects of their risk-taking activities. The reason being that if they take on too much risk and fail, they know that the insurance will pay the depositors back a partial amount of their deposit (this amount depends on the regulatory situation in each jurisdiction).<sup>117</sup> Thus, in a competitive market, these financial institutions tend to take on more risky activities, in comparison with the activities they would have engaged in if there was no deposit insurance, in search of greater profits.

On the other hand, consumers are attracted to the higher risk-taking financial institutions as they know they will be compensated in case of failure, and will gain a higher profit so long as the risk does not manifest.<sup>118</sup>

This can create a race to the bottom in risk management criteria. Even though the idea of deposit insurance was developed to prevent systemic risk by ensuring the stability and soundness of the financial system, it is also a potential source of systemic risk as the adverse incentive structure may undermine the stability, and magnify the insolvency risk, of the financial system as a whole.<sup>119</sup>

Other Moral Hazard issues arise with regards to the policy of "too big to fail" in the banking sector or the "lender of last resort" function of central banks. Protection from failure by an expected bail-out prevents disastrous consequences in the short run, but harbors the

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During the financial crisis of 2007-2009 huge "shadow banks" suffered from similar issues as banks. As confidence in the investments they made fell, lenders refused to roll-over their short term loans, causing them to sell assets on the market at low prices and increase loss. This in turn increased the lack of confidence. Eventually the US government intervened in order to stop the "free fall" (C.M. Reinhart & K.S. Rogoff, *supra* n. 40, Preamble p. xli)

<sup>116</sup> R. Nebel, *supra* n. 86, p. 278.

<sup>117</sup> See Table 8 in the Appendix.

<sup>118</sup> D. Llewellyn, *supra* n. 26, p. 17.

<sup>119</sup> R. Nebel, *supra* n. 86, p. 278.

seeds of future disasters by sending the wrong message that those who fail in running a business (or a sovereign state for that matter) will not be held accountable for their actions.<sup>120</sup> If the risk does manifest, and a business (or state) fails, a bail-out policy means the people who took on too much risk will not bear the consequences of such a failure.<sup>121</sup>

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<sup>120</sup> R. Gropp, H. Hakenes & I. Schnabel, 'Competition, risk-shifting, and public bail-out policies', (2011) 24 *Review of Financial Studies*, 2084, 2084 – 2120.

<sup>121</sup> R. Nebel, *supra* n. 86, pp. 278 - 279.

## ***2.7 Summary and Conclusions***

As has been discussed above, financial markets do have special attributes which require regulatory intervention. They are complex markets which are abundant with asymmetric information, moral hazard, externalities, and agency costs. They are markets in which products mature over a long period of time, causing a need for regulatory monitoring which is exacerbated by consumer demand for regulation and economies of scale in monitoring. Moreover, the financial firms in these markets are crucially important from a systemic point of view to the health of the economy in general.

Having said all that, financial regulation is costly. Financial regulators should be aware of the costs of regulation and of the fact that costs will, in one way or another, be paid by the consumers.

Regulation in general should only be enacted if the costs of implementing it are lower than the benefits derived from what it seeks to achieve. That is especially true for the financial markets, as the health of these markets affects the social welfare of society as a whole.

Moreover, with regards to financial supervision, it is crucial that the responsibility for the actions of the financial institutions and for compliance with the laws and regulations remains in the hands of the financial institutions' employees and management. The regulator can never be fully responsible for the actions of the financial firms, nor should he or she attempt to do so as doing so increases moral hazard problems which already exist in the market.

Furthermore, leaving the responsibility in the hands of the financial institutions themselves is also important from the aspect of minimizing regulatory mistakes and systemic risk caused by regulation. If financial firms are provided with regulatory guidelines instead of strict rules, this helps in diversifying the market. In the era of global systemic risk this is crucially important.

Consumers themselves should be entrusted with the responsibility to monitor what their financial institution is doing with their assets. In order to do so financial regulation should force financial institutions to provide consumers with easy to understand data. The approach currently taken by financial regulators of instructing the regulated firms to provide their consumers with information that is understandable and suited to them, is a positive one as it does not remove the responsibility for monitoring from the consumer.

Regulators should keep in mind the costs of financial regulation to competition in the market, the costs of compliance, and the costs that might be caused unknowingly by them, such as the costs of being unknowingly captured.

Regulation is not about quantity but about quality. The "right" kind of regulation gives the financial institutions the incentives to act in a way which enhances social welfare and reduces market failures.

The costs associated with financial regulation and supervision are largely determined by the institutional structure of the financial regulators. Not only does each of these various structures come with its own set of direct and indirect costs, the type of structure chosen also impacts on the success of regulation in meeting its statutory goals. Thus, the structure of the financial regulators must be taken into account in order to try and reduce costs and maximize the benefits of financial regulation.

The following chapter lays the foundation for the discussion of the optimal structure for financial regulators which will follow in chapters 4-6 of this research, by reviewing the financial regulatory structure in eleven jurisdictions around the globe and examining the changes these structures underwent following the 2007-2009 financial crisis.

## 3. FINANCIAL MARKETS AND SUPERVISORY STRUCTURES

### 3.1 Introduction

It was not long ago that the structure of financial supervision became relevant. In fact, up until around fifteen years ago little attention was paid to the way in which financial supervisors were structured. However, the growth of the financial markets and the existence of new financial products have brought with them the need for tighter and better supervision, and have focused government attention on the financial regulatory structures themselves.<sup>122</sup>

The UK opened the trend towards consolidation when it adopted the Consolidated Model (also known as an Integrated Model) in June 1998. A few countries, Germany included, swiftly followed, and restructured their supervisory model into a consolidated one.<sup>123</sup>

However, the Consolidated Model did not prove to be more resilient to the 2007-2009 financial crisis and some of those countries, the UK included, are in the process of restructuring their financial regulatory structure yet again.

Other supervisory models, such as the dispersed model in the USA, did not help protect from the crisis either. As a consequence, we are now witnessing many jurisdictions reviewing and revising their financial supervisory structures in the hope of avoiding past mistakes. Of the jurisdictions studied in this chapter, change has already taken place in Switzerland, the UK, the USA, and the EU.<sup>124</sup>

These changes suggest that the jurisdictions in which change is taking place were not satisfied with the way their financial supervisory structure functioned during the 2007-2009 crisis, and are now striving to improve them.

This chapter studies and updates the state of affairs with regards to the financial supervisory structures in fifteen jurisdictions. Furthermore, it points out common similarities and common problems which appeared in the financial regulatory structures of different countries during the 2007-2009 financial crisis.

As this chapter provides the bedrock for the analysis performed in subsequent chapters, it relies mainly on a report issued by the Group of 30 in 2008 under the heading

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<sup>122</sup> D. Masciandaro & M. Quintyn, 'Regulating the Regulators: The Changing Face of Financial Supervision Architectures Before and After the Crisis', (2009) 6/5 *European Company Law* 187, 189.

<sup>123</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, p. 2-3.

<sup>124</sup> For detailed information about the changes in each jurisdiction please refer to the subchapters of this chapter.

“The Structure of Financial Supervision: Approaches and Challenges in a Global Marketplace” (the “Report”).

As a consequence, this chapter does not intend to provide the reader with a thorough and in-depth legal analysis of the different jurisdictions, but mainly to lay down the groundwork for the discussion which follows. It is also important to mention that this chapter chooses to focus on a few specific countries, some of which were mentioned in the Report and some not, based on the following criteria:

This chapter makes the choice of focusing on the top ten OECD jurisdictions by GDP for the year 2012<sup>125</sup> on the assumption that the size of their economies coupled with shared patterns in the structure of financial industry and supervisory authorities make comparison less hazardous and thus more meaningful.

Five more countries, Canada, Israel, the Netherlands, Australia, and Switzerland, were also added to the review based on different considerations such as: easy access, in terms of language, to the materials; the way in which some of these countries, such as Israel, survived the last financial crisis; and the fact that they share some similarities with regards to the structure of the supervisory authorities with the other jurisdictions studied under this chapter.<sup>126</sup>

This chapter is organized as follows: following this introduction, the second part of the chapter examines the existing literature in the field; the third part presents the existing main supervisory structures in the world today; the fourth part brings factual data and compares the financial markets of the reviewed jurisdictions; and the fifth part concludes.

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<sup>125</sup> Data taken from the official website of the OECD: < [http://www.oecd-ilibrary.org/economics/gross-domestic-product-in-us-dollars\\_2074384x-table3](http://www.oecd-ilibrary.org/economics/gross-domestic-product-in-us-dollars_2074384x-table3)> accessed 19.12.13. The top ten OECD countries by GDP for 2012 are: the USA, the EU, the UK, Japan, Germany, France, Italy, Mexico, The Republic of Korea, and Spain.

<sup>126</sup> For more information please see the specific subchapters of this chapter.

### **3.2 Literature review**

In their 2009 research, Masciandaro and Quintyn<sup>127</sup> surveyed 102 countries over a period of eleven years. Their research found a worldwide trend towards consolidation of financial regulators outside the central bank. The authors also identified a trend towards specialization – namely, central banks tend to focus on monetary policy, while other regulatory authorities specialize in financial supervision. In jurisdictions where the financial supervisory structure is more fragmented, the authors found central banks were more involved in supervision.

This chapter shows that, at least for the 15 Jurisdictions studied, this trend continues; Switzerland has moved to the Consolidated/Integrated model and the US and Canada have also begun moving towards consolidation.

Even though this chapter does not focus on bank performance, one could look at the latest financial crisis as an indication of how well the banking system in each country performed. On this topic, this chapter reaffirms Barth et al's findings,<sup>128</sup> as change in the financial regulatory structures is visible in countries with diverse supervisory structures. This shows that countries with different supervisory models, the UK and Switzerland for example, were equally dissatisfied with the functioning of their banking system and their existing financial supervisory models, and the way in which they functioned during the crisis.

A 2009 communication from the EU Commission, entitled 'European Financial Supervision', backs up these claims and states that:

*“Current supervisory arrangements proved incapable of preventing, managing and resolving the crisis. Nationally-based supervisory models have lagged behind the integrated and interconnected reality of today's European financial markets, in which many financial firms operate across borders. The crisis exposed serious failings in the cooperation, coordination, consistency and trust between national supervisors...”*(p. 2)<sup>129</sup>

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<sup>127</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, pp. 187-196.

<sup>128</sup> J.R. Barth, D.E. Nolle, T. Phumiwasana & G. Yago, 'A Cross Country Analysis of the Bank Supervisory Framework and Bank Performance' (2002) 12/2 *Financial Markets, Institutions & Instruments*, 67, 67-120. In this article Barth et al. have tried to assess the impact of the supervisory structures on bank performance in 55 countries covering over 2300 banks. The authors state that their work answers a key question with regards to financial supervision, i.e, how many financial supervisory authorities are needed in a country. Their results show little support for the claims that consolidated regulation affects banks' performance.

<sup>129</sup> COM(2009) 252, 'European Financial Supervision', SEC(2009) 715-716, Brussels 27.5.2009, p.2.

Melecky and Podpiera<sup>130</sup> studied the development of financial regulatory structures since 2002 in 98 countries. One of their findings is that countries with a higher stage of economic development tend to consolidate their financial regulatory systems. In addition, according to their study, countries which have undergone a financial crisis will show a trend towards consolidation.

As this chapter reviews only 15 jurisdictions, it is hard to make any affirmative claims with regards to the validity of Melecky and Podpiera's aforementioned research. Their research might however explain some of the trends we see in the 15 jurisdictions examined in this chapter, such as the trend towards partial or full consolidation which is taking place in Switzerland and the US.

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<sup>130</sup> M. Melecky & A.M. Podpiera, 'Institutional Structures of Financial Sector Supervision, Their Drivers and emerging Benchmark Models', (2012) *MPRA* Paper No. 37059.

### ***3.3 What types of financial supervisory structures exist in the world?***

In 2012 the world Gross Domestic Product amounted to approximately 72 trillion dollars.<sup>131</sup> This massive flow of transactions and cash is supervised by a number of different financial regulators. The identity of the regulatory bodies varies from country to country and from region to region, but in general their responsibilities are divided between bank supervisory functions, insurance supervisory functions, and market supervisory functions.

On October 6 2008, the Group of Thirty, an international body composed of central bank governors, private financial sector experts, and leading economists, released a report providing insights into current challenges facing the global financial system, and information with regards to future expected reforms in the structure of financial regulators. The Report compares and analyzes the financial regulatory approaches of seventeen jurisdictions in order to illustrate the implications of the four principal models of supervisory oversight - the Institutional Approach; the Functional Approach; the Consolidated/Integrated Approach; and the Twin Peaks Approach. These four supervisory oversight structures were also acknowledged by Masciandaro and Quintyn in 2009,<sup>132</sup> who grouped the countries in their study according to a similar classification.

The report rightfully states that: (a) no two jurisdictions are the same in the way in which they regulate financial institutions; (b) that no “pure” example of any financial supervisory model may actually exist; and (c) that a blurring between the approaches is prevalent.<sup>133</sup>

Even so, it is useful to group the different models into one of the following structures in order to assess them:<sup>134</sup>

**(A) The Institutional Approach** – This is the traditional approach to supervision. This approach assigns a regulator to a firm according to the financial firm’s legal status (i.e. bank, insurance company, etc.). Traditionally the firm’s legal status also determined the scope of the firm’s business activities. This situation changed with time when firms requested and received their regulator’s permission to go into new lines of business, thus causing two different types of entities to offer similar products.

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<sup>131</sup> Data taken from IMF panel data on: World Economic Outlook Database <<http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx>> accessed 17.01.2013.

<sup>132</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, pp. 187-196.

<sup>133</sup> Group of 30, ‘The Structure of Financial Supervision: Approaches and Challenges in a Global Marketplace’, Washington 2008, p. 23.

<sup>134</sup> Group of 30, *supra* n. 133, p. 24.

It is perhaps the model under the most strain, given the changes in financial markets and players, and the blurring of product lines between sectors.<sup>135</sup>

According to The Group of Thirty, agencies using the Institutional Approach to supervision can overcome its shortcomings, (i.e. mainly coordination problems resulting in overlapping regulation), via various coordination mechanisms such as information exchange, and supervisory board meetings in which delegates from the different supervisory bodies discuss and coordinate their supervisory work.

This approach is prevalent in Israel and Mexico.

**(B) The Functional Approach** – According to the Functional Approach to supervision, the supervisory oversight is determined according to the business performed by the regulated entity without regard to its legal status. Under this approach one regulated entity may be subordinated to a few different regulators, each regulating a different part of its activity.

This approach to supervision is quite common and, according to the Report, appears to work well so long as coordination among agencies is achieved and maintained. However, coordination is not easily achievable and it is because of this that a number of jurisdictions are moving away from the Functional Approach toward the Twin Peaks or Consolidated/Integrated Systems.

This approach is prevalent in France, Italy, and Spain.

**(C) The Consolidated/Integrated Approach** - The Report finds some support for the use of a Consolidated Approach to supervision. According to this approach, one single regulator oversees the entire financial market.

This approach can be recommended in smaller markets, where oversight of the broad spectrum of financial services can be successfully conducted by one regulator. It has also been adopted in larger, complex markets where it is viewed as a more flexible and dynamic approach to regulating.

The Consolidated Approach is advantageous in that it offers a unified focus on regulation and supervision. It provides no opportunity for the development of debates

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<sup>135</sup> Group of 30, *supra* n. 133, p. 13.

over supervisory powers which can occur under both the Institutional and Functional Approaches. However, this approach may create the risk of a single point of regulatory failure (i.e. the risk of a regulatory mistake which, due to lack of diversity in regulators, leaves the market unsupervised or offers the wrong regulatory solution to the identified market failure, thus negatively affecting all financial institutions in the market).

This Approach is prevalent in Germany, Canada, Japan, Switzerland, The Republic of Korea and, until recently, the UK.

**(D) The Twin Peaks Approach** - There is a growing interest in and support for the Twin Peaks Approach to supervision. The Twin Peaks Approach divides the regulatory tasks between two regulators; one of whom is in charge of supervising systemic risk, while the other is in charge of conduct of business regulation and consumer protection<sup>136</sup>.

When prudential concerns conflict with consumer protection issues, the prudential supervisor in the Twin Peaks Approach takes precedence in order to insure financial stability.

This approach still suffers from the problems of the Integrated Approach, i.e., there is risk for a single point regulatory failure with regards to consumer protection and market integrity regulation due to the fact that all CoB regulation for all market participants is consolidated into one regulator.

This approach is prevalent in Australia, The Netherlands and the UK.

The Report describes the current regulatory regime in seventeen different jurisdictions and offers a wide perspective on the current structuring of financial regulators in these jurisdictions. The Report also describes how each structure has its shortcomings and advantages, some of which derive from the way in which the regulators interact with one another.

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<sup>136</sup> Note that this division is different from the one made by the Functional Approach where the regulatory responsibility is divided between the different regulators based on the type of financial product.

Since 2008, when the report was released, several changes have occurred in the regulatory structures of a few countries around the world, including some of the countries that were reviewed by the report.

In the following pages, some of the jurisdictions reviewed by the report are revisited, and examples are presented of the changes they have undertaken since the publishing of the report.

A few additional jurisdictions which were not included in the Group of 30's report, namely Israel and the Republic of Korea, are also reviewed below. Israel was added to this research due to the fact that its financial markets survived the crisis with relative success, and the Republic of Korea was added due to the fact that it is one of the top ten OECD countries by GDP in 2012.

### ***3.4 The financial markets of the reviewed jurisdictions***

According to the World Bank's panel data<sup>137</sup> of 2011,<sup>138</sup> large differences exist between the different jurisdictions reviewed by this chapter with regards to market capitalization of listed companies, bank capital to assets ratios, deposit insurance, and the size of the financial markets; these differences are also partially responsible for the differences that can be found in the supervisory structure models in each country, as discussed in the following subchapters.

As mentioned in Chapter Two of this research, deposit insurance has its drawbacks, the leading of which is its tendency to increase moral hazard problems. However, deposit insurance is needed in order to increase the liquidity of banks in times of financial distress, prevent bank runs, and protect household consumers from losing their life savings if or when their financial institution goes bankrupt.

The jurisdictions reviewed in this chapter seem to care more about the benefits of deposit insurance than about its costs, as most of them have implemented some sort of deposit insurance scheme.<sup>139</sup>

The surveyed countries also shared common problems with regards to financial regulation which affected their ability to react in a timely manner to the financial crisis of 2007-2009. These problems include the following:

**Coordination problems** – coordination problems between supervisory authorities were prevalent during the crisis both on the national and international level. The crisis has proven that modern financial crises cross markets, jurisdictions, and products,<sup>140</sup> and that in order to prevent or stop a crisis from occurring there is a need for a quick and coordinated regulatory response.

In an attempt to ensure cooperation and effective information exchange, several countries have formed coordinating bodies. These bodies are supposed to bring the different regulators together on a regular basis in order to exchange information and views.

**Macro Prudential supervision** – the crisis brought forward the importance of supervising systemic risk. It is now clear that firms outside the financial markets could have a

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<sup>137</sup> Data with regards to the different jurisdictions which was obtained through recurring observations over a period of time.

<sup>138</sup> Data taken from World Bank panel data on: < <http://data.worldbank.org/country> > accessed 21.05.2013.

<sup>139</sup> As can be seen in table 8 in the Appendix.

<sup>140</sup> A financial crisis crosses products due to the fact that in many cases financial products have an effect on, or are derivatives of, other financial products.

strong effect on the stability of firms within the financial markets. Therefore, most countries are considering ways in which they can increase and improve macro prudential supervision.

**Independence of regulatory bodies** – independence of supervisory authorities has a direct effect on their ability to make professional decisions with regards to regulatory measures. Financial supervisory authorities need to be as independent as possible in order to make professional decisions with regards to financial regulation.

True independence means that they have to be financially independent from government. This is usually achieved by imposing fees on the regulated bodies in the industry.<sup>141</sup>

**Deposit insurance** – Lack of sufficient deposit insurance has a detrimental effect on bank liquidity in times of distress. Following the problems which occurred during the last financial crisis, the European Union recently amended its European deposit insurance directive in order to enlarge the minimum deposit insurance requirements from 20,000 Euro to 100,000 Euro.<sup>142</sup>

These common concerns have brought countries to re-consider their financial regulatory frameworks and structures. Changes are being made, on the national and international level, in order to try and mitigate the problems listed above.

The following pages offer a review of what has changed in several jurisdictions around the world as a result of the last financial crisis and, where needed, suggestions are made as to what should further be amended.

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<sup>141</sup> Examples can be found in France, Italy, Canada, Germany, The UK, and The USA. For explicit examples see chapter 3.5 of this research.

<sup>142</sup> European Parliament and Council Directive 2009/14/EC of 11 March 2009, amending Directive 94/19/EC on deposit-guarantee schemes as regards the coverage level and the payout delay, Official Journal of the European Union, L 68/3, Art. 3.

## ***3.5 The financial regulatory structures in the reviewed jurisdictions***

### **3.5.1 The Institutional approach**

#### ***3.5.1.1 Israel***

##### **General data**<sup>143</sup>

As of 2011 the Israeli financial market was composed of fifteen local banks, two mortgage banks and five foreign banks which held branches or representative offices in Israel.<sup>144</sup> The market contained twenty four insurance companies and a number of financial management companies.<sup>145</sup>

In 2010, 203 licensed financial advising firms and 5,600 licensed financial advisors were active in the Israeli market. The number of active mutual funds in the Israeli market amounted in that year to 1,247, which together held 156.6 Billion NIS. Seven groups issuing exchange-traded notes (ETN's) were active in the market, operating through 32 companies. The public held 57.7 Billion NIS in ETN's through these companies.

The entire value of financial assets held by the Israeli public in April 2012 is estimated at 2600 Billion NIS.<sup>146</sup>

##### **The structure of the supervisory authorities**

Israel follows the Institutional Approach to financial supervision with some influences from the Functional Approach.<sup>147</sup> The Israeli market is supervised by three financial supervisory authorities in addition to the competition authority: the Bank of Israel, which supervises banks; the Israeli Securities Authority, which supervises the capital market; and the Capital Markets, Insurance and Savings Department within the Ministry of Finance. The

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<sup>143</sup> Data in this section is based on panel data taken from the web sites of the Israeli financial supervisory authorities: The Bank of Israel, the Israeli Securities Authority and the Department of Financial Markets, Savings and Insurance in the Treasury.

<sup>144</sup> Data taken from the Bank of Israel web site which can be found at:

<<http://www.bankisrael.gov.il/deptdata/pikuah/snifim/snifhanh.htm>> accessed 21.05.2013.

<sup>145</sup> Data taken from the web site of the Israeli Insurance supervisory authority which can be found at:

<<http://ozar.mof.gov.il/hon/2001/insurance/contactDetails.asp>> accessed 21.05.2013.

<sup>146</sup> Bank of Israel panel data which can be found at:

<[http://www.bankisrael.gov.il/deptdata/monetar/shukhon/shon\\_heb.htm](http://www.bankisrael.gov.il/deptdata/monetar/shukhon/shon_heb.htm)> accessed 1.08.2012.

<sup>147</sup> A prime example is investment advisory services; even though the investment advisors usually sit within banks, which are supervised by the Bank of Israel as the banks' regulator, and the services they provide are part of the services offered by banks to their customers, the prime responsibility for regulating investment advisors and investment advisory activity lies with the Israeli Securities Authority based on the fact that investment advisory services relate more to securities markets than to regular banking products.

latter is divided into two sections, one of which is responsible for insurance supervision, while the other undertakes supervision of financial markets, which includes responsibility for the supervision of long term saving products like Provident Funds (see Figure 1). Due to the fact that each authority was formed at a different time and out of different needs, each authority emphasizes different supervisory goals.

Only two of the supervisory authorities active in the market, the Israeli Securities Authority and the Bank of Israel, have their goals explicitly defined by law.<sup>148</sup> The Capital Markets, Insurance and Savings Department within the Ministry of Finance defines its own goals in its financial statements, strategic plans and inner memorandums.

As of 2010 there exists a special division of the courts which is dedicated to dealing solely with financial issues.<sup>149</sup> The judges of this court are experts on securities and corporate law, and their judgments are supposed to reduce legal uncertainty and contribute to improving market conduct in the Israeli financial markets.

The Bank of Israel in its role as bank supervisor receives its powers from: The Bank of Israel Law, 2010, The Banking Order of 1941; The Banking Law (Licensing), 1981; The Banking Law (customer service), 1981; and The Law of Checks without Cover, 1981.

The Israeli Securities Authority (ISA) receives its powers from The Securities Law of 1968. Other relevant laws for the operation of ISA are: Joint Investment Trust Law, 1994; Regulation of Investment Advice, Investment Marketing and Investment Portfolio Management Law, 1995; Companies Law, 1999; Financial Assets Agreements Law, 2006; Credit rating Agencies Law, 2014. Besides these laws a number of regulations dealing with all aspects of market conduct and rules have been enacted through the power of these statutes.<sup>150</sup>

The Department of Financial Markets, Savings and Insurance receives its powers from the following laws: The Law for Regulating Insurance Business, 1981; the Law of Insurance Contracts, 1981; the Tax Order and Regulation (rules for approving and managing funds), 1964; the Law for Promoting Savings (income tax reductions, loan guarantees), 1956; the Law for Joint Investment Trusts, 1994; The Securities Law, 1968; and the Law of Government Loans, 1979.

On the 24th of June 2007 the three supervisory authorities signed a MoU for coordination and exchange of information with regards to regulating the Israeli financial

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<sup>148</sup> The Securities Law, 1968 and the Bank of Israel Law, 2010, sec.3 A.

<sup>149</sup> The Law of Courts (amendment 59), 2010.

<sup>150</sup> All laws and regulations can be found in their Hebrew and English version on the web site of the Israel Securities Authority at: <<http://www.isa.gov.il/Default.aspx?Site=ENGLISH&ID=1485>> accessed 21.05.2013.

market.<sup>151</sup> According to Section 2 of the MoU, the heads of the three supervisory authorities form a joint commission which gathers once a month and which facilitates the exchange of information between the different authorities. Sections 3 and 4 of the MoU facilitate cooperation and coordination between the three regulators on regulatory issues which might have an effect beyond the sectors of the financial markets which directly concern them.

### **What has changed since the last financial crisis?**

Israel went through the last financial crisis with relative ease due to a number of factors:<sup>152</sup>

- With a few exceptions, the Israeli banking system is a conservative one and it is kept under tight supervision by the Supervisor of Banks.<sup>153</sup> This fact contributed to the stability of the Israeli banking system as most of the banks invested in relatively safe financial products and their exposure to the asset-backed securities in the USA, which started the crisis, was minimal;
- The mortgage market in Israel is very conservative and is highly supervised; and
- Complex products do not exist in the Israeli financial market.<sup>154</sup>

For all these reasons the formation of a real estate bubble<sup>155</sup> or a leverage problem<sup>156</sup> were prevented.<sup>157</sup>

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<sup>151</sup> 'Memorandum of Understanding for cooperation and exchange of information between the Supervisor of Banks, the Israeli Securities Authorities and the Capital Markets, Insurance and Savings Department', 24 June 2007.

<sup>152</sup> K. Broida, Z. Ardman & M. Shemesh, 'Israel and the Global Financial Crisis 2007-2009', (2011) *Bank of Israel*, 5, 49.

<sup>153</sup> Prior to the financial crisis the biggest bank in Israel at that time, Bank Hapoalim, had invested in asset-backed securities in the USA through its USA branch. The Supervisor of Banks in Israel conducted an investigation on exposure to risky assets by the foreign branches of the banks in Israel. Following the investigation Bank Hapoalim was instructed to double the capital requirements needed in order to hold mortgage-backed securities due to the riskiness of these assets. Due to the financial losses on these asset-backed securities and the regulatory demand, Bank Hapoalim chose to sell these assets, a move which retrospectively saved the bank from great losses during the outbreak of the crisis in 2007 (K. Broida, Z. Ardman & M. Shemesh, *supra* n. 152, pp. 57-58).

<sup>154</sup> Complex products contain more risk which is not easily quantifiable. Given the complexity of the products it is not easy to regulate and monitor them. Therefore, risky products pose a threat to the stability of the financial institution which holds them. In a world where financial institutions have a systemic effect on one another, the failure of one major bank due to the materializing of the risk has a negative effect on the financial stability of other financial institutions as well (United States Senate Permanent Subcommittee on Investigations, 'Wall Street and the Financial Crisis: Anatomy of a Financial Collapse', (2011), p. 17).

<sup>155</sup> When prices of real estate in a certain area peak first and decrease later in proportion to their former increase (B.M Roehner, 'Spatial analysis of real estate price bubbles: Paris, 1984-1993', (1999) 29/1 *Regional science and urban economics*, 73, 73-88).

As part of its conservative approach to banking regulation, the banks' supervisor took steps in order to increase bank stability prior to the crisis. This approach was based on an understanding that a rapidly growing market may reach a point where growth is slowed down.<sup>158</sup>

As part of its steps to increase bank stability, the Supervisor of Banks required banks to adopt a minimum of 12% capital reserves until the end of 2009. In addition a three year plan to implement Basel II, the second of the Basel Accords<sup>159</sup> dealing with risk assessment and management, was adopted.<sup>160</sup>

When the crisis broke in 2007, the Israeli banks' supervisor focused on examining the exposure of the Israeli banks to the financial instruments which were at the heart of the financial crisis. It was found that the exposure was minimal. The Supervisor of Banks took steps to ensure banks were not exposed to complex financial products from abroad.

With the Bear Stearns distress in March 2008, supervision of the Israeli banks was tightened even more. Banks were asked to be extra cautious, reevaluate risks, strengthen capital, and prepare a plan for raising capital if needed.<sup>161</sup>

For the reasons discussed above, the Israeli market went through the financial market with relative success; no banking institution has failed and no bailout program was needed.

Even though the Israeli supervisors responded well to the crisis, Israel is also in the process of re-evaluating its financial supervisory structure. In a report handed to the Israeli parliament, the Knesset, the following drawbacks, in comparison with other countries, were identified:<sup>162</sup>

1. **The Structure of the financial supervisory authorities** – the Israeli supervisory structure still follows the institutional structure. However, the market players have outgrown their traditional roles. This leads to an undesirable phenomenon in which similar products are being supervised in different ways based solely on the fact that they are sold by different types of companies.

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<sup>156</sup> When leverage levels go up they can trigger a financial crisis, as a fall in the price of the underlying assets may cause the borrowers to go bankrupt (see: The Financial Crisis Inquiry Commission, 'The Financial Crisis Inquiry Report', (2011), *U.S. Government Printing Office* ).

<sup>157</sup> K. Broida, Z. Ardman & M. Shemesh, *supra* n. 152, p. 47.

<sup>158</sup> K. Broida, Z. Ardman & M. Shemesh, *supra* n. 152, p. 57.

<sup>159</sup> A set of recommendations on how to regulate banks which was issued by the Basel Committee on Banking Supervision.

<sup>160</sup> K. Broida, Z. Ardman & M. Shemesh, *supra* n. 152, p. 97.

<sup>161</sup> K. Broida, Z. Ardman & M. Shemesh, *supra* n. 152, pp. 98-106.

<sup>162</sup> H.Y. Jabotinsky, 'The structure of financial supervision – a global view and comparison to Israel', *The Research and Information Center of the Knesset*, forthcoming 2014.

Moreover, supervisory standards vary from one authority to another. For example, the Bachar committee which transferred the provident funds from banks to insurance companies, in order to reduce conflicts of interest in the market, did not likewise transfer the regulation.

As a result, some time later, concerns were brought up with regards to the stability of provident funds<sup>163</sup> and with regards to the ability of customers to monitor their investments.<sup>164</sup>

Another example of distortions that arise from lack of harmonization can be found by looking at the Hodack committee report which came to investigate the investment rules in debentures and bonds for institutional investors. The result of the committee's recommendations is that mutual funds which are under the supervision of the Israeli Securities Authority can invest in financial products which pension funds are prohibited from investing in. This distinction between mutual funds and pension funds is questionable from an economic point of view, and is a prominent example of distortions that can occur from lack of harmonization of regulation.

Stability concerns call for harmonization of regulation where similar products are involved. Harmonization can be achieved by one of the following ways: consolidation of the financial regulators; giving the lead to a lead regulator; or adding a prudential regulator to the market.

Another major drawback of the structure of the Israeli financial supervisory authorities is the fact that the Department of Financial Markets, Savings and Insurance is part of the Ministry of Finance. This exposes the Department to various conflicts of interest, including, most critically, between protecting consumers' savings and enhancing the financial markets. Separating this Department from the Ministry of Finance and establishing an independent insurance supervisor is therefore long overdue.

2. **Enhancing cooperation between the different supervisory authorities** – As the structure of financial supervision in Israel is dispersed, increased coordination is

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<sup>163</sup> A retirement savings mechanism.

<sup>164</sup> A. Shwartz, 'Management fees in provident funds and pension funds', (2010) *The Research and Information Center of the Knesset*.

required. The MoU mentioned previously in this subchapter is a step in the right direction, however, the regulators need to make use of this tool and develop a culture of regulatory cooperation.

3. **Financial independence of the regulatory authorities** – with the exception of the Bank of Israel, all other supervisory authorities in Israel either receive their money from the Ministry of Finance, depend on the government to approve their yearly budget, or both.<sup>165</sup> This impairs their ability to remain completely independent and increases the chance that they will be influenced by the government instead of by professional standards.
4. **Lack of Deposit Insurance** – Out of all countries surveyed in this chapter, Israel is the only country lacking deposit insurance. As seen in most of the reviewed countries during the last financial crisis, deposit insurance is an important tool in order to increase banks' liquidity and strengthen depositors' trust in the banking system.<sup>166</sup>

It is true that in the past, such as was the case with the bankruptcy of the Trade Bank (HaBank LeMischar), the government and the Bank of Israel acted as deposit insurers where needed. However, on that occasion they made it clear that the bailout did not reflect on their future willingness to insure depositors.

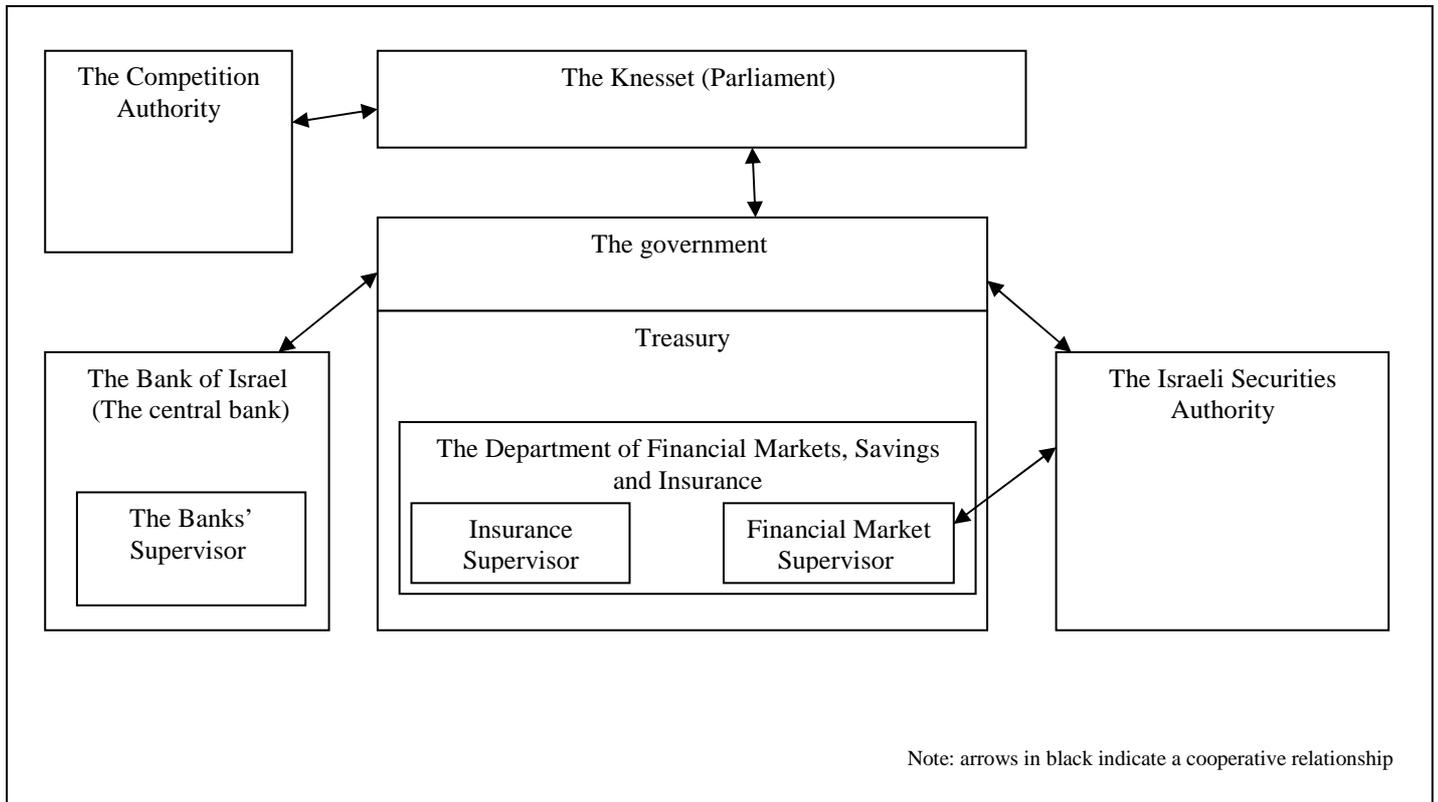
Therefore, it is suggested that deposit insurance for small deposits should also be introduced in Israel.

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<sup>165</sup> The Israeli Securities Authority receives its money from fees paid by the regulated companies. However, its budget has to be approved by the Finance Committee of the Knesset (the Israeli parliament).

<sup>166</sup> See Table 8 in the appendix for comparison of deposit insurance schemes in the countries included in this research.

**Figure 1: the Israeli Financial Supervisory structure**



### **3.5.1.2 Mexico**

#### **General data<sup>167</sup>**

The Mexican financial market accounted for 67% of the country's GDP in 2008. The banking sector comprises over 40 banks, and the majority of the financial institutions active in the market belong to a financial group.<sup>168</sup> In addition there are over 100 insurance companies and pension funds active in the market and over 30 regulated non-bank firms which operate along the same lines as banks.<sup>169</sup>

#### **The structure of the supervisory authorities**

Mexico's financial regulatory structure is an Institutional one. There are seven regulatory authorities active in the Mexican market:

1. The Ministry of Finance and Public Debt (SHCP) is responsible for the design of the financial sector. The SHCP also acts as a coordinating authority between the different financial regulators active in the market. The president of the SHCP appoints the presidents of all other financial regulatory authorities, apart from the Bank of Mexico whose president is appointed by the President of Mexico and ratified by the Senate.<sup>170</sup>
2. The Bank of Mexico serves as Mexico's central bank and as lender of last resort. The Bank of Mexico acquires its own funds and its budget is not submitted to congress for approval.
3. The National Banking and Securities Commission (CNBV) was formed in 1995. Its main responsibilities are to issue regulations for prudential supervision, and to supervise all financial intermediaries apart from insurance companies, bond companies, and pension funds.<sup>171</sup>

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<sup>167</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 76-82.

<sup>168</sup> Group of 30, *supra* n. 133, p 76.

<sup>169</sup> Group of 30, *supra* n. 133, p 76.

<sup>170</sup> Group of 30, *supra* n. 133, p 79.

<sup>171</sup> Group of 30, *supra* n. 133, p 79.

4. The National Insurance and Bond Companies Commission (CNSF) serves as the prudential supervisor for insurance and bond companies.<sup>172</sup>
5. The National Commission for the Retirement Savings System (CONSAR) is the prudential supervisor for pension fund management.<sup>173</sup>
6. The National Commission for the Protection of Financial Services Users (CONDUSEF) is responsible for consumer protection.<sup>174</sup>
7. The Institute for the Protection of Banking Savings (IPAB) is in charge of providing deposit insurance of up to approximately 159,000 USD. The budget for IPAB comes from the government and is part of the government's annual budget which is approved by congress.<sup>175</sup>

Cooperation between the authorities is achieved through the fact that representatives from each authority sit on the board of all other authorities. In addition, representatives from the Bank of Mexico, the IPAB, the SHCP, and the other commissions attend several committees where regulatory ideas are exchanged and financial regulatory issues are discussed and coordinated.<sup>176</sup>

There are other ad hoc committees, such as the Financial Stability Committee. This committee is formulated when a financial institution is “too big to fail” and comprises representatives from the CNBV, IPAB, the Bank of Mexico and SHCP. This mechanism exists although it has never been tested in reality.

The Mexican financial market is riddled with regulation. The financial regulatory authorities receive their mandate from the following rules and regulations:

The Law of the Bank of Mexico (1993) states in Article 1 that the central bank should enjoy autonomy. Article 2 defines its role in maintaining systemic stability and deciding on monetary policy.<sup>177</sup>

The National Banking and Securities Commission Law (1995)<sup>178</sup> establishes the CNVP as the leading supervisor for banks and financial institutions in Mexico. The law places the authority under the Ministry of Finance but grants it technical and operational

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<sup>172</sup> Group of 30, *supra* n. 133, p 79.

<sup>173</sup> Group of 30, *supra* n. 133, p 79.

<sup>174</sup> Group of 30, *supra* n. 133, p 79.

<sup>175</sup> Group of 30, *supra* n. 133, p 80.

<sup>176</sup> Group of 30, *supra* n. 133, p 81.

<sup>177</sup> Ley del Banco de México – 1993.

<sup>178</sup> Ley de la Comisión Nacional Bancaria y de Valores (CNBV) – 1995.

autonomy. In particular the law grants the CNVP with the power for the issuance of consumer protection regulation including regulating disclosure requirements.

The Payment System Law (2002)<sup>179</sup> aims at ensuring the smooth operation of the Mexican payment systems. The powers to regulate the Mexican payment systems are granted to the Bank of Mexico.

The Credit Institutional Law (1990)<sup>180</sup> is the main banking law in Mexico. The law covers banking and credit institutions, and is meant to regulate credit in a way which prioritizes public protection. The law also includes some anti-money laundering provisions.

The Financial Groups Law (1990)<sup>181</sup> regulates financial conglomerates in Mexico.

The Auxiliary Credit Organizations Law (1985)<sup>182</sup> regulates the activity of foreign exchange firms and other financial institutions which belong to banks and provide credit.

The Law of Banking Savings Protection (1998)<sup>183</sup> establishes the Institute for the Protection of Banking Savings (IPAB) in Article 2. The institute is in charge of the federal deposit insurance scheme and its budget is separated from that of the state.

The Securities Market Law (2005)<sup>184</sup> regulates all the activities and firms on the Mexican securities market. This authority is responsible for consumer protection and for the development of the market.

The Mutual Funds Law (2001)<sup>185</sup> regulates all mutual funds active on the market.

The Law on Insurance Contracts (1935)<sup>186</sup> regulates the operation and organization of insurance companies.

The Financial Services and Transparency Law (2007)<sup>187</sup> and the Law for the Protection and Defense of Financial Services Users (1999)<sup>188</sup> concern themselves mainly with consumer protection.

The Retirement Funds System Law (1996)<sup>189</sup> establishes the authority responsible for regulating pension funds (the National Commission for Retirement Savings) and regulates the mandatory pension funds market.

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<sup>179</sup> Ley de Sistemas de Pagos – 2002.

<sup>180</sup> Ley de Instituciones de Crédito – 1990.

<sup>181</sup> Ley para Regular las Agrupaciones Financieras - 1990

<sup>182</sup> Ley General de Organizaciones y Actividades Auxilia- res de Credito – 1985.

<sup>183</sup> Ley de Protección al Ahorro Bancario – 1998.

<sup>184</sup> Ley del Mercado de Valores – 2005.

<sup>185</sup> Ley de Sociedades de Inversión – 2001.

<sup>186</sup> Ley sobre el Contrato del Seguro – 1935.

<sup>187</sup> Ley para la Transparencia y Ordenamiento de los Servicios Financieros – 2007.

<sup>188</sup> Ley de Protección y Defensa al Usuario de Servicios Financieros – 1999.

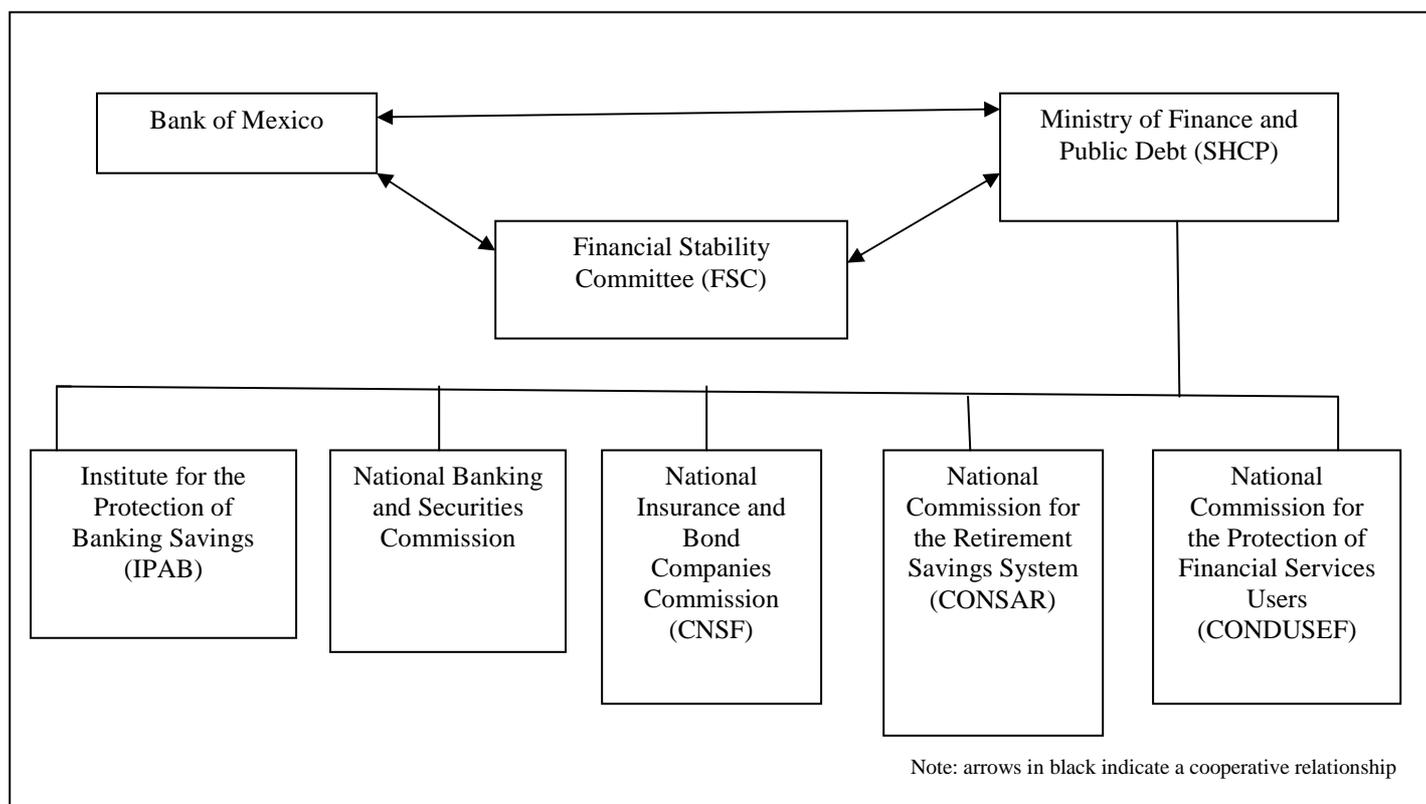
<sup>189</sup> Ley de los Sistemas a'e Ahorro para el Retiro – 1996.

## What has changed since the last financial crisis?

Mexico was hit by the last financial crisis but the financial system proved to be resilient. The market recovered by 2010, mainly due to the work of the financial regulatory authorities.<sup>190</sup>

The banking market remains concentrated and regulatory work is being done in order to try and introduce more competition into the market.<sup>191</sup>

**Figure 2: the Mexican Financial Supervisory structure<sup>192</sup>**



<sup>190</sup> International Monetary Fund Country Report, 'Mexico: Financial System Stability Assessment', No. 12/65 (2012), p. 7.

<sup>191</sup> Group of 30, *supra* n. 133, p 81.

<sup>192</sup> Figure 2 follows diagram in Group of 30, *supra* n. 133, p.80.

## 3.5.2 The Functional Approach

### 3.5.2.1 France

#### General data<sup>193</sup>

The French financial market comprises over 9,000 financial firms which contribute approximately 4.6% to the country's GDP. The assets in the French asset-management industry amount to over 1.25 trillion Euro.

The French banking sector is a concentrated one, consisting of seven large local and international banking groups. Between them, these banking groups hold 80% - 90% of the French banking market.<sup>194</sup>

The insurance market consists mainly of independent insurance groups which hold approximately 80% of the market. The French banks do not play a major role in the general insurance market. They do however sell life insurance.<sup>195</sup>

#### The structure of the supervisory authorities

The French supervisory structure belongs to the functional approach, although it exhibits several characteristics of the twin peaks approach.<sup>196</sup> For example, prudential supervision of banks and pension funds lies with the Banking Commission which is located inside the central bank, the Bank of France, and chaired by the Governor of the Bank of France, whereas responsibility for the conduct of business is given to the Financial Markets Authority, which is the French financial markets' supervisory authority.<sup>197</sup>

The most recent financial supervisory reform occurred in France in 2003 and was aimed at simplifying and reducing the number of financial regulatory authorities. Even so, France still maintains a large number of interconnected supervisory authorities relative to other countries. The structure consists of eleven supervisory authorities, each maintaining separate, but sometimes overlapping, supervisory powers (see figure 3).

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<sup>193</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 96-103.

<sup>194</sup> Those banks are: BNP Paribas, Société Générale, Banque Fédérative du Crédit Mutuel,, Crédit Agricole, BPCE, Credit Lyonnais (LCL), and AXA Bank Europe.

<sup>195</sup> Group of 30, *supra* n. 133, p. 96.

<sup>196</sup> Group of 30, *supra* n. 133, p. 96.

<sup>197</sup> Group of 30, *supra* n. 133, pp. 27 – 28.

The interconnectivity of the authorities is reflected by the fact that the heads of some of the supervisory authorities, as well as politically affiliated delegates, sit on the board of other supervisory authorities.<sup>198</sup>

For example, the Director General of the Treasury, which is part of the Ministry of Economy, Finance and Industry (MINEFI), the French body responsible for the issuance and approval of new financial regulation, is also a member of the governing boards of the prudential supervisor (the CB), the authority which is entrusted with licensing banks and insurance companies (CECEI), and the insurance supervisory authority (CEA). A commissioner is also provided by the government in order to sit on the boards of the insurance systemic supervisory authority (the ACAM) and the authority which supervises and regulates the public's savings (AMF).

The governing board of the prudential supervisory authority, the Banking Commission (CB), comprises the head of the central bank, the finance minister, the head of the ACAM, and four members who are appointed by the treasury.

The governing board of the committee of Credit Institutions and Investment firms (CECEI), which is responsible for licensing credit providers, comprises the head of the central bank, a Ministry of Finance commissioner, the head of the securities authority (AMF), the head of the deposit guarantee authority (FGD), and eight other members appointed by the Treasury.

The commissioner of the central bank (BDF) also sits on the board of the Insurance and Mutual Societies Supervisory Authority (ACAM) which is the main French insurance supervisor.

Coordination between the authorities is maintained mainly through the Board of Financial Sector Authorities (CACESF) which is basically a committee of supervisors consisting of the heads of the Bank of France (BDF), the Financial Markets Authority (AMF), and the Insurance and Mutual Societies Supervisory Authority (ACAM).<sup>199</sup>

From an economic point of view, this structure is questionable as it removes the independence of the regulatory authorities and makes them more vulnerable to political interference due to the fact that politicians sit on the board of directors of most supervisory authorities. In addition, having several regulatory agencies active in the same market with the same mandates for supervision is highly likely to produce overlapping regulation which is costly to the regulated industry. Such a structure also assists corruption.

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<sup>198</sup> The examples which follow are taken from: Group of 30, *supra* n. 133, pp. 98-100.

<sup>199</sup> Group of 30, *supra* n. 133, pp. 98-100.

On the other hand, several regulators acting in the same field allow for diversity which is beneficial for information-flow which is necessary in order to prevent a financial crisis.<sup>200</sup>

The balance between having too many regulators and having too few is a delicate one. However, it is clear that a complicated, bureaucratic structure can impair information-flow and put a heavy burden on the industry. This is one of the reasons why, after going through a financial crisis, a trend towards consolidation is visible in most countries.<sup>201</sup>

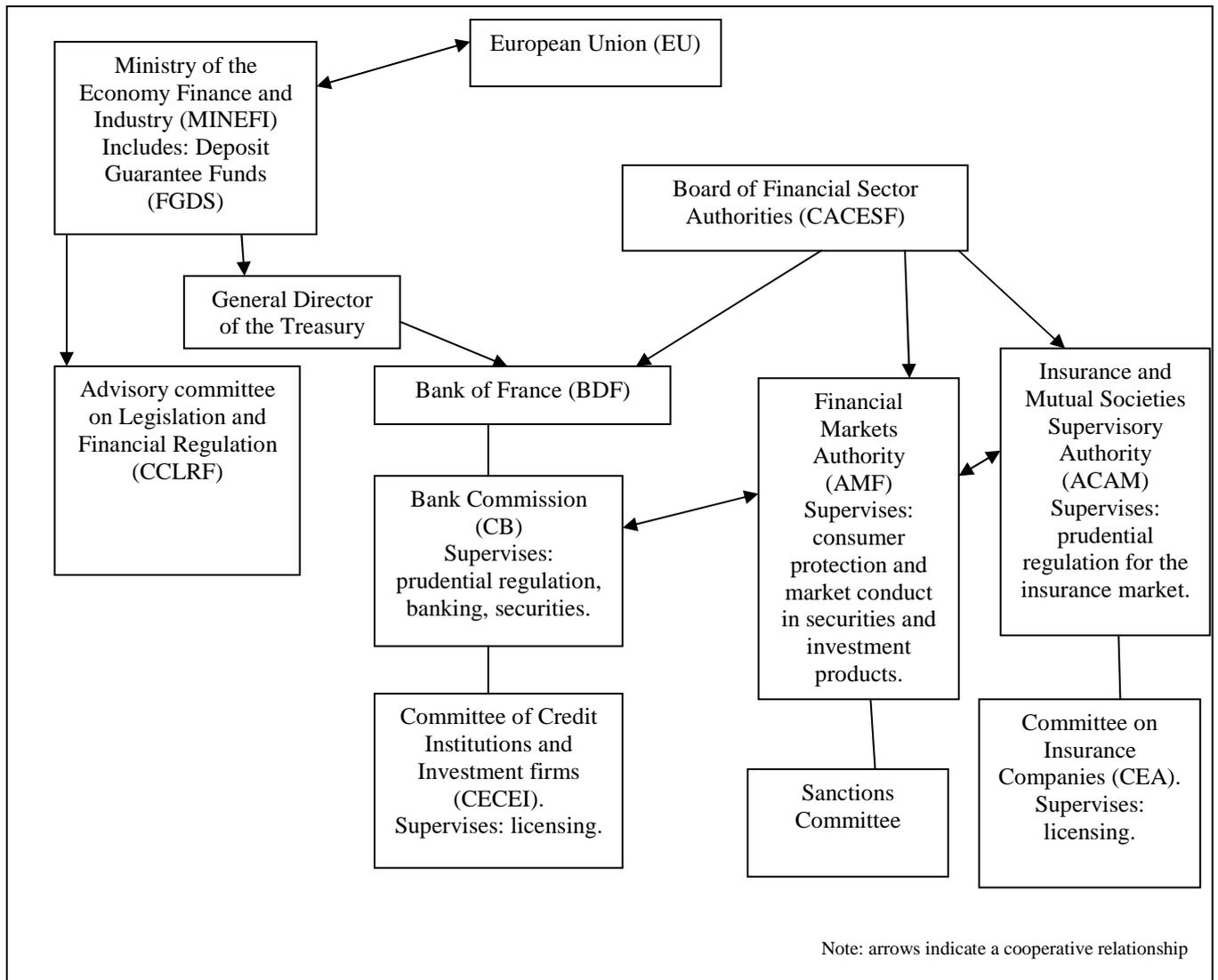
In contrast with the other countries reviewed by this chapter, France has yet to show a trend towards consolidation. Its financial supervisory system remains fragmented and dispersed. Such a trend might be something worth considering.

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<sup>200</sup> This issue will be discussed in detail in Chapter 4 and 5 of this research.

<sup>201</sup> M. Melecky & A.M. Podpiera, *supra* n. 130, p.3.

**Figure 3: French Financial Supervisory structure<sup>202</sup>**



<sup>202</sup> Figure 3 follows diagram in Group of 30, *supra* n. 133, p.101.

### 3.5.2.2 Italy

#### General data<sup>203</sup>

The Italian financial system consists of different institutions and is primarily dominated by banks, which are important players in all fields of the market. Since 2007, the five major banking groups have been Unicredit, Intesa Sanpaolo, Monte dei Paschi, Banco Popolare, and UBI, which together hold 52% of the total domestic banking assets. Non-bank financial firms play an important role in the market and have increased in number over the past few years. However, the consumer credit market is still maintained mainly by banks.<sup>204</sup>

The Italian asset management industry is based on a vertical integration between distributing financial companies (banks and insurance companies) and asset management companies which are owned by banks.

The Italian insurance sector includes some big European firms such as: Generali and Fondiaria SAI. In total, over 170 firms have been licensed to act in the Italian insurance market.<sup>205</sup>

#### The structure of the supervisory authorities

The Italian financial supervisory structure is the result of the post-Great Depression reshape of the 1930's, and the reforms of 1980-90 which were driven by European integration and financial innovation.

Until 2012 the structure consisted of four regulatory bodies:

1. **The Bank of Italy**, the Italian central bank, whose powers to supervise the financial stability and sound management of banks, asset managers, and other financial intermediaries are mainly established in the Consolidated Law on Banking<sup>206</sup> and the Consolidated Law on Finance;<sup>207</sup>
2. **CONSOB**, the securities market regulator, whose powers to ensure securities market transparency and orderly functioning as well as investor protection are based on the Consolidated Law on Finance cited above;

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<sup>203</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 106-112.

<sup>204</sup> Group of 30, *supra* n. 133, p. 106.

<sup>205</sup> Group of 30, *supra* n. 133, p. 106.

<sup>206</sup> Legislative Decree No. 385 of 1 September 1993 and subsequent amendments ("Consolidated Law on Banking"), published in the Official Gazette on 30 September, 1993, No. 230.

<sup>207</sup> Legislative Decree No. 58 of 24 February 1998 and subsequent amendments ("Consolidated law on financial intermediation") published in the official Gazette on 26 March, 1998, No. 71.

3. **ISVAP**, the insurance industry regulatory authority, whose powers to supervise the financial stability, sound management, and market behavior of insurance firms are set out in the Law on Insurance;<sup>208</sup> and
4. **COVIP**, the pension fund supervisory authority, whose powers to supervise private pension funds are set forth in the Law on Private Pension Funds.<sup>209</sup>

The supervisory structure is based on a combination of the Functional and Institutional Approaches. Coordination between the different supervisory authorities is ensured by a mandatory exchange of information, consultation, and cooperation on all subjects that fall within the competence of more than one authority.<sup>210</sup>

In addition, several Memorandums of Understanding exist between the authorities themselves such as a memorandum between the prudential supervisor of banks (the Bank of Italy) and the securities regulator (CONSOB) defining their tasks, responsibilities and procedures for the exchange of information.

Another memorandum which targets the prevention, management, and resolution of financial crises was signed in 2008 between the Ministry of the Economy and Finance, the Bank of Italy, CONSOB and ISVAP. The agencies created the Financial Stability Committee (FSC) whose main task is to enable the smooth transfer of information between the authorities in order to prevent and mitigate a future financial crisis. Each of the authorities established a unit which is tasked with supporting the work of the FSC if and when required.<sup>211</sup>

As the FSC has only been established recently it has yet to be tested during a crisis. Moreover, as it is an initiative of the Italian financial authorities, it has no legal status.<sup>212</sup>

### **What has changed since the last financial crisis?**

During 2007 the Italian government brought forward a proposal to change the Italian supervisory structure into a Twin Peaks structure, much like the restructuring in the UK. According to the proposal the responsibility for supervision and the prevention of systemic

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<sup>208</sup> Legislative Decree No. 209 of 7 September 2005 and subsequent amendments (“Code of Private Insurance”), published in the Official Gazette on 13 October, 2005, No. 239.

<sup>209</sup> Legislative Decree No. 252 of 5 December 2005, and subsequent amendments, (“Code of Private Pension Funds”) published in the Official Gazette on 13 December 2005, No. 289.

<sup>210</sup> See for instance Art. 4 to the Legislative Decree No. 58 of 24 February 1998 and subsequent amendments (“Consolidated law on financial intermediation”) Articles 8 and 21 of Law no. 52 of 6 February 1996.

<sup>211</sup> Group of 30, *supra* n. 133, p. 111.

<sup>212</sup> Group of 30, *supra* n. 133, p. 111.

risks would be given to the Italian central bank, while the responsibility for consumer protection, transparency and market conduct would be managed under CONSOB. The proposal further suggested that ISVAP and COVIP would be eliminated.

The proposal was brought before the Italian parliament but did not pass due to the untimely dissolution of the parliament in early 2008. A less ambitious and yet significant change to the structure of Italian financial supervision was ultimately brought by the Legislative Decree 6 July 2012, no. 95, converted into Legislative Decree No. 135 of 7 August 2012, which suppressed ISVAP as from 1 January 2013, and replaced it with a new Authority named **IVASS** - Istituto per la Vigilanza sulle Assicurazioni, which inherited all its powers, functions, and competences (see figure 4).

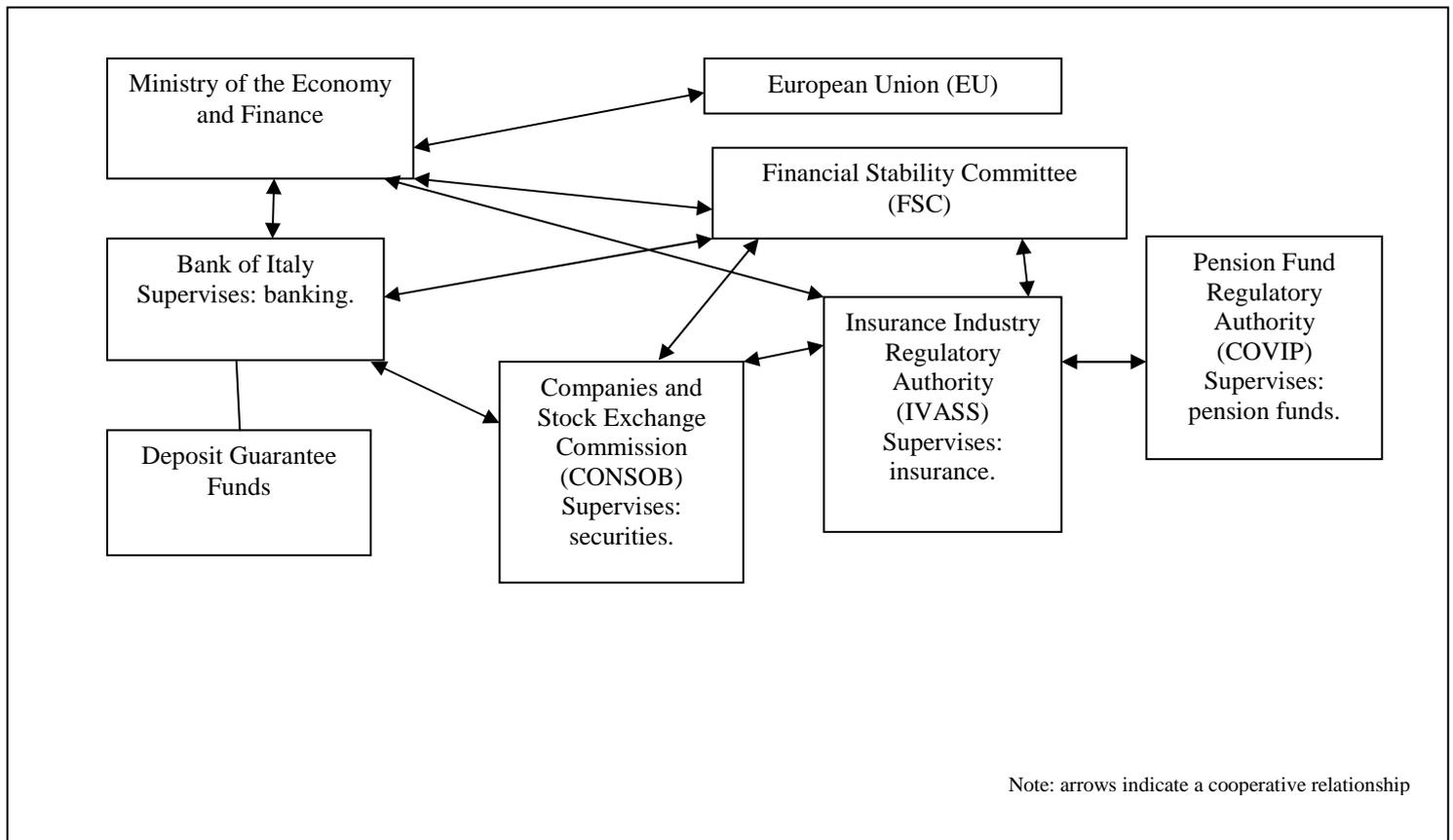
What distinguishes this latter Authority from the former one is its dependence on the Bank of Italy. Although it is ostensibly autonomous and independent from any other power or authority, and exercises its functions under the direction of a Board of Directors appointed by the Government, the chairman and legal representative of IVASS is by statute the Managing Director of the Bank of Italy. Furthermore, the Executive Committee of the Bank of Italy, to this end comprising two members of the Board of Directors, is the one charged with supervising and coordinating the activity of IVASS.

The reasons behind this structural change appear to be not so much related to the financial crisis as to the problem of cutting Italian public spending by reducing the number of staff employed in market authorities. Nevertheless, the official aim of the restructuring is that of integrating the supervision of the insurance industry into the supervision of the banking system, on the assumption that insurance companies, like banks, may be important to the stability of financial markets, given that they equally pose systemic threats. A closer coordination between the oversight of the banking system and that of the insurance market was well received by the European Central Bank.<sup>213</sup>

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<sup>213</sup> See Opinion of the European Central Bank of 30 July 2012 on the reform of supervision of insurance and retirement provision (CON/2012/61).

**Figure 4: Italian Financial Supervisory Structure<sup>214</sup>**



<sup>214</sup> Figure follows figure in Group of 30, *supra* n. 133, p. 110.

### 3.5.2.3 Spain

#### General data<sup>215</sup>

The Spanish financial system consists mainly of three kinds of institutions: banks; insurance companies and pension funds; and securities market institutions. As of 2008 the dominant share of the market belonged to banks which held 70 percent of all assets in the market. Insurance companies held 10 percent of the market and the rest was held by other financial institutions.<sup>216</sup>

The market supports an abundance of credit institutions (over 360) who serve as financial intermediaries and retail banks. The securities market comprises over 6000 firms, which includes money market funds, mutual funds, and other securities companies. During the period of 1991-2006 the financial market grew from 13 percent of GDP to 44 percent.<sup>217</sup>

The insurance companies in the Spanish market are backed by a Public Insurance Consortium which is placed under the Ministry of Economy and Finance.<sup>218</sup>

#### The structure of the supervisory authorities

Spain is in the process of transforming its current Functional supervisory model into a Twin Peaks model.<sup>219</sup> Currently there are three main supervisory authorities active in the market: the Bank of Spain (BDE) which supervises banking products;<sup>220</sup> the National Securities and Exchange Commission (CNMV) which supervises securities market products;<sup>221</sup> and the General Directorate of Insurance and Pension Funds (DGSFP) which supervises insurance and pension products.<sup>222</sup>

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<sup>215</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 116-122.

<sup>216</sup> Group of 30, *supra* n. 133, p. 116.

<sup>217</sup> Group of 30, *supra* n. 133, p. 116.

<sup>218</sup> Group of 30, *supra* n. 133, p. 116.

<sup>219</sup> Group of 30, *supra* n. 133, p. 116.

<sup>220</sup> The objectives, functions and powers of the BDE are defined in Law 13/1994 of Autonomy of the Banco de España (see the following link: <<http://www.bde.es/f/webbde/COM/funciones/ficheros/en/leyautone.pdf>> accessed 09.11.2013) and in Law 26/1988 of Discipline and Intervention of Credit Institutions (see the following link: <<http://www.bde.es/f/webbde/SJU/normativa/eng/ficheros/en/l2688.pdf>> accessed 09.11.2013).

<sup>221</sup> The two basic laws that form and set the objectives for the CNMV are: Law 24/1988 of Securities Markets (Ley 24/1988 del Mercado de Valores) and Law 35/2003 of Collective Investment Institutions (Ley de Instituciones de Inversión Colectiva).

<sup>222</sup> The regulation guiding the formation and operation of the DGSFP and the supervision of the Spanish insurance market in general consists of the following pieces of regulation: Law 50/1980 of Private Insurance Contract, the Insurance Supervising Law (Texto Refundido de la Ley de Ordenación y Supervisión de los Seguros Privados, RDL 6/2004), the Insurance Intermediation Activity Law (Ley de Mediación de Seguros y Reaseguros Privados, 26/2006) and the Pension Funds Law (Texto Refundido de la Ley de Regulación de Planes y Fondos de Pensiones, RDL1/2002).

In addition to these three national supervisors the Regional Governments (Comunidades Autónomas) have limited regulatory power over the financial firms active in their jurisdiction.

While the Bank of Spain and the Securities and Exchange Commission are independent regulators, the General Directorate of Insurance and Pension Funds falls under the Ministry of Economy and Finance (MEH).<sup>223</sup> As part of the MEH, the DGSFP does not issue regulation but rather recommendations for regulation which are then issued by the MEH.

The MEH also has a coordinating role, and its involvement in the financial markets is meant to ensure consistency of the regulation being issued by all three regulatory authorities. Up until recently the MEH was also responsible for issuing bank and insurance licenses following a recommendation from the BDE or the CNMV.<sup>224</sup> Last, decisions taken by the BDE and the CNMV can be appealed before the MEH.

Coordination between the financial supervisory authorities in the Spanish market is achieved through a series of MoU's which include provisions for the sharing of confidential supervisory information. Cooperation is increased through cross-membership of the boards of the BDE and the CNMV.<sup>225</sup>

Coordination and cooperation with regards to systemic risk is also achieved by a selection of senior officials from the supervisory authorities who compose the Committee for Financial Stability (CESFI), which was formed in 2006.<sup>226</sup>

### **What has changed since the last financial crisis?**

As was already mentioned, Spain is in the process of transforming its financial system into a Twin Peaks one.<sup>227</sup> The last financial crisis exposed the shortcomings of the existing Spanish financial regulatory system and, following this crisis, several steps have been made in order to strengthen the BDE and provide it with greater supervisory powers.<sup>228</sup>

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<sup>223</sup> Group of 30, *supra* n. 133, p. 118.

<sup>224</sup> Lately the power to issue a banking license was transmitted to the BDE (International Monetary Fund Country Report, 'Spain: Financial Sector Reform: Second Progress Report', No. 13/54 (2013), p. 4).

<sup>225</sup> Group of 30, *supra* n. 133, p. 120.

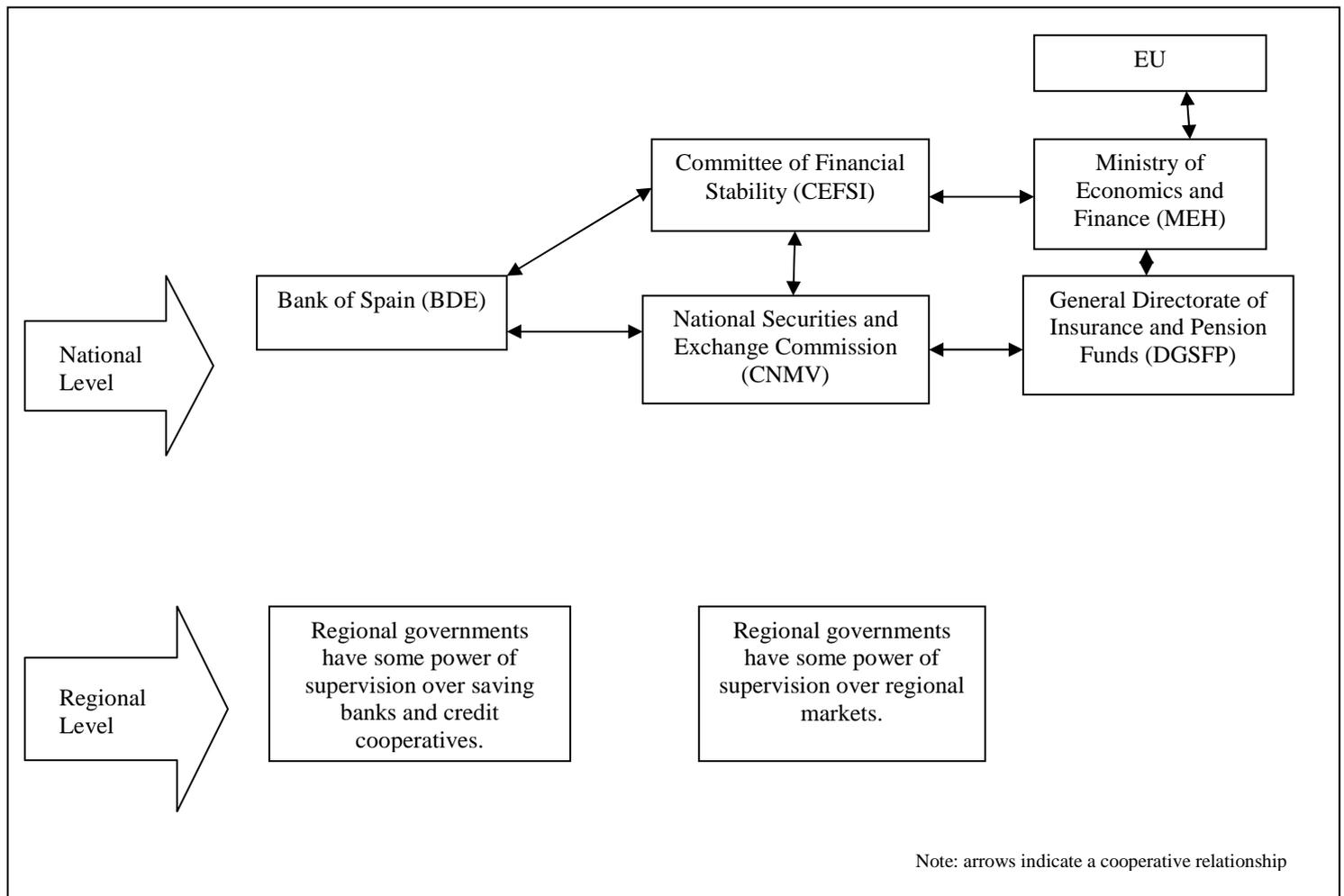
<sup>226</sup> Group of 30, *supra* n. 133, p. 120-121.

<sup>227</sup> Group of 30, *supra* n. 133, p. 116.

<sup>228</sup> International Monetary Fund Country Report, see *supra* n.224, p. 24.

The power to issue banking licenses was transmitted to the BDE as part of the reform,<sup>229</sup> however the MEH remained the forum of appeal against sanctions issued by the BDE.<sup>230</sup>

**Figure 5: Spanish Financial Supervisory Structure<sup>231</sup>**



<sup>229</sup> International Monetary Fund Country Report, see *supra* n.224, p. 4.

<sup>230</sup> International Monetary Fund Country Report, 'Spain: Financial Sector Reform: First Progress Report', No. 12/318 (2012), p. 29.

<sup>231</sup> Figure follows figure in Group of 30, *supra* n. 133, p. 120.

### **3.5.3 The Consolidated/Integrated Approach**

#### **3.5.3.1 Canada**

##### **General data**<sup>232</sup>

As of 2007 the Canadian banking sector consisted of approximately 70 banks, including local banks, international banking groups, and representative counters. The market is valued at approximately 2.5 trillion Canadian Dollars in assets.<sup>233</sup>

The Canadian banking industry represents about 3% of Canada's GDP and employs approximately 1.5% of all employees in the Canadian market. The main share of the banking sector is split between six banks: The Royal Bank of Canada, the Canadian Imperial Bank of Commerce, the TD Bank Financial Group, the Bank of Nova Scotia, the National Bank of Canada, and the Bank of Montreal.<sup>234</sup>

In 2007 the Canadian mutual funds sector amounted to 700 billion Canadian Dollars in managed assets, and its insurance sector, consisting of over 195 insurance companies, to 413 billion Canadian Dollars in administered assets.<sup>235</sup>

The Canadian securities market is dominated by bank-owned securities firms which are held by the six big Canadian banks and which together account for over 70% of the revenues in the Canadian securities market.

##### **The structure of the supervisory authorities**

The structure of the Canadian financial supervisory authorities is a combination of the Functional and the Consolidated/Integrated approaches, and is the result of reforms made in the 1980's.<sup>236</sup> The Consolidated/Integrated approach is apparent at the federal level; the Financial Institutions Supervisory Committee is the main supervisory body responsible for supervising financial institutions. However at the provincial level, the financial supervisory system does have some aspects of the functional approach. For example, securities products, investment advisors, and dealers are all supervised under the provincial securities regulators,

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<sup>232</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 126-134.

<sup>233</sup> Group of 30, *supra* n. 133, p. 126.

<sup>234</sup> Group of 30, *supra* n. 133, p. 126.

<sup>235</sup> Group of 30, *supra* n. 133, p. 126.

<sup>236</sup> Group of 30, *supra* n. 133, p. 126.

whereas only some aspects of insurance products are under the supervision of the provincial regulator.<sup>237</sup>

As Canada is a federal state, there is a difference between federal supervision and the supervision provided by each province and territory. Bank supervision is performed entirely at a federal level while securities supervision is left in the hands of the 13 provinces and territories.<sup>238</sup>

Collaboration on matters pertaining to securities is achieved through a supervisory body, the Canadian Securities Administrators (CSA), whose goal is to create a harmonized set of rules and regulations while maintaining flexibility in each province or territory.<sup>239</sup>

The legal framework that governs financial supervision in Canada includes the following laws:<sup>240</sup> The Bank Act (1871)<sup>241</sup> which was reformed in 2007 is the main statute for regulating banks; the Insurance Companies Act (1991)<sup>242</sup> regulates insurance companies to insure consumer protection; the Trusts and Loans Act (1991)<sup>243</sup> which outlines the guidelines for trusts and loans; the Canada Deposit Insurance Corporation Act (1967)<sup>244</sup> which aims to protect consumers and promote stability; the Cooperative Credit Association Act (1970)<sup>245</sup> governing financial cooperative credit associations; the Canadian Payments Act (1980)<sup>246</sup> which was updated in 2001 and which establishes and defines all matters regarding the clearing and settlement of financial transactions; The Financial Consumer Agency of Canada Act (2001)<sup>247</sup> forms an agency (FCAC) which is entrusted with protecting consumers in the financial markets; and The Office of the Superintendent of Financial Institutions Act (OSFI) (1987)<sup>248</sup> which created a single authority responsible for all federally chartered financial institutions.

The Canadian authorities are coordinated through the Financial Institution Supervisory Committee which acts as a college of regulators and enables regulators to exchange information especially with regards to systemic risks and stability concerns of the financial firms which are active in the Canadian markets.

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<sup>237</sup> J.K. Jackson, 'Financial Market Supervision: Canada's Perspective', (2013) *CRS Report for Congress*, pp. 12-16.

<sup>238</sup> Group of 30, *supra* n. 133, p. 126.

<sup>239</sup> Group of 30, *supra* n. 133, p. 127.

<sup>240</sup> Data about relevant Canadian legislation taken from Group of 30, *supra* n. 133, pp. 126 – 134.

<sup>241</sup> Bank Act 1871 (S.C. 1991, c. 46)

<sup>242</sup> Insurance Companies Act ( S.C. 1991, c. 47).

<sup>243</sup> Trust and Loan Companies Act (S.C. 1991, c. 45).

<sup>244</sup> Canada Deposit Insurance Corporation Act (R.S.C., 1985, c. C-3).

<sup>245</sup> Cooperative Credit Associations Act (S.C. 1991, c. 48).

<sup>246</sup> Canadian Payments Act (R.S.C. , 1985, c. C-21).

<sup>247</sup> Financial Consumer Agency of Canada Act (S.C. 2001, c. 9).

<sup>248</sup> Office of the Superintendent of Financial Institutions Act (R.S.C. , 1985, c. 18 (3rd Supp.)).

A second coordination committee is the Senior Advisory Committee which deals with issues relating to the Canadian market as a whole.

The last coordination forum is the Joint Forum of Financial Market Regulators which was founded in 1990 and enables insurance, securities, and pension regulators to cooperate in order to harmonize their regulation.

### **What has changed since the last financial crisis?**

The calls for a single securities regulatory authority have long existed in Canada,<sup>249</sup> but have been accelerated by the 2007 financial crisis.

In 2009 an expert panel on Canadian securities regulation was formed in order to issue recommendations. One of the panel's major recommendations was to form one Federal securities regulatory authority:

*“The structure would consolidate all policymaking and rulemaking activities for Canada into the Canadian Securities Commission. This would provide for more cohesive and responsive securities regulation... Regulated entities... would only be subject to a single fee and comply with a single set of rules and regulations. This would reduce compliance burden and allow resources to be put to more productive uses. The enforcement of securities law would no longer be fragmented across 13 different jurisdictions... This would facilitate the better use of enforcement resources and concentrate expertise. It would provide for uniform enforcement priorities and investor protection across Canada. Enforcement would be improved by advancing a more principles-based approach and building on the risk-based approach currently employed in Canada.” (p.47)<sup>250</sup>*

In 2010 the Canadian federal government made an attempt at changing the law in order to form a unified securities regulatory authority which was supposed to be established under the Securities Act.

However, the Canadian Supreme Court ruled that the Canadian government did not have the power to issue a unified securities act pertaining to all provinces and jurisdictions, as

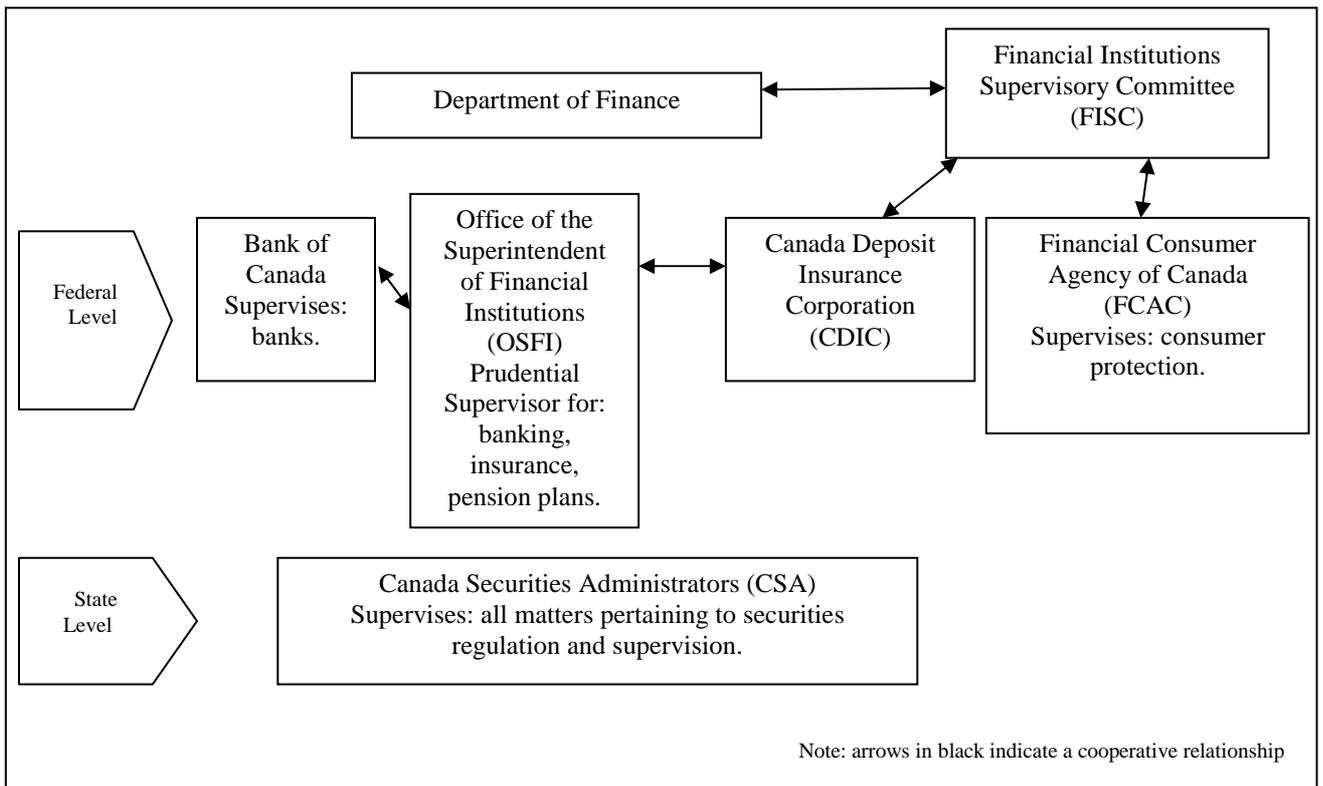
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<sup>249</sup> See for example: The Wise Person Report Committee, ‘It’s Time: Committee to Review the Structure of Securities Regulation in Canada’ (2003).

<sup>250</sup> Expert Panel on Securities Regulation Report, (2009), p. 47.

these issues pertain to property and civil rights, which fall under the provinces' authority. The suggested law has been scrapped.<sup>251</sup>

**Figure 6: The Canadian Financial Supervisory structure<sup>252</sup>**



<sup>251</sup> Supreme Court of Canada: In matter of a reference by the Governor in Council concerning the proposed Canadian Securities Act, as set out in Order in Council P.C. 2010-667, dated May 26, 2010, Reference re Securities Act 2011 SCC 66, File No.: 33718. 2011: April 13, 14; 2011: December 22.

<sup>252</sup> Figure 6 follows diagram in Group of 30, *supra* n. 133, p. 132.

### **3.5.3.2 Germany**

#### **General data**<sup>253</sup>

The German financial market consists of over 2000 banks, around 720 financial services institutions, approximately 650 insurance companies and pension funds, around 80 investment companies, and about 6000 investment funds.<sup>254</sup>

The supervised banks are categorized according to one of the following groups: lending banks; saving banks; cooperative banks; and special purpose banks such as mortgage banks, securities banks etc. The German banking system is the least concentrated of all European banking systems.<sup>255</sup>

#### **The structure of the supervisory authorities**

In 2002 Germany moved away from the Institutional Approach and now follows more or less the Consolidated/Integrated Approach to financial supervision. The entire German financial market is supervised by a sole regulator, the BaFin.

The exception is the banking system which is supervised both by the BaFin and by the Bundesbank, and in this sense banking supervision in Germany resembles the Twin Peaks Approach to supervision.<sup>256</sup>

In Germany, banking supervision is regulated according to The Banking Act<sup>257</sup> which authorizes the bank supervisors (the BaFin and the Bundesbank) to set the regulatory framework for banks without intervening directly in their transactions.

The BaFin is composed of different departments supervising banks, insurance, and securities. These departments coordinate with one another through cross-sectoral departments that are separated organizationally from the supervisory departments.

The legal framework for the work of the German financial regulator consists mainly of: The Banking Act,<sup>258</sup> which is the main piece of legislation with regards to bank

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<sup>253</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 138-144.

<sup>254</sup> Group of 30, *supra* n. 133, p. 138.

<sup>255</sup> Group of 30, *supra* n. 133, p. 138.

<sup>256</sup> Information taken from the official website of the Bundesbank :

<[http://www.bundesbank.de/Redaktion/EN/Standardartikel/Core\\_business\\_areas/Banking\\_supervision/banking\\_supervision.html](http://www.bundesbank.de/Redaktion/EN/Standardartikel/Core_business_areas/Banking_supervision/banking_supervision.html)> accessed 23.05.2013.

<sup>257</sup> The Banking Act, Gesetz über das Kreditwesen – Kreditwesengesetz – KWG, Kreditwesengesetz in der Fassung der Bekanntmachung vom 9. September 1998 (BGBl. I S. 2776), das zuletzt durch Artikel 2 des Gesetzes vom 7. Mai 2013 (BGBl. I S. 1162) geändert worden ist.

<sup>258</sup> *Supra* n. 257.

supervision and oversight; the Mortgage Bonds Act;<sup>259</sup> the Securities Deposit Act;<sup>260</sup> the Building and Loan Associations Act;<sup>261</sup> and the Savings Banks Acts of the Federal States.<sup>262</sup>

Securities are regulated through: the Securities Trading Act;<sup>263</sup> the Securities Acquisition and Takeover Act;<sup>264</sup> the Securities Prospectus Act;<sup>265</sup> the Third Financial Market Promotion Act of 1998;<sup>266</sup> and the Fourth Financial Market Promotion Act of 2002.<sup>267</sup>

The central bank (The Deutsche Bundesbank) cooperates with BaFin in all matters regarding supervision of banks as required by section 7 of the German Banking Act.<sup>268</sup>

In 2008 BaFin and the German Central Bank signed an agreement of understanding which clearly defines each of their roles with regards to the supervision of banks in Germany. The agreement provides the central bank with day-to-day monitoring and supervisory powers over banks, leaving other issues - such as solving problems which can put the safety of the assets held by banks at risk, harm the normal conduct of the banking business, or adversely affect the German economy as a whole - in the hands of BaFin.<sup>269</sup>

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<sup>259</sup> The Mortgage Bond Act, Pfandbriefgesetz (PfandBG, Pfandbriefgesetz vom 22. Mai 2005 (BGBl. I S. 1373), das zuletzt durch Artikel 10 Absatz 3 des Gesetzes vom 13. Februar 2013 (BGBl. I S. 174) geändert worden ist).

<sup>260</sup> The Securities Deposit Act, Gesetz über die Verwahrung und Anschaffung von Wertpapieren (Depotgesetz - DepotG) Depotgesetz in der Fassung der Bekanntmachung vom 11. Januar 1995 (BGBl. I S. 34), das zuletzt durch Artikel 5 des Gesetzes vom 31. Juli 2009 (BGBl. I S. 2512) geändert worden ist.

<sup>261</sup> The Building and Loan Associations Act, Gesetz über Bausparkassen – BauSparkG, Gesetz über Bausparkassen in der Fassung der Bekanntmachung vom 15. Februar 1991 (BGBl. I S. 454), das zuletzt durch Artikel 3 des Gesetzes vom 29. Juli 2008 (BGBl. I S. 1509) geändert worden ist.

<sup>262</sup> The Savings Banks Acts of the Federal States (Sparkassengesetz – SpkG): this is not one law, but 15. Each Land, except Hamburg, has its own because the local savings bank is actually a publicly traded company (AG), usually called Sparkassengesetz (SpG or SpkG).

<sup>263</sup> The Securities Trading Act, Gesetz über den Wertpapierhandel/ Wertpapierhandelsgesetz – WpHG, Wertpapierhandelsgesetz in der Fassung der Bekanntmachung vom 9. September 1998 (BGBl. I S. 2708), das zuletzt durch Artikel 3 des Gesetzes vom 7. Mai 2013 (BGBl. I S. 1162) geändert worden ist.

<sup>264</sup> The Securities Acquisition and Takeover Act, Wertpapiererwerbs- und Übernahmegesetz (WpÜG), "Wertpapiererwerbs- und Übernahmegesetz vom 20. Dezember 2001 (BGBl. I S. 3822), das zuletzt durch Artikel 2c des Gesetzes vom 28. November 2012 (BGBl. I S. 2369) geändert worden ist".

<sup>265</sup> The Securities Prospectus Act, Gesetz über die Erstellung, Billigung und Veröffentlichung des Prospekts, der beim öffentlichen Angebot von Wertpapieren oder bei der Zulassung von Wertpapieren zum Handel an einem organisierten Markt zu veröffentlichen ist (Wertpapierprospektgesetz - WpPG), "Wertpapierprospektgesetz vom 22. Juni 2005 (BGBl. I S. 1698), das zuletzt durch Artikel 1 des Gesetzes vom 26. Juni 2012 (BGBl. I S. 1375) geändert worden ist" Implements 2003/71/EC.

<sup>266</sup> The Third Financial Market Promotion Act of 1998, 3. FFG, Drittes Finanzmarktförderungsgesetz, Gesetz zur weiteren Fortentwicklung des Finanzplatzes Deutschland.

<sup>267</sup> The Fourth Financial Market Promotion Act of 2002, Gesetz zur weiteren Fortentwicklung des Finanzplatzes Deutschland (Viertes Finanzmarktförderungsgesetz, 4. FFG).

<sup>268</sup> *Supra* n. 257, section 7.

<sup>269</sup> The official website of the Bundesbank:

<[http://www.bundesbank.de/Redaktion/EN/Standardartikel/Core\\_business\\_areas/Banking\\_supervision/banking\\_supervision.html](http://www.bundesbank.de/Redaktion/EN/Standardartikel/Core_business_areas/Banking_supervision/banking_supervision.html)> accessed 23.05.2013.

The BaFin, the Deutsche Bundesbank, and the Federal Ministry of Finance hold regular meetings through a forum for Financial Markets Supervision aimed at coordinating their supervisory and regulatory approaches and exchanging information.<sup>270</sup>

In addition Germany has formed the Domestic Standing Group for Financial Market Stability, which developed a framework for crisis management which has not been published.<sup>271</sup>

### **What has changed since the last financial crisis?**

The German financial system is more conservative than the USA or the UK, and so was less exposed to the toxic assets which were at the base of the 2007-2009 financial crisis. Even so, Germany's economy has been severely affected by the financial crisis of 2007. However, the German market has improved in the last two years and Germany made a complete recovery.<sup>272</sup>

Given the drastic shock to the German economy following the crisis, there has been severe criticism of the BaFin for not foreseeing and preventing the crisis in Germany. In 2010 it was resolved that the German central bank, the Bundesbank, would be responsible for macro prudential supervision, i.e. it would mitigate systemic risk, while BaFin preserved its micro-prudential supervisory powers, i.e. it retained responsibility for the well-being of individual financial institutions. Germany has agreed that further clarity is needed with regards to the cooperation between the BaFin, the Bundesbank, and the European Supervisory Authorities, and with regards to the distinction between micro and macro prudential supervision.<sup>273</sup>

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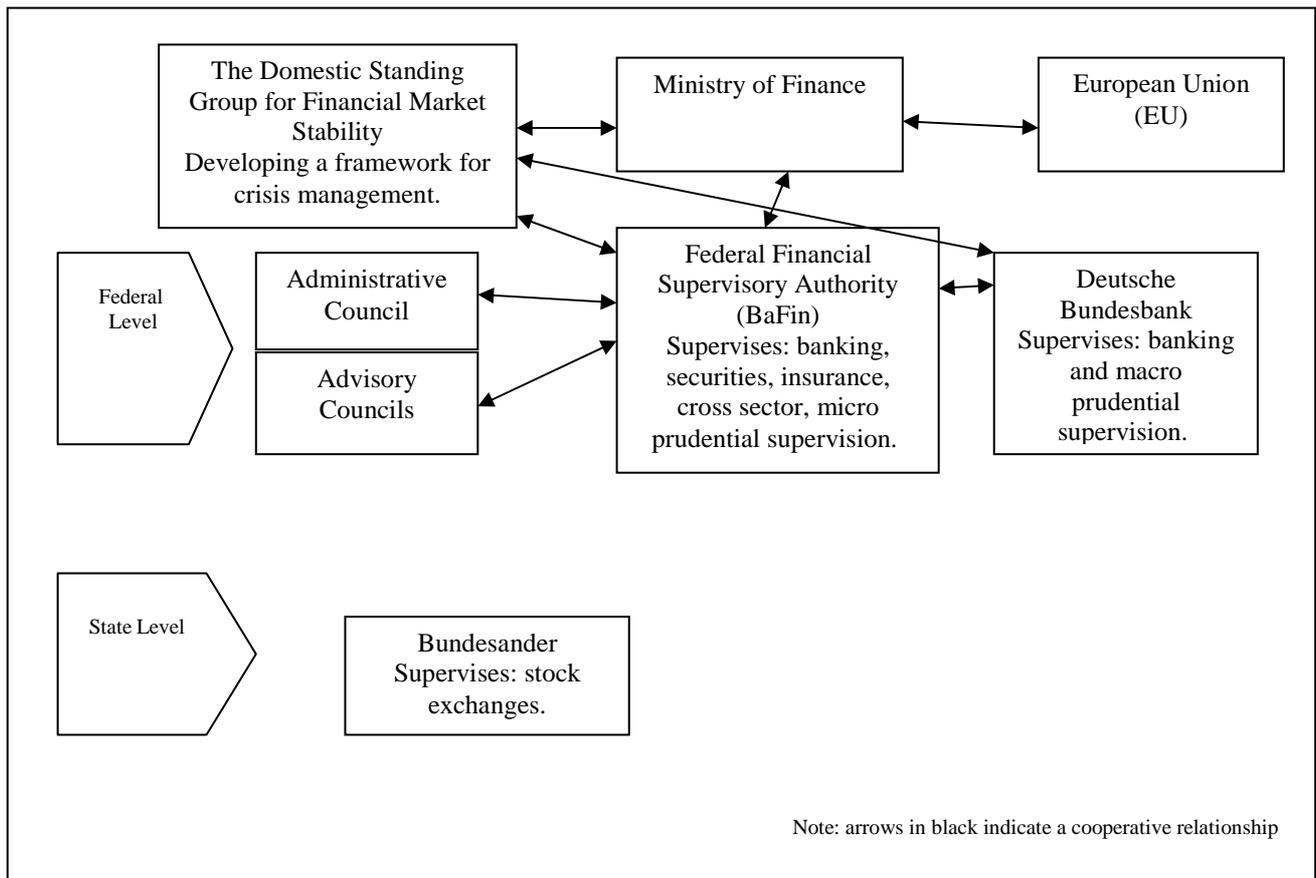
<sup>270</sup> Group of 30, *supra* n. 133, pp. 143-144.

<sup>271</sup> Group of 30, *supra* n. 133, p. 144.

<sup>272</sup> International Monetary Fund, "Germany - Staff Report for the 2011 Article IV Consultation", June 2011.

<sup>273</sup> International Monetary Fund, *supra* n. 272.

**Figure 7: The German Financial Supervisory structure<sup>274</sup>**



<sup>274</sup> Figure 7 (with relevant adjustments) follows diagram in Group of 30, *supra* n. 133, p. 143.

### **3.5.3.3 Switzerland**

#### **General data<sup>275</sup>**

The financial market is one of the largest markets in the Swiss economy; banks, insurance companies, investment firms, and other financial mediators contribute approximately 12% of the Swiss GDP. These financial bodies employ about 6% of the country's employees and account for around 10% of the tax revenues paid to the state.<sup>276</sup>

The market is dominated by two large banks - UBS AG and Credit Swiss Group, which together compose about one third of the financial market. In fact these two banking groups are such important players in the Swiss economy that the financial regulatory authority, FINMA, dedicated a unit solely to supervise them. In addition to these two large banks, a few dozens of small canton banks, held partly by the government, are active in the market.<sup>277</sup> Generally speaking the Swiss banks are universal banks which provide services in the fields of banking, insurance and securities.

#### **The structure of the supervisory authorities**

Up until 2009, Switzerland followed the Functional Approach to financial supervision. In 2009 the country adopted the Consolidated/Integrated Approach and formed the Federal Financial Markets Supervisory Authority (FINMA) as a sole supervisory authority.<sup>278</sup> The formation of FINMA meant consolidating the Swiss Federal Banking Commission (SFBC), the Federal Office of Private Insurance (FOPI), and the Anti-Money Laundering Control Authority into one authority. The consolidation was done according to the Federal Act on the Swiss Financial Markets Supervisory Authority<sup>279</sup> which established FINMA as a single federal financial regulator.

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<sup>275</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 170-173.

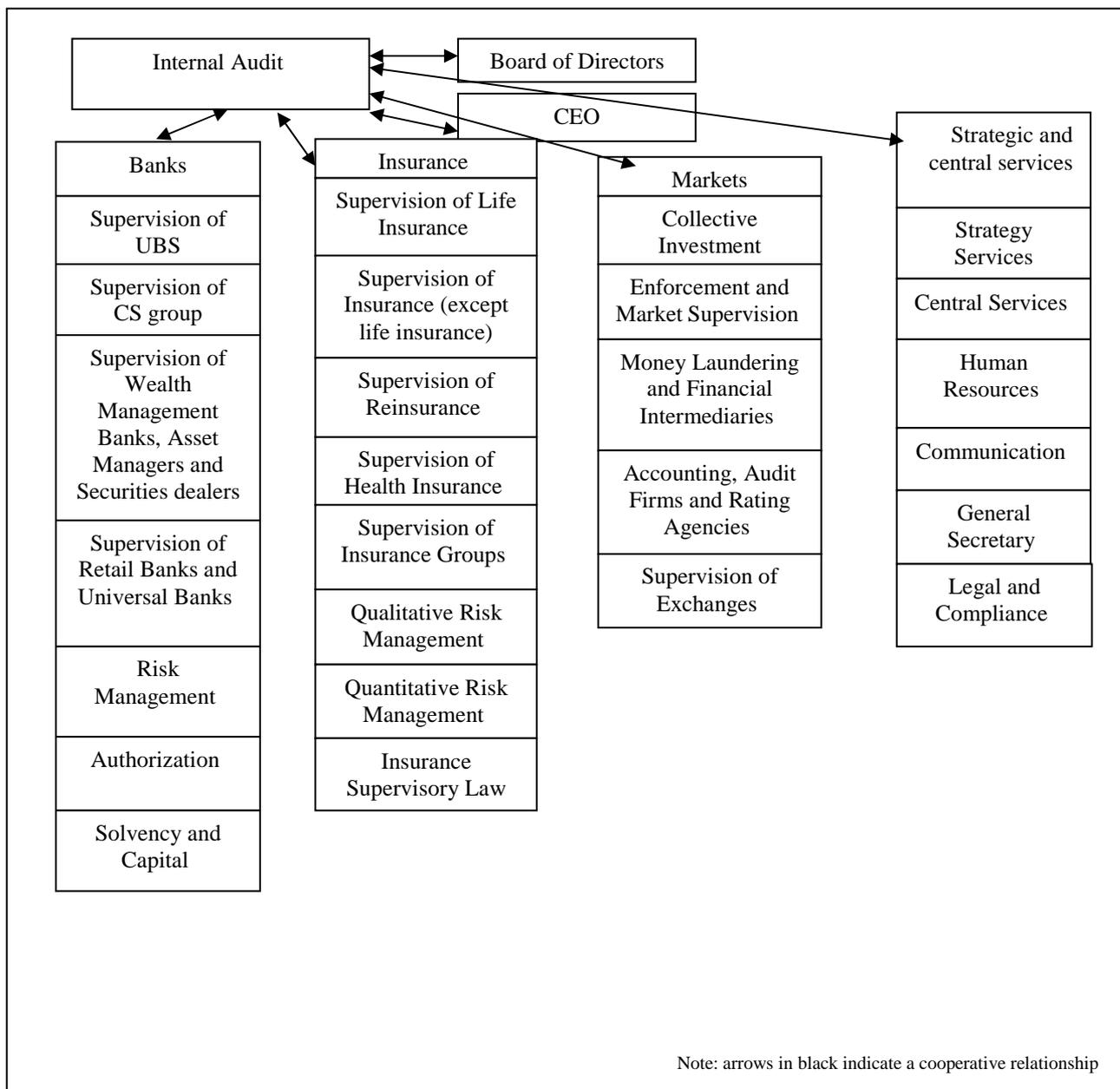
<sup>276</sup> Group of 30, *supra* n. 133, p. 170.

<sup>277</sup> Group of 30, *supra* n. 133, p. 170.

<sup>278</sup> Group of 30, *supra* n. 133, p. 170.

<sup>279</sup> Federal Act on the Swiss Financial Market Supervisory Authority (Financial Market Supervision Act, FINMASA) of 22 June 2007 (Status as of 1 January 2009).

**Figure 8: The Swiss Financial Supervisory structure<sup>280</sup>**



<sup>280</sup> Figure 8 follows the diagram on the FINMA web site: <<http://www.finma.ch/e/Pages/default.aspx>> accessed 05.10.2012.

### 3.5.3.4 Japan

#### General data<sup>281</sup>

Japan's financial market consists of over 600 financial institutions which are insured by deposit insurance. Over 140 of these institutions are banks. Four main banks<sup>282</sup> hold together around 35% of the total assets held by banks. Non-bank financial institutions are abundant, some of which also lend money to the public.<sup>283</sup> Securities companies in Japan operate mainly as dealers and less as investment bankers. The insurance market consists of over 40 life insurance companies and over 20 property and casualty insurance companies.

#### The structure of the supervisory authorities

Japan's financial supervisory system is a Consolidated/Integrated one. Following the deflation of the economic boom during the late 1980's and the stagflation which followed it during the 1990's, Japan undertook the Financial System Reform in the late 1990's.<sup>284</sup> The reform shifted the regulatory approach from ex ante regulation which limited the entry into the financial market to ex post regulation – barriers to entry were lifted and transparency demands were strengthened. In addition investor protection rules were put in place.

Until the late 1990's, inspection, supervision, and financial planning were all in the hands of the Ministry of Finance (MOF).<sup>285</sup> The Financial System Reform resulted in the formation of the Financial Supervisory Agency (FSA1) in 1998, which was given the role of inspection and supervision of banks. The Bank of Japan, which is Japan's central bank, retained some of its banking supervisory functions via private contracts it had with institutions which maintained deposits with the bank.<sup>286</sup> Even though the Bank of Japan does have a few banking supervisory functions, the system is considered to be a consolidated one and the FSA1 has the lead with regards to all supervisory matters of the financial market in Japan.

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<sup>281</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 146-152.

<sup>282</sup> Mizuho Bank, Mizuho Corporate Bank, Sumitomo Mitsui Banking Corporation, and Bank of Tokyo – Mitsubishi UFJ.

<sup>283</sup> In 2006 over 9000 of these companies were registered with the Financial Service Agency (Group of 30, *supra* n. 133, p. 146).

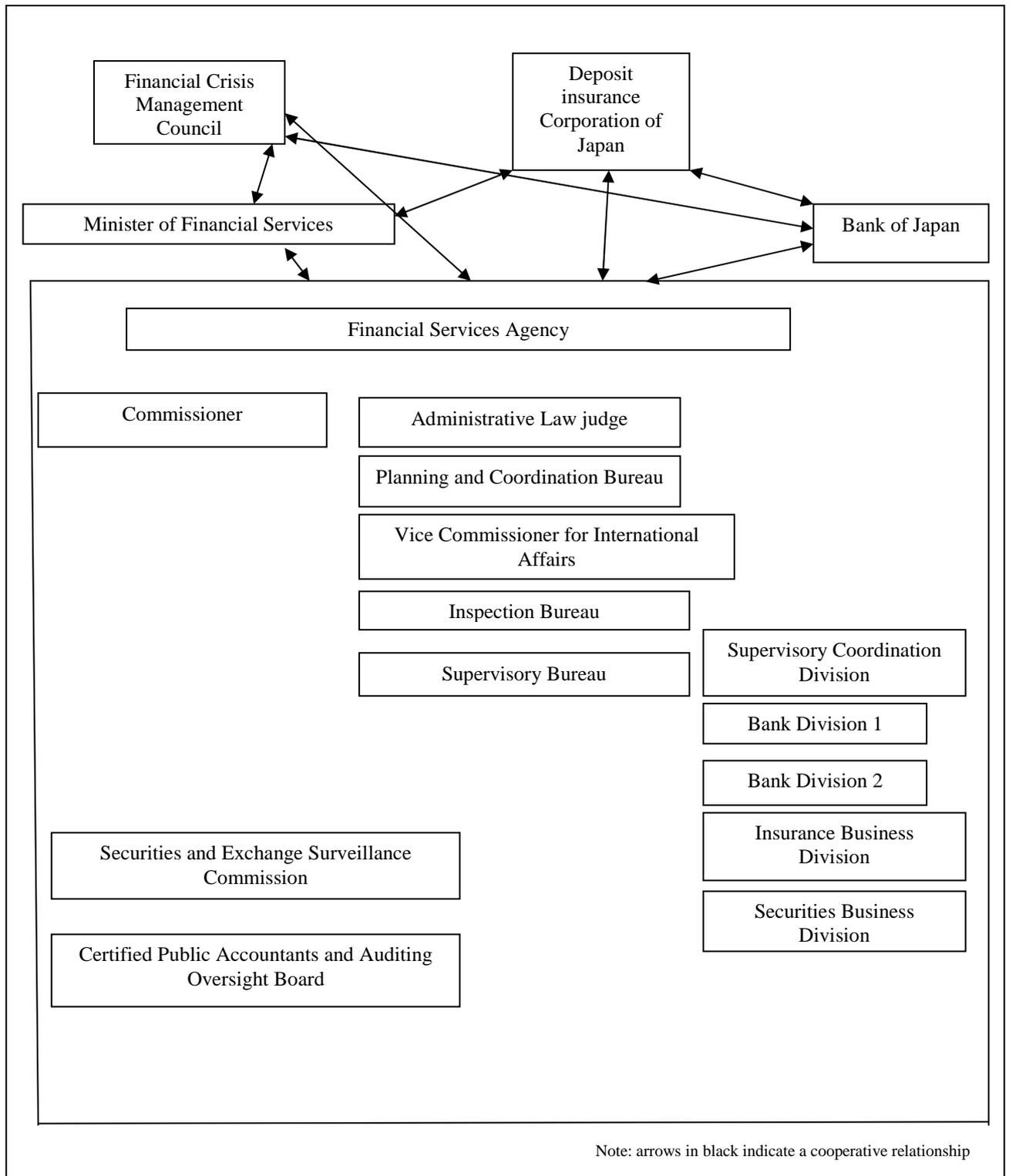
<sup>284</sup> Group of 30, *supra* n. 133, p. 147.

<sup>285</sup> K. Ueda, 'The Structure of Japan's Financial Regulation and Supervision and the Role Played by the Bank of Japan', (2009) *CARF-F-200*, Center for Advanced Research in Finance, p.2.

<sup>286</sup> Group of 30, *supra* n. 133, p. 148.

The Financial Crisis Management Board is responsible for coordination between the government, the FSA<sup>1</sup>, and the Bank of Japan and is headed by the Prime Minister of Japan. The Prime Minister of Japan is responsible for convening the meetings of the Financial Crisis Management Board whenever a financial body is facing a solvency risk or liquidity issues.

**Figure 9: The Japanese Financial Supervisory structure<sup>287</sup>**



<sup>287</sup> Figure 9 follows the diagram on the FSA1 web site: < [http://www.fsa.go.jp/en/about/about01\\_menu.html](http://www.fsa.go.jp/en/about/about01_menu.html)> accessed 02.11.2013 and figure in Group of 30, *supra* n. 133, p. 150.

### **3.5.3.5 The Republic of Korea**

#### **General data**<sup>288</sup>

By the end of 2011 the Korean banking market consisted of 7 nationwide banks, 6 regional ones and over 30 foreign banks. Bank assets amounted to KRW1,969.3 trillion in 2011, an increase of 6.9% compared with the previous year.<sup>289</sup> The number of mutual saving banks amounted to 93, even though their asset share fell by 30% due to the slump in the real estate market.<sup>290</sup> There were 62 securities companies active in the market by the end of 2011 and over 80 registered asset-management firms.<sup>291</sup> The number of insurance companies in the market reached 53 and their asset management grew to KRW566.0 trillion, an increase of 11.5% compared with the previous year.<sup>292</sup>

#### **The structure of the supervisory authorities**

In 1999 Korea changed from the Institutional Approach to financial regulation it had been following to the Consolidated/Integrated Approach. The Act on the Establishment of Financial Supervisory Organizations brought together all supervisory authorities previously active on the Korean market to form the Financial Supervisory Service (FSS).<sup>293</sup> The FSS is responsible for regulating the Korean financial market and for examining the financial firms active on the market.<sup>294</sup>

The FSS is guided by the Financial Supervisory Committee (FSC) which consists of nine commissioners. The FSS itself is headed by a Governor and consists of up to four Senior Deputy Governors, nine Deputy Governors, and a Chief Executive Auditor.<sup>295</sup> The budget for the supervisory activities of the FSS comes mainly from fees levied on the supervised financial institutions and market participants.<sup>296</sup>

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<sup>288</sup> Factual data in this section is based on data taken from Financial Supervisory Service, 'Financial Supervisory Service', 2012.

<sup>289</sup> Financial Supervisory Service, *supra* n.288, p. 5.

<sup>290</sup> Financial Supervisory Service, *supra* n.288, pp. 6-7.

<sup>291</sup> Financial Supervisory Service, *supra* n.288, pp. 8-9.

<sup>292</sup> Financial Supervisory Service, *supra* n.288, p. 10.

<sup>293</sup> The official website of the Financial Supervisory Service: < <http://english.fss.or.kr/fss/en/eabu/int/est.jsp> > accessed 23.11.2013.

<sup>294</sup> Financial Supervisory Service, *supra* n.288, p. 24.

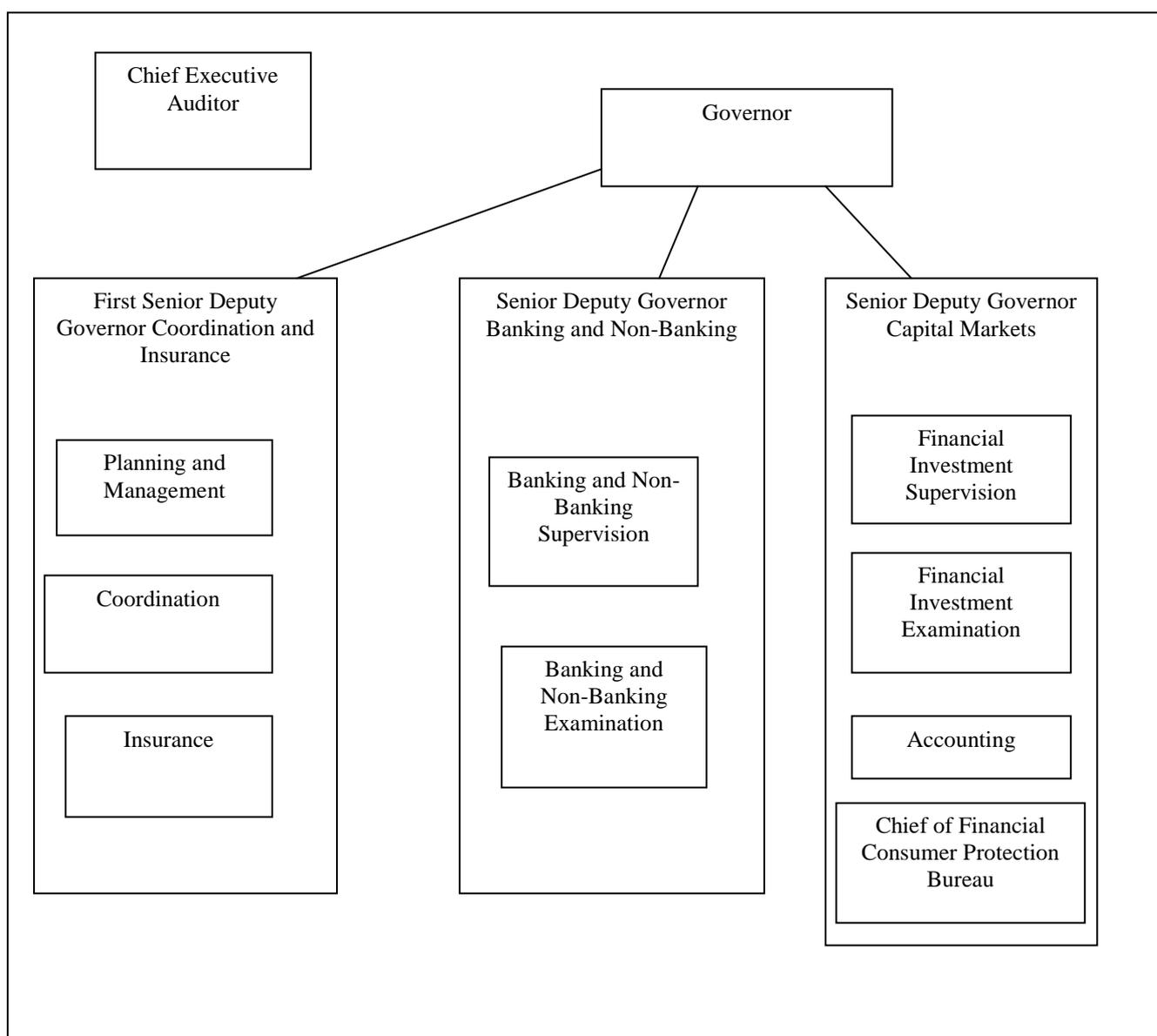
<sup>295</sup> Financial Supervisory Service, *supra* n.288, pp. 22-25.

<sup>296</sup> Financial Supervisory Service, *supra* n.288, p. 25.

## What has changed since the last financial crisis?

In light of the last financial crisis, Korea took a few measures to increase global cooperation, On March 2009 Korea joined the Basel Committee on Banking Supervision as a new member, and on October 2009 Korea became a member of the Financial Action Task Force, the international body for combating money laundering. In addition a few reforms to increase prudential supervision and consumer protection were introduced to the market.<sup>297</sup>

**Figure 10: The Korean Financial Supervisory structure<sup>298</sup>**



<sup>297</sup> The official website of the Financial Supervisory Service:

<[http://english.fss.or.kr/fss/en/eabu/his/history\\_5.jsp](http://english.fss.or.kr/fss/en/eabu/his/history_5.jsp)> accessed 23.11.2013.

<sup>298</sup> Figure 10 with relevant changes follows diagram on the official website of the Financial Supervisory Service: <<http://english.fss.or.kr/fss/en/eabu/int/org.jsp>> accessed 23.11.2013.

## **3.5.4 The Twin Peaks Approach**

### **3.5.4.1 The UK**

#### **General data**<sup>299</sup>

The British financial sector comprises over 25,000 different financial firms, most of them licensed by the Financial Services Authority (the FSA), though others are licensed by different European supervisory authorities within Europe.

During 2006 the British financial market accounted for about 10% of the country's GDP, with 3.5 Trillion pounds worth of managed assets in 2005.

According to the Report, as of 2008, the British financial market was responsible for 34% of the global foreign exchange turnover, and around 43% of the global Over the Counter transactions turnover.<sup>300</sup>

#### **The structure of the supervisory authorities**

During the 1990's, the nature of financial conglomerates which grew beyond their traditional borders as banks, insurance companies, etc., motivated the UK to consolidate its fragmented financial supervisory structure and adopt the Consolidated/Integrated Approach to financial supervision. The move away from the Institutional Approach began in October 1997 and ended in 2001, after the formation of the Financial Services Authority under the Financial Services and Markets Act 2000 (FSMA).<sup>301</sup>

After the formation of the FSA the Bank of England (the BoE) maintained both its role as a lender of last resort, and its responsibility for financial stability through oversight powers over payment systems and market liquidity.

The FSA was constructed from three supervisory departments (see figure 11) and had four objectives: maintaining investors trust in the financial markets; promoting public awareness about financial issues; protecting consumers; and combating money laundering and other financial crimes.

#### **What has changed since the last financial crisis?**

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<sup>299</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 176-182.

<sup>300</sup> Group of 30, *supra* n. 133, p. 176.

<sup>301</sup> The Financial Services and Markets Act 2000 (FSMA), (c.8).

After the 2008 financial crisis the UK decided to completely change its financial regulatory architecture, and has now transferred from the Consolidated/Integrated model to the Twin Peaks model. The reform was completed in 2013 (see figure 12).

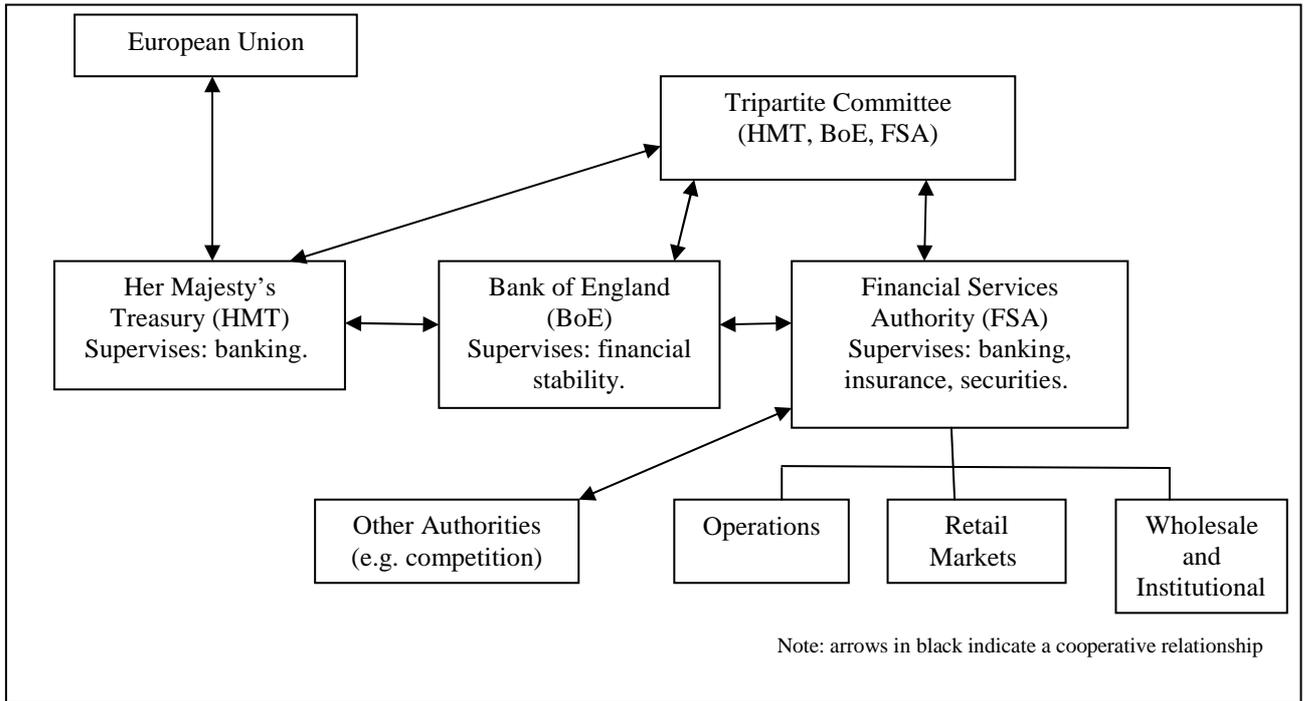
Under the new model the UK's financial supervisory structure consists of the following:<sup>302</sup>

- Prudential Regulatory Authority (PRA) – This institution is a subsidiary of the Bank of England and is supposed to replace it in its role of protecting financial stability. The PRA is responsible for maintaining stability in the market while allowing for “unhealthy” firms to leave the market.
- Financial Conduct Authority (FCA) – This institution supervises all firms and/or activities which are not supervised by the PRA, such as cross-sector products. In addition, the FCA is charged with consumer protection, competition enhancement, and fair trade. The FCA's strategic goal is to strengthen investors' confidence in the financial markets.
- Financial Policy Committee (FPC) – This institution is placed within the Bank of England and is in charge of the tasks of macro-supervision and systemic stability, focusing on risks that arise from the financial markets as a whole, as opposed to risks that arise from specific firms. The Financial Policy Committee advises the Financial Conduct Authority and the Prudential Regulatory Authority on regulatory issues dealing with systemic stability.

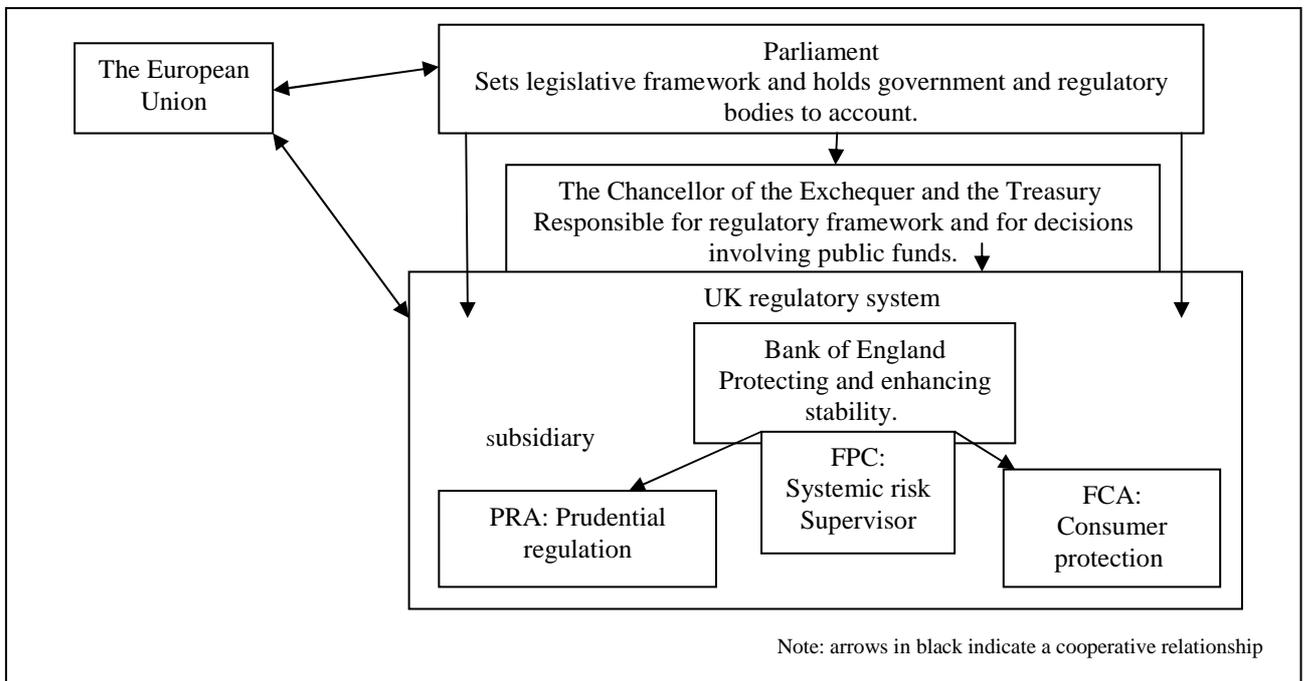
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<sup>302</sup> International Monetary Fund Country Report, 'United Kingdom: The Future of Regulation and Supervision Technical Note', (2011).

**Figure 11: The pre-2013 UK Financial Supervisory structure<sup>303</sup>**



**Figure 12: The current UK Financial Supervisory structure<sup>304</sup>**



<sup>303</sup> Figure 11 (with relevant adjustments) follows diagram in Group of 30, *supra* n. 133, p. 179.

<sup>304</sup> Figure 12 (with relevant adjustments) follows diagram in: HM Treasury, 'A new approach to financial regulation: the blueprint for reform', (2011), p. 8.

### **3.5.4.2 Australia**

#### **General data**<sup>305</sup>

In 2007 the Australian financial sector composed 7.3% of the country's GDP.<sup>306</sup> Australian banking services are provided by Authorized Deposit-Taking Institutions (ADI) which include, apart from banks, building societies and credit unions. The Australian banking sector comprises over 50 national and international banks and, is primarily dominated by four banks: The Australia and New Zealand Banking Group Limited; Commonwealth Bank of Australia; the National Australia Bank Limited; and Westpac Banking Corporation, which control 67% of the Australian banking sector between them. Foreign banks control 11% of domestic credit. The remaining part of the ADI market is dominated by building societies and credit unions.<sup>307</sup>

The Australian insurance market is composed of approximately 90 billion AUD in assets.<sup>308</sup>

#### **The structure of the supervisory authorities**

Following a number of reforms which took place in the late 1990's, Australia now follows the Twin Peaks Approach to supervision, dividing the supervisory tasks between two authorities: the Prudential Regulation Authority (PRA), responsible for stability and prevention of systemic risk; and the Australian Securities and Investments Commission (ASIC), responsible for market conduct (see Figure 13).

The Reserve Bank of Australia is responsible for monetary policy, stability issues, and payment systems.<sup>309</sup>

The authorities coordinate their activities through the Council of Financial Regulators which is chaired by the Reserve Bank of Australia. This board comprises delegates from the Reserve Bank of Australia, the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC), and the Australian Treasury, and provides a forum to discuss policy issues and trends in the financial markets.

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<sup>305</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 188-196.

<sup>306</sup> Group of 30, *supra* n. 133, p. 188.

<sup>307</sup> Group of 30, *supra* n. 133, p. 188.

<sup>308</sup> Group of 30, *supra* n. 133, p. 188.

<sup>309</sup> Group of 30, *supra* n. 133, p. 189.

The Council is an informal forum which facilitates the exchange of ideas and information, provides the ability to divide labor where authorities overlap and, in the event of a financial crisis, facilitates coordination aimed at stopping the crisis.<sup>310</sup>

The authorities also coordinate through a series of Memoranda of Understanding which clearly divides the responsibilities among them in case of overlapping authority.<sup>311</sup>

The authorities' powers are anchored in the following statutes: the Australian Prudential Regulation Authority Act 1998;<sup>312</sup> the Australian Securities and Investments Commission Act 2001;<sup>313</sup> the Reserve Bank Act 1959;<sup>314</sup> the Banking Act 1959;<sup>315</sup> and the Financial Sector (Collection of Data) Act 2001.<sup>316</sup>

### **What has changed since the last financial crisis?**

Australia did not make structural changes to its supervisory structure, but rather focused on strengthening the coordination between the authorities and strengthening the stability of the financial market.

As part of the efforts to increase cooperation and coordination between the authorities, the Council of Financial Regulators released a Memorandum of Understanding on Financial Distress Management in September 2008, further detailing the allocation of responsibilities for detecting and solving financial distress in the Australian financial market.<sup>317</sup>

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<sup>310</sup> Group of 30, *supra* n. 133, p. 194.

<sup>311</sup> The Memorandum of Understanding between the Reserve Bank of Australia and the Australian Prudential Regulation Authority, 12 Oct. 1998, The Memorandum of Understanding between the Australian Securities and Investments Commission and the Reserve Bank of Australia, 20 March 2002 and the Memorandum of Understanding on Financial Distress Management between the members of the Council of Financial Regulators, 18 Sep. 2008.

<sup>312</sup> The Australian Prudential Regulation Authority Act 1998 (Act No. 50 of 1998).

<sup>313</sup> The Australian Securities and Investments Commission Act 2001 (Act No. 51 of 2001 as amended).

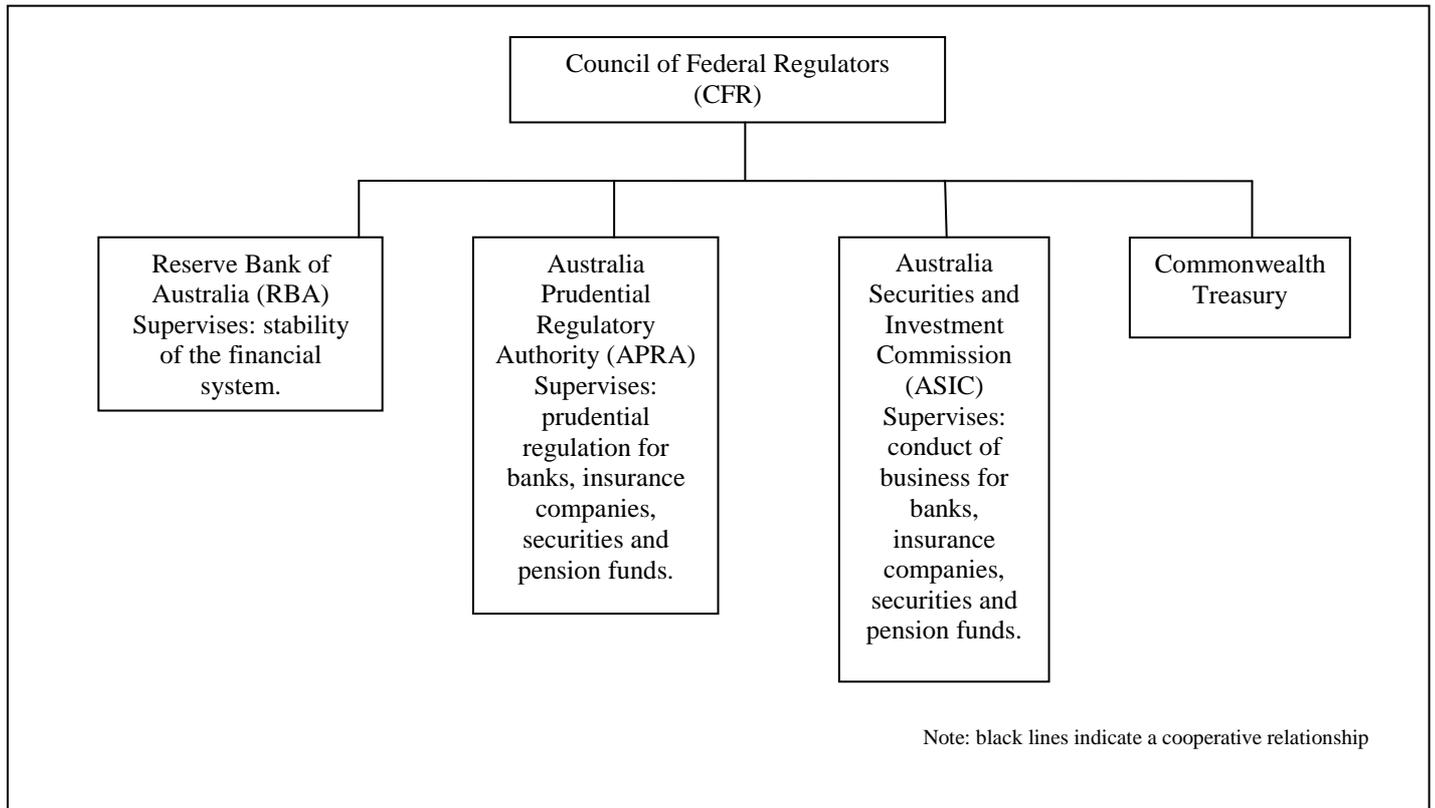
<sup>314</sup> Reserve Bank Act 1959 (Act No. 4 of 1959 as amended).

<sup>315</sup> The Banking Act 1959 (Act No. 6 of 1959 as amended).

<sup>316</sup> Financial Sector (Collection of Data) Act 2001 (Act No. 104 of 2001 as amended).

<sup>317</sup> The Council of Financial Regulators, 'Memorandum of Understanding on Financial Distress Management', 18 Sep. 2008.

**Figure 13: The Australian Financial Supervisory structure<sup>318</sup>**



<sup>318</sup> Figure 13 (with relevant adjustments) follows diagram in Group of 30, *supra* n. 133, p. 193.

### **3.5.4.3 The Netherlands**

#### **General data**<sup>319</sup>

The Dutch financial market consists of approximately 1,800 licensed financial firms which hold around 5 trillion Euro worth of assets. In recent decades the Dutch market has undergone a consolidation process, shrinking the number of firms operating in the market.

The market is currently dominated by a few large banking groups which provide a range of financial products from banking to insurance. The Dutch pension market went through a similar process where the small firms were taken over by a few large ones.<sup>320</sup>

#### **The structure of the supervisory authorities**

The Netherlands is currently following the Twin Peaks Approach to financial supervision, having two main supervisory authorities (see Figure 14):

1. De Nederlandsche Bank (DNB) – the Dutch central bank performs a dual role; it is a member of the European System of Central Banks (ESCB) as a central bank, and it is also an independent supervisory authority responsible for prudential supervision. The Financial Stability Division is part of the DNB and is responsible for assessing financial regulation which aims at promoting stability in the market. Among its roles, the division checks the degree to which the financial system can absorb a shock. This involves checking for risks, vulnerabilities and secondary risks.<sup>321</sup>
2. The Netherlands Authority for Financial Markets (AFM) – this authority is responsible for market conduct and for enforcement of the requirements for provision of information by firms active in the financial market.

The goals of this authority include orderly and transparent market conduct, increasing investors' confidence, and protecting consumers. These goals translate into the following: promoting market access; ensuring fair, efficient and orderly operation of the financial market; and promoting confidence in the market. This authority is a

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<sup>319</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 198-202.

<sup>320</sup> Group of 30, *supra* n. 133, p. 198.

<sup>321</sup> Group of 30, *supra* n. 133, p. 200.

subsidiary of the Ministry of Finance. The Ministry of Finance authorizes its budget and appoints its directors.<sup>322</sup>

### **The statutory framework**

The 1948 Banking Act<sup>323</sup> defines the objectives of the DNB. Banking supervision is regulated in the Act on the Supervision of the Credit System of 1952.<sup>324</sup> The Act on Financial Supervision (WFT),<sup>325</sup> enacted in January 2007, helped complete the reform which transformed the Dutch financial supervisory structure from the institutional structure into the twin peaks structure.

In addition to the WFT there are several statutes which still relate to specific segments of the financial system; the Pension Act (PW)<sup>326</sup> and the Obligatory Occupational Pension Schemes Act<sup>327</sup> regulate the Dutch pension market. The Act on the Supervision of Trust Offices<sup>328</sup> and the Money Transaction Offices Act<sup>329</sup> provide the DNB with the ability to supervise the integrity of Trust offices and Money Transaction Offices.

The AMF supervises audit firms and traded firms through the Audit Firms Supervision Act<sup>330</sup> and the Act on the Supervision of Financial Reporting.<sup>331</sup> Money laundering is combated through the Act on the Prevention of Money Laundering and Financing of Terrorism of 2008.<sup>332</sup>

### **What has changed since the last financial crisis?**

The Dutch financial market, like most financial markets in the west, suffered heavily from the 2008 crisis.<sup>333</sup> The IMF country report of 2010 found that the regulators in the Netherlands were taking the right steps to help the market recover by acting to increase prudential supervision in the market. The DNB was criticized for not using its powers to perform strong prudential supervision.

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<sup>322</sup> Group of 30, *supra* n. 133, p. 201.

<sup>323</sup> Bank Act of 1948.

<sup>324</sup> Act on the Supervision of the Credit System of 1952.

<sup>325</sup> Act on Financial Supervision (Wft), 2007.

<sup>326</sup> Pension Act (PW), 2007.

<sup>327</sup> The Obligatory Occupational Pension Schemes Act.

<sup>328</sup> Act on the Supervision of Trust Offices, 2004.

<sup>329</sup> The Money Transaction Offices Act, 2003.

<sup>330</sup> Audit Firms Supervision Act, 2006.

<sup>331</sup> The Act on the Supervision of Financial Reporting, 2006.

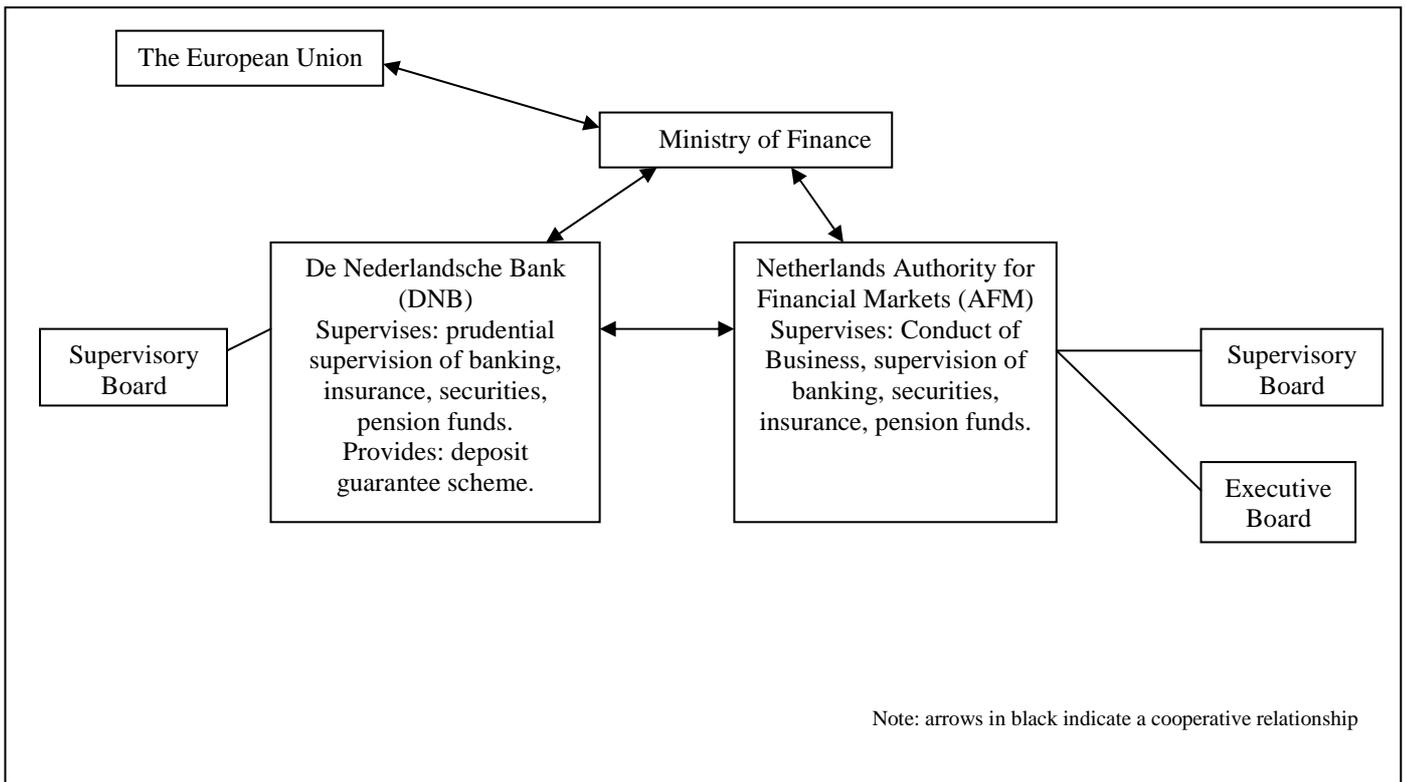
<sup>332</sup> The Act on the Prevention of Money Laundering and Financing of Terrorism, 2008.

<sup>333</sup> International Monetary Fund Country Report, 'Kingdom of the Netherlands-The Netherlands: Financial Sector Assessment, Preliminary Conclusions by the Staff of the International Monetary Fund', (2010).

Following the IMF’s initial findings, the DNB issued two reports - “DNB Supervisory Strategy 2010-2014” and “From Analysis to Action” - which indicate a change in culture towards more proactive prudential supervision.<sup>334</sup>

Currently there are no predictable changes to the Dutch financial supervisory structure.

**Figure 14: The Dutch Financial Supervisory structure<sup>335</sup>**



<sup>334</sup> International Monetary Fund Country Report, *supra* n. 333.

<sup>335</sup> Figure 14 (with relevant adjustments) follows diagram in Group of 30, *supra* n. 133, p. 201.

### 3.5.5 The special cases of the USA and the EU

#### 3.5.5.1 *United States of America*

##### **General data**<sup>336</sup>

The USA financial market contributed 8% of the country's GDP in 2008, and is one of the largest financial markets in the world. The market contains over 31,000 regulated bodies which provide a wide range of financial services in the fields of banking, insurance, securities, and investment management. Around 9,000 of these regulated entities are banks and around 7,600 of them are insurance companies.<sup>337</sup>

##### **The structure of the supervisory authorities**<sup>338</sup>

The structure of financial supervision in the USA is the greatest exception to the models of financial supervision presented at the beginning of this chapter. So much so that it is hard to place the USA in any structure in particular. The structure is complex due to the federal system, the regulatory changes that occurred as a result of past financial crises (especially the most recent crisis), and the attempt to adapt the regulatory structure to modern times.<sup>339</sup> The USA financial supervisory structure can best be described as a mixture between the Functional Approach and the Consolidated/Integrated Approach (see Figure 15).

The complexity in the US financial supervision is also a consequence of the different regulatory approaches taken with regards to different subsectors within the financial market itself. For example, banks and securities are supervised on the state as well as on the federal level. Insurance, however, was supervised only on the national level prior to the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act.<sup>340</sup> Another example would be the choice of chartering; banks have a choice of whether to charter themselves on a state or federal level.

Moreover, the regulatory structure varies from state to state, and often the same state contains several regulatory authorities with overlapping responsibilities. Such overlapping

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<sup>336</sup> Factual data in this section is based on data taken from Group of 30, *supra* n. 133, pp. 208-225.

<sup>337</sup> Group of 30, *supra* n. 133, p. 208.

<sup>338</sup> See subsection with regards to changes made after the last financial crisis.

<sup>339</sup> See subsection with regards to changes made after the last financial crisis.

<sup>340</sup> Reform, Dodd-Frank Wall Street. 'Consumer Protection Act of 2010' HR 4173: 111. For a detailed description of the Act, please see the following paragraphs.

responsibilities also exist at the federal level. On the other side of the spectrum, some financial institutions are not supervised at all.<sup>341</sup>

Another complication in the American financial supervisory structure results from the existence of private regulatory bodies which set industry standards. These bodies, consisting of representatives from the financial industry itself, set standards that are regarded as self-regulation. Such standards include: ISDA standards which set the standards for SWAP and derivative transactions; and FASB which sets accounting standards, etc.<sup>342</sup> This adds to the complication of the system, as parts of the market are supervised by state or federal regulators, while other parts are self-supervised by the industry itself. Thus, regulation might become incoherent.

### **What has changed since the last financial crisis?**

Following the 2007-2009 crisis, the July 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (the Act)<sup>343</sup> was enacted. The Act aims at strengthening supervision over all financial institutions active in the American market. One of its main goals is to extend supervision to institutions which were not supervised prior to the crisis. Other goals include: protecting consumers and investors; reforming the institutional framework of the financial supervisors; and strengthening prudential supervision over financial institutions. The Act was signed by the President of the USA on 21 July 2010 but the implementing measures which result from the Act are still being carried out in the American financial market.

The Act contains 243 pieces of regulation which highly affect the work of the supervisory authorities in the USA. Among other things, the Act formed the Financial Stability Oversight Council (FSOC) which has the authority to advise the financial regulators on both the state and federal levels. FSOC also has the power to review all firms active in the US market, no matter what their business may be, which could have systemic effects on the financial system.

The main changes to the USA's financial supervisory structures, after the last financial crisis and the enactment of the Act, are as follows.<sup>344</sup>

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<sup>341</sup> In light of the 2008 financial crisis and after the enactment of the July 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act, the number of unsupervised firms is expected to decline over the years.

<sup>342</sup> Group of 30, *supra* n. 133, p. 213.

<sup>343</sup> See *supra* n. 340.

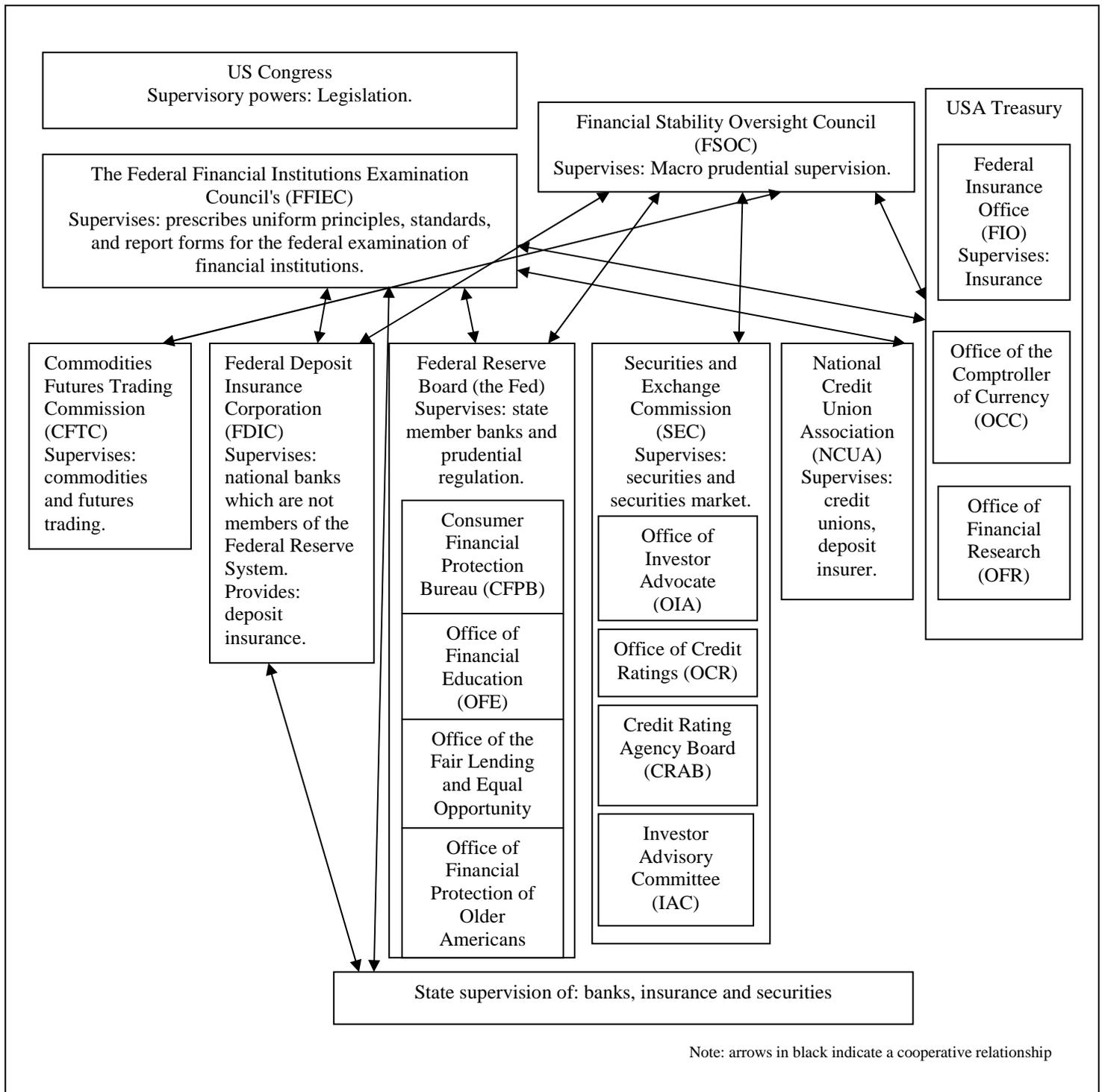
<sup>344</sup> See *supra* n. 340. Changes were also summarized in the following report: Deutsche Bank Research, 'US financial market reform, the economics of the Dodd-Frank Act', (2010).

- The formation of the Financial Stability Oversight Council (FSOC) as part of the efforts to strengthen prudential supervision;
- As part of an effort to address the problems which arise when a firm is “Too Big to Fail”, the Act formed the new Orderly Liquidation Authority, an authority which is meant to provide a framework for orderly liquidation in order to protect consumers and investors and to minimize the chances of a bailout. The authority, together with the Fed, decides when a company is financially distressed. Following these recommendations, a receiver is appointed by the Treasury.
- Reforming the Federal Reserve and giving it more supervisory powers than before. For example, under title number III “Enhancing Financial Institution Safety and Soundness Act of 2010”, the Fed is given supervisory powers over certain holding companies which were previously under the supervision of the Office of Thrift Supervision (which was abolished by the Act).
- Bank prudential regulation – also referred to as the “Volcker” rules – preventing banks from dealing in business transactions and financial instruments which are considered too risky for banks such as proprietary trading, investing in hedge funds, and private equity management. The Act also imposes concentration limits on bank mergers and acquisitions.
- General prudential regulation – enhanced capital requirements and risk-based standards for non-bank institutions which are considered systemically important.
- Initiating supervision for hedge funds, credit rating companies, and other financial firms which were left unsupervised prior to the Act;
- Providing comprehensive regulatory measures for: derivatives; swaps, including credit default swaps and foreign exchange, securities-based swaps; and mixed swaps;
- Cancellation of the Office of Thrift Supervision (OTS), as part of the attempt to reduce overlapping supervisory powers;
- The formation of the Federal Insurance Office, which is formed inside the Ministry of Finance and reports to the government;

- The formation of the new consumer protection agency, the Bureau of Consumer Financial Protection within the Fed, which supervises market participants offering or providing consumers with financial products and/or services; and
- New consumer protection rules especially in the area of mortgages.

While some of these steps are necessary in order to improve regulatory measures in the US financial markets, and are the reaction to the lack of regulation found in specific parts of those markets before the crisis (such as shadow banking etc.), the formation of more regulatory bodies whose areas of authority overlap with existing ones, may prove to be counterproductive to the market for reasons described in Chapter 4 of this research.

**Figure 15: The USA's new Financial Supervisory structure**<sup>345</sup>



Note: arrows in black indicate a cooperative relationship

<sup>345</sup> Figure 15 (with relevant adjustments) follows diagram in *Deutsche Bank Research*, supra n. 344, p. 4.

### **3.5.5.2 The European Union**

#### **General data**

The EU currently contains 27 member states, and its total GDP now exceeds that of the USA, amounting to approximately 12,270,000,000,000 Euro in 2010.<sup>346</sup> The EU contains 7% of the world's population and is responsible for 20% of global trade. The unemployment rate in the EU has increased since the 2007-2009 financial crisis and is now fixed on 7.5%.<sup>347</sup>

#### **The crisis management mechanisms in the EU**

Following the introduction of the Euro in 1999, the EU's policy makers have realized that crisis-management mechanisms are essential for the functioning of the European market. As the local financial markets of the EU member states became more and more interconnected, it became obvious that adverse effects can easily spread between these different local markets. Thus coordination and financial crisis management mechanisms became essential, and were put in place at an EU level. They include:<sup>348</sup>

- As part of the EU's Financial Service Action Plan two directives were adopted: the Capital Requirements Directive (CRD), which assigns coordinating powers to national authorities supervising banking groups on a consolidated basis, and strengthens information-sharing procedures between different national bank supervisors; and the Financial Conglomerate Directive (FCD) which mandates the flow of information between different regulators regulating conglomerates.
- Four memorandums of understandings were adopted. The first one from 2001, relates to the transmission of information in cases of liquidity or solvency problems of banks. The second, from 2003, sets rules and procedures for information transmission between EU banking supervisors and central banks in order to ensure early detection of financial crisis. The third from 2005, was adopted by EU banking supervisors, central banks, and finance ministries, and deals with cooperation and information-sharing once a crisis has already occurred. The last, adopted on June 2008, extends

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<sup>346</sup> Data taken from the official European Union web site: < [http://europa.eu/index\\_en.htm](http://europa.eu/index_en.htm) > accessed 05.02.2011.

<sup>347</sup> Data taken from the official European Union web site: < [http://europa.eu/index\\_en.htm](http://europa.eu/index_en.htm) > accessed 05.02.2011.

<sup>348</sup> Group of 30, *supra* n. 133, p. 230.

the memorandum from 2005 and deals with cross-border and cross-sector coordination.

- The European Central Bank (ECB) has a formal role in crisis management. Its role was defined in the Treaty of Rome, and includes contributing to financial stability, ensuring the smooth functioning of payment systems, and conducting monetary policy operations.<sup>349</sup>
- Representatives of the member countries' national central banks sit on the board of the European Central Bank. National central banks maintain their role and responsibilities as lenders of last resort.
- Several EU committees interlink the various financial supervisors in different member states.

### **What has changed since the last financial crisis?**

Prior to the 2007-2009 financial crisis, financial regulation in the EU was based on the assumption that making financial institutions safe at the micro-prudential supervisory level would ensure that the system as a whole was safe. Thus the emphasis was put on micro-prudential supervision while macro-prudential supervision regarding systemic risks was by and large neglected.

After the 2007-2009 financial crisis, the issue of systemic stability received priority importance and a general framework for Europe's macro-prudential regulation was introduced (See Figure 16).<sup>350</sup>

It was recognized that risk identification and assessment within the European Union and the establishment of mechanisms for early risk warnings, were essential for crisis prevention and mitigation. The main recommendation in De Larosière Report was to form a European systemic risk regulator.<sup>351</sup>

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<sup>349</sup> The Treaty of Rome, March 1957, art. 3(j), Title IV art. 129-130. Given the weaknesses of the ECB as a banking supervisor which were exposed during the last financial crisis, Europe is now undergoing a change towards a Banking Union and a Single Supervisory Mechanism – for further information please see the discussion in the following pages of this research which relate to what has changed since the last financial crisis.

<sup>350</sup> See *supra* n. 349.

<sup>351</sup> See: The High-Level Group on Financial Supervision in the E.U, 'De Larosière Report', (2009).

In May 2009 the European commission released the Communication on Financial Supervision which formed two new regulatory bodies:<sup>352</sup> the European Systemic Risk Board (ESRB) which was designed to function as a European systemic risk regulator, advising on macro-prudential issues; and the European System of Financial Supervisors (ESFS), formed from national financial supervisors, which was intended to function as a European micro-prudential supervisor and to work closely with the ERSB.

The European Systemic Risk Board was finally established in December 2010<sup>353</sup> and the European System of Financial Supervisors in September 2010.

The European System of Financial Supervisors replaced three existing Committees of Supervisors with three new Authorities: the European Banking Authority (EBA);<sup>354</sup> the European Insurance and Occupational Pensions Authority (EIOPA);<sup>355</sup> and a European Securities and Markets Authority (ESMA).<sup>356</sup>

These regulators are coordinated mainly through the Joint Committee established by Articles 54 to 57 of the European Supervisory Authorities.<sup>357</sup> The committee's declared goal is consistency. It aims to reach joint positions among the different regulatory authorities on how to regulate financial conglomerates and other cross-sectoral issues.<sup>358</sup> The effectiveness and efficiency of these institutions is further discussed in Chapter 5 of this research.

Another major issue which arose in the EU after the last financial crisis relates to the need to form a unified Banking Union in Europe. The sovereign debt crisis which developed in Europe as of May 2010 resulted, among other things, from an inconsistency between a strong monetary pillar and a weak supervisory and economic pillar, as well as from a

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<sup>352</sup> Commission of the European Communities, Communication from the Commission, 'European Financial Supervision', Brussels, 27.5.2009, COM(2009) 252 final.

<sup>353</sup> Established by Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board.

<sup>354</sup> Established by: regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority (EBA)), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC.

<sup>355</sup> Established by: regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (the European Insurance and Occupational Pensions Authority (IOPA)), amending Decision No 716/2009/EC, and repealing Commission Decision 2009/79/EC.

<sup>356</sup> Established by: regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority (ESMA)), amending Decision No 716/2009/EC, and repealing Commission Decision 2009/77/EC.

<sup>357</sup> The regulation is commonly referred to as "the European Supervisory Authority (ESA) Regulations" and consists of the pieces of regulation mentioned *supra* n. 353- 356.

<sup>358</sup> Information taken from the ESMA web site: <<http://www.esma.europa.eu/page/European-Supervisory-Framework>> accessed 27.05.2013.

weakness in the inter-linkage between those two pillars.<sup>359</sup> Following the realization of this gap, several reforms have been suggested in order to address the weakness of the supervisory pillar<sup>360</sup>. All of these suggestions revolve around the concept of a banking union.<sup>361</sup>

The European Banking Union is supposed to unify regulatory standards and monitoring across all member states. The first foundations of the Banking Union have already been laid by EU regulation which created a corpus of rules and regulations with regard to the operation of banks in the European Economic Area (the “EEA”).<sup>362</sup>

This first layer of regulation proved to be incomplete in the last financial crisis due to lack of appropriate rules dealing with insolvency and cross-border coordination, and has led the EU to the realization that stronger consolidation of regulation is required at an EU level.<sup>363</sup> External intervention by fiscal authorities during the crisis also sharpened the need to form some sort of fiscal union.<sup>364</sup> This union was expected to encompass micro supervision, crisis management, lender of last resort, and macro prudential supervision.<sup>365</sup>

As a first step towards the formation of the European Banking Union, the EU adopted two new pieces of regulation: the European Banking Authority (EBA) regulation<sup>366</sup> and the Single Supervisory Mechanism (SSM) regulation.<sup>367</sup>

The SSM regulation is based on four principles that were suggested by the ECB:<sup>368</sup> independence, separation between supervision and monetary policy, accountability, and recourse to national authorities. The regulation goes beyond the De Larosiere report<sup>369</sup> and

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<sup>359</sup> R.M. Lastra, ‘Banking Union and Single Market: Conflict or Companionship’, (2013) 36 *Fordham International Law Journal*, 1190, 1192-1193.

<sup>360</sup> R.M. Lastra, *supra* n. 359, p. 1192.

<sup>361</sup> R.M. Lastra, *supra* n. 359, p. 1192.

<sup>362</sup> As of The Treaty of Rome, March 1957, art. 3(j), Title IV art. 129-130. and onwards.

<sup>363</sup> R.M. Lastra, *supra* n. 359, p. 1192.

<sup>364</sup> R.M. Lastra, *supra* n. 359, p. 1193.

<sup>365</sup> R.M. Lastra, *supra* n. 359, p. 1192.

<sup>366</sup> The EBA regulation was lately amended by Regulation (EU) No 1022/2013 of The European Parliament and of The Council of 22 October 2013 amending Regulation (EU) No 1093/2010 establishing a European Supervisory Authority (European Banking Authority) as regards the conferral of specific tasks on the European Central Bank pursuant to Council Regulation (EU) No 1024/2013.

<sup>367</sup> SSM regulation is based on article 127(6) of the Treaty of Lisbon (Consolidated version of the Treaty on the Functioning of the European Union, C 83/47, March 2010) and assigns the supervision of major EU banks to the European Central Bank (Council Regulation (EU) No 1024/2013 of 15 October 2013, conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions (OJL 287, 29.10.2013)).

<sup>368</sup> European Central Bank, Opinion on a proposal for a COUNCIL REGULATION conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions see < <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52012PC0511:EN:NOT>> accessed 25.02.2014 and European Central Bank, A proposal for a regulation of the European Parliament and of the Council amending regulation (EU) No 1093/2010 establishing a European Supervisory Authority (EBA), 2012 O.J.C 30/6 see < <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:030:0006:0006:EN:PDF>> accessed 25.02.2014.

<sup>369</sup> See *supra* n. 351.

the establishment of the European Supervisory Authorities, as it transfers the supervisory tasks of the Euro area banks to the European Central Bank.

In addition, the SSM regulation sets out the supervisory mandate of the ECB to regulate credit institutions as part of the Banking Union, and clarifies its supervisory, regulatory and enforcement powers. The regulation also describes the role of the national supervisory authorities in the countries which belong to the Banking Union.<sup>370</sup>

The SSM regulation was enacted on the basis of Article 127(6) of the Treaty on the Functioning of the European Union (TFEU)<sup>371</sup> which states the following:

*“The Council, acting by means of regulations in accordance with a special legislative procedure, may unanimously, and after consulting the European Parliament and the European Central Bank, confer specific tasks upon the European Central Bank concerning policies relating to the prudential supervision of credit institutions and other financial institutions with the exception of insurance undertakings.”*

However, the decision to base the SSM regulation on the TFEU was criticized by some on the basis that it reduced the decision-making powers of the European Parliament to a merely advisory role.<sup>372</sup>

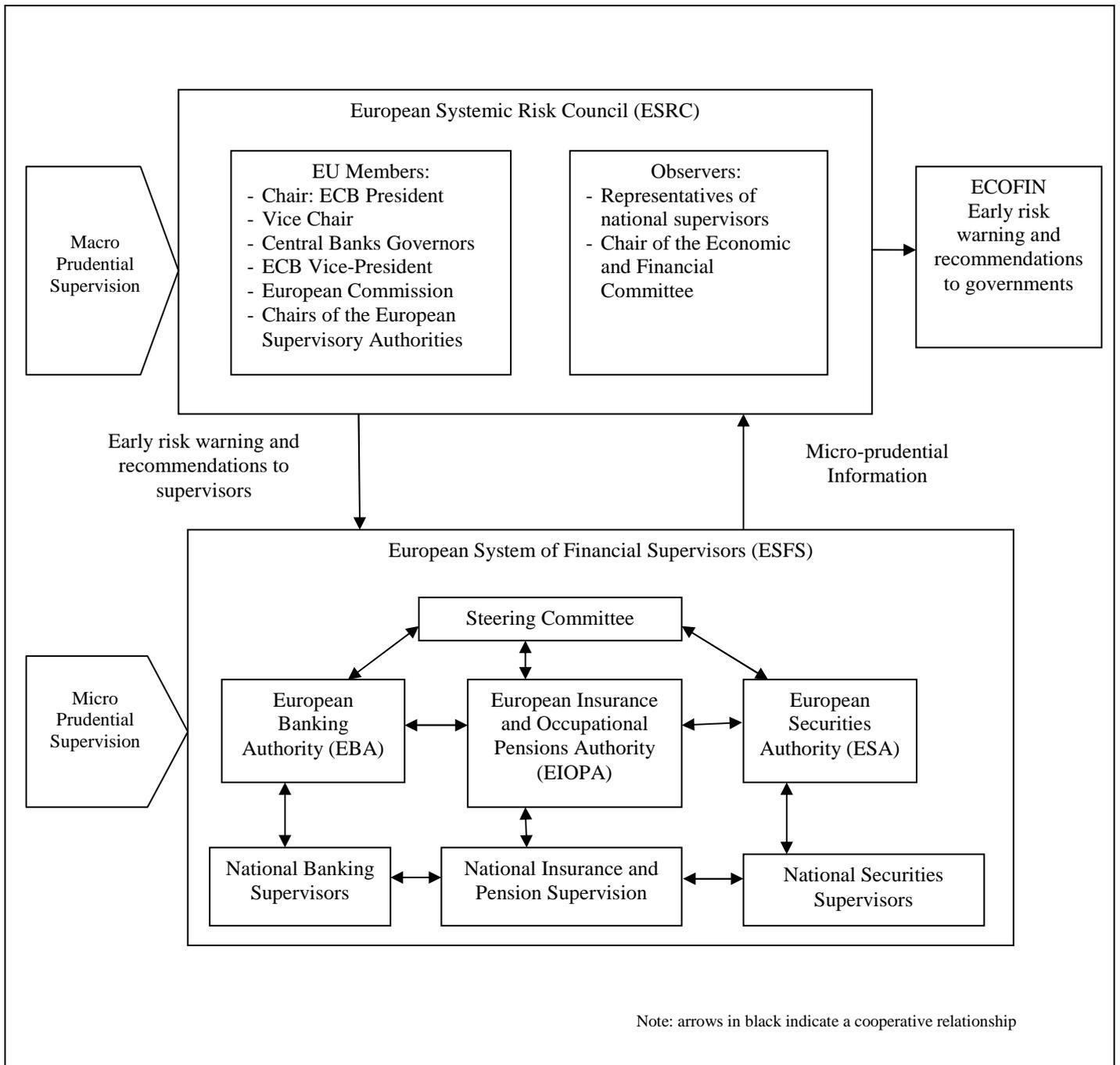
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<sup>370</sup> See *supra* n. 367.

<sup>371</sup> Consolidated version of the Treaty on the Functioning of the European Union, *supra* n. 367, Art. 127(6)..

<sup>372</sup> R.M. Lastra, *supra* n. 359, p. 1198.

**Figure 16: The EU's new Financial Supervisory structure<sup>373</sup>**



<sup>373</sup> Figure 16 (with relevant adjustments) follows *supra* n. 352, p. 17.

### **3.6 Summary**

The 2007-2009 financial crisis definitely put financial regulatory structures under the spotlight in all jurisdictions. As described in this chapter, a number of countries changed their financial regulatory architecture after the financial crisis of 2007-2009. From this we deduce that the countries which changed their supervisory structure were not happy with the functioning of their previous structure, and considered that a change was necessary.

This chapter explored the different financial regulatory structures which exist in fifteen jurisdictions around the globe, and examined the changes which they undertook following the last financial crisis. As presented in the introduction to this chapter, ten of these jurisdictions belong to the top ten OECD countries by GDP for the year 2012 and thus represent strong and large economies, and the other five have specific attributes which made them interesting and led to their inclusion in this chapter.

Some of the countries reviewed in this chapter belong purely to one of the four approaches to the structure of financial supervision which were presented at the beginning of this chapter, i.e., the Institutional Approach (followed in its pure form by Mexico), the Functional Approach (followed in its pure form by Spain which is now transferring into the Twin Peaks Approach), the Consolidated/ Integrated Approach (followed in its pure form by Switzerland and the Republic of Korea), or the Twin Peaks Approach (followed in its pure form by the UK, Australia and the Netherlands).

However, an important finding of this chapter is that over a third of the reviewed jurisdictions cannot be assigned to one of the four approaches to the structure of financial supervision. Rather they follow a different approach which can be referred to as a Hybrid Approach.

In essence the Hybrid Approach means that jurisdictions generally follow one of the four approaches to financial supervisory structures, but are influenced by other approaches as well. This Hybrid Approach is not homogeneous. Some countries mix the Institutional Approach with the Functional Approach (Israel and Italy), or the Functional Approach with the Twin Peaks Approach (France), or the Consolidated/Integrated Approach with the Functional Approach (Canada, the USA), while we can also find examples of a mix between the Consolidated/Integrated Approach and the Twin Peaks Approach (Germany), and between the Consolidated/Integrated Approach and the Institutional Approach (Japan). Meanwhile, the EU with its banking union and three financial regulatory authorities can be

seen to be following a Hybrid Approach combining the Institutional Approach and the Twin Peaks Approach.

Even in the small sample of jurisdictions reviewed by this chapter, we cannot point to one dominant Hybrid Approach, but rather a spectrum of combinations. These combinations are formed through the influence of other approaches on the financial supervisory structure, and come into play in areas where legal, political or practical reasons demand deviation from a jurisdiction's original approach.

A prominent example is the Canadian case presented earlier. In this case an expert panel was formed in order to express an opinion with regards to Canadian securities regulation. Following the recommendations of this expert panel an attempt was made to change the law in order to consolidate Canadian securities regulation under a single authority. This attempt failed due to a ruling of the Canadian Supreme Court which found that the new law was opposed to the right of the different provinces to deal with issues pertaining to property and civil rights.

This case illustrates the fact that, even though in some cases a country might face a strong tendency to deviate from its existing structure, there may also be barriers which prevent it from doing so. In the Canadian example, these barriers were of a legal and constitutional nature, linked to the tension between the provinces and the federal state. It seems that the debate around the regulatory structure was taken hostage by the battle for the provinces' powers and competences.

Another finding which comes out of this chapter relates to the type of issues countries are concerned with after the last financial crisis. Although the sample of countries reviewed by this chapter is too small to make an empirical statement, we generally see that countries which were less damaged by the crisis and had a fast recovery from it (like Mexico for example) are increasing competition in their financial markets, while other jurisdictions which were damaged severely by the last financial crisis are more in search of stability. In the latter cases we can generally see that greater emphasis was, and still is, put on macro-prudential supervision and on systemic risk.

All in all, we do not see countries converging towards one type of financial regulatory structure. The UK, for example, is moving from a Consolidated/Integrated structure to the Twin Peaks structure while Switzerland has changed to the Consolidated/Integrated structure. Similar evolutions can also be observed in other countries. For some of the countries reviewed under this chapter, this is not the first time in the past decade they have changed their financial regulatory structure. The UK is the most obvious example; it has moved from

the Institutional Approach to the Consolidated/Integrated Approach and is now in the process of changing to the Twin Peaks Approach.

Nevertheless, although we do not see countries converging towards one regulatory structure, we do see that countries care about coordination and cooperation mechanisms. Most jurisdictions reviewed in this chapter pay attention to such mechanisms, and put effort into enhancing cooperation between different authorities both on the national and international levels. These efforts have produced some visible results, including: a greater number of MoU's signed between different financial regulators; the formation of coordinating bodies containing representatives from different financial regulators, for the purpose of increasing cooperation and information-sharing; and boards of financial regulators which include representatives from other regulatory authorities to better facilitate coordination. The crisis has shown that modern financial crises are not restricted to a specific territory. Thus the need for cooperation and coordination during the crisis has definitely shaped the way in which countries perceive the structure of their financial regulatory authorities.

In this context, of non-convergence and of a desire for cooperation, the question should then be asked: why don't countries converge into one type of financial regulatory structure? Is one structure preferable to others? The following chapters attempt to answer these questions.

## 4. THE STRUCTURE OF FINANCIAL SUPERVISION: CONSOLIDATION OR FRAGMENTATION FOR FINANCIAL REGULATORS? A GAME THEORETIC APPROACH

### 4.1 Introduction

“Financial institutions are global in life but national in death”.<sup>374</sup> The recent financial crisis has exposed this truth in its full meaning and has impelled countries to look for a perfect regulatory architectural design. Thus, the questions regarding the optimal structure for financial regulators, i.e. consolidated as opposed to fragmented, have resurfaced.

The issue of consolidation v. fragmentation of the financial regulators is not restricted to the national markets, but is also relevant for the global market. The financial crisis of 2007-2009 has provided us with an opportunity to view how market players respond to global regulatory competition.<sup>375</sup> This semi-natural experiment provides us with the opportunity to make an affirmative claim with regard to the need for cooperation between states in order to solve systemic problems.<sup>376</sup>

Moreover, in a study performed by Masciandaro and Quintyn on a sample of 102 countries, the authors found that over a period of eleven years, 69% of the countries sampled by them have reformed their financial supervisory structure at least once.<sup>377</sup> However, countries don't seem to converge towards one type of model and the question is: why?

This chapter aims to assess the existing structures of financial supervision using game theory insights. The main finding of the analysis presented in this chapter is that there is no "one solution fits all" model for financial supervision. Different models of supervision tend to do better or worse in different states of the world, i.e. in different political climates. Each model has its merits and shortcomings, and understanding those can help us improve the existing supervisory structures.

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<sup>374</sup> T. Huertas, 'The rationale for and limits of bank supervision', speech given at the *FSA London Financial Regulation Seminar* on 19 January 2009, transcripts available at:

<[http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2009/0119\\_th.shtml](http://www.fsa.gov.uk/pages/Library/Communication/Speeches/2009/0119_th.shtml)> accessed 27.05.2013.

<sup>375</sup> Regulatory competition can be generally defined as competition between two regulators in order to attract business or market participants to their jurisdiction. The following behavior of regulators may indicate that regulatory competition is taking place: deregulation, failure to regulate, and regulatory subsidies (See: J.P. Trachtman, "International Regulatory Competition, Externalization and Jurisdiction", (1993) 34/1 *Harvard International Law Journal*, 47, 52).

<sup>376</sup> J.P. Trachtman, 'The International Law of Financial Crisis: Spillovers, Subsidiarity, Fragmentation and Cooperation', (2010) 13/3 *Journal of International Economic Law*, 719, 719-742.

<sup>377</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, p. 4.

This also helps to explain why we see countries shifting, in what seems like a random move, from one supervisory structure to another. The changes in the financial structure are due to the fact that countries assume they got it wrong. They assume they got it wrong because, while a financial regulatory structure may do very well in dealing with a certain set of problems, it will at the same time neglect or even create a different set of problems. The discussion of some of these problems, namely, problems relating to the financial regulators' incentives, are at the heart of this chapter.

A key assumption throughout this chapter is that regulators are self-interested. The "self-interest approach" to regulation assumes that regulators are driven by their own personal interests when deciding upon regulating.

These interests vary from a desire to increase their personal powers, their reputation, or their future potential career opportunities within the regulated industry. These interests are accompanied by the desire to reduce legal risk and risk to their reputation.<sup>378</sup>

Thus, regulation may end in a sub-optimal result from a social welfare point of view, as it is affected by the self-interest of the regulators themselves.<sup>379</sup> As pointed out by Boyer and Ponce, if supervisors were benevolent, as opposed to self-interested, then the allocation of supervisory powers would not make a difference.<sup>380</sup>

As a result of the self-interest assumption when describing the way in which regulators interact, a non-cooperative game can be assumed.<sup>381</sup> Self-interested regulators will view their own utility function irrespective of the other regulators utility function or that of the public. As cooperation is costly and difficult to achieve the regulators will cooperate only when they are given the right incentives to do so. Without the right kind of incentives each authority will seek to preserve its independence and autonomy.<sup>382</sup>

Another assumption at the base of this chapter is that of a dynamic game. At T1, at the beginning of the game, each regulator decides for himself whether to regulate or refrain from regulating and at T2, after regulation has taken place, his actions trigger some sort of feedback from society, politicians, and the regulated industry. The regulators' expectations of

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<sup>378</sup> L. Enriques & G. Hertig, 'The Governance of Financial Supervisors: Improving Responsiveness to Market Developments', (2010) 171 *European Corporate Governance Institute Law Working Paper*, 1, 9.

<sup>379</sup> See L. Enriques & G. Hertig, *supra* n.378, pp. 9-11; and J.M. Hendrickson, *supra* n. 19, pp. 3-5.

<sup>380</sup> P.C. Boyer & J. Ponce, 'Regulatory Capture and banking supervision reform', (2012) 8/3 *Journal of Financial Stability*, 206, 207.

<sup>381</sup> A non-cooperative game looks at the structure of the rules in the game environment and derives the likely solution to the game according to what will best promote the self interest of each player (the underlying assumption is that players are rational) (See: D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p. 311).

<sup>382</sup> J.A. Weiss, 'Pathways to Cooperation among Public Agencies', (1987) 7/1 *Journal of Policy Analysis and Management*, 94, 94-117.

the feedback at T2 will affect their decision to regulate or refrain from regulating at T1. This chapter examines the extreme and clear-cut cases in which the regulators can predict with certainty what will be the feedback they will receive at T2.

The assumption behind the games described in this chapter is that the two separate regulators have identified a market failure and that both of them have a proper mandate to regulate in order to solve it.<sup>383</sup> It is further assumed that regulators respond strategically to one another.

An additional assumption is that of a world where overlapping regulation or lack of regulation is **not desirable** as it generates unwanted costs to the market and to the regulated firms, costs which do not contribute to stability or total welfare increase.

On the other hand, there are situations in which overlapping regulation is needed as the market benefits from diversity in regulators. Such is the case when their existence contributes to the stability of the market,<sup>384</sup> or where lack of regulation is desirable as it reduces costs to the firms operating in the market without harming their stability. In either one of these circumstances, the insights proposed in this paper can be used to steer the regulators' actions in the desirable direction.

This chapter is organized as follows: following this introduction, the second part of the chapter examines the existing literature in the field. The third part develops a game theory matrix describing how two regulators working in the same field are expected to interact with one another. Possible market failures and possible solutions are identified. The fourth part assesses the existing financial supervisory models described in Chapter Three of this study, in light of the solutions proposed in part 3 of this chapter. The fifth part includes an application which is connected to problems related to Public Choice Theory, namely "the economic theory of politics",<sup>385</sup> such as self-interested regulators and capture which results in lack of regulation.

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<sup>383</sup> The assumption with regards to overlapping mandates is highly correlated with reality and has been acknowledged by various national governments seeking a new structure for financial supervisors. One example can be found in the latest UK reform where the parliament acknowledged the existence of overlapping mandates caused by the transition to the twin peaks model. See:

<<http://www.publications.parliament.uk/pa/cm201011/cmselect/cmtreasy/430/43009.htm>> accessed 27.05.2013.

<sup>384</sup> For a discussion on this matter see R. Romano, *supra* n. 100.

<sup>385</sup> J.M. Buchanan & R.D Tollison, *The Theory of public choice—II*, University of Michigan Press, Michigan 1984, p. 11.

## 4.2 Literature review

This section reviews the existing literature which relates to the interaction between two or more regulators who are given a dual mandate to regulate a specific field or product. This phenomenon includes situations which the literature refers to as “Regulatory Competition”. Such situations occur when two regulators are active in the same field and compete with one another in order to attract more firms or players into their jurisdictions.<sup>386</sup> The outcome of such competition may result in a suboptimal amount of regulation vis-à-vis the amount of regulation achieved by a single regulator in the field.

In their article discussing the interaction of two regulators, Parisi, Schulz and Klick come to the conclusion that when two regulators act independently, they will tend to exercise their power to a greater or lesser extent than is optimal from the point of view of regulators who have a sole mandate to regulate a specific field.<sup>387</sup>

This chapter reflects the same results for two financial regulators and explains the reason behind them using the private interest approach to regulation. Furthermore, this chapter attempts to predict in which states of the world financial regulators will exercise their powers to a greater or lesser extent than optimal.<sup>388</sup>

Klick and Parisi approach the issue of consolidation or competition for tax authorities through a model of tax authorities which seek to maximize revenue.<sup>389</sup> The tax authorities in their model can choose whether or not to regulate. Likewise, this chapter assumes that financial regulators can choose whether to regulate or not.

Their results show that when operating separately and non-cooperatively, tax authorities tend to over-regulate. This chapter shows that for financial regulation this result could be valid or not depending on how the regulators view the expected political reaction and public opinion to their proposed regulation.

Espinosa-Vega, Kahn, Matta and Sole assume that the failure of a financial institution is politically costly to the financial regulator supervising it.<sup>390</sup> This chapter uses their insight

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<sup>386</sup> J.P. Trachtman, *supra* n. 375, p. 52.

<sup>387</sup> F. Parisi, N. Schulz & J. Klick, ‘Two Dimensions of Regulatory Competition’, (2006) 26 *International Review of Law and Economics*, 55, 55-66.

<sup>388</sup> Please note that when this chapter speaks of an “optimal” level of regulation it refers to it in a qualitative way and is not aspiring to provide a quantitative analysis of what is the “optimal” amount of regulation. In other words, it assumes that the optimal is known and that any deviation from the optimal is not a desirable outcome.

<sup>389</sup> J. Klick & F. Parisi, ‘Intra-Jurisdictional Tax Competition’, (2005) 16/4 *Constitutional Political Economy*, 387, 387-395.

<sup>390</sup> M. Espinosa-Vega, C. Kahn, R. Matta & J. Sole, ‘Systemic Risk and Optimal Regulatory Architecture’, (2011) *IMF Working Paper*, 1, 15-16.

to further explain how political considerations affect the financial regulator's decision-making when they have to consider whether or not to regulate. Moreover, this chapter also uses the private interest approach to regulation and assumes that regulators promote their private objective functions.

The private interest approach is also used by: Itay Agur in his paper regarding competition between bank regulators in the USA;<sup>391</sup> by Enriques and Hertig in their paper regarding mechanisms for improvement of governance over financial regulators;<sup>392</sup> and by Boot and Thakor who show that the quest of supervisors to be seen as capable might lead to excessive perseverance in their approach to regulation.<sup>393</sup>

Espinosa-Vega, Kahn, Matta and Sole's findings show that a unified approach to supervision could reduce systemic risk relative to the fragmented regulatory structure.<sup>394</sup> This chapter shows their findings to be true in a specific setting.

However, it also shows that the unified model is not the only way to solve the problem of systemic risk. Providing regulators with clear sole mandates for supervising a product or a firm should work in the same way and help reduce systemic risks.

Similar to Masciandaro's paper from 2009,<sup>395</sup> this chapter points out that there is no "one solution fits all" for a supervisory oversight structure and that in the end it is a political choice. Masciandaro claims that there is no strong theoretical argument in favor of one supervisory structure over another.<sup>396</sup> This chapter takes these findings a step further and tries to explain, using game theory concepts, what type of problems the different structures of financial supervisory oversight models try to address and what solutions they propose to such problems.

Finally, much like Enriques and Hertig, this chapter suggests an application in public choice which is aimed to incentivize regulators to make the right regulatory choice and take

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<sup>391</sup> I. Agur, 'Regulatory competition and banks' risk taking', (2009) Discussion Paper No. 7524, CEPR/EABCN No. 48/2009, *Centre for Economic Policy Research*.

<sup>392</sup> See L. Enriques & G. Hertig, *supra* n. 378.

<sup>393</sup> A.W Boot & A.V. Thakor, 'Self-interested bank regulation', (1993) 83/2 *The American Economic Review*, 206, 206-212.

<sup>394</sup> M. Espinosa-Vega, C. Kahn, R. Matta & J. Sole, *supra* n. 390, pp. 15-16.

<sup>395</sup> D. Masciandaro, 'Politicians and financial supervision unification outside the central bank: Why do they do it?', (2009) 5 *Journal of Financial Stability*, 124, 124-146 which also refers to: R.K. Abrams & M.W. Taylor, 'Assessing the Case for Unified Sector Supervision', (2002) FMG Special Papers No. 134, *Financial Markets Group, LSE*, London; M. Cihak and R. Podpiera, 'Experience with Integrated Supervisors: Governance and Quality of Supervision', in *Designing Financial Supervision Institutions: Independence, Accountability and Governance*, Edward Elgar, Cheltenham 2007, pp. 309-341; and M. Cihak and R. Podpiera, 'Does more integrated Supervision mean Better Supervision?', (2007) *Finlawmetrics, Bocconi University*, Mimeo.

<sup>396</sup> D. Masciandaro, *supra* n. 395, p. 125.

action where needed.<sup>397</sup> It follows their lead by seeking the solution in the corporate governance mechanism used in the corporate world. The suggestion raised by this chapter is an extension to Enriques and Hertig's arguments, proposing another way in which financial regulators can be governed.

The arguments discussed in the present study build on the ideas discussed above, particularly that regulators are self-interested and do not take into consideration the political opinion of the time and are in need of the right kind of incentives in order to align their interests with that of their agents, namely, the public.

This chapter adds to the literature available on this topic by its novel approach of using insights from the interaction between two regulators to assess the strengths and weaknesses of the existing financial supervisory models. Such an assessment is yet to be discussed in the literature regarding regulatory structures.

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<sup>397</sup> See L. Enriques & G. Hertig, *supra* n. 378.

### ***4.3 Applying game theory concepts to describe two regulators acting on a market failure***

As mentioned in earlier in this research, regulators often follow their own interests, which might differ in some cases from what society believes to be socially optimal with regards to the level of regulation required. In order to understand how we can align the interests of the regulators to fit the needs of society, we must first examine the socially optimal situation, where the regulators' incentives are aligned with the socially optimal regulatory activity.

For the purposes of the following analysis, simple payoff matrices are relied on, with two symmetric parties (two regulators),  $i = 1, 2$ . Strategies available to both parties,  $s_1$  and  $s_2$ , are either 0 or 1. The no regulation strategy is referred to as  $s_i = 0$ , while  $s_i = 1$  represents the complete regulation strategy. Private benefits from regulating are denoted by  $b$  while the (positive or negative) effect imposed by the other regulator's action is represented by  $a$ . It is assumed that both  $b$  and  $a$  are non-negative integers, and that the direct benefits from regulating are larger in absolute value than the indirect effect of the other regulator's action, i.e.  $|b| > |a|$ .

From society's point of view, the only thing that matters is that only one of the two regulators regulates, regardless which one of the two. However, as will be discussed in the following pages, from the regulators' point of view, each regulator would prefer to: be the first to regulate ("Overlapping Regulation" scenario); take no action at all ("Lack of Regulation" scenario); or wait for the other regulator's action ("Chicken Game" scenario).

The following analysis examines the relationship between social and private incentives to regulate, and the effects of these incentives on the way in which financial regulatory institutions should be structured.

#### ***4.3.1 The socially optimal situation***

Consider the ideal situation where the regulators act according to what is socially optimal (Table 1a).<sup>398</sup> In other words, this section relies on the reader assuming that regulators internalize not only the effects of their own action, but also the effects of the other regulator's action or inaction on their payoffs. Thus, each regulator's payoff reflects the socially optimal payoff. From this social welfare perspective symmetric strategies are

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<sup>398</sup> The first and second entries in each cell of the matrix refer to the payoffs to player 1 and player 2 respectively.

inefficient since they lead either to overlapping regulation ( $s_1 = s_2 = 1$ ) or to lack of regulation ( $s_1 = s_2 = 0$ ).

Table 1a

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	$b/2 - a ; b/2 - a$	$b + a ; 0$
$S_1 = 0$	$0 ; b + a$	$- b - a ; - b - a$

Table 1b

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	Overlapping Regulation	Socially Optimal Regulation
$S_1 = 0$	Socially Optimal Regulation	Lack of Regulation

Regarding the payoff matrix in Table 1a, as already stated, the social optimum requires that only one of the two regulators regulates, regardless which of the two, and whatever the strategy of one regulator may be, the other should prefer to behave in the exact opposite way, i.e.,  $s_i \neq s_{-i}$ .

In the case of asymmetric strategies ( $s_1 = 1 ; s_2 = 0$  or  $s_1 = 0 ; s_2 = 1$ ), the active agent<sup>399</sup> obtains all the benefits from regulating,  $b$ . Moreover, the other agent's inaction has a positive effect on the active agent's payoff, the reason being that overlapping regulation which is potentially destructive for the economy has been avoided. Thus, the payoff for the active agent is  $b + a$ , while the inactive agent gets zero.

In the case in which both regulators regulate, the benefits are shared among them ( $b/2$ ) and the action of the other regulator causes a negative effect on the "socially-thinking" active agent's payoff. In this situation, each regulator obtains  $b/2 - a$ .

Assuming that the shared benefit  $b/2$  falls below the negative effect that the other regulator's action causes, i.e.  $b/2 < a$ , the joint regulation leads to negative payoffs for both regulators.

In the opposite situation of joint inactivity, both agents lose the possibility of gaining benefits from regulating. The other agent's inaction causes a negative effect on the payoff of each agent since the joint inactivity leads to a lack of regulation which is potentially detrimental for the financial system and the economy.

Table 1b provides a summary of the scenarios explained above.

To sum up, when the interests of the regulators align with those of society, both overlapping and lack of regulation leads to negative payoffs ( $b/2 - a < 0 ; - b - a < 0$ ), while

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<sup>399</sup> The regulator who decides to regulate is denoted as the "active agent". Similarly, the regulator who decides to stay inactive is called "inactive agent".

asymmetric behaviors produce positive (active agent) and null (inactive agent) payoffs. The social optimum requires that only one party engages in regulation, with asymmetric dominant strategies, i.e.  $s_i \neq s_{-i}$ .

Real-life cases of regulators' behaviour rarely fall within the above-described situation of socially-thinking regulators; each of them is a self-interested agent who follows his own private incentives. In the most pessimistic case, a profit-seeking regulator does not pay suitable attention or does not care about the possible negative consequences of his choices on social welfare. Thus the question of how regulators' private interests can be aligned to social welfare objectives takes on acute significance.

Following is an analysis of the different scenarios from the regulator's individual perspective, assuming they are self-interested regulators who take into account solely their own private incentives. The analysis is followed by possible solutions to the problems identified in this chapter.

#### ***4.3.2 The “Overlapping Regulation” game, in cases where the regulators would benefit from regulating***

In December 2010 the Israeli Law, Information and Technology Authority, which is established under the State of Israel Ministry of Justice, published a position paper with regards to principles and rules regulating the collection and use of information about minors under the Protection of Privacy Law -1981 (hereinafter “the position paper”). The position paper did not exclude the Israeli banks from the application of its rules.

Following the position paper, in February 2011, the Association of Banks in Israel published a response, in the name of banks operating in Israel, which explained that the new rules and principles mentioned in the position paper contradicted the Israeli Supervisor of Banks' instruction number 416.

According to the response issued by the Association of Banks in Israel an example of such contradiction may be found in clause 52 of the position paper which instructs that when it comes to minors between the ages of 14-18, parental consent must be granted in order to collect “sensitive information” about such minors.

However, according to clause number 7 of the Israeli Privacy Protection Law 1981, the definition of “sensitive information” also includes information regarding the “financial situation” of a person.

As during the process of opening a minor's account such personal financial information is obtained by the bank, it follows that under the instructions mentioned in the position paper, parental consent would be required in order to open and run a bank account for minors under the age of 18.

However, the Supervisor of Banks' instruction with regards to minors' accounts (number 416) states that a bank is allowed, under certain limitations, to open an account for a minor older than 16 without parental consent. In addition, a bank is allowed to open an account for a minor between the ages of 15-16 without parental consent provided that the minor is at least 15 and receives a steady income in the form of a salary.

This is an anecdotal example of overlapping regulation. From reading the explanatory introduction to both pieces of regulation it is clear that both regulators, the Supervisor of Banks and the Israeli Law, Information and Technology Authority, had the minors' wellbeing in mind when issuing their instructions. Undoubtedly, both regulators also have a mandate under Israeli law to issue such regulation.

Moreover it is highly likely that both regulators would have calculated that issuing these instructions would be viewed positively by the Israeli public, for the protection of minors is generally viewed in a positive way.

However, such dual and contradicting regulation creates confusion on behalf of the regulated bodies and costs the industry a great deal of time and money in settling the discrepancy, while just one piece of regulation is enough to regulate the issue.

In economic terms, issuing both pieces of regulation without excluding banks from the later piece of regulation, which relates to all transactions taking place in the market in general, is inefficient as it is a waste of resources which does not generate any kind of additional surplus for society, and which should therefore best be avoided. Moreover, from the government's point of view this is an inefficient allocation of regulatory resources.

The problem of overlapping regulation is not restricted to Israel, as "US financial institutions complain of higher compliance costs and inconsistent regulation and enforcement by competing regulators."<sup>400</sup>

These examples illustrate the "overlapping regulation" game which will now be discussed in detail.

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<sup>400</sup> See E.J. Pan, 'Structural Reform of Financial Regulation in Canada', (2009) 250 *Cardozo Studies Legal Research Paper*, p. 6.

## From the regulators' point of view

For this discussion, we must assume a scenario in which two regulators can identify a market failure and have the regulatory tools to fix it. We can further assume that regulating is beneficial for each of them as by regulating they gain personal power and prestige, for example the ability to ask for an increase in their budget from politicians.

One further assumption is that this is a two step game; at T1 each regulator decides whether to regulate or refrain from regulating. At T2 the results of the regulator's actions bring him positive, negative or no feedback from society, politicians, and the industry.

At T1, the regulators in the overlapping regulation game expect with one hundred percent likelihood that the end feedback at T2 will be positive.

The worst case scenario for both of the regulators is to leave the market unregulated as this puts their careers or reputation at risk.

We can further assume that each of them would like to be the only one to regulate because, as pointed out before, regulating brings prestige and power (they want to have something to show in order to convince politicians to further their interests). However if they both regulate they will not get **as much** prestige and power, as the glory will be shared between them.

Moreover, if they both regulate they could well suffer damage to their reputation because the regulated firms might complain about the overlapping regulation, or because the market will be less efficient under their term.

If we further assume that all the relevant parameters of the game are common knowledge and that the regulators decide on their strategies independently and non-cooperatively, the game may be characterized as a simultaneous-move game with perfect information. Accordingly, the solution of this game should be a Nash equilibrium.<sup>401</sup> From the regulators' perspective this game, referred to as the "**Overlapping Regulation**" game, is represented in Table 2.

Unlike socially-thinking regulators, self-interested regulators gain positive payoffs from overlapping regulation, although these payoffs are slightly lower compared with the payoffs they could get with the situation of alternate regulation.

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<sup>401</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.310 describe the Nash Equilibrium as follows: "...It is based on the principle that the combination of strategies that players are likely to choose is one in which no player could do better by choosing a different strategy given the ones the others choose. A pair of strategies will form a Nash Equilibrium if each strategy is one that cannot be improved upon given the other strategy. We establish whether a particular strategy combination forms a Nash Equilibrium by asking if either player has an incentive to deviate from it".

Table 2

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	$b/2 ; b/2$	$b ; 0$
$S_1 = 0$	$0 ; b$	$- b ; - b$

If regulator 1 regulates while regulator 2 does not, then regulator 1 receives all the benefits from regulating. In this case, regulator 2 has no benefits and no costs, thus his payoff is null. The opposite holds true when regulator 2 regulates ( $s_2 = 1$ ), while regulator 1 is inactive ( $s_1 = 0$ ). When both regulators regulate, the benefits from regulating are shared between them. In the opposite case of joint inactivity, both regulators stand to lose since the market will go unregulated. In this case, their payoffs are negative as they will be blamed by society and politicians for leaving the market unregulated.

In this scenario, whatever the strategy of one party, the other prefers to regulate:  $s_i = 1$ . Both parties will decide to regulate, and the overlapping regulation outcome remains in equilibrium, implying a definite worsening with respect to the socially optimal equilibrium established by a single active regulator.<sup>402</sup>

**Proposition 1:** The strictly dominant strategy<sup>403</sup> for both regulators, and the only pure Nash equilibrium in this game, is to regulate.<sup>404</sup>

### Possible solutions

How can we solve this game in a way which will lead to the optimal level of regulation? This problem can be solved by changing one of two things:

1. Changing the game – eliminating one of the players through the mandate for regulation – if only one regulator receives the mandate to regulate a certain product, regulatory competition over this product will be eliminated.
2. Changing the payoffs – consolidating regulators and placing them as departments in a consolidated regulatory body changes the payoffs and aligns incentives to regulate as much as possible, since negotiations for budget will take place in the name of the

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<sup>402</sup> Please note that the analysis of the payoffs in this game (and other games which will follow) is not meant to be used quantitatively but rather to illustrate qualitatively how regulators will react to the strategies of the other regulators in the game.

<sup>403</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.306 defined a dominant strategy as follows: “A strategy that is a best choice for a player in a game for every possible choice by the other player. When one strategy is no better than another strategy, and sometimes worse, it is dominated by that strategy. When one strategy is always worse than another, it is strictly dominated...A player will choose a strictly dominant strategy whenever possible and will not choose any strategy that is strictly dominated by another...”

<sup>404</sup> There are no mixed strategies to this game.

consolidated regulator as a whole, and as the prestige in cases of “good” regulation will be shared between them. Furthermore as both regulators now work under the same boss, they will be prevented from producing overlapping regulation.

If we change the payoffs and consolidate the two regulators into one, the new game from the **regulators’ point of view** is:

Table 3

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	NA ; NA	$b + a ; 0$
$S_1 = 0$	$0 ; b + a$	$- b ; - b$

It can readily be seen that, in the present case of a single mandate for regulation, the regulators' equilibrium strategies coincide with the social optimum. Consolidating the regulators solves the overlapping regulation dilemma, allowing parties to undertake socially optimal strategies in equilibrium.

In this scenario the regulators are now departments in one consolidated regulatory authority. As they are now subject to the same boss, the probability for overlapping regulation is nonexistent.

**Proposition 2:** The two pure Nash equilibria of this game are now set on either one of the regulators regulating.<sup>405</sup>

From a **welfare perspective** we are now left with two options: an optimal amount of regulation; or, in cases of a regulatory mistake, lack of regulation.

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<sup>405</sup> There are no mixed strategies to this game.

### **4.3.3 The “Lack of Regulation Game” and the “Chicken Game”, in cases where the regulators could lose from regulating**

*“The IMF blames inadequate regulation, rather than global imbalances, for the financial crisis...it argues, in new papers released on Friday March 6th, that **the “main culprit” was deficient regulation of the financial system, together with a failure of market discipline...**”* (The Economist, March 6, 2009)

Assuming that the IMF is correct in its observation that deficient regulation did lead to the last financial crisis, the question remains: why was there deficient regulation? Why didn't the regulators stop the bubble from blowing up to such a large scale? Surely they must have seen it coming.

Indeed the Financial Crisis Inquiry Report from 2011 states quite clearly that the regulators knew that there were market failures which needed to be addressed in the American financial markets but chose to ignore them:<sup>406</sup>

*“...Yet we do not accept the view that regulators lacked the power to protect the financial system. They had ample power in many arenas and they chose not to use it. To give just three examples: the Securities and Exchange Commission could have required more capital and halted risky practices at the big investment banks. It did not. The Federal Reserve Bank of New York and other regulators could have clamped down on Citigroup's excesses in the run-up to the crisis. They did not. Policy makers and regulators could have stopped the runaway mortgage securitization train. They did not. In case after case after case, regulators continued to rate the institutions they oversaw as safe and sound even in the face of mounting troubles, often downgrading them just before their collapse. And where regulators lacked authority, they could have sought it. Too often, they lacked the political will — in a political and ideological environment that constrained it — as well as the fortitude to critically challenge the institutions and the entire system they were entrusted to oversee...”* (p. xviii)

One of the reasons for such regulatory behavior may lie with the “**Lack of regulation**” or “**Chicken**” games, which are detailed below.

This discussion is relevant to a different scenario from that described in the previous game. In the current scenario two regulators have the mandate to regulate and they both identify a market failure, but they stand to lose if they regulate first, either because they will

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<sup>406</sup> The Financial Crisis Inquiry Commission, *supra* n. 156 , p. xviii.

have to take the blame if they make a mistake in regulating, or because the public and political opinion of the time is against regulation. This situation arises during the formation of bubbles; if the regulator tries to stop the bubble from forming when the market is going up he might be subjected to negative public opinion and to political pressure.

Again we can assume that this is a two step game; at T1 each regulator decides whether to regulate or refrain from regulating. At T2 the results of his actions bring him positive, negative or no feedback from society, politicians and the industry. The regulators in this game expect with one hundred percent likelihood that the end feedback will be negative if they choose to regulate.

Similar to the “Overlapping Regulation” game, we can assume that all the relevant parameters of the game are common knowledge and that the regulators decide on their strategies independently and non-cooperatively. Thus, the game may be characterized as a simultaneous-move game with perfect information. Accordingly, the solution of this game should be a Nash equilibrium.

**From the regulator’s point of view** the game, referred to later as the “**Lack of Regulation**” game, can now be described as one of the following games:

Table 4

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	- b; - b	- b ; 0
$S_1 = 0$	0 ; - b	0 ; 0

If one regulator regulates while the other does not, then the active regulator will be sanctioned by the public and political opinion (there are no potential benefits from regulation in this case but rather potential sanctions). The regulator who refrained from regulating, on the other hand, will not gain or lose anything in the present. Such a regulator might benefit later from the possible prevention of catastrophe ensured by the regulation, but he will never be aware of this as he does not know what might have happened if the market had not been regulated.

If both regulate then both will be exposed to public and political criticism and stand to lose (attributing - b to both of them, since each of them will be fully punished). In the opposite case of joint inactivity, they do not gain anything and they do not stand to lose during the time the decision is made.

To sum up, in this scenario, whatever the strategy of one party, the other party prefers to refrain from regulating:  $s_i = 0$ . Parties will both decide to refrain from regulating and the

inefficient lack of regulation outcome obtains in equilibrium, yielding to a definite worsening compared to the socially optimal equilibrium established by a single regulator.

**Proposition 3:** The dominant strategy for both regulators, and the only pure Nash equilibrium in this game, is to not regulate.<sup>407</sup>

**Alternatively the regulators might view the situation as a “Chicken Game”<sup>408</sup>**

The assumption behind the Chicken Game differs a little from the one behind the Lack of Regulation Game; at T1 each regulator decides whether to regulate or refrain from regulating. At T2 the results of his actions bring him positive, negative or no feedback from society, politicians, and the industry. The regulators in this game know with certainty that the market should be regulated and that leaving the market unregulated will bring a financial catastrophe and will subject them to being scrutinized by politicians, society, and the industry at T2. However, they are also very well aware of the fact that if they regulate while the market is going up in order to stop a bubble from forming, then at T2 they will be scrutinized for “putting the brakes” on the market. Therefore each of them will wait for the other to take on the task of regulating the market.

These assumptions are backed by anecdotal evidence of financial regulators’ behavior. See for example the words of Alan Greenspan, the USA Federal Reserve chairman during the two decades leading up to the last financial crisis of 2007-2009:

*“History tells us [regulators] cannot identify the timing of a crisis, or anticipate exactly where it will be located or how large the losses and spillovers will be”* (p.3).

<sup>409</sup>

The interaction can be described as follows:

Table 5

	$S_2 = 1$	$S_2 = 0$
$S_1 = 1$	$- b/2 ; - b/2$	$- b ; 0$
$S_1 = 0$	$0 ; - b$	$- b - a ; - b - a$

<sup>407</sup> There are no mixed strategies to this game.

<sup>408</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.303 defined the chicken game as follows:”A two by two normal form game that captures the following interaction: Two teenagers drive cars headlong at each other. A driver gains stature when that driver drives headlong and the other swerves. Both drivers die, however, if neither swerves. Each player’s highest payoff comes when that player drives head on and the other swerves. The second highest payoff comes when that player swerves and the other player swerves as well. The third highest comes when that player swerves and the other drives. The lowest payoff is when both drive. This is a game of multiple Nash equilibria...the pure strategy equilibria are ones in which each player adopts a different action (that is one swerves and one drives).”

<sup>409</sup> The Financial Crisis Inquiry Commission, *supra* n. 156, p.3.

As can be seen, the worst situation from the regulators' point of view occurs when both agents decide not to regulate. If both refrain from regulating each of them will lose  $-b - a$ , because when the bubble explodes at T2 they will be heavily judged for not acting in time. If one agent regulates and the other does not, the active agent will lose  $-b$  for regulating against the public opinion of the time, while the inactive agent will lose nothing. If both of them choose to regulate, they will each lose  $-b/2$ , less if compared to the case of joint inactivity.

**Proposition 4:** Under the Chicken Game there are two pure and one mixed strategy Nash equilibria.<sup>410</sup> The meaning of this is that with some probability the regulators might find themselves in a situation where neither one of them regulates, even though it is clear that this situation is the worst case scenario for both of them.

**NE1:** Regulator A regulates and Regulator B does not.

**NE2:** Regulator B regulates and Regulator A does not.

**NE3:** The mixed strategy equilibrium in which both regulators regulate solely with a positive probability, and there is a positive probability that both regulators will refrain from regulating.

In this game we are concerned with NE3. Even though NE3 is not a stable equilibrium,<sup>411</sup> the potential damage it may cause to society is inconceivable.

### **Possible solutions**

How can we solve this game in a way which will eliminate the lack of regulation problem?

In order to solve this game we should first change the payoffs in order to get back to the "Overlapping Regulation Game", which we can then solve as discussed earlier. In order to do so we should provide regulators with some sort of immunity for regulatory mistakes and somehow insure that their future will not be harmed if they make a "brave" choice and go against public opinion. One could think of early retirement mechanisms for regulators or some other sort of post-employment mechanisms. This issue is discussed in detail in Section 4.5.

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<sup>410</sup> D.G. Baird, R.H. Gertner & R.C. Picker, *supra* n. 45, p.313 defined pure and mixed strategy equilibrium as follows: "Pure strategy equilibrium. A Nash equilibrium in which each player adopts a particular strategy with certainty. In a mixed strategy equilibrium, one or more of the players adopts a strategy that randomizes among a number of pure strategies."

<sup>411</sup> A stable equilibrium is an equilibrium in which none of the players can improve their situation if they choose to pursue different strategies than those which are used to form the equilibrium. All other equilibria are unstable.

## ***4.4 An analysis of the existing supervisory structures using game-theory concepts***

### ***4.4.1 Introduction***

As discussed in Chapter Three of this research, all financial regulatory structures in the world could basically be divided between four main approaches to financial supervision: the Institutional Approach, the Functional Approach, the Consolidated/Integrated Approach, and the Twin Peaks Approach. This section now moves on to assess the existing financial supervisory models described in chapter 3 in light of the solutions to the different games which were described in part 4.3.

### ***4.4.2 An assessment of the existing supervisory structures***

**The Institutional Approach:** This approach tries to use the first solution to the “Overlapping Regulation Game” described above by dividing the market into clear regulatory segments leaving each regulator responsible for a certain type of financial institution. The problem with this approach is that markets have developed beyond the simple models of distinct financial institutions. The elimination of the traditional separation between specific types of firms and the vast number of products which have been developed in the financial markets over the years make it difficult to regulate on a functional basis, since the traditional functional approach is not compatible any more with the variety of products and the structure of the financial firms. Continuing to use the Institutional Approach without adjustments to the changes in the market might bring us to a lack of regulation regime, as the responsible supervisor might not have the relevant expertise to supervise all of the financial products sold by the financial institutions which are supervised by him.

**The Functional Approach:** The Functional Approach to supervision also uses the first solution to the “Overlapping Regulation Game” described above by dividing the market into products. In a perfect market this might be the optimal approach to regulation. However, the problem with this approach in the real world is that it is very difficult to cover all the possible products in the financial markets; therefore there is always the risk of having unregulated “gray zones” in which no regulator has a mandate to regulate.

**The Consolidated/Integrated Approach:** The Consolidated/Integrated Approach to regulation tries to use the second solution to the “Overlapping Regulation Game” described

above by consolidating the regulators and changing the payoffs, so that the regulators become departments who share the same boss. Therefore the option of overlapping regulation is eliminated. The difficulties with this regulatory structure is that not only does it fail to prevent lack of regulation, but it might even increase the problem, as under this regulatory model the blame for regulating (in cases where the regulator regulates against public or political opinion), will always fall on the shoulders of one regulator, so that there is no prospect of sharing the burden with another regulatory authority.

**The Twin Peaks Approach:** Under this approach financial regulation is divided between a consumer protection regulatory authority and an authority which is responsible for the soundness of the financial institutions and for preventing systemic risk. This approach tries to combine the second solution to the “Overlapping Regulation Game” by consolidating regulators under the same roof with the first solution to the “Overlapping Regulation Game” by granting the mandate for prudential regulation to a single regulator. This is an interesting idea, but it still suffers from the flaws of the Consolidated/Integrated Approach.

## ***4.5 Solving a problem related to Public Choice Theory***

During times of crisis, regulatory work is closely observed by the public and the press, usually resulting in demands for more regulation. During normal times however, public attention is less focused on regulatory work, and pressure groups are able to thrive and affect the regulatory results. This creates a Public Choice problem<sup>412</sup> which is reflected by the fact that regulation is often lacking or missing.

As discussed in the game theory models and the analysis above, we can establish that different supervisory structures try to solve the overlapping regulation or lack of regulation problems using different solutions. These solutions appear to be effective for solving some of the problems discussed in this chapter. However, most of the structures of the financial supervisors offer only partial solutions to the problems which have been pointed out in this chapter; therefore some improvements to the existing regulatory structures can be made.

One such essential improvement would be providing regulators with the right incentives to regulate when they believe it is necessary to do so in order to stop a bubble from forming. In other words, the state should give the regulators some sort of protection from political pressure and public opinion by protecting their personal financial future.

Given that this is a known problem, different jurisdictions have tried to offer different solution to this problem by using different legal instruments. Such tools include:

**Financial independence of the financial regulatory bodies** – in some countries around the globe the financial regulatory bodies receive their budgets from taxes which are imposed on the regulated industry or from profits made by the financial regulatory authority from running its own assets. Examples include the Insurance and Mutual Societies Supervisory Authority in France, The Bank of Italy, the Italian Insurance Industry Regulatory Authority, the Canada Deposit Insurance Corporation, the German Financial Supervisory Authority (BaFin), the former British Financial Services Authority (FSA), the American Office of Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation (FDIC), National Credit Union Administration, and the Securities and Exchange Commission (SEC).<sup>413</sup>

By separating the financial regulatory authorities from government budgets, the financial regulatory authority remains financially independent and less prone to government

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<sup>412</sup> J.M. Buchanan & R.D Tollison, *supra* n.385, p. 19.

<sup>413</sup> This information is taken from: Group of 30, *supra* n. 133.

influence. Separating the budgets eliminates competition between regulators for resources, as the regulatory agencies' resources no longer depend on government discretion.

**Nomination procedures** – Some countries, such as Italy for example, have tried to solve the problem through nomination procedures. Namely, the government surrenders its responsibility for the nomination and/or termination of the heads of the financial regulatory authorities. By eliminating the ability of government to influence the nomination procedure, the amount of impact that future political pressure might have on the head of the financial regulatory body is decreased.

**Collegiality** – In some countries the final decisions with regards to enacting a piece of financial regulation are not taken by the head of the regulatory authority alone but by a board consisting of several members. This is a way to share the responsibility for regulation among several members. One example can be found in France where the AMF, the French securities regulator, is run by a board consisting of sixteen members who have the power to make most of the regulatory decisions.<sup>414</sup>

On the one hand, having shared responsibility may reduce the pressure and the fear of risk to reputation from wrong or unpopular regulation, and allow regulators to regulate according to what they believe is right. On the other hand however, it creates a different set of problems among board members which include free riding and moral hazard. As the responsibility is shared, personal accountability is decreased.

**Mandatory coordination by law** – In an attempt to change the game into a cooperative one, some countries have enacted laws which oblige the regulators to cooperate and exchange information. One such example may be found in the Italian Legislative Decree No. 58 of 1998 which mandates cooperation under Section 4. Clause 1 in Section 4 of the said decree states as follows:

*“The Bank of Italy, Consob, the Commissione di vigilanza sui fondi pensione, Isvap and the Ufficio Italiano Cambi shall cooperate by exchanging information and otherwise for the purpose of facilitating their respective functions. Said authorities may not invoke professional secrecy in their mutual relations”.*<sup>415</sup>

Clause 2 – 2 to the Legislative Decree No. 58 of 1998 mandates cooperation between the Italian financial supervisory authorities and the European ones. These mechanisms are a

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<sup>414</sup> Code Monétaire et Financier, Art. L. 621-2 (Monetary and Financial Code).

<sup>415</sup> Legislative Decree No. 58 *supra* n. 210, Section 4: Cooperation between authorities and professional secrecy, Clause 1.

way to change the game from a non-cooperative game to a cooperative one, aligning the work of the different regulatory bodies active in the financial market of a country or region.

**Long, stable office terms, and immunity against early termination** – In some countries the head of the regulatory authority enjoys a long, stable term in office and immunity against early termination. This is the case in several countries such as: Italy, where appointment periods vary from 4 to 5 years with the possibility for a single elongation of the appointment period; France, where appointment periods range from 3 to 5 years; and Canada, where appointment periods may be as high as 7 years, which is the designated term for the head of the Office of the Superintendent of Financial Institutions.<sup>416</sup>

The idea behind these long office terms is to provide some sort of short-term immunity for the financial regulator, since he cannot be removed midterm even if he regulates against the public and the political opinion of the time. The problem with this tool is that it does have a limited time range after which the regulator might be subject to a vengeful termination by politicians.

In some sectors additional solutions exist. These include:

**Deposit Insurance** – Deposit insurance exists in several jurisdictions around the world, including France, Italy, Canada, Germany, Switzerland, the UK, Australia, The Netherlands, Mexico, Spain, Japan, Republic of Korea and the USA,<sup>417</sup> and helps protect these countries' economies from systemic risks.

The existence of deposit insurance mitigates the problems which might result from lack of regulation or regulatory mistakes, by providing an external buffer, other than state resources, against the danger of a bank going bankrupt. In case the regulator makes a mistake and a bank goes bankrupt, household depositors are refunded.

This mechanism removes some of the pressure from the parties involved, i.e., the regulators, the politicians, and the public, as the worst case scenario becomes more manageable.

**Basel III – risk management, capital adequacy, and liquidity rules** – Basel III is a set of reform measures which contains a comprehensive set of rules and regulations with regards to banks. These rules transfer part of the responsibility for banks' supervision from the national level to the international level. By doing so it also provides a solution to the problem of lack of regulation discussed in this chapter in the following way - it is more

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<sup>416</sup> Information with regards to appointment periods in the different countries is taken from the Report (Group of 30, *supra* n. 133).

<sup>417</sup> See Table 8 in the Appendix.

difficult for local public opinion and political pressure in each jurisdiction to influence the Basel Committee on Banking Supervision and impact its regulatory actions than it is to influence local regulators. The reason for this is that local politicians want to get reelected and therefore are more attuned to local public pressure than the experts sitting on the Basel Committee, who are appointed professionally. The ability to capture the regulators becomes more complex. In this way, unifying regulation on a global scale might be one way to deal with the problems of incentivizing local regulators to take action, as liquidity requirements and risk management are now dictated from an external source. However, moving the responsibility to the Basel Committee on Banking Supervision also has its flaws. As has been mentioned previously; lack of diversity in bank regulation between jurisdictions suggests that regulatory errors may lead to a global financial institution failure.<sup>418</sup>

Another solution for mitigation of the problems raised in this chapter, i.e overlapping regulation or lack of regulation, is to transfer some of the regulatory responsibility to the market itself. Some markets contain **market-based alternatives** for regulation. An example is the USA's market where several private regulatory bodies exist. These bodies set industry standards which are meant to replace government-based regulation. Examples of such standards are the International Swaps and Derivatives Association standards which set the standards for SWAP and derivative transactions, and the Financial Accounting Standards Board which sets accounting standards.

Having market-based solutions helps ease the problem of lack of regulation as it transfers some of the mandate for supervision to the industry itself. By doing so it narrows down the mandate for supervision which is given to financial regulators, thereby reducing the possibility of the regulator making a mistake or refraining from regulating.

The obvious problem with market-based solutions is that the industry which sets these standards is the regulated industry itself. This may lead to the adoption of loose standards at the expense of externalities, and the creation of systemic risks.

As can be seen, countries do try to reduce the possibility for lack of needed regulation. However, even though all these instruments exist and did exist at the time of the latest financial crisis, we still saw that regulators hesitated to intervene when the market was going up, therefore perhaps there is room to consider an additional incentive tool which will stimulate the regulators to act.

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<sup>418</sup> R. Romano, *supra* n. 100.

What countries are trying to achieve is for the regulator to take on more personal risk. In order to achieve this we need to look for legal solutions which incentivize agents to take on more risk in favor of their principals in situations where there is a principal-agent problem. In this respect the discussion can draw from the literature regarding managers' remuneration schemes in the corporate environment. It has been argued in the corporate literature that compensation arrangements granted to managers can be used in order to mitigate agency costs by encouraging risk-taking behaviors and providing incentives to optimize the long-term performance of the firm.<sup>419</sup> The optimal contracting view acknowledges the fact that managers do not automatically seek to maximize shareholder value and therefore need to be incentivized to do so.<sup>420</sup> Such incentives usually take the form of compensation packages and early retirement mechanisms.

The golden parachute is used in the corporate world to provide the executives with insurance against being fired due to poor performance.<sup>421</sup> In case of termination, the executive being terminated receives a large compensation bonus or an early retirement scheme to compensate him for the loss of his job and his personal financial future. Such compensation packages assure that executives can take on risks in order to increase shareholders' value without fear for their personal future.

In an analogy to the financial regulatory sphere, in order to incentivize regulators to take action and regulate in cases where they deem it necessary, even when the regulation goes against the public and political opinion of the time, it is important to provide them with a safety net which will guarantee that even if they are fired by the politicians due to their unpopular regulation, they will be compensated in a way which secures their financial future.

This tool may also prove valuable against regulatory capture as it decreases the dependence of the financial regulators on the regulated industry with regards to their future career path.

Granting regulators post-employment arrangements upon termination which is caused due to their regulatory decisions, might induce moral hazard problems on behalf of the regulators and cause them to regulate recklessly. However, it has long been known that the solution to moral hazard problems in a principal-agent relationship is observability<sup>422</sup> and

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<sup>419</sup> S.R. Gray & A.A. Cannella, 'The Role of Risk in Executive Compensation', (1997) 23/4 *Journal of Management*, 517, 517-518.

<sup>420</sup> L.A. Bebchuk & J.M. Fried., 'Executive Compensation as an Agency Problem', (2003) NO. w9813 *National Bureau of Economic Research Working Paper*, p. 1.

<sup>421</sup> L.A. Bebchuk & J.M. Fried., *supra* n. 420, pp. 11 - 12.

<sup>422</sup> B. Holmstrom, 'Moral Hazard and observability', (1979) 10/1 *The Bell Journal of Economics*, pp. 74-91.

observability can be mandated through regulation. Therefore, the solution to the moral hazard problem which arises due to the proposed post-employment arrangements is to form some sort of monitoring over the regulators' work. Such monitoring can be provided by a mandated peer review.

By providing such a "safety net" to regulators we will eliminate the situation of lack of regulation which is caused by the regulators' "fear" that if they regulate they will lose their jobs. Adopting this proposition changes the incentives of the financial regulators and should induce them to take action and stop bubbles from forming, as in doing so they will have nothing to lose and a lot to gain.

## **4.6 Conclusion**

As discussed above, the complexity of the financial markets does not allow for a “one solution fits all” regulatory structure. Different strategic interactions between regulators in the financial market call for different solutions, and different regulatory structures produce different mechanisms which can generally offer only partial solutions for the scenarios characterized by overlapping regulation or lack of regulation.

This also helps us understand why countries keep changing their financial regulatory structure. As there is no one structure which brings remedies to all the problems discussed in this chapter, countries keep switching structures. However, every time they switch to a new structure they inherit the set of problems inherent to that structure.

The strategic interactions between the financial regulators as presented above occur both on the national level and on the international level, and might help shed some light on the qualities and shortcomings of each of the supervisory models.

Given the grave results of lack of regulation, it is important to understand the incentives which can prevent regulators from regulating when they identify a market failure and have the mandate to stop it. If the assumption is correct, and regulators abstain from regulating due to fear of public and political opinion, it would be wise to grant them some sort of safety net which will convince them to take action and do what they think is right for the market without being concerned about losing their jobs.

Such safety nets can be mimicked from the solutions developed by the corporate world to incentivize managers to take on risk in order to benefit their shareholders.

The solution to the Moral Hazard problems that can be caused by the suggested safety nets is to introduce monitoring of the regulators’ work. It is suggested that such monitoring could be done by peer review.

Given that looking at regulators’ incentives does not provide a clear answer as to which supervisory model is preferable, using different tools to assess the strengths and weaknesses of the supervisory structures is called for.

The following chapter attempts to analyze the quality of the financial supervisory structures from a different angle. Given that one of the most important things in order to prevent or stop a financial crisis once it has occurred is information, the next chapter will use analytical tools from the study of institutional design in order to determine whether there is an advantageous structure with regards to information-flow.

The results might improve the ability of decision makers to decide which financial regulatory structure they would like to adopt in their respective jurisdictions.

## 5. CONSOLIDATION OR FRAGMENTATION FOR FINANCIAL REGULATORS? A STORY OF INFORMATION-FLOW

### 5.1 Introduction

This chapter is aimed at assessing the different types of supervisory models that exist in the world using analytical tools from the field of institutional design.

The ongoing economic and legal discussions about the role of the financial regulators in crisis prevention and mitigation, and about the efficiency of consolidating them versus leaving them fragmented, concern themselves with a positive analysis of the type of regulation needed. However these discussions tend to ignore operational problems.

For economists working in the field of financial regulation, the question regarding the optimal structure of financial supervision is usually analyzed from the public choice angle, which implies dealing with different types of inefficiencies, such as agency costs, capture of the financial regulator, problems in monitoring, and self-interested regulators.<sup>423</sup>

All this is true and worthy of discussion, but at the same time there is also a public administration problem, namely the problem of information-flow in and between the financial regulatory authorities, which is currently neglected in this dialog.

Moreover, the public administration problem may have severe effects on the intensity of the problems raised by the public choice theorists. Imagine an opportunistic agent who exploits wrong or lacking information. In certain situations, the harm that can be caused by this agent is increased, which can have severe effects on the efficiency and credibility of the financial markets which rely on the monitoring and skills of the financial regulators to mitigate the abundance of market failures in this sector.

As discussed in previous chapters to this research, financial regulators are expected to provide a cure for the agency and monitoring problems which exist in the financial markets. They are also expected to address issues such as consumer bias, and control the herding phenomenon which may lead to the creation of bubbles or runs on banks. In order to perform these tasks they are heavily reliant on information and on the information-flow inside the regulatory body itself.<sup>424</sup>

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<sup>423</sup> An example of such discussions may be found in the work of: J.M. Hendrickson, *supra* n. 19; P.C. Boyer & J. Ponce, *supra* n.380; M. Espinosa-Vega, C. Kahn, R. Matta & J. Sole, *supra* n. 390; and many more.

<sup>424</sup> See S.L. Pan, G. Pan & D.E. Leidner, 'Crisis Response Information Networks' (2012) 13/1 *Journal of the Association for Information System*, 31, 31-56 about the need for information in crisis response.

A recent example may be found in the latest financial crisis. This crisis has proven the need for fast flow of relevant information. Many countries undertook drastic measures to try and stop the financial crisis. These measures were based on information derived from the real-time advancement of the financial crisis. The analysis of this information was transferred to the decision makers, who took decisions based on the information they received.<sup>425</sup>

Information is also needed on a day-to-day basis in order to perform the ongoing regulatory task itself. Take for example the reporting requirements from financial institutions. Some of these requirements are technical, i.e. they require financial institutions to report a number of things on a quarterly or yearly basis while others are material, i.e. they require financial institutions to report when a certain event takes place. The logic behind all of these requirements is to provide the regulator with a better understanding of what is going on inside the financial institution which it regulates. Having a better understanding implies being able to tailor the regulators' response to foreseen problems prior to their occurrence.

As information is such an essential part of regulatory work, it seems that without addressing the organizational issues concerning information-flow, the discussion surrounding the economic analyses of the optimal structure for financial regulators may be missing a crucial factor.

A prime example would be the Central Bank. In many countries the role of bank supervision is consolidated with the role of determining monetary policy, and both roles are held by the central bank. By combining these two functions into one regulator the central bank is provided with a wider spectrum of tools in order to design and control economic policy.

Moreover, studies have shown that confidential information collected through supervision of banks helps improve the conduct of monetary policy.<sup>426</sup> This is especially true during times of financial crisis when the fast flow of the relevant information is crucial in order to block the crisis. It is precisely for this reason that a discussion of the optimal structure in order to facilitate information-flow is so important.

The problem is not merely academic, since many countries have changed their financial supervisory architecture over the past fifteen years<sup>427</sup>. Masciandaro and Quintyn claim that some of the reforms in the financial supervisory structures in the countries

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<sup>425</sup> A.D. Singer, 'Uncertain Leadership: The US Regulatory Response to the Global Financial Crisis' in E. Helleiner, S. Pagliari & H. Zimmermann, *Global finance in crisis: the politics of international regulatory change*, Routledge, Abingdon 2010, pp. 93-120.

<sup>426</sup> J. Peek, E.S. Rosengren & G.M.B. Tootell, *supra* n. 13.

<sup>427</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, pp. 187-190.

surveyed by them were made based on economic analysis of the markets in each country.<sup>428</sup> But if those economic analyses did not refer to problems of information-flow, they might have left out a vital variable which could have changed the end result.

The importance of information has not escaped researchers studying how legal institution structure effects public decision making. These researchers emphasise the importance of “institutional competence”, including access to information, in the allocation of authority among different potential decision makers.<sup>429</sup>

However, these researchers pay little attention to the question of how information is transmitted inside the institution. They seem to neglect the question of information-flow and assume that certain decision makers must have all the information they need in order to make the decision, simply because they are better situated in the organization. The question of information-flow is left outside the borders of this discussion.

The novelty of this chapter is in approaching the issue of the optimal structure for financial regulators from the standpoint of organizational design and information-flow, and in bridging the gap between the literatures dealing with organizational design, public policy, and financial regulation. It aims at pointing out the operational side of information-flow which needs to be taken into account when a country decides to change its financial supervisory structure.

Looking at the question of consolidation versus fragmentation for financial regulators through the lens of information-flow provides us with an intuition as to which type of structure would work best in facilitating information-flow.

As will be discussed by this chapter, it seems that due to the importance of diversity in collecting information, and due to the fact that it removes at least one layer of supervisor – subordinate relationship, and thus contributes to a less rigid structure and less dilution of information, it is advisable from an information-flow perspective to adopt the fragmented regulatory model. At the same time it is important to make sure that all the regulatory institutions share the same physical compound, and that informal interactions between workers from different regulatory institutions and departments are enhanced to the maximum. The reasons for these recommendations will be discussed in detail in this chapter.

Basically, this chapter lays down the theoretical framework for evaluating and testing the efficiency of the existing supervisory models in transferring information. However, this

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<sup>428</sup> D. Masciandaro & M. Quintyn, *supra* n. 122, pp. 187-190.

<sup>429</sup> M.C. Stephenson, ‘Information Acquisition and Institutional Design’, (2011) 124 *Harvard Law Review*, 1422, 1422 – 1482.

chapter does not test the suggested framework empirically. Room for empiric research is still left using the general framework proposed by this chapter.

Another issue which is left outside the scope of this chapter is the issue of information-gathering. This chapter refers to the problem of information-flow assuming the right kind of information was gathered and processed.

This chapter is organized as follows: following this introduction, section two describes the link between organizational structure and information-flow as presented in the literature pertaining to information-flow, and lays down the theoretical framework which will be used in the following sections to analyze the financial regulatory structures. Due to the fact that financial regulators are public sector entities, section three examines the differences between public sector institutions and other firms, as these differences have an effect on information-flow and organizational design. Section four describes how information flows inside organizations. This section is divided into a discussion of how information flows within a consolidated pyramid structured entity and how information flows between fragmented entities. The last section of this chapter examines the existing financial regulatory structure in the EU, compares it to the structures of the financial regulators in Israel, the UK and Switzerland, and offers suggestions for improvement of that structure based on the previous sections.

## ***5.2 The link between organizational structure and information-flow***

Several scholars have acknowledged the effects of the organizational structure on information-gathering and flow.<sup>430</sup> As decisions are based on information, the link between structure and flow has a direct effect on the decision making process.

Moreover, past research has argued that as much as 80% of organizational knowledge is contained within people's heads, 16% is kept as unstructured data and 4% is organized, structured and stored.<sup>431</sup> If that is indeed the case, the need for an organizational structure for financial regulators which will provide good information-flow and knowledge-sharing is imperative as this information cannot be obtained in any other way than by interpersonal communication.

This sub-chapter aims to provide an overview of some of the existing literature on organizational structure and its impact on information-flow. By doing so it will also create a framework through which the different structures of financial regulators can be analyzed and evaluated.

In his 2005 article, Rudalevige refers to the information which is needed by the president of the USA in order to make decisions. His conclusions are that a functionally based structure will provide the president with more useful information than a policy-specific structure. Meaning, a structure which supplies the president with expert opinion on technical issues (such as "legislative policy formulation"<sup>432</sup>) is more valuable for the decision making process than a structure which separates policy from specialization (such as "foreign or domestic"<sup>433</sup>). Furthermore, multiple sources of competing information will give a wider view than a single source of information.<sup>434</sup>

These findings also seem to be applicable to the discussion of information-flow in the different structures of financial regulators. Choosing a structure for financial regulators which ties together policy and specialization, for example a regulatory department which specializes in disclosure rules and also has the power to enact the relevant regulation with regards to

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<sup>430</sup> See for example: A. Rudalevige, *infra* n. 432, R. Duncan, *infra* n. 435 and S. Bell, *infra* n. 431.

<sup>431</sup> S. Bell, *Lean Enterprise Systems: using IT for continuous improvement*, vol. 33, Wiley-Interscience, New Jersey 2005.

<sup>432</sup> A. Rudalevige, 'The Structure of Leadership: Presidents, Hierarchies, and Information Flow', (2005) 35/2 *Presidential Studies Quarterly*, 333, 335.

<sup>433</sup> A. Rudalevige, *supra* n. 432, p. 335.

<sup>434</sup> A. Rudalevige, *supra* n. 432, pp. 335-336.

disclosure, is more beneficial than a regulatory department with specialization in disclosure rules which provides the information to the legislative department in the financial regulator. Choosing a structure which ties policy and specialization is beneficial for taking the right regulatory decision and minimizing information gaps.

Furthermore, a structure which allows multiple sources of competing information to reach the hands of the decision maker in the financial regulatory body is preferable to a structure which does not.

Duncan approached the issue of organizational design from a different angle. In his article he analyses different types of organizational structures in order to decide which of them is best suited to different environments. He provides us with tools in order to try and adjust the structure to the environment.<sup>435</sup> Derived from Duncan's findings,<sup>436</sup> a less rigid regulatory structure, (one in which employees from all levels of the organization take a greater part in the decision making process), would be beneficial over a rigid one (where management keeps tight control and does not delegate assignments which involve discretion to other employees), in a regulatory sphere characterized by a high degree of uncertainty, i.e. where the demand for information is great.

Furthermore, a structure which enables and encourages cooperation between different regulatory departments and between different regulatory institutions is beneficial to a structure which inhibits cooperation.<sup>437</sup>

In her 1987 article, Weiss used a study conducted on the schooling system in the US to try to answer the question - what pushes government authorities to cooperate? She found that cooperation is mainly induced by an external demand for cooperation, such as a law demanding cooperation or public opinion which pushes the authorities to cooperate.<sup>438</sup> Weiss did not discuss the issue of distinct categorical institutional structures and did not suggest that one structure is preferable to others. She was more concerned with the question of what makes authorities cooperate. Even so, as information-flow is highly dependent on information-sharing and cooperation, her findings too point in the direction of increased cooperation, i.e., a structure which best facilitates cooperation will also facilitate information-sharing.

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<sup>435</sup> R. Duncan, 'What is the right Organization Structure? Decision tree analysis provides the answer', (1980) 7/3 *Organizational Dynamics*, 59, 59-80.

<sup>436</sup> R. Duncan, *supra* n. 435, p. 60.

<sup>437</sup> R. Duncan, *supra* n. 435, p. 60.

<sup>438</sup> J.A. Weiss, *supra* n. 382.

Information-sharing within organizations depends on a number of factors which include employee motivation, organizational culture, structure, and how power is divided between employees.<sup>439</sup>

Individuals may contribute or share knowledge within an organization in one of four ways;<sup>440</sup> feeding the knowledge into a database; formal obligatory interactions dedicated to sharing knowledge; informal interactions which lead to sharing knowledge; and sharing knowledge within designated forums created in order to share and disperse information, such as creating social forums within the organization which are not obligatory, for example a forum for environmental protection which employees can choose whether to attend or not.

Out of the four ways which have been identified, the greatest amount of information is usually transmitted during informal gatherings of employees, even though great efforts and resources are invested in order to facilitate formal ways for information-transfer in and between organizations.<sup>441</sup>

Social networks further increase the capabilities of employees to share knowledge, i.e. employees who belong to the same social network or the same voluntary forums will tend to exchange more work-related information between each other, relative to the amount of information they exchange with people who do not belong to the same social network or forum.<sup>442</sup>

Moreover, Kim et al. have found that knowledge-sharing is a dynamic learning process which occurs between employees, customers, and suppliers, and which is positively correlated to clear organizational goals.<sup>443</sup>

From that we can deduce that an organizational structure which increases informal interactions between employees and which sets clear organizational goals should be preferred over any other structure.

When we talk about financial regulation, given the fact that the collected information is collected and processed with coordination in line with the organizational goals of the financial regulator, it is important to define the goal of the organization and to make it as clear as possible for the employees of the regulatory body.

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<sup>439</sup> D.A. White, 'Information Use and Needs in Manufacturing Organizations: Organizational Factors in Information Behavior', (1986) 6 *International Journal of Management*, 157, 157.

<sup>440</sup> K.M. Bartol & A. Srivastava, 'Encouraging Knowledge Sharing: The Role of Organizational Reward System', (2002) 9/1 *Journal of Leadership and Organizational Studies*, 64, 64.

<sup>441</sup> W.R. Truran, 'Pathway for knowledge: How companies Learn through People', (1998) 10/4 *Engineering Management Journal*, 15, 17.

<sup>442</sup> S. Kim & H. Lee, 'The Impact of Organizational Context and Information Technology on Employee Knowledge- Sharing Capabilities', (2006) *Public Administration Review*, 370, 373.

<sup>443</sup> S. Kim & H. Lee, *supra* n. 442, p. 373.

A recent example may be taken from the Israeli central bank; the Israeli government has realized the importance of defining clear goals for the regulatory work of its central bank, which is also responsible for supervising banks in Israel, and has enacted a new law, The Bank of Israel Law of 2010, replacing the former one from 1954.

Section 3 of the new law defines the goals of the central bank as follows: maintaining price stability; supporting economic policies of the government such as growth, employment and the narrowing of social gaps, and; insuring the stability and accountability of the financial system as a whole.<sup>444</sup>

Defining the organizational goals helps determine the type of information which will be collected and processed by the employees of the regulatory body and so helps focus the regulatory work and cuts down on irrelevant information.

Another important point for information-flow considerations is the physical layout of the office. Studies have proven that the physical layout, also known as the “microgeography” of the office, matters. Scholars from Caplow<sup>445</sup> to Hall and Tolbert<sup>446</sup> stress that in order to increase information-sharing in and between organizations, the physical distance between employees should be brought down to a minimum and informal interactions should be increased.<sup>447</sup>

From this we can conclude that a structure which allows more face-to-face interaction between employees should be preferred to one that isolates them from one another.

Last, another aspect of information which is directly linked to information-flow is information-gathering. It is the source of the information that flows, and without the collection of the right kind of information, there is no information-flow to discuss. Stephenson referred to this issue and pointed out that agents’ incentives to collect and analyze data depends on the institutional design and environment. He further states that information may help reach better decisions, but it is costly. It costs the information-collecting agent time, resources, and effort to collect it.<sup>448</sup> That is why the collection of information should be encouraged through incentives.

Following Stigler, Stephenson stresses that from a total welfare point of view, research should be conducted until the point where the marginal benefits from acquiring the information is equal to the marginal costs of finding it. However, the problem is that these

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<sup>444</sup> The Bank of Israel Law – 2010, Sec.3 A.

<sup>445</sup> T. Caplow, *How to run an organization*, Holt, Rinehart and Winston, New York 1976.

<sup>446</sup> R.H. Hall & P.S. Tolbert, *Organizations: Structures, processes and outcomes*, 10th ed., Pearson NJ, Prentice-Hall, New Jersey 2009.

<sup>447</sup> As early as: T. Caplow, *supra* n. 445 followed also by R.H. Hall & P.S. Tolbert, *supra* n. 446.

<sup>448</sup> M.C. Stephenson, *supra* n. 429, pp. 1430-1431.

social marginal benefits and costs do not always correlate with the personal marginal benefits and costs of the information-collecting agents. This will lead to a '*socially suboptimal investment in information*' (p. 1431).<sup>449</sup>

He further points out that, although theoretically one could imagine that an information-collector would over collect information, there are a few very good reasons to think that in most cases he will under-collect information. A major reason is that most of the costs are borne by the information collector, while the benefits are shared among society as a whole. This reduces the incentives to collect information and might create problems in cases where society prefers the decision maker to make a slightly better decision, but it comes with a great personal cost of information search. Another reason might be a collective action problem which may develop when a number of different agents are responsible for information-gathering.<sup>450</sup>

As mentioned in the introduction to this chapter, this chapter refers to the problem of information-flow assuming the right kind of information was gathered and processed. It does however make use of Stephenson's analysis with regards to how agents think when encountering a strategic situation which relates to information. While Stephenson is occupied with information collection incentives, this chapter focuses on information-sharing problems inside financial regulators which are government institutions.

To sum up the points brought up by the above mentioned-literature, when choosing between two different types of organizational structures for financial regulators, and if the main consideration is to increase information-flow, the following framework is the recommended one:

- Where possible, vote for a structure which ties policy and specialization together, for example, a structure in which a supervisory department consists of specialists such as economists, lawyers etc. which also has the ability to enact regulation, rather than a structure in which specialists perform research and pass the research on to a department which has the power to determine policy and enact regulation.
- Where possible, allow multiple sources of competing information to reach the hands of the decision maker. This point stresses the fact that a diversified regulatory

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<sup>449</sup> M.C. Stephenson, *supra* n. 429, p. 1431. See also articles referring to the "search theory" as early as: G.J. Stigler, 'Information in the Labor Market', (1962) 70/5 *Journal of Political Economy*, 94, 94-105.

<sup>450</sup> M.C. Stephenson, *supra* n. 429, p. 1432.

structure is preferable to a consolidated structure, as a diversified model contains more competing sources of information than the consolidated one.

- A less rigid and hierarchical regulatory structure would be beneficial over a rigid one. As discussed in this chapter, a fragmented financial regulatory structure is beneficial to a consolidated one, as it removes at least one layer of manager–employee relationship - the last one before the top - thus making the structure less rigid.
- A structure which enables and encourages cooperation is more beneficial than a structure which inhibits cooperation. In the context of financial regulation, having more joint meetings, forums and social networks in and between the different regulators, and forming platforms such as joint agreements for cooperation and Memorandums Of Understanding between different financial regulatory authorities, is beneficial for information-flow and should be encouraged.
- An organizational structure which increases informal interactions between employees and which sets clear organizational goals should be preferred over any other structure. For information-flow purposes, it is beneficial to have the goals of the financial regulatory body described in the authorizing laws.<sup>451</sup>
- An organizational structure which allows more face-to-face interaction between employees should be preferred to one that isolates them from one another.

Based on the recommended framework, an analysis of the existing financial supervisory structures can be made. However, prior to performing such analysis we should find out whether the fact that financial regulators are governmental institutions impacts our analysis.

There is reason to believe that information-sharing inside government organizations will differ from information-sharing within private sector organization. Private sector organizations differ from public ones in a number of aspects which affect problems of information-flow. Basically, these differences make it more difficult for information to flow within and between public sector organizations as opposed to private ones.

These differences further highlight the increased need for coordination and cooperation inside and between the different financial regulators and further stress the

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<sup>451</sup> See the example of the Bank of Israel mentioned above.

importance of choosing the right structure for improving information-flow. These differences will now be discussed in greater detail.

### ***5.3 The differences between public institutions and private sector firms***

The distinction between the private and public sectors has often been discussed in the academic literature on public administration.<sup>452</sup> However, most articles in this field refer to public utilities while only a minority of articles touch on public sector institutions providing other types of services, such as regulators or ministries.<sup>453</sup> Financial regulators belong to the latter group; they are service-granting public institutions which do not provide society with public utility services.

Given the scarcity of articles referring to the differences between private sector firms and regulatory institutions, some insights can be drawn from the literature comparing private sector firms to firms supplying public utilities. These insights will be adjusted, where needed, to fit financial regulatory institutions and enable a better assessment of the existing financial supervisory models.

Unless stated otherwise, the differences between public institutions and private sector firms highlighted in the following pages are also applicable to financial regulatory institutions.

Scholars agree that the main difference between public institutions and private sector firms relates to ownership; public sector institutions are held by the government as opposed to private sector firms which are held by shareholders or entrepreneurs.<sup>454</sup>

This difference yields two immediate results - the way the firms are financed, and the way in which the firms are controlled.<sup>455</sup> Private firms and publicly traded firms are financed through revenues paid by their consumers, by credit which they borrow from banks, and by stocks they issue on the stock market whereas public institutions are funded mainly from tax payers' money.<sup>456</sup> The second factor, the control, refers to the fact that private sector firms are controlled by market forces, i.e. supply and demand, as opposed to public institutions

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<sup>452</sup> See: R. Andrews, G.A. Boyne & R.M. Walker, 'Dimensions of Publicness and Organizational Performance: A Review of the Evidence', (2011) 21(suppl 3) *Journal of Public Administration Research and Theory*, i301, i301-i319, S. Kim & H. Lee, *supra* n. 442, G.A. Boyne, 'Public and Private Management: What's the difference?', (2002) 39/1 *Journal of Management Studies*, 97, 97-122.

<sup>453</sup> Articles addressing institutional issues relating to non-public utilities companies include: A. Rudalevige, *supra* n. 432, pp. 335-336 and M.C. Stephenson, *supra* n. 429, p. 1432. .

<sup>454</sup> H. Rainey, R. Backoff & C. Levine, 'Comparing public and private organizations', (1976) 36/2 *Public Administration Review*, 233, 233-244.

<sup>455</sup> See: G.A. Boyne, *supra* n. 452, p. 98, R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, pp. i301-i319.

<sup>456</sup> As early as: G. Walmsley & M. Zald, *The Political Economy of Public Organization*, Lexington Books, Lexington, Massachusetts 1973, followed also by: R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, p. i302 and G.A. Boyne, *supra* n. 452, p. 98.

which are controlled by political powers and pressures.<sup>457</sup> That is especially true when the public institutions are not financially independent from government, i.e. when their budgets depend on government decisions, which is the case for many financial regulatory bodies around the world.<sup>458</sup> In such cases, the public institutions may be subject to political pressure which might undermine their professional judgment and lead to suboptimal decision-making.

These three main differences, i.e. the identity of the controller, the way in which the legal entity is financed, and the way in which it is controlled, have an effect on the organizational behavior of the entity.<sup>459</sup>

This goes back to the theory of the firm and to incentives to monitor; dispersed ownership, in this context - being owned by the government, leads to lower efficiency in the public sector.<sup>460</sup> The reason behind this phenomenon is an incentives problem; in contrast to private sector firms which are supposed to maximize their shareholders' profits, in the public sector no individual voter will directly gain from a more efficient organizational design for public institutions. This causes a difference in the amount of monitoring in each type of entity; in a private sector firm the shareholders are incentivized to monitor the managers and provide them with incentive schemes which will increase shareholders' profits. This in turn provides a drive for innovation and efficiency as the manager's salary is often tied to the company's performance either through shares or through remuneration programs and bonuses. In contrast, when it comes to public institutions, managers do not usually get an increase in their salary if they opt for a better organizational design.<sup>461</sup> As monitoring, or lack of, does not directly influence any particular individual, it becomes a 'public good' – very few people are induced to take part in the monitoring of a public agency as their efforts will very likely exceed their gains.<sup>462</sup>

Even though financial regulatory agencies don't produce tangible assets, problems can and do exist in monitoring financial regulators. First, as mentioned in the second chapter to this research, monitoring financial products is a complicated task which requires

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<sup>457</sup> G.A. Boyne, *supra* n. 452, p. 98 followed by R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, p. i302.

<sup>458</sup> Information on how different regulators are funded in different countries may be found at the following report: Group of 30, *supra* n. 133 and in chapter 3 to this research.

<sup>459</sup> G.A. Boyne, *supra* n. 452, p.98, S. Kim & H. Lee, *supra* n. 442, pp. 370-385, B. Bozeman, *All organizations are Public*, Jossey – Bass, London 1987.

<sup>460</sup> See already: K. Clarkson, 'Some implications of property rights in hospital management', (1972) 15/2 *Journal of Law and Economics*, 363, 363-384 followed also by: R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, pp. i301-i319 and K Zabalza & J. Matey, 'Strategic Management Development from the State-owned Company to the Private Company', (2011) 7/1 *Journal of Modern Accounting and Auditing*, 48, 48-58.

<sup>461</sup> G.A. Boyne, *supra* n. 452, p. 99.

<sup>462</sup> G.A. Boyne, *supra* n. 452, p. 99.

expertise.<sup>463</sup> Derived from that, monitoring of financial regulation requires expertise and understanding both of the problems and of the solutions suggested by the regulator. Very few people have the expertise and knowledge to assess the regulatory work. Second, very much like the consumers serviced by a public utility firm, each individual consumer of the financial regulatory services gains nothing directly from a more efficient design for financial regulators, and so does not have the right incentives to push for a better designed regulator.

Problems with monitoring in the public sector might also induce the problem of a captured agent. Where monitoring is lacking it is easier for the public official to consider his own utility function and be tempted by lucrative suggestions from the industry in exchange for helping with favors in the area he is in charge of. A captured public official will act for the benefit of the group which has captured him, rather than in accordance with the good of the public in general.<sup>464</sup> This might include keeping information to himself or spreading partial information in order to tilt the end decision in the direction which is beneficial to the regulated firms.

Another problem which is related to political as opposed to economic control is that of multiple sources of authority.<sup>465</sup> Multiple sources of authority become a problem when those who have the authority contradict each other. It is very likely that in order to mitigate this problem, public institutions will develop complex bureaucratic mechanisms to make sure that all those who have the authority are satisfied. This of course has a direct effect on information-flow as information-flow is made more complex.

Take for example the financial regulatory structure in France; France has many interconnected regulatory bodies, sometimes with overlapping responsibilities. The interconnectivity of the French regulatory bodies, which is reflected by the fact that the heads of a regulatory body can and do sit on the board of other regulatory bodies, might be partially explained by the need to satisfy all those who have the authority and political power.<sup>466</sup>

According to Boyne, the three distinctions between public institutions and private sector firms are not just conceptual but also empirical. The empirical evidence on this issue suggests that they are not perfect proxies for each other. This implies that all three differences - ownership, funding, and control - should be taken into account when evaluating the effects of being a public institution.<sup>467</sup>

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<sup>463</sup> D. Llewellyn, *supra* n. 26, pp. 23-25.

<sup>464</sup> J.W. Stigler, *supra* n.24, pp. 3-21, S. Peltzman, *supra* n. 24, pp. 211 - 240.

<sup>465</sup> B. Bozeman, *supra* n. 459, S. Kim & H. Lee, *supra* n. 442, p. 327.

<sup>466</sup> See chapter 3.5.2.1 to this research.

<sup>467</sup> G.A. Boyne, *supra* n. 452, p. 98.

### 5.3.1 The impacts of being a public institution

The literature on differences between public sector and private sector managers identifies four main theoretical effects of being a public institution: the connection between being a public institution and organizational environments, organizational goals, organizational structures, and the values of managers.<sup>468</sup>

### 5.3.2 Differences in organizational environments

There are several aspects in which public institutions differ from private sector firms. The organizational differences have been summed up by the literature as follows:<sup>469</sup>

**Complexity:** Public institutions are generally more complex than private sector firms as their managers are facing different stakeholders with contradicting demands. Furthermore, public institutions tend to be more bureaucratic due to a number of reasons which have little to do with efficiency, such as, their multiple sources of authority, and pressure to provide jobs for people who are close to politicians. See for example the French case which was mentioned earlier in chapter 3.5.2.1 of this research.

**Intrusion:** Public institutions are easily influenced by external pressures and events.<sup>470</sup> This is especially true when the budget of the public institution depends on government decisions such as the case with the Netherlands Authority for Financial Markets (AFM), the Dutch authority responsible for market conduct and enforcement of the provision for information, or with the Israeli Securities Authority.<sup>471</sup>

**Instability:** Due to external political pressure, public institutions tend to change their strategies more frequently than private sector firms. This can be viewed in the frequent changes to the financial regulatory structures undertaken by countries across the world.<sup>472</sup>

**Lack of competition:** public institutions **usually** do not compete with other public institutions in order to provide their services. It is usually the case that the state will want to minimize the public resources invested in the public institutions and so, in the name of

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<sup>468</sup> G.A. Boyne, *supra* n. 452, p. 99.

<sup>469</sup> See: G.A. Boyne, *supra* n. 452, p. 100, S. Kim & H. Lee, *supra* n. 442, p. 372, R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, pp. i304-i307.

<sup>470</sup> See also: R.A. Posner, 'Theories of Economics Regulation', (1974) 5 *Bell Journal of Economics*, 335, 335-358 and J.W. Stigler, *supra* n.24, pp.3-21. Regulation is supplied in response to pressure from political interest groups.

<sup>471</sup> See chapter 3.5.1.1 and 3.5.4.3 to this research.

<sup>472</sup> As has been identified by D. Masciandaro & M. Quintyn, *supra* n. 122, p. 4.

efficiency, will try not to form two public institutions which have overlapping responsibility. If the state succeeds in doing so, it means that consumers have no choice other than to engage with one specific public institution, no matter how bad its services are. In addition, as public institutions do not receive their revenues from the people to whom their service is granted, their willingness to be responsive to consumers' demands drops. The consumers can not influence the quality of the service they receive<sup>473</sup>.

This makes it difficult to create incentives for increasing efficiency in public institutions. Moreover, it creates differences in the nature, purpose, and scope of structural reform; in the private sector viable organizational reforms are selected by the markets. We therefore assume that such organizational reforms are efficient, or else they would not occur. A public institution reform, on the other hand, does not occur as a result of market power and competition but rather as a result of the political atmosphere of the time. It is therefore much harder to detect the reason behind such reform and evaluate whether it is efficient or not. This is one of the reasons why some scholars suggest that regulatory competition between different regulatory bodies might be beneficial. Others disagree as they claim that such competition undermines the goals behind the regulation that these entities are supposed to produce, and encourages unwanted behavior by the regulated firms, such as forum shopping.<sup>474</sup> The answer is not conclusive and this question is still open for debate.<sup>475</sup>

### 5.3.3 Differences in goals

While private sector firms have one major goal, which is to maximize profits, public institutions have many different goals, such as pleasing the different stake-holders, and promoting values such as justice, equality, and fairness.<sup>476</sup> Even though financial regulatory authorities are mainly concerned with efficiency considerations, they too have many other goals such as consumer protection, promoting competition, and promoting values of justice and fairness.

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<sup>473</sup> See as early as: W.A. Niskanen, *Bureaucracy and representative government*, Aldine-Atherton, Chicago 1971 but also: R. Andrews, G.A. Boyne & R.M. Walker, *supra* n. 452, p.i304.

<sup>474</sup> D.B. Schwarcz. 'Regulation Insurance Sales or Selling Insurance Regulation: Against Regulatory Competition in Insurance', (2010) 94 *Minnesota Law Review*, 1707, 1710-1712.

<sup>475</sup> W. Kerber, 'The Theory of Regulatory Competition and Competition Law', in K.M. Meessen, M. Bungenberg & A. Puttler, *Economic Law as an Economic Good, Its Rule Function in the Competition of Systems*, Sellier European Law Publishers, Munich 2009.

<sup>476</sup> G.A. Boyne, *supra* n. 452, pp. 98-122.

Take for example the consolidated Swiss financial supervisory authority, FINMA, whose goals are defined in Article 5 of the Financial Market Supervisory Act (FINMASA) - 2007 as follows:

*“In accordance with the financial market acts, financial market supervision has the objectives of protecting creditors, investors, and policy holders as well as ensuring the smooth functioning of the financial markets. It thus contributes to sustaining the reputation and competitiveness of Switzerland’s financial centre.”*<sup>477</sup>

Another example containing a whole spectrum of goals may be found in Section 2 to the American Securities Exchange Act – 1934 which defines the goals of the Securities Exchange Commission as follows:

*“For the reasons hereinafter enumerated, transactions in securities as commonly conducted upon securities exchanges and over-the-counter markets are effected with a national public interest which makes it necessary to provide for regulation and control of such transactions and of practices and matters related thereto, including transactions by officers, directors, and principal security holders, to require appropriate reports, to remove impediments to and perfect the mechanisms of a national market system for securities and a national system for the clearance and settlement of securities transactions and the safeguarding of securities and funds related thereto, and to impose requirements necessary to make such regulation and control reasonably complete and effective, in order to protect interstate commerce, the national credit, the Federal taxing power, to protect and make more effective the national banking system and Federal Reserve System, and to insure the maintenance of fair and honest markets in such transactions...”*<sup>478</sup>

This difference between public institutions and private sector firms results in a different type of managerial regime; managers of public institutions must be aware of the different, sometimes contradicting goals they are asked to achieve, and must navigate a golden line between them.

According to Boyne public institutions, as opposed to private sector firms, are also vaguer with regards to their goals, since their organizational policies are dictated by politicians rather than by professional managers.<sup>479</sup> This is especially true when the independence of the financial regulatory authority is weaker, such as the case where its budget is dependent on a political decision.

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<sup>477</sup> Federal Act on the Swiss Financial Market Supervisory Authority (Financial Market Supervision Act, FINMASA) of 22 June 2007, Article 5.

<sup>478</sup> Securities Exchange Act of 1934, (15 USC § 78a - Short title).

<sup>479</sup> G.A. Boyne, *supra* n. 452, p. 101.

This creates a difference in the need for clarity; in order to get policies adopted politicians need to gain a wide support for the change from many diverse groups. In these surroundings lack of clarity is an asset as it is more difficult to object to a less clear change.<sup>480</sup>

These political pressures hamper the work of public institutions, as performance targets and measurements are inherently unclear, and management according to objectives is discouraged.<sup>481</sup>

### 5.3.4 Differences in organizational structures

The organizational structures of public institutions and private sector firms reflect some of the same arguments that were already brought up when discussing the differences in goals. As a result of having many sources of authority and the consequent need for political compromise, public institutions tend to be more bureaucratic. The complex and bureaucratic structure of public institutions is also caused in part by demands set by monitoring bodies which are abundant in the public sector, and by requirements of accountability.<sup>482</sup> As a result of the bureaucracy in public organizations, stagnation and formalization cause delays and inefficiencies which are referred to as red tape in the literature.<sup>483</sup>

Last, managers of public institutions have less autonomy than their colleagues in private sector firms, especially when it comes to firing, hiring and promoting employees. This is due to the rigid rules of government employment contracts and due to the fact that they are in the public eye, and are thus subject to criticism by the public.<sup>484</sup>

This of course makes it harder for managers in public institutions to control their employees, as there are no substantial “reward or punishment” tools. Moreover, and with regards to the need for information-sharing, public institutions have ambiguous performance measurements which make it hard to convince employees that sharing knowledge will be worth their while.<sup>485</sup>

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<sup>480</sup> G.A. Boyne, *supra* n. 452, p. 101.

<sup>481</sup> G.A. Boyne, *supra* n. 452, p. 101.

<sup>482</sup> G.A. Boyne, *supra* n. 452, pp. 109-112.

<sup>483</sup> B. Bozeman, P. Reed & P. Scott, ‘Red tape and task delays in public and private organizations’ (1992) 24/3 *Administration and Society*, 290, 290–322.

<sup>484</sup> See: G.A. Boyne, *supra* n. 452, pp. 101-102; and S. Kim & H. Lee, *supra* n. 442, pp. 370-385.

<sup>485</sup> S. Kim & H. Lee, *supra* n. 442, pp. 370-385.

### 5.3.5 Differences in employees' commitment and values

The last difference between public and private sector entities has been identified in the literature as a difference in the values of employees and managers.<sup>486</sup> However, the literature seems to disagree on the direction in which these differences go.<sup>487</sup> While part of the literature considers managers in public institutions as manipulative agents who try to abuse the system in order to escape accountability and get around the monitoring systems put in place to control their actions,<sup>488</sup> a different stream of the literature views these managers as less materialistic agents concerned with serving the public and promoting the public good with which they are entrusted.<sup>489</sup>

The truth lies somewhere in the middle. In their research Mayer et al. analyzed the ethical behavior patterns of 904 employees and 195 managers in 195 departments. Their findings back up findings from the social learning and social exchange theories and suggest that ethical behavior is transmitted top down from one managerial layer to the one beneath it.<sup>490</sup>

These findings suggest that managers of public institutions will behave, on average, in accordance with the ethics and norms dictated to them from the top.<sup>491</sup>

Putting this debate aside, scholars tend to agree that the differences in pay, remuneration, and goals of public institutions attract employees of a different type to the ones who choose to work for private sector firms.<sup>492</sup>

As public institutions, financial regulatory authorities are entrusted with promoting a public good, and they tend to have missions of broader scope and greater impact than those of private sector firms.<sup>493</sup> Thus, employees who choose to work for the public sector are thought to be more altruistic and less concerned with financial remuneration in comparison with their colleagues in the private sector.<sup>494</sup> This has been found true in a number of empirical studies

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<sup>486</sup> See G.A. Boyne, *supra* n. 452, p.102; and B.E. Wright, 'Public Service and Motivation: Does Mission Matter?', (2007) 67/1 *Public Administration Review*, 54, 54-64.

<sup>487</sup> D.R. Reiss, 'Account me in: Agencies in Quest of Accountability', (2009) 19 *Brookline Journal of Law and Policy* 611, 614.

<sup>488</sup> D.R. Reiss, *supra* n. 487, p. 642.

<sup>489</sup> See: D.R. Reiss, *supra* n. 487, p. 642; and G.A. Boyne, *supra* n. 452, p. 102.

<sup>490</sup> D.M. Mayer, M. Kuenzi, R. Greenbaum, M. Bardes & R. Salvador, 'How low does ethical leadership flow? Test of a trickle-down model', (2009) 108/1 *Organizational Behavior and Human Decision Processes*, 1, 1.

<sup>491</sup> D.M. Mayer, M. Kuenzi, R. Greenbaum, M. Bardes & R. Salvador, *supra* n. 490, p.11.

<sup>492</sup> B.E. Wright, *supra* n. 486, pp. 54-55.

<sup>493</sup> B.E. Wright, *supra* n. 486, pp. 54-55.

<sup>494</sup> B.E. Wright, *supra* n. 486, pp. 54-64.

which tested the value employees attach to helping others as opposed to the value or utility they derive from financial rewards.<sup>495</sup>

These differences between public and private sector entities dictate a need for a different type of management in public versus private sector entities. It also has implications with regards to information-flow and organizational structure; running an administrative body, such as a financial regulator, is not only about solving agency costs and giving the right kind of incentives to employees. It is also about identifying and solving the knowledge problems which may occur in such organizations, and between one organization and another. Even if the public officials working for the financial regulatory body are fully motivated to do their work, they need to receive the right kind of information in order to perform and bring results. The differences, to the extent that they exist, between public and private sector entities also call for a slightly different evaluation of problems relating to organizational design and structure.

Knowledge-sharing is important both in the public and the private sector. Researchers have found that organizations which transfer knowledge efficiently are more productive than ones which do not.<sup>496</sup>

For private sector firms, information-flow is essential in order to meet consumer demands and remain competitive. Even though public institutions are not subject to competitive market forces, knowledge-sharing is important for them as well. In the public sector there is a growing focus on result-oriented services and performance. These require greater information and knowledge-sharing capabilities.<sup>497</sup>

Employee turnover makes it essential to collect, preserve, and share knowledge within the organization. Moreover, as the world becomes more complex, cooperation between different government institutions is needed. In order to do so, government institutions need to share their knowledge with one another.<sup>498</sup>

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<sup>495</sup> B.E. Wright, 'Public Sector Work Motivation: Review of Current Literature and a Revised Conceptual Model', (2001) 11/4 *Journal of Public Administration Research and Theory*, 559, 559–586; and G.A. Boyne, *supra* n. 452, p. 102.

<sup>496</sup> S. Kim & H. Lee, *supra* n. 442, pp. 370-385.

<sup>497</sup> S. Kim & H. Lee, *supra* n. 442, pp. 370-385.

<sup>498</sup> Organization for Economic Co-operation and Development (OECD), 'The Learning Government: Introduction and Draft Results of the Survey of Knowledge Management Practices in Ministries/Departments/Agencies of Central Government', (2003) paper presented to the 27th Section of Public Management Committee, Paris.

As Nonaka noted, it is the individuals within the organization who are collectively responsible for the creation and management of organizational knowledge and know-how.<sup>499</sup> Therefore it is important to identify the optimal environment for enhancing employee knowledge-sharing capabilities.

Capabilities of knowledge-sharing with other institutions are also significant as they are often essential for the work of the institutions. Hence the importance of the discussion regarding the optimal structure for facilitating information-flow. These issues are at the heart of this chapter and are the focus of discussion in the following pages.

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<sup>499</sup> I. Nonaka, 'A Dynamic Theory of Organizational Knowledge Creation', (1994) 5/10 *Organization Science*, 14, 14-37.

## ***5.4 The story of information-flow***

Decisions are made based on information sourced from employees. In order to understand the work of an organization it is critical to understand what kind of information reaches the person or persons in charge of making the decisions.<sup>500</sup>

Institutions are important for decision making as they help provide a set of rules for the interaction of employees, and by doing so provide them with an idea of the behavior they should expect from one another. This helps to mitigate the uncertainty inherent in strategic interactions, and provides the employees with some sort of commitment mechanisms which helps reduce information search costs.<sup>501</sup> Institutions might also have a slight superiority with regards to maintaining and storing of information.

The organizational structure affects the type of information that flows to the top and on which decisions are made. Therefore a prior decision must be made about how to structure the organization so that the right kind of information reaches those who have the power to make a decision.<sup>502</sup>

When we talk about information-flow and about possible problems with information-flow, we refer mainly to information which is analyzed and brought in an analyzed form to the decision maker, i.e., more complex information. There are other types of information such as statistics and data which are less vulnerable to being changed while traversing the different levels of management in the organization which lie beneath the decision maker.

When we think of information-flow inside financial regulators it is crucial that the right kind of information will reach the decision maker in the shortest time possible.

There are a few attributes which separate information in general from “the right kind of information”. Such attributes include the following: (a) the information is useful in the sense that it fits with real world problems; (b) it is comprehensive, meaning that it includes all plausible options and an estimation of the probability of their occurrence and; (c) it is diverse, i.e., different types of information which may lead to different end results reach the decision maker and enable him to see the whole picture and take a decision while being aware of all options.<sup>503</sup>

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<sup>500</sup> A. Rudalevige, *supra* n. 432, p. 336.

<sup>501</sup> A. Rudalevige, *supra* n. 432, p. 338.

<sup>502</sup> A. Rudalevige, *supra* n. 432, p. 338.

<sup>503</sup> A. Rudalevige, *supra* n. 432, p. 346.

The literature suggests two ways of obtaining the right kind of information: choosing the right kind of employees, i.e., choosing agents who share the same views, values, and beliefs on the world as the principal in order to minimize the agency problem in collecting information;<sup>504</sup> and choosing the right kind of structure. This chapter focuses on the latter, the reason being that financial regulators are public institutions.

As discussed earlier, in public institutions it is difficult to change the employees. It is also difficult to change the personal attributes of the existing employees in order to make them more adept at information-gathering and sharing. It is much easier to change the organizational structure to a structure which facilitates better information-flow.<sup>505</sup>

The current financial regulatory structures that exist in the world can broadly be divided into two types of organizational design: a pyramid hierarchal structure, or a fragmented one.

In order to understand how to structure an organization, two things need to be taken into account: what does the person at the top need to know; and, derived from that, how should the organization be structured?

It is important to keep in mind that there is no flawless structure; all structures might fail at some point. The trick is to try and reduce the costs and the frequency of such failures.<sup>506</sup>

When we talk of financial regulators, it is clear that both structures, the consolidated and the fragmented one, have their pros and cons when it comes to information-flow. However, based on the organizational design literature and on the propositions mentioned earlier in this chapter, there seems to be reason to believe that the fragmented structure is better suited to information-flow than the consolidated one. The reason for believing so will now be discussed in detail.

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<sup>504</sup> R.W. Waterman & K J. Meier, 'Principal-Agent Models: An Expansion', (1998) 8/2 *Journal of Public Administration Research and Theory*, 173, 198-199.

<sup>505</sup> B. Bozeman, *supra* n. 459, see in general chapter 2, pp. 14-28.

<sup>506</sup> A. Rudalevige, *supra* n. 432, p. 339.

### 5.4.1 *The consolidated financial regulator*

When we think of a consolidated financial regulator, such as the English Financial Service Authority in its pre-2007 Financial Crisis structure, or the current structure of FINMA, the Swiss financial regulator, we think of a pyramid shaped hierarchical structure.

Such hierarchical structure has its merits; it eliminates the option for overlapping regulation, it resolves the problem of gray zones, and it enables smoother and more frequent communication and interaction between the different departments of the financial regulator, as it increases the encounters between employees of different departments.

As Bozeman et al put it: '*Physical layout is important because communication declines rapidly with the distance between people*' (p. 393).<sup>507</sup> Therefore, it is suggested that physical interaction between employees increases the sharing of information and should be encouraged.

Having said that, the hierarchical pyramid structure also has its down-side when it comes to information-flow; the problem with this structure is that information gets diluted as it flows upwards.

Each level of employees takes out what seems to be unnecessary information, and this selective processing of the information changes the information as it moves up the ladder. By the time it reaches the top the individuals at the top might not have enough relevant information to take an informed decision in times of uncertainty.<sup>508</sup>

The information which will reach the top depends greatly on what information has been passed up in each level. In the words of Rudalevige (p.338), "*The sea of information at the bottom of any hierarchical pyramid is reduced to a puddle at the top.*"<sup>509</sup>

That is why having more subordinates participate in the decision making process may generate the right kind of information to deal with uncertainty as there are less screens on the way.<sup>510</sup>

The notion of staff serving as screens of information is indeed one of the biggest problems with the consolidated model; disagreements among staff are hushed before they

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<sup>507</sup> B. Bozeman, K. Roering & A.E. Slusher, 'Social structures and the flow of scientific information in public agencies: an ideal design', (1978) 7 Research Policy, 384, 393.

<sup>508</sup> A. Rudalevige, *supra* n. 432, p. 341.

<sup>509</sup> A. Rudalevige, *supra* n. 432, p. 338.

<sup>510</sup> R. Duncan, *supra* n. 435, pp. 59-80.

reach the top. In addition, staff may choose to omit information either because they deem it irrelevant or because it might make them look bad.<sup>511</sup>

This is not to say that screening information has only negative consequences. On the contrary, the phenomenon of diluted information also brings with it a positive effect; the consolidated model provides a wide potential for information-gathering and processing and extraneous data is eliminated during the process. At the end the information that reaches the top is easier to digest.<sup>512</sup>

As a consequence, in some cases, the pyramid structure makes a lot of sense. However, as there are no guarantees that the information which flows up contains all the important facts in order to reach an informed decision, using this type of structure might be problematic in the area of financial regulation which is heavily dependent on information for crisis prevention and for a well-functioning market.

One of the tasks of the organizational structure is to facilitate the information-flow inside the organization in order to allow for better decision making processes. When an organizational structure is formalized and centralized, information-flow becomes restricted. When this happens the organization is not able to cope well with uncertainty.<sup>513</sup>

In one of the studies performed on information-flow in different types of companies, some of the companies had what can be described as a steep pyramid or a consolidated structure based on defined divisions with clear responsibility and a high degree of managerial control from the top.<sup>514</sup> These types of companies displayed the need for high amounts of information which was required by senior management in order to control the company. However, it was found that top down information was very scarce. This created a problem for middle level managers who reported that they felt the need to receive more information from higher management. Access to the high level information was denied to them.<sup>515</sup>

These findings are backed up by a later study<sup>516</sup> which concluded that the hierarchal structure of government organizations limits information-sharing, and hinders the information-flow between employees and between employees and their managers. In the area of financial regulation these findings are alarming.

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<sup>511</sup> A. Rudalevige, *supra* n. 432, p. 356.

<sup>512</sup> A. Rudalevige, *supra* n. 432, p. 340.

<sup>513</sup> R. Duncan, *supra* n. 435, p. 60.

<sup>514</sup> D.A. White, *supra* n. 439, pp. 157-170.

<sup>515</sup> D.A. White, *supra* n. 439, p. 169.

<sup>516</sup> D.W.E. Creed & R.E. Miles, 'Trust in Organizations: A Conceptual Framework Linking Organizational Forms, Managerial Philosophies and the Opportunity Costs of Control', in *Trust in Organizations: Frontiers of Theory and Research*, R.M. Kramer & T.R. Tyler (Eds.), Thousand Oaks, Sage Publications, California 1996, pp. 16-38.

When we think of a financial regulator which is supposed, to the best of its abilities, to predict and stop a financial crisis before it has occurred, and to mitigate it once it has already started,<sup>517</sup> the lack of sufficient information in the middle level of management could create a serious problem.

It is not easy to obtain and digest the information which helps to predict a financial crisis, as the ability to predict a crisis depends on seeing the broad picture and putting the puzzle together correctly. There is a wide potential to “get it wrong”,<sup>518</sup> and it is necessary that as many employees and mid-level managers as possible are exposed to the relevant information in order to minimize the chances of mistakes. According to White’s findings, the hierarchical structure does not enable that for middle level management.<sup>519</sup>

Managers in organizations with flatter pyramids report that they are happy with the information they receive. As they have direct personal contact with senior management, they feel they have access to all forms of internal information.<sup>520</sup> Such access is important as access to strategic information and operational data enables managers to respond quickly to any situation.

Here an analogy can be drawn from a completely different field- Biology. In nature there are certain types of insects which are considered to be “social insects” such as bees, ants, etc. These insects organize their colony according to a clear division of labor. However, when external conditions change, a transformation in the division of labor inside the colony is visible. This indicates that some sort of information has been transmitted among members of the colony which causes them to react and change their roles inside the colony.<sup>521</sup>

Division of labor inside social insect colonies is one of the most studied aspects of colony behavior.<sup>522</sup> Such studies try to trace the connection between the individual worker behavior and the colony’s organization of labor. Some of these studies suggest that there is a stimulus which pushes the individual to work on a specific task. Each worker performs his job when the stimulus crosses its internal threshold.<sup>523</sup> This means that the chemical

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<sup>517</sup> See S.L. Pan, G. Pan & D. E. Leidner, *supra* n. 424, pp. 31-56 about the need for information in crisis response.

<sup>518</sup> See S.L. Pan, G. Pan & D. E. Leidner, *supra* n. 424, pp. 31-56 about the need for information during crisis response.

<sup>519</sup> D.A. White, *supra* n. 439, p. 169.

<sup>520</sup> D.A. White, *supra* n. 439, p. 169.

<sup>521</sup> S.N. Beshers & J.H. Fewell, ‘Models of division of labor in social insects’, (2001) 46/*Annual Review of Entomology*, 413, 416-17.

<sup>522</sup> S.N. Beshers & J.H. Fewell, *supra* n. 521, p. 418.

<sup>523</sup> S.N. Beshers & J.H. Fewell, *supra* n. 521, p. 418.

information must reach a certain level in order to cause a change in the behavior of the workers of the colony.

Much like these insects, the financial regulator chooses to act and regulate based on accumulated information. The information must reach a certain level of validity or concern in order to trigger the regulator to act. The more sources of information point at a certain direction, the higher the probability for regulatory action.

Moreover, the larger the number of information sources pointing at the same direction, the higher the chance for a **correct** regulatory action, i.e. providing the right regulatory “medicine” which solves the market failure in the most efficient way.

As a result, exposing middle and lower level management to the right kind of information is crucial. It seems it is hard to achieve such exposure in the consolidated structure, as that structure is based on tight control which is reflected in the lack of sufficient information flowing from the top down.

However, this is not the only problem with information-flow inside the consolidated model.

It has been found that low formalization, which is usually found in less hierarchal structures, induces innovation and encourages new ideas.<sup>524</sup> Derived from that, a hierarchal consolidated structure is likely to block regulatory innovation.<sup>525</sup> In the area of financial regulation where the industry is constantly coming up with new ideas to bypass the regulation, there is a high need for the regulator to keep up with the industry and be at least as innovative. If the consolidated regulatory model blocks innovation, it might jeopardize the efficiency of the regulation.

Moreover, the organizational structure also affects the amount of knowledge-exchange between departments and between one organization and another. Centralization reduces the initiatives for knowledge-exchange with other units in the organization,<sup>526</sup> whereas an organizational design which promotes flexibility also encourages information-sharing within and between the organization and other organizations.<sup>527</sup> A centralized

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<sup>524</sup> See generally: F. Damanpour, ‘Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators’, (1991) 34/3 *Academy of Management Journal*, 555, 555-590.

<sup>525</sup> See as early as: E.J. Kane, ‘Interaction of Financial and Regulatory Innovation’, (1988) 78/2 *The American Economic Review*, 328, 328-334.

<sup>526</sup> W. Tsai, ‘Social Structure of “Coopetition” within a Multiunit Organization: Coordination, Competition, and Interorganizational Knowledge Sharing’, (2002) 13/2 *Organizational Science*, 179, 189.

<sup>527</sup> C. O’Dell & J.C. Grayson, ‘If only we knew what we know: Identification and Transfer of Internal Best Practices’, (1998) 40/3 *California Management Review*, 154, 154-174.

organizational structure which emphasizes rules, regulations, and strict monitoring, may create barriers to knowledge-sharing within the organization.<sup>528</sup>

These insights bring us to another point relating to information-flow inside the consolidated regulator - the definition of the units which construct it. The definition of units changes the type of information which will flow to the top. There is a difference between receiving information from units that are responsible for different products and receiving information from units that are responsible for different types of institutions.

As the person at the top will learn mainly about the disagreements between the units, and as these will depend on the way in which each unit is defined, changing the categories around which choices are made impacts future decisions.<sup>529</sup>

For example, the consolidated financial regulatory model usually contains departments which have certain regulatory responsibilities which are divided among them according to specific segments. If those departments are organized according to a product-base type of model, i.e., different departments regulate different types of financial products, the head of the regulatory authority will receive information regarding a certain set of problems and issues. This set will be very different from the one which would be obtained if those departments are organized according to a firm-based model, i.e., each department regulates a specific type of financial firm. The different nature of problems which reach the top have an effect on the end decision.

It could be argued that both structures should create information-flow to the top, and this would be true to some extent.

However, glancing at reality it seems fair to assume that when departments are organized according to the firm-based regulatory model, more arguments will come up and so more information will float up and reach the head of the authority.

This assumption is based on the fact that financial firms have moved past the clear boundaries of banking, insurance, and securities firms, and are now selling products which cross the boundaries originally set for a specific type of firm. By doing so, it is no longer clear which regulator has the mandate to supervise these financial conglomerates and their activities.

We know from current behavior of financial regulators in the fragmented regulatory models that each of them strives to enlarge his or her mandate for supervision. Therefore we

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<sup>528</sup> S.L. Jarvenpaa & S.D. Staples, 'The Use of Collaborative Electronic Media for Information Sharing: An Exploratory Study of Determinants', (2000) 9/2/3 *Journal of Strategic Information Systems*, 129, 130.

<sup>529</sup> A. Rudalevige, *supra* n. 432, p. 344.

have no reason to believe that supervisors will act otherwise if they become heads of a department in a consolidated regulatory body.

Thus, due to the fact that the supervisory boundaries of the firm-based model are vaguer than those of the product-based model, we can assume that more arguments with regards to which mandate belongs to who will float up to the top if we opt for the firm-based model.

Indeed the current structures of consolidated regulators which exist in the world today are constructed from different departments each in charge of regulating a specific type of financial firm, and are usually divided between banks, insurance companies, and securities market regulation.<sup>530</sup>

Much like the president in Rudalevige's 2005 example<sup>531</sup>, the head of the regulatory authority will only learn about what crosses the department's jurisdictions as those border lines are likely to ignite a dispute and these disputes are what flows to the top. As Rudalevige puts it:<sup>532</sup>

*'When the very same people, with the very same preferences, are shifted from a functional to a product line-based decision-making structure, different outcomes occur...'* (p. 342).

Essentially, based on everything said so far, we can conclude that information is important and the more information that flows upwards the better. However, forcing large amounts of information up the tube and into the hands of the decision maker who maintains full control over the decisions also has its downside; it may lead to a bottle-neck. The decision maker will need to invest a great amount of time in screening the information and managing it.<sup>533</sup>

There is a fine line between encouraging information-flow and overflowing the system. Basically, different positions within an organization are faced with different problems which in turn depend on different types of information for solution. In general,

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<sup>530</sup> See for example the Swiss supervisory model and the Canadian supervisory model described in chapter 3.5.3 to this research.

<sup>531</sup> A. Rudalevige, *supra* n. 432, p. 342.

<sup>532</sup> A. Rudalevige, *supra* n. 432, p. 342.

<sup>533</sup> A. Rudalevige, *supra* n. 432, p. 340.

problem-solving is a combination of the right kind of information and personal skills and capabilities.<sup>534</sup>

The problem related to information in organizations is usually not with regards to gathering the information but with regards to processing it. The ability to process large amounts of information goes down the further you move up the hierarchical structure of the organization.<sup>535</sup>

One of the ways to deal with the problem of overflowing the system with knowledge is by picking the right kind of employees. The information which makes it to the top depends on the employees at the bottom. Their judgment colors what they report to the top; this phenomenon may also be referred to as bias omission.

In order to solve this problem, regulatory institutions need to try and select smart people who are also highly motivated about their job.<sup>536</sup> The idea being that if employees serve as screens, the better the screen the better the quality of information which will reach the decision maker's hands.

Therefore we can conclude that the way to increase information-search by government officials is by selecting smarter people or people who care greatly about the public outcome of their decisions.<sup>537</sup> Picking employees who hold similar views to the head of the regulatory authority on the world and on problem-solving, is key to solving the problem of "colored" information.<sup>538</sup>

This is also true for financial regulators; the quality of the financial regulatory body's work depends on the quality of its employees. That is why recruiting the right kind of employees is essential, especially given the problems of firing employees of public institutions that were discussed earlier in this chapter. However, the means to recruiting the right kind of employees are beyond the scope of this chapter.

A separate issue concerns the possibility of overflowing the system with redundant information. Even though scholars acknowledge the problem of a possible overflow of information, they seem to be more concerned with the lack of information than with overflow of information. They seem to agree that the goal should be to push diversity of opinions up

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<sup>534</sup> See generally: D.A. White, *supra* n. 439, pp. 157-170.

<sup>535</sup> See generally: H.A. Simon, 'Applying Information Technology to Organization Design', (1973) 33/3 *Public Administration Review*, 268, 268-278 and R.L. Daft & R.H. Lengel, 'Information Richness. A New Approach to Managerial Behavior and Organization Design', (1984) 6 *Research in Organizational Behavior*, 191, 191-233.

<sup>536</sup> M.C. Stephenson, *supra* n. 429, p. 1434.

<sup>537</sup> M.C. Stephenson, *supra* n. 429, p. 1434.

<sup>538</sup> A. Rudalevige, *supra* n. 432, p. 340.

the hierarchical structure and into the hands of the decision makers, as diversity of opinions is essential in order to make a well informed decision.<sup>539</sup>

One way of doing so is indeed to find the right structure for the different departments in the consolidated financial regulator. An alternative, and perhaps better, way is “parallel processing” of information.<sup>540</sup>

Parallel processing means encouraging multiple sources of information. This is indeed the plus side of the fragmented regulatory model which will now be discussed.

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<sup>539</sup> See generally: A. Rudalevige, *supra* n. 432, pp. 333-360, M.C. Stephenson, *supra* n. 429 and Å. Ericson, J. Holmqvist, C. Johanson & J. Wenngren, 'A quest for knowledge', (2011) research report, Functional Product Development, Division of Innovation and Design, *Lulea University of Technology*.

<sup>540</sup> A. Rudalevige, *supra* n. 432, p. 346.

#### 5.4.2 *The fragmented financial regulatory structure*

When speaking of “parallel processing” of information in financial regulatory institutions in its pure form, the fragmented regulatory model comes to mind, i.e., a model containing more than one financial regulator. Such models include the institutional model (regulating according to the type of institution), the functional model (regulating according to the type of product), and the twin-peaks model (one regulator is responsible for consumer protection and the other is responsible for minimizing systemic risks). These three types of regulatory structures are prevalent in most parts of the world.<sup>541</sup> The reason these financial regulatory models allow for parallel processing of information is due to the fact that some overlapping of regulatory mandates occurs.<sup>542</sup>

The big plus of the fragmented model is diversity. As previously mentioned, if a CEO wishes to be well-informed, then the categories on which the firm is structured should cut across the different categories influencing the firm’s environment.<sup>543</sup> Fragmenting the financial regulators achieves this outcome based on the fact that in reality financial regulators do have overlapping mandates for supervising parts of the financial conglomerates’ activities or products. Such overlapping mandates cut across different categories of the firm’s activities and so the chances that information is “lost” or unattended to are minimized.

As discussed before, when it comes to the social structure, organizational pyramids should be flattened.

*‘One of the best ways to increase horizontal communication is to increase the number of peer relationships while decreasing the number of subordinate-supervisor relationships’.*<sup>544</sup> (p. 402)

From the point of view of decreasing subordinate-supervisor relationships, structuring financial regulators in a fragmented way, i.e., different regulatory bodies responsible for different supervisory tasks, is better than structuring them in a consolidated pyramid shaped regulator; it removes at least one layer of subordinate-supervisor relationship - the last one before the top of the pyramid.

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<sup>541</sup> See Chapter 3 to this research.

<sup>542</sup> For real world examples see Section 4.3.1 to this research.

<sup>543</sup> T. Hammond, ‘Structure, Strategy and the Agenda of the Firm’, in R.P. Rumelt & D.J. Teece, *Fundamental issues in strategy: A research agenda*, Harvard Business Press., Massachusetts 1994, pp. 100 - 102.

<sup>544</sup> B. Bozeman, K. Roering & A.E. Slusher, *supra* n. 507, p. 402.

But this is not the only advantage of the fragmented regulatory model. Nowadays scholars have moved past the notion that the solution to regulatory failures is to transform the financial regulators into a single consolidated authority. Instead they put emphasis on the advantages of having several agents collecting information rather than one.

The benefits of having several agents collecting and processing information have already been highlighted by the Marquis de Condorcet in his Jury Theorem, proving that a group of lay jurors deciding by majority rule can reach the correct result more often than one expert deciding alone.<sup>545</sup>

It is thought that multiple agents act as a sort of insurance – if one agent misses an important piece of information there is greater likelihood that another agent will spot it. Much like in nature, diversity is a natural way to mitigate risks.

However, several scholars have pointed out that when agents have a correlated bias, vote strategically, or where there is no consensus on what is the right answer, the Jury Theorem may no longer hold.<sup>546</sup>

The downside for having several agents, as has been demonstrated in chapter 4 to this research, includes greater costs associated with duplication, and socially unproductive battles over power and prestige caused by overlapping mandates.

Increasing the number of agents involved in information-gathering and processing reduces the incentives each agent has to collect and process the information. This is a form of a collective action problem. As the number of agents goes up, so do their incentives to free-ride. This is also known as the “rational ignorance” effect. Increasing the number of agents increases the quantity of the signals received, as there are more agents collecting and processing the information, but reduces the quality of these signals.<sup>547</sup>

This does not hold true if the pieces of information collected by those agents complement each other. In such cases collecting a piece of information increases the marginal value of other pieces of information collected. Dividing information-gathering tasks among several agents may prove beneficial in these cases.<sup>548</sup>

When the policy decision is based on aggregated information which streams from different agents, the timing of the agents’ inputs should be taken into account. The main issue here is whether the inputs are simultaneous or sequential. This makes a difference as it

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<sup>545</sup> See M. De Condorcet, ‘An Essay On the Application Of Mathematics to the Theory of Decision Making’, (1785), reprinted in K.M. Baker, *Condorcet: Selected Writings*, (1976) 33. These insights have been brought up and strengthened by Stephenson: M.C. Stephenson, *supra* n. 429, pp. 1462-1463.

<sup>546</sup> M.C. Stephenson, *supra* n. 429, p. 1464.

<sup>547</sup> M.C. Stephenson, *supra* n. 429, pp. 1464 - 1465.

<sup>548</sup> M.C. Stephenson, *supra* n. 429, pp. 1467.

determines whether agents can observe other agents' inputs before taking the decision on how to act.<sup>549</sup>

On the one hand, sequential information systems are useful as each agent can build on past knowledge and develop it instead of starting from scratch. On the other hand, sequential decision-making systems suffer from the phenomenon of "herding", decision makers rely on past information which shapes their beliefs about reality and shapes the way in which they collect future information. In a sense it robs decision makers of their ability to make their own unbiased judgment of the reality.<sup>550</sup>

If the information is complicated the problem becomes more complex. If the agent has new and better information he will use it, but if the information is complicated, as is very often the case with information relating to financial issues, the agent may simply choose to rely on the existing information and decisions instead of investing time to research and study the new pieces of information.<sup>551</sup>

The major problem with the fragmented financial regulatory model from an information-flow point of view relates to coordination, communication, and cooperation between the different regulators acting in the financial markets.

A decentralized organizational structure is effective when the tasks of the organization are self-contained. The decentralized organization is usually used when the organization is designed around different products. In such a structure, managers worry only about the products or services for which they are responsible.<sup>552</sup>

This is useful when the environment is complex as it segments the environment into products and allows for specialization. However, the problems begin when these products affect each other, as happens with financial products or firms which have a systemic influence on each other and on the entire market.

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<sup>549</sup> P. Aghion & J. Tirole, 'Formal and Real Authority in Organizations', (1997) 105 *Journal of Political Economy*, 1, 6-7, A. Vermeule & J.H. Watson, 'Many-Minds Arguments in Legal Theory', (2009) 1/1 *Journal of Legal Analysis*, 1, 33-35.

<sup>550</sup> A.V. Banerjee, 'A Simple Model of Herd Behavior', (1992) 107/3 *The Quarterly Journal of Economics*, 797, 798, S. Bikhchandani, D. Hirshleifer & I. Welch, "A Theory of Fads, Fashion, Custom, and Cultural Change as informational Cascades", (1992) 100 *Journal of political Economy*, 992, 1001, R.J. Shiller, 'Conversation, Information, and Herd Behavior', (1995) 85/2 *The American Economic Review*, 181, 181, A.F. Daughety & J.F. Reinganum, 'Stampede to Judgment: Persuasive Influence and Herding Behavior by Courts', (1999) 1/1 *American Law and Economics Review*, 158, 180-182 and A. Vermeule & J.H. Watson, *supra* n. 549, pp. 33-35.

<sup>551</sup> A. Vermeule & J.H. Watson, *supra* n. 549, pp. 33-35.

<sup>552</sup> R. Duncan, *supra* n. 435, p. 65.

One of the biggest problems is that each manager sees only his own product or geographic area, and knows that his innovations and actions are restricted to his area of specialization. The autonomy of each division makes it very difficult to coordinate the whole.

Coordination is essential in times of crisis and uncertainty. Decentralized organizations have no formal way to coordinate and facilitate information-flow.

This is exactly the problem of the fragmented financial regulatory model; it faces a coordination problem.

In order to achieve coordination, an understanding of the obstacles in the way to cooperation is needed. The main obstacle is that each authority seeks to maintain its independence. Other than that there are internal organizational procedures and cultures which are not easily synchronized. Moreover different organizations have different goals. As Van de Ven put it:<sup>553</sup>

*‘From an agency’s point of view, to become involved in an inter-agency relationship implies (a) that it loses some of its freedom to act independently, when it would prefer to maintain control over its domain and affairs, and (b) that it must invest scarce resources and energy to develop and maintain relationships with other organizations, when the potential returns on this investment are often unclear or intangible’ (p. 28).*

It is evident that cooperation only begins when a perceived problem is shared across agencies. Moreover, the agencies have to frame the issue as something that can be solved through cooperation. Unless cooperation is grasped as the solution to the problem, cooperation will not move forward. Once cooperation is considered to be the solution, the process is ignited.<sup>554</sup>

The second step is to determine whether there are enough resources to handle the problem jointly. A recruitment of staff might be needed, money should be raised upfront, and budgets need to be allocated.<sup>555</sup>

The third thing that needs to exist in order for agencies to cooperate is a capacity in each agency to accept cooperation. This depends on each agency’s routines, infrastructure, etc. Another issue that seemed to matter is the legality and legitimacy of the cooperation.<sup>556</sup>

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<sup>553</sup> A.H. Van de Ven, ‘On the Nature, Formation, and Maintenance of Relations among Organizations’, (1976) 1/4 *The Academy of Management Review*, 24, 28.

<sup>554</sup> J.A. Weiss, *supra* n. 382, p. 111.

<sup>555</sup> J.A. Weiss, *supra* n. 382, p. 111: This research found that if resources existed and were channeled towards cooperation, then the process moved forward.

If agencies have all of these preliminary requirements, cooperation can be achieved. Cooperation is greatly induced when there is external demand for cooperation, be it public pressure or an explicit legal demand.<sup>557</sup>

*‘Problems, by themselves, did not trigger the search for new solutions. Nor did performance demands by themselves lead to cooperation....Problems coupled with demands for improved performance in the domain of the problem did launch districts on the path to participation in cooperation...’* (p. 112)

Without demand for cooperation, it is likely that each financial regulatory authority would take measures to preserve its independence, which in turn would result in keeping information to itself.

As each player in the information-transferring game is interested in increasing his marginal benefits from information-sharing, each player would ask himself what is his expected utility from sharing the information with an external authority. Meaning, each one will ask himself; “If I do not share the information, what will the final decision be, and what is my expected utility from the expected decision?” Then he will ask himself the opposite question, i.e.; “What will happen if the information is shared, and what is the personal expected utility that will come from sharing the information?”

The player’s marginal benefit from sharing one more piece of information is the difference between the two questions,<sup>558</sup> i.e. the difference between his expected utility if the information is shared versus his expected utility if the information is not shared. This leads to the conclusion that in order to induce information-sharing, there is a need to increase the incentives for people to share the information they hold.

This goal can be achieved by doing one of two things: try to incentivize agents in the right direction by enlarging their marginal information-sharing benefits; or threaten them with punishment in order to enlarge their costs for not sharing information.<sup>559</sup> Either way we are in need of legal mechanisms which will induce information-sharing between agencies.

In the absence of a legal coordination mechanism to facilitate information-exchange between the two regulatory authorities, we are relying on the personal assessments of the

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<sup>556</sup> J.A. Weiss, *supra* n. 382, p. 111.

<sup>557</sup> J.A. Weiss, *supra* n. 382, p. 112.

<sup>558</sup> This discussion is similar to the discussion proposed by Stephenson with regards to the question of information gathering, see M.C. Stephenson, *supra* n. 429, p. 1430 and onward.

<sup>559</sup> This discussion is similar to the discussion proposed by Stephenson with regards to the question of information gathering, see M.C. Stephenson, *supra* n. 429, p. 1430 and onward.

regulators as to the personal or organizational benefits they might incur if they do share the information. Often the result of this assessment will not equal the efficient level of information-sharing considered sufficient from a total welfare point of view. That is why an external legal demand for information-sharing is essential.

Indeed when we talk about cooperation between different financial regulatory authorities, we find that each country or jurisdiction has embraced legal mechanisms which demand or enable such cooperation.

An example of an obligatory legal demand for exchange of information may be taken from Italy; Article 4 to the Consolidated Law on Finance mandates the exchange of information, consultation, and cooperation between different authorities on subjects which fall under their overlapping mandates and competence.<sup>560</sup>

Another example may be found in the USA where Section 24 of the Securities Exchange Act of 1934<sup>561</sup> which was later amended and expanded by the Dodd-Frank Wall Street Reform and Consumer Protection Act – 2010.<sup>562</sup> The act dictates coordination between authorities including the exchange of information. After such demand for cooperation exists there are a few ways in which cooperation may be organized; lateral relations can be used to form joint forums where managers interact and share information, or by nominating liaisons to connect between two separate departments. When the level of coordination has to go up, an integrator may be used.

In extreme cases where cooperation is essential for adequate and stable functioning of the regulatory body and the markets, consolidation is required. This is the case of the central bank and the banks' supervisory function. As cooperation between these two bodies is vital, and as the well functioning of the market as a whole is heavily dependent on the said cooperation, many countries have decided to bring the risk of lack of cooperation to a minimum and merge these two functions into one regulatory body. It is a clear case in which society refuses to accept the risk of lack of coordination as the expected results of lack of coordination are too dire.

Having said that, we should keep in mind that consolidation sits on the extreme spectrum of the possible solutions for making financial regulatory authorities cooperate with one another.

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<sup>560</sup> Article 4 to the legislative decree no. 58, *supra* n. 210.

<sup>561</sup> Securities Exchange Act of 1934, *supra* n. 478.

<sup>562</sup> Dodd-Frank Wall Street Reform and Consumer Protection Act – 2010, *supra* n. 340.

Another softer cooperation enhancing tool is having different authorities signing agreements for cooperation, also known as Memoranda of Understanding (MOUs). These MOUs define the interaction between the authorities and the ways for cooperation and information-exchange.

An example of a softer legal mechanism for information-exchange may be taken from Australia where a number of MOUs have been signed by the different financial regulatory authorities;<sup>563</sup> for example: Article 5-10 to the Memorandum of Understanding between the Reserve Bank of Australia and the Australian Prudential Regulation Authority facilitates the sharing of information between the two authorities.<sup>564</sup>

Joint forums or committees, such as the EU's Joint Committee, which was formed by Articles 54 to 57 of the European Supervisory Authorities,<sup>565</sup> are also very helpful to induce information-flow between organizations as they create physical interactions between people from different authorities.

When we discuss cooperation, we should also consider the physical interactions between employees. Even the physical structure of the office matters; the office should be designed in such a way that people who need to share information interact with one another frequently.<sup>566</sup> Having people use the same space for coffee breaks or meals further increases the chance for information transmitting between employees based on informal conversations.

The reason that the physical distance affects information-sharing has to do with the costs of collecting information. The greater the distance between employees, the higher the efforts and the costs they have to invest in collecting certain types of information. The type of information which is difficult to obtain from afar is described in the literature as "soft" information.<sup>567</sup> Such information may include, for example, face-to-face impressions of the decision-makers gained from talking to the employees of the regulatory body, or inferences with regards to the regulated firms which cannot be transmitted accurately from far away.<sup>568</sup> The greater the importance of soft information to the regulatory process, the more severe are the consequences of keeping a long distance work relationship.<sup>569</sup>

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<sup>563</sup> See section 3.5.4.2 to this research.

<sup>564</sup> Article 5 – Article 10 to the Memorandum of Understanding between the Reserve Bank of Australia and the Australian Prudential Regulation Authority, *supra* n. 311.

<sup>565</sup> The regulations are commonly referred to as "the European Supervisory Authority (ESA) Regulations" and consist of the following pieces of regulation mentioned *supra* n. 353- 356.

<sup>566</sup> See generally: B. Bozeman, K. Roering & A.E. Slusher, *supra* n. 507, pp. 384-405.

<sup>567</sup> M.A. Petersen, "Information: Hard and Soft." (2004) Working Paper, *Northwestern University*.

<sup>568</sup> Z.S. Alam, M.A. Chen, C.S. Ciccotello & H.E. Ryan., *infra* n. 583, p. 2.

<sup>569</sup> Z.S. Alam, M.A. Chen, C.S. Ciccotello & H.E. Ryan., *infra* n. 583, p. 2.

The literature has long recognized the value of “tiger teams” - teams which dedicate their efforts to solving specific problems while not delaying the project as a whole - to information-flow.<sup>570</sup>

These “teams” could be a partial answer to the problem of cooperation between different authorities especially if team members are required to meet regularly and have multiple close encounters with one another.

As informal communication networks are the best source of scientific knowledge for managers, and as organizations which are more flexible facilitate information gathering and sharing,<sup>571</sup> forming “tiger teams” could be useful in enhancing information-sharing and flow.

What we sometimes see in reality is that the organizational structure of the regulatory body begins with a forming law of the authority which does not say much about how the authority should be structured, i.e. it does not say much about the different departments which the authority should have. What we then find is organizational charts which, even though not dictated by law, soon rule with the authority of law, since the law is silent on this issue.<sup>572</sup>

These organizational charts coupled with organizational routines and procedures have an influence on the information-flow inside the organization. This is where tiger teams come in, even though in most cases the formation of tiger teams is not dictated by law they can be used to facilitate cooperation and information-flow between different regulatory bodies.

In general it is safe to say that the physical distance between different people who have to work together and exchange information should be brought to a minimum. This understanding should affect the regulatory structures in place today in several jurisdictions around the world including the EU’s newly founded financial regulatory institutions. This structure is discussed below as a test case regarding the revision needed in order to facilitate information-flow. It is compared to the structure of three other jurisdictions, representing three out of the four regulatory structures which exist in the world today: the UK which follows the Twin Peaks Approach; Israel which follows the Institutional Approach; and Switzerland which follows the Consolidated/Integrated Approach. The fourth approach, the Functional Approach, is very similar to the Institutional Approach with regards to the physical design of the financial regulators and for this reason, in order to avoid duplication, it is left outside this comparison.

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<sup>570</sup> See as early as: T.J. Housel, C.J. Morris & C. Westland, ‘Business process reengineering at Pacific Bell’, (1993) 21/3 *Strategy & Leadership*, 28, 28 – 33.

<sup>571</sup> B. Bozeman, K. Roering & A.E. Slusher, *supra* n. 507, pp. 384-405.

<sup>572</sup> See chapter 3 of this research for examples of organizational charts.

## ***5.5 The EU's financial regulatory structure and information-flow***

This subchapter seeks to analyze the existing EU financial supervisory models in light of all that has been said throughout this chapter. It seeks to point out the strengths and weaknesses of the existing EU financial regulatory structures and to offer a remedy for the structural weaknesses which are indentified.

It is therefore important to briefly remind the reader of the regulatory institutions which are active in the EU market.

Since January 2011, regulation of financial services across Europe has been done by three European supervisory authorities: the European Banking Authority,<sup>573</sup> the European Securities and Markets Authority,<sup>574</sup> and the European Insurance and Occupational Pensions Authority.<sup>575</sup>

An additional institution, the European Systemic Risk Board (ESRB),<sup>576</sup> was formed in order to function as a European systemic risk regulator, supervising macro-prudential issues.

These supervisory authorities play a role in setting down common guidelines for local European supervisors in each state. They have the power to investigate, and if needed, to issue suggestions for action to the local European supervisors in each member state.<sup>577</sup>

As for their physical presence, the European Banking Authority (EBA) is based in London, the European Securities Market Authority (ESMA) is based in Paris and the European Insurance and Occupational Pensions Authority (EIOPA) is based in Frankfurt.

These regulators are coordinated mainly through the Joint Committee established by Articles 54 to 57 of the European Supervisory Authorities.<sup>578</sup>

The committee targets consistency between sectors and aims to reach joint positions on how to regulate financial conglomerates and other cross-sectoral issues.<sup>579</sup>

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<sup>573</sup> For the establishing law see *supra* n. 354.

<sup>574</sup> For the establishing law see *supra* n. 356.

<sup>575</sup> For the establishing law see *supra* n. 355.

<sup>576</sup> For the establishing law see *supra* n. 353.

<sup>577</sup> As of 2012, the European Central Bank has received more powers with the formation of the Banking Union and the creation of the Single Supervisory Mechanism, which was formed based on article 127(6) to the Treaty on the Functioning of the European Union, and which transfers micro-prudential supervisory tasks of banks which belong to the Euro area to the European Central Bank (see: Consolidated Version of the Treaty on the Functioning of the European Union Article 127(6), 2008 O.J. C 83/47, at 57, and also R.M. Lastra, *supra* n. 359, pp. 1194 – 1196).

<sup>578</sup> The regulation is commonly referred to as “the European Supervisory Authority (ESA) Regulations” and consists of the following pieces of regulation mentioned *supra* n. 353- 356.

Given the findings presented in this chapter, it seems that dividing the financial regulatory tasks among several European supervisory authorities each specializing in a specific market segment is essential in order to increase information-flow.

As the division of supervision according to the nature of the supervised firm is likely to produce arguments over mandates for supervision, more information will flow upwards in each regulatory institution, eventually reaching the decision makers and the Joint Committee. Such information may come from the lower levels of employees in each regulatory body, but it might also come from the industry.

Overlapping regulation creates hardship for the regulated firms. In turn regulated firms will bring the issue of overlapping contradictory regulation to the attention of the regulators who issued the regulation. This is likely to ignite a discussion between the regulators and the regulated firms in order to adjust the regulation and make it coherent. Creating a dialog between different regulatory institutions is very good for information-flow.

In addition, having a few regulatory bodies with somewhat overlapping responsibilities minimizes the chances that a market failure can be overlooked. As discussed before, due to the fact that regulation of financial markets is a complicated task, and given the fact that sometimes the prediction and prevention of a financial crisis lies in the small details, it is beneficial to have a few regulatory bodies examining the market and offering different solutions for supervision. Diversity in this case is a wanted phenomenon.

The fact that the establishing laws of the EU's financial regulatory authorities have clearly defined their goals<sup>580</sup> is another plus for the new EU financial regulatory structure, as each authority can adjust its information-gathering efforts to fit its goals.

There is however a problem with the current structure of the European financial supervisory institutions; the problem of inadequate information-flow in the current structure might come from lack of sufficient cooperation. It is not at all clear that having a Joint Committee is sufficient to ensure information-flow.

Committees usually do not meet on a day-to-day basis, and small coordination issues may not even reach the committee but rather be solved one way or another on the spot. Having a committee in order to solve major coordination problems is essential, but there is a need to solve information-flow and everyday coordination problems in order to allow for

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<sup>579</sup> Information taken from the ESMA web site: <<http://www.esma.europa.eu/page/European-Supervisory-Framework>> accessed 27.05.2013.

<sup>580</sup> Section 11-13 to Regulation (EU) No 1093/2010 of the European Parliament and of the Council, *supra* n. 354; Section 10-11 to Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 *supra* n. 355; and Section 11-12 to Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 *supra* n. 356.

better information to reach decision makers. As discussed before, having a full picture of the situation in all financial markets is essential. The biggest weakness of the current European financial supervisory structure is the physical distance between the different regulators.

As previously stated, close physical presence is important in order to increase information-flow. In fact informal gatherings of employees are the greatest enhancement tool for the transmission of information.<sup>581</sup>

Several studies have shown that the amount of communication between employees in organizations and the ease of communication affect task performance as well as personal satisfaction in the work place.<sup>582</sup> Several others have acknowledged the importance of the physical space in which the work place is organized. These scholars have studied the effects of physical dispersion on the organization's performance and have made recommendations as to the "microgeography" of the office.<sup>583</sup> All of these studies point in one major direction; in order to increase information-flow within and between organizations, you must minimize the physical distance between the employees and allow them to interact formally and informally with one another. The current physical presence of the different European financial regulators, each situated in a different country, does not allow these interactions between employees to occur. Therefore it clearly harms information-flow between the different regulators.

It is understandable that there might be internal EU political reasons for distributing the regulators among different member states, but a solution may be found in rotating the authorities between the different states while keeping them together in the same physical space. In such a way the political balance between member states will not be harmed and information flow will improve.

Obviously this solution depends on the costs of rotation and should only be used if the benefits from such rotation outweigh its costs.

In addition, in order to increase information-flow and allow for innovative regulatory ideas to sprout, more opportunities for employee interaction must be created. Based on the solutions to the cooperation problems discussed earlier, it might be advisable to encourage

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<sup>581</sup> W.R. Truran, *supra* n. 441, p. 17.

<sup>582</sup> See as early as: W.H. Form, 'Technology and Social Behavior of Workers in four countries: A sociotechnical perspective', (1972) 37/6 *American Sociological Review*, 727, 727-738, and E.M. Eisenberg, P.R. Monge & K.I. Miller, 'Involvement in communication networks as a predictor of organizational commitment', (1983) 10 *Human Communication Research*, 179, 179-201.

<sup>583</sup> As early as: T. Caplow, *supra* n. 447 followed also by R.H. Hall & P.S. Tolbert, *supra* n. 447, see also: Z.S. Alam, M.A. Chen, C.S. Ciccotello & H.E. Ryan. "Does the location of directors matter? Information acquisition and board decisions." *forthcoming* (2014), *Journal of Financial and Quantitative Analysis*.

the establishment of “tiger teams”, mission-specific oriented teams, which are constructed from members of different regulatory entities.

The advantage of forming such teams does not end with information flow. As one of the obstacles for cooperation is lack of capacity in each agency to cooperate, depending also on each authority’s infrastructure and organizational culture,<sup>584</sup> having several “tiger teams” containing employees from several different authorities helps bridge the organizational culture gaps between the different supervisory authorities, enabling them to work better in the future and increase cooperation.

When comparing the EU’s financial regulatory structure to that of the Israeli structure the UK’s structure and the Swiss structure from the point of view of information-flow, the following similarities and differences are apparent:

Table 6

	<b>The European Union</b>	<b>The United Kingdom</b>	<b>Israel</b>	<b>Switzerland</b>
<b>Number and nature of main supervisory authorities active in the financial markets</b>	3: the European Banking Authority (EBA), the European Securities Market Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA).	2: the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA).	3: The Bank of Israel, the Israeli Securities Authority (ISA) and the Capital Markets, Insurance and Savings Department within the Ministry of Finance.	1: the Swiss Financial Market Supervisory Authority (FINMA).
<b>Type of structure</b>	The Institutional Approach.	The Twin Peaks Approach.	The Institutional Approach.	The Consolidated/Integrated Approach.

<sup>584</sup> J.A. Weiss, *supra* n. 382, p. 111.

	<b>The European Union</b>	<b>The United Kingdom</b>	<b>Israel</b>	<b>Switzerland</b>
<b>Coordination mechanisms</b>	The Joint Committee formed by Articles 54 to 57 of the European Supervisory Authorities.	No coordination mechanisms in place.	A joint committee formed by a Memorandum of Understanding from the 24 <sup>th</sup> of June 2007 signed by the heads of the three financial supervisory authorities. <sup>585</sup>	The Financial Market Supervision Act (FINMASA) establishes a Board of Directors as a strategic management body composed of seven to nine independent experts which issue organizational regulations regarding also to coordination between the different departments of the authority. <sup>586</sup>
<b>Room for overlapping supervisory mandates /diversity in regulation</b>	Room for overlapping mandates is present.	Room for overlapping mandates is present.	Room for overlapping mandates is present.	None existing.
<b>Clear organizational goals</b>	Defined in the forming laws. <sup>587</sup>	Defined in the forming law. <sup>588</sup>	Defined for the Israeli Securities Authority <sup>589</sup> and for the	Defined clearly by the governing law and by the Board of Directors which submits the strategic goals of the

<sup>585</sup> MoU for Cooperation and Exchange of Information, see *supra* n. 151.

<sup>586</sup> Federal Act on the Swiss Financial Market Supervisory Authority (Financial Market Supervision Act, FINMASA) of 22 June 2007 (Status as of 1 July 2013), Chapter 2, Section 1, Art. 9(1)(i).

<sup>587</sup> See *supra* n. 353- 356.

<sup>588</sup> The Financial Services Bill of 2012, Part 2 - Amendments of Financial Services and Markets Act 2000.

<sup>589</sup> Defined in The Securities Law of 1968

			Bank of Israel. <sup>590</sup> Not defined by law for the Capital Markets, Insurance and Savings Department within the Ministry of Finance. <sup>591</sup>	authority to the Federal Court for approval. <sup>592</sup>
	<b>The European Union</b>	<b>The United Kingdom</b>	<b>Israel</b>	<b>Switzerland</b>
<b>Physical presence</b>	The authorities are distributed between three different countries and cities: London, Paris and Frankfurt.	Both authorities sit in London, but not in the same compound.	All authorities sit in Jerusalem in the same area and all have branches in Tel Aviv which are a short walking distance from each other.	All of the departments of the authority sit in Bern in the same confounded area.

Comparing the EU to the UK, Switzerland and Israel, and considering all that has been said in this subchapter, highlights the following results:

The EU, Israel, and the UK divided the responsibility for financial regulation among several authorities and in all of these three jurisdictions the authorities maintain somewhat overlapping responsibilities for regulating the markets. From an information-flow point of

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<sup>590</sup> Defined in Section 3 A to the Bank of Israel Law – 2010

<sup>591</sup> See chapter 3.5.1.1 for details.

<sup>592</sup> See the Federal Act on the Swiss Financial Market Supervisory Authority (Financial Market Supervision Act, FINMASA) of 22 June 2007 (Status as of 1 July 2013), Chapter 2, Section 3, Article 21 (2).

view, this is superior to the consolidated structure followed by Switzerland which decreases the amount of parallel processing of information. The EU and Israeli structures are more fragmented than the structure of the UK and thus are expected to be more beneficial for information-flow.

In most cases the authorities in the four jurisdictions reviewed above have their goals and objectives defined by law, which is beneficial for information-flow. The only exception is the Israeli Capital Markets, Insurance and Savings Department within the Ministry of Finance which defines its goals in its financial statements, strategic plans and inner memorandums.<sup>593</sup>

The EU, Switzerland, and Israel have coordinating mechanisms in place in order to facilitate cooperation and exchange of information, while such mechanisms have not been found for the UK.

In addition, there are differences in the physical presence of the regulatory authorities in each jurisdiction which, as has been discussed in this chapter, impact the amount and speed of information-flow; according to the theoretical framework discussed in this chapter, when looking at the physical presence of the regulatory bodies we would expect to find that information-flow in the Israeli system and in the Swiss system is better than in the UK, and all three are superior to information-flow between the EU regulatory bodies.

These results are even stronger when we rate the jurisdictions according to the framework which is presented at the beginning of this chapter. The intuitions from this framework can be put into a comparative table, keeping in mind that the following analysis is based on the intuitions in this chapter and not on empirical data.

For the purpose of the next table, a plus sign represents a positive relationship to the suggested framework, where two pluses represent an even stronger relationship, and a minus sign represents a negative relationship to the suggested framework.

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<sup>593</sup> See chapter 3.5.1.1 to this research.

Table 7

<b>Compatibility with the framework presented at the beginning of this chapter</b>	<b>The European Union</b>	<b>The United Kingdom</b>	<b>Israel</b>	<b>Switzerland</b>
Where possible, vote for a structure which ties policy and specialization together.	+	+	+	+
Where possible, allow multiple sources of competing information to reach the hands of the decision maker.	++	+	++	-
A less rigid and hierarchical regulatory structure would be beneficial over a rigid one.	++	+	++	-
A structure which will enable and encourage cooperation will be beneficial to a structure which will inhibit cooperation.	+	-	+	++
An organizational structure which increases informal interactions between employees should be preferred over any other structure.	-	-	+	+

<b>Compatibility with the framework presented at the beginning of this chapter</b>	<b>The European Union</b>	<b>The United Kingdom</b>	<b>Israel</b>	<b>Switzerland</b>
An organizational structure which sets clear organizational goals should be preferred over any other structure.	++	++	+	++
An organizational structure which allows more face-to-face interaction between employees should be preferred to one that isolates them from one another.	-	+	++	++

The above comparison between the different jurisdictions strengthens the intuition that the main problem with the EU's new regulatory structure is the fact that the authorities are dispersed between different cities and countries.

No empirical research has been conducted in this analysis, but in future empirical work one can expect to find faster and more significant information-flow in the Israeli structure as compared to that of the UK, Switzerland, and the EU.

To sum things up, through the analysis of the European structure and by comparison with three other jurisdictions, the pros of the fragmented structure are emphasized; its main benefits relate to diversity, less dilution of information and a less rigid structure resulting from the fact that the supervisory relationships are reduced by at least one layer. As discussed in this chapter all these are beneficial for better information-flow and help increase the chances that the right kind of information will reach the hands of the decision makers.

On the other side, the cons and weaknesses of the EU's current financial regulatory structure with regards to information-flow are also exposed, especially with regards to problems of cooperation and coordination between authorities.

In the current EU structure, problems of coordination are expected to be even more severe than usual as the physical distance between the EU regulatory bodies makes it much

harder to exchange informal and “soft” information which is very much needed in the ongoing regulatory work.

This is why, as suggested earlier, it is recommended that the different regulatory institutions be concentrated in one country and in one physical compound. If political concerns make this solution unfeasible, then rotation should be considered, depending on its costs.

## ***5.6 Conclusions***

This chapter set out to investigate different types of organizational structures in order to find the one which best facilitates information-flow within and between different financial regulatory institutions.

The pros and cons of the consolidated structure with regards to information-flow were reviewed and compared with those of the fragmented structure, to reveal that in the field of financial regulation, the option of a fragmented regulatory structure is better equipped to facilitate the kind of information-flow needed in order to prevent or stop a financial crisis once it has occurred.

This conclusion results from two major attributes of the fragmented versus the consolidated model. First, having diversity of regulatory bodies minimizes the chances that market failures will go unnoticed; and second, the structure itself is less hierarchical by at least one layer as compared with the consolidated structure, and thus helps reduce dilution of information and rigidity. As discussed in this chapter, the flatter the organization's pyramid, the easier the flow of information.

The problem of cooperation between several different regulatory authorities was brought up in this chapter as a shortcoming of the fragmented structure. However, several solutions to reduce this problem have been made, including signing agreements between the different regulatory bodies, legal demands for cooperation, and the formation of "tiger teams".

As emphasized by this chapter, the consolidated structure is best used in financial regulation in cases where full cooperation between the different authorities is detrimental for the authorities' work, such as the consolidation of the banks' supervisory function and the central bank responsible for monetary policy.

Next, this chapter reviewed the structure of the new EU financial regulatory bodies, compared them to the structure in the UK, Israel and Switzerland and to the general framework suggested by this chapter, and concluded that although having several different EU financial regulatory institutions is beneficial, the fact that they are not situated in the same country and physical space might be detrimental for the cooperation and information-exchange which are essential for the prevention of a financial crisis.

It is therefore advisable to locate all authorities at the same physical compound. Depending on costs, rotation of the European financial regulatory bodies between the

different member states, while keeping them together in the same country and physical space, might be a reasonable solution.

This suggestion is more applicable in circumstances where regional coordination already exists, such as the case of Europe. However regional coordination might not be enough. The last financial crisis taught us that global cooperation and coordination are needed, due to systemic risks arising from the activity of financial conglomerates and the interconnectivity of global financial markets. The question then is: how can we coordinate regulators on a global level? The answer to this question is precisely the topic of the last chapter of this research.

## **6. CONSOLIDATION OR FRAGMENTATION FOR FINANCIAL REGULATORS? INTERNATIONAL COORDINATION AND NETWORK EFFECTS**

### ***6.1 Introduction***

In the globalized world of today, financial markets can have profound effects on one another. This means that international coordination between financial regulators of different jurisdictions becomes more and more important.

Up until now this research has dealt with the question of the preferred structure for financial regulators on a national and regional level. When we turn to examine the issue on the international level, a different set of problems seems to emerge.

Some of the factors which make it difficult for states to cooperate and reach global financial standards include: differences in languages; differences in culture; divergent perceptions of what might constitute a problem which could lead to a global financial crisis; and the sheer variety of deeply-held views about what is the right regulatory answer to market phenomena such as bubbles, herding, and other market failures which require regulatory intervention.

If a state has to give up some sovereignty by adopting international standards, the question is then why would it do so? What is it that can help push states to interact with one another in a way which will cause them to agree and adopt a global financial regulatory standard? One answer might be: positive network effects.

This chapter examines the question of global coordination between financial regulators through the lens of network effects.<sup>594</sup> In essence the question that this chapter addresses is: are there network effects which justify international harmonization of financial regulation? And if so, what are the obstacles in the way of achieving such harmonization?

Network effects in the context of financial regulation come into play in two instances. The first is when a regulated firm would benefit from having some sort of compatibility with other firms or platforms operating in the global markets so that it can easily interact with them.

A recent example may be found in the new International Financial Reporting Standards (IFRS) which were designed in order to make companies' accounts understandable

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<sup>594</sup> Network effects can be defined as a phenomenon where the profits of the firm selling the product are influenced by the number of people or firms using the service or product (see: O. Shy, *infra* n. 603, p. 119-120).

and comparable across different jurisdictions. This in turn enables investors to invest in companies which have a different domicile than themselves with greater ease, as they can rely on the common reporting standards when they come to analyze the firms' financial situation.<sup>595</sup>

The International Swaps and Derivatives Association, Inc. (ISDA) which provides a common standard for the trading of swaps and derivatives can also be used to provide an example of network effects derived from financial standards. Having a common standard reduces information asymmetries and search costs, and allows for smoother interaction between the different market participants.

Another example is the European Union's single market;<sup>596</sup> by allowing the free movement of people, services, goods, and capital between the different member states, and by forming a common market, local regulatory barriers are lifted. Traders, workers, and firms are free to enjoy, along with other benefits which stem from market integration, the network effects of belonging to a greater network. In all of these examples, network effects of regulation in general and of financial regulation in particular, be it public or private regulation, do create economies of scope<sup>597</sup> and scale<sup>598</sup> among the different participants of the financial markets. These economies of scope and scale make market participants sensitive to the actions of other market participants when deciding how to act.

This phenomenon can have a positive side, such as establishing common ground for enabling and enhancing competition in the financial markets. But it can also have negative consequences in global financial markets, such as increasing the severity of herding, which can lead to destruction of value.

The reason that the severity of herding may increase relates to the fact that market participants influence each other's decisions, and that this influence has a first order effect which can lead to sub-optimal choices, and ultimately to the destruction of wealth.<sup>599</sup> Once barriers are lifted, the market becomes more integrated, and standards are harmonized, herding is no longer restricted to a specific jurisdiction and can spread to other parts of the

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<sup>595</sup> See: K. Ramanna & E. Sletten, 'Why do countries adopt International Financial Reporting Standards?', (2009) No 09-102, *Harvard Business School Working Papers*.

<sup>596</sup> See: The Consolidated Version of the Treaty on European Union, *supra* n. 89, article 3, paragraph 3 and the Consolidated Version of the Treaty on the Functioning of the European Union, *supra* n. 367, articles 21, title I, 26, 28,29, title IV, title V, articles 114,115.

<sup>597</sup> Economies of scope can be defined as follows: "cost savings which result from the scope (rather than the scale) of the enterprise. There are economies of scope where it is less costly to combine two or more product lines in one firm than to produce them separately." (J.C. Panzar & R.D. Willig, 'Economies of Scope', (1981) 71/2 *The American Economic Review*, 268, 268).

<sup>598</sup> J.A. Clark, *supra* n. 28, p. 17.

<sup>599</sup> A. Devenow & I. Welch, *supra* n. 51, pp. 603-615.

market. If a herding phenomenon starts in one jurisdiction, it no longer stops at the national border.

The rapid and insidious spread of such phenomena makes them prime examples of the negative side of network effects, and also means they are of great relevance to discussions about the optimal structure for financial regulators. As such they are the focus of this chapter.

The second instance where network effects come into play is when a financial regulator enjoys the benefits of belonging to a network of regulators. If there is harmonization of global standards, unwanted occurrences of forum-shopping on behalf of the regulated firms can be prevented.

An example of positive network effects for regulators, which relates to international enforcement but also has an impact on the commercial relationships between states, can be taken from the field of anti-money laundering regulation and the recommendation of the Financial Action Task Force (the FATF);<sup>600</sup> during the early 1990's the FATF released a number of recommendations aimed at combating money laundering. These recommendations have been adopted by most states around the world, which incorporated them into their local legislation.

States which have not incorporated the recommendations have been "black listed" by the FATF and, as a result, financial institutions which operate in states which do comply with the recommendations are instructed to refrain from doing business or interacting with financial institutions in non-compliant states.

This acts as a sort of "sanctioning" mechanism on non-compliant states; other states which do comply and adopt the FATF's recommendations simply refuse to do business with them.

Therefore, companies registered in compliant states enjoy the network effects derived from the fact that their state complies with the recommendations of the FATF, and the financial regulators in those states enjoy the network effects of being able to dictate a high standard of compliance for the regulated firms, for whom forum-shopping becomes more difficult.

As network effects which stem from belonging to a network of regulators seem to be present both on the regulators' side and on the regulated firms' side, it is suggested that they play an important role in the decisions of countries to adopt or reject a global financial standard.

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<sup>600</sup> The current recommendations may be found at: <[www.fatf-gafi.org](http://www.fatf-gafi.org)> accessed 03.06.2013.

Although many issues come to mind when we think of global coordination of financial regulators, such as inter-jurisdictional externalities, free riding, and other issues explored by the literature referring to economic analysis of international law,<sup>601</sup> this chapter chooses to focus on the theory of network effects. As said above, it seeks to locate the network effects which might justify global harmonization of financial regulatory standards, and to point out the obstacles which stand in the way of such harmonization.

This chapter is organized as follows: following this introduction, section two gives a brief review of the literature dealing with network effects and standardization; section three discusses the pros and cons of regulatory standardization in the global financial regulatory context, namely network effects and congestion; section four provides an application for coordination of global financial regulators; and section five concludes.

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<sup>601</sup> See for example: J.L. Dunoff & J.P. Trachtman. 'Economic analysis of international law', (1999) 24/1 *Yale Journal of International Law*, 1, 1-59.

## 6.2 Literature review

Much like standard contracts or private standards, regulation too may produce network effects on its consumers, i.e. the regulated firms and the markets which the regulation is meant to monitor and regulate. In addition, it can also have network effects on the regulators producing it.

The literature with regards to network effects dates back to the 1990's and deals mainly with contracts. More specifically, it deals with the consumer side of network effects, assuming that the consumer is an individual or a firm subjected to the externalities of a network.<sup>602</sup>

Shy defines network effects as an externality phenomenon, meaning the number of people or firms using the service or product has an effect, which might be positive or negative, on the utility of the consumers or on the profits of the firm selling the product.<sup>603</sup>

Network effects can be direct, i.e. a consumer directly benefits or loses from being able to interact with an additional consumer of the product or service, or indirect, i.e. a consumer benefits or loses from having another consumer use the service or product without being able to interact directly with the other consumer.<sup>604</sup> Such is the case with credit cards for example; the more people use a certain brand of credit card the more businesses will accept that card, and the more variety the single consumer will have.<sup>605</sup>

When studying contracts, Kahan and Klausner identified two sets of benefits which a firm can incur should it choose to use standard contracts: “learning benefits” which arise when a firm chooses to adopt a contract or a charter which has already been used in the past by other firms; and “network benefits”.<sup>606</sup>

The “learning benefits” appear where a firm has a choice between drafting its own new contract or term as opposed to using a draft which has already been prepared by another firm, and it opts for the latter. If the firm chooses the option of using a contract term which was already used in the past by other firms, it may enjoy the following benefits: it is very likely that the term has already been tried out in court; drafting is more efficient as a template

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<sup>602</sup> See M. Klausner, ‘Corporations, corporate law and networks of contracts’, (1995) 81 *Virginia Law Review*, 757, 757-2607 and M. Kahan & M. Klausner, ‘Standardization and innovation in corporate contracting (or “the economics of boilerplate”)', (1997) 83 *Virginia Law Review*, 713, 713 - 770.

<sup>603</sup> O. Shy, ‘Short Survey of Network Economics’, (2011) 38/2 *Review of Industrial Organization*, 119, 119-120.

<sup>604</sup> O. Shy, *supra* n. 603, p. 120.

<sup>605</sup> O. Shy, *supra* n. 603, p. 120.

<sup>606</sup> M. Kahan & M. Klausner, *supra* n. 602, p. 718.

has already been drafted before; and the industry, lawyers and relevant parties are probably already familiar with the term.<sup>607</sup>

The other type of benefit identified by Kahan and Klausner with regards to the analysis of contract law, is the network benefit;<sup>608</sup> network benefits of contract terms arise when the use of a contract term becomes more widespread. Such benefits include: reducing information costs with regards to the price of the contract; developing expertise among lawyers and accountants; and building up a body of judicial precedents which make it easier to evaluate the validity of the term.<sup>609</sup>

Although financial regulation differs in many ways from contract law, and although the reason we need financial regulation stems from the fact that contracts are not enough to solve all the market failures identified earlier in this research, there are some parallels which can be drawn between the drafting of financial regulation and the drafting of a contract. These parallels are presented in the next subchapter of this research.

So far we have discussed the positive side of network effects and standardization. However, in order to make the discussion complete, we should keep in mind that standardizing regulation also incurs costs.

Mason<sup>610</sup> analyses tax regulation and claims that US states incorporate Federal tax regulation into their local regulation, and by doing so they adopt Federal tax policies which reflect national, rather than state, politics. This, according to Mason, has the potential to undermine democratic principles, and is an argument against standardization of regulation on a regional and global level.<sup>611</sup>

Romano suggests that adopting global financial risk-management standards is not sensitive to the local needs of each country and market. She argues that states could be pushed to adopt a unified standard which causes financial firms to lose their diversity, and thus causes them all to have the same weaknesses. Furthermore, as these standards are a global political compromise, they may not actually be high enough for regulating the local financial markets.<sup>612</sup>

Both Romano and Mason agree that harmonization hurts diversification, and as has been discussed in previous chapters of this study, lack of diversification with regards to financial regulation may actually cause the next crisis.

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<sup>607</sup> M. Kahan & M. Klausner, *supra* n. 602, pp. 719 – 720.

<sup>608</sup> M. Kahan & M. Klausner, *supra* n. 602, pp. 718-719.

<sup>609</sup> M. Kahan & M. Klausner, *supra* n. 602, pp. 726-727.

<sup>610</sup> R. Mason, 'Delegating up: Federal-State Tax Base Conformity', *working paper*, forthcoming 2013.

<sup>611</sup> R. Mason, *supra* n. 610, p. 3.

<sup>612</sup> R. Romano, *supra* n. 100.

Van Alestine draws our attention to the fact that any change in law or in the legal system is costly. Legal systems incur switching costs when having to adjust to a new law or standard; the greater the change the greater the adjustment costs.<sup>613</sup> This is relevant because any move to standardize regulation implies that some regulatory change will take place.

Ramanna and Sletten discuss the adoption of the International Financial Reporting Standards (IFRS) through the prism of network effects. Their study surveyed 102 non-EU countries in order to find out what motivates those countries to adopt the IFRS.<sup>614</sup>

Their findings show that more powerful states tend not to adopt the global standards. This finding is consistent with the claim that adopting a new financial regulatory standard is costly to the market.

Ramanna and Sletten further find that countries are more likely to adopt the IFRS if other neighboring countries have also adopted the standard. This point will be relevant to the discussion of global coordination and cooperation which will be presented later on in this chapter.

These pros and cons of standardization are discussed below in greater detail, paying special attention to network effects and congestion.

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<sup>613</sup> M.P. Van Alstine, *supra* n. 16, pp. 789-870.

<sup>614</sup> K. Ramanna & E. Sletten, *supra* n. 595.

### ***6.3 Network effects and congestion in setting new global regulatory standards***

As mentioned in the introduction to this chapter, standardization of financial regulation is becoming more and more visible in the global financial markets. Committees such as the Basel 2 and 3 committees<sup>615</sup> are dictating mandatory global regulatory standards, thereby pushing countries in the direction of harmonization.

Such harmonization is beneficial in many aspects such as “drafting efficiency”<sup>616</sup> and “learning benefits” which are derived from using standardized terms. Here a parallel analysis can be drawn between contract terms and financial regulation:

When a financial regulator chooses to issue a piece of regulation which already exists elsewhere in the world, he enjoys “learning benefits”, as he can estimate whether or not the regulation has been successful in achieving its goals in the country of origin. This reduces expected costs of error on behalf of national regulators. Given that the harmonization process usually leans on the experience of state efforts to regulate, the ‘harmonized’ regulation has probably already been tried out somewhere in the world, with the likelihood that any necessary changes have already been made. When it is adopted worldwide, the costs associated with errors are potentially avoided.<sup>617</sup>

Furthermore, judicial decisions of foreign courts may be used to further clarify the law or regulation and, in some judicial systems such as the Israeli one, may be brought before the local courts as a recommendation on the way in which the law should be interpreted.

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<sup>615</sup> The Basel committee on Banking Supervision is a joint forum which deals with issues relating to banking supervision. The objectives of this forum are to highlight major supervisory issues which concern the global community and improve the banking supervisory standards worldwide.

In order to achieve its objectives, the committee enables different jurisdictions to exchange information relating to their local banking supervisory standards. Where it deems necessary the committee also develops recommended regulatory standards which are, from a legal point of view, merely recommendation. Such is the case of setting international standards with regards to capital adequacy or the issuance of the Concordat on cross-border banking supervision (see the official web page of the Bank for International Settlements at: <<http://www.bis.org/bcbs/about.htm>> accessed 07.06.2013) .

In addition there exists a Joint Forum which was established in 1996 under the auspices of the Basel Committee on Banking Supervision (BCBS), the International Organization of Securities Commissions (IOSCO), and the International Association of Insurance Supervisors (IAIS). This forum is meant to deal with issues relating to more than one financial product and to deal with regulating financial conglomerates (see the official web page of the Bank for International Settlements at: <<http://www.bis.org/bcbs/jointforum.htm>> accessed 07.06.2013). Both of these institutions have gained prestige over the years and their recommendations are generally adopted by states worldwide.

<sup>616</sup> M. Kahan & M. Klausner, *supra* n. 602, p. 720.

<sup>617</sup> Much like in the case of standard contracts. For discussion of standard contracts see: M. Kahan & M. Klausner, *supra* n. 602, p. 720.

Much like contracts, adopting regulation or coordinating regulation may also reduce transaction costs and information asymmetries, as lawyers and professionals do not have to invest the time and resources to study and adapt to new regulation in a different jurisdiction. This makes it easier for firms to cross borders and for investors to invest in foreign firms.

Furthermore, as financial regulation is complicated and costly to produce in terms of the time the regulators need to spend studying the problem and coming up with optimal solutions, a dictated regulatory standard should save on costs. In other words, there are economies of scale and scope associated with drafting regulation on a global level.

As with contracts, another major plus of harmonization comes from its network effects; it is beneficial for a financial regulator to belong to a network of regulators which uses the same standards, as it may save time and money. An example may be taken from the agreements between different stock exchanges around the world; in many cases one stock exchange will demand more lax requirements when listing a firm's securities if they are already traded on credible stock exchanges elsewhere (exchanges where the level of regulation and disclosure requirements seem high enough, essentially the OECD).<sup>618</sup>

For the second stock exchange, belonging to a network of credible stock exchanges around the world saves time and money, as the due diligence requirements and demands have already been covered by the primary stock exchange on which the firm issued its stocks.

The firms active on the markets also benefit from this positive network effect as they do not have to go to the trouble of disclosing and meeting regulatory standards twice. Furthermore, the more players are active on a stock exchange, the greater the chances to easily find counterparties for trade.<sup>619</sup>

Without standardizing regulation, the market becomes fragmented, and the choice of where to trade is made not only according to what the parties think is best for their firms, but also by regulatory barriers.<sup>620</sup>

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<sup>618</sup> See for example the Israeli Securities Act, 1968, Section 8, Art. 35 (17-18). In the Israeli case the credible countries are listed in the Appendix to the Securities Act.

<sup>619</sup> E. Cantillon & P.L. Yin, 'Competition between exchanges: a research agenda', (2011) 29/3 *International Journal of Industrial Organization*, 329, 331, C. Di Noia, 'Competition and integration among stock exchanges in Europe: Network effects, implicit mergers and remote access', (2001) 7/1 *European Financial Management*, 39, 39 – 72.

<sup>620</sup> See: E. Cantillon & P.L. Yin, *supra* n. 619, pp. 329-336. See also: R. Davies, A. Dufour & B. Scott-Quinn, 'The MiFID: competition in a new European equity market regulatory structure' in G. Ferrarini & E. Wymeersch, *Investor Protection in Europe: Corporate Law Making, The MiFID and Beyond*, Oxford University Press, Oxford 2006, pp. 163–197; and also P. Gomber & M. Gsell, 'Catching up with technology—the impact of regulatory changes of ECNs/MTFs and the trading venue landscape in Europe', (2006) 1/4 *Competition and Regulation in Network Industries*, 537, 537–557.

Standardizing regulatory demands basically removes a large amount of the switching costs, and allows the players to choose the trading platform which they view as right for them.<sup>621</sup> This increases competition in the markets and is naturally beneficial for consumers, as lack of competition in financial products or firms often harms the “weaker” consumers, such as household customers of banks, who are held "captive" by the few financial firms active in their small market.

From a purely economic point of view, the removal of barriers which create transaction costs and which decrease competition in the markets is efficient, and thus should be encouraged.

Given the fact that there are now more global standards, such as the IFRS, than ever before, we can deduce that many countries are able to see the network effect benefits of joining a global standard and believe that these benefits outweigh the costs.<sup>622</sup> This is consistent with the assumption that adopting international standards in the field of financial regulation can bring with it positive network benefits. An additional benefit from regulatory harmonization lies in the development of legal expertise which can transcend borders and minimize transaction costs. Common standards also increase competition among professional advisors, such as law and accounting firms, bringing their prices down and reducing transaction costs.<sup>623</sup> This of course is beneficial for the market and for the firms using these experts' services.<sup>624</sup>

The adoption of new rules can also mean great amounts of knowledge are lost, as people possessing the “old” knowledge discard it in favor of a new set of rules, or become redundant. However, standardized regulation facilitates the specialization of experts, and this cuts costs due to economies of scale and scope.<sup>625</sup>

One illustration can be taken from the IFRS, which completely changed a large part of the old accounting standards which existed in the world. Thus, accountants, auditors and other professionals dealing with financial reporting had to adapt to the new standards or abandon their profession when their accumulated knowledge became void.

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<sup>621</sup> E. Cantillon & P.L. Yin, *supra* n. 619, p. 332.

<sup>622</sup> K. Ramanna & E. Sletten, *supra* n. 595

<sup>623</sup> M. Klausner, *supra* n. 602, p. 784.

<sup>624</sup> K. Ramanna & E. Sletten, *supra* n. 595, p. 4: find empirical evidence for both pros and cons of adopting the IFRS. They found that IFRS was adopted by countries which have moderate accounting standards. This shows that these countries think adopting the standard is beneficial for them. On the other hand, the fact that the strongest non-EU countries were hesitant to adopt the standard proves that they believe it is costly to them.

<sup>625</sup> M. Klausner, *supra* n. 602, p. 782.

It is generally true that any change to regulatory standards involves switching costs, and it takes time for the market to adapt.<sup>626</sup> On this basis, some scholars argued that the old accounting standards had developed over years with adaptation to specific market conditions, and that changing these standards without allowing the market to adapt slowly might cause market shocks which are very costly to the market.<sup>627</sup>

However, changing regulatory standards may also be very beneficial for the market. The adoption of the IFRS standards allows for specialists to give advice across borders. The marginal costs of giving the advice to each additional customer declines. Another positive aspect of adopting common accounting standards is that the efficiency and proficiency of the experts goes up as more firms use their services.<sup>628</sup>

Moreover, these standards allow investors to invest in companies which are far away from their home countries, as due diligence becomes less costly.<sup>629</sup> The time it takes to perform due diligence checks is cut down and, in a world of fast moving transactions, this may be crucial to closing deals or recruiting more necessary funds.<sup>630</sup>

A reduction in harmful regulatory competition is another major network effect resulting from standardized regulation on a global level. If standards are equal across the globe, regulators feel more comfortable to strictly monitor firms and make sure that they comply with the standard. They can act with new-found vigilance, being no longer afraid that strict regulation will cause some firms to find another jurisdiction which will be less strict. This increases compliance across the globe and helps reduce systemic and other risks.

So far it seems that consolidating regulation on an international level might be very beneficial both to the regulated firms and to the financial regulators. This might very well be the case, but in order to complete the analysis, we should first acknowledge the fact that consolidation of standards also comes with a cost.

One of these costs relates to the distribution of regulatory mistakes. As discussed in the previous chapter of this research, when information becomes difficult to collect and

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<sup>626</sup> See: M.P. Van Alstine, *supra* n.16, pp. 789-870.

<sup>627</sup> See for example: R. Ball, 'International Financial Reporting Standards (IFRS): pros and cons for investors', (2006) 36/1 *Accounting and Business Research*, 5, 5 – 27. See also: R. Ball, A. Robin & J.S. Wu, 'Incentives versus standards: properties of accounting income in four East Asian countries', (2003) 36/1-3 *Journal of Accounting and Economics*, 235, 235–270.

<sup>628</sup> See: M. Klausner, *supra* n. 602, p. 783. Also see generally: M.E. Barth, *Research, standard setting, and global financial reporting*, MA: New Publishers, Hanover 2007; and M.E. Barth, 'Global financial reporting: Implications for U.S. Academics', (2008) 83/5 *The Accounting Review*, 1159, 1159-1179.

<sup>629</sup> M.E. Barth (2007), *supra* n. 628 and M.E. Barth (2008), *supra* n. 628, pp. 1159-1179.

<sup>630</sup> M. Klausner, *supra* n. 602, p. 783.

analyze, regulatory authorities prefer to rely on information already collected by other authorities., Thus a mistake may be copied across the board.<sup>631</sup>

Another unwanted consequence could be a possible reduction in innovative solutions to regulatory problems; if all countries adopt the same standard and if innovation is deterred, some great solutions might be lost simply due to the fact that people are not putting effort into finding them. In this way the financial regulators may become “lazy” thinkers and rely on others to come up with the solutions for them.<sup>632</sup>

Furthermore, due to the fact that harmonized standards often reflect political compromises, they may well be too weak. Weakness of global standards may lead to one of two possible results: either the different countries will adopt the weak standards and leave the local market under-regulated and vulnerable to systemic risk;<sup>633</sup> or they will set the global standards at minimum levels and add more standards of their own, making the market differentiated again, and thus defeating the original purpose of standardization.

Moreover, global financial regulatory standards may also be vulnerable to the same constitutional accusations of undermining democratic principles which were mentioned in this chapter’s literature review.<sup>634</sup> Even though Basel 2 and 3 only produce recommendations, and are different in this way from the US Federal Tax Law which is compulsory, some states around the world are being pressured by other states to adopt the global standards set by the Basel committee, and indeed most of them acquiesce. By adopting international standards or rules such as Basel 2 and 3, which are intended to standardize regulatory demands with regards to liquidity rules and risk-taking activities of banks, states basically choose to give up sovereignty over these issues, since they end up incorporating regulation which is the product of global political compromise, rather than local political views and interpretations.

As the real decisions are taken at a global level at which some countries have more influence than others, the citizens of the states which “cave in” under the pressure of adopting the new regulatory standards are subjected to rules which the majority in their countries might not approve of.

Another cost which is connected to the adoption of global financial standards is referred to as ‘switching costs’. As financial regulation is complicated and requires expertise in implementation and monitoring, switching from local to international standards is very

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<sup>631</sup> M.C. Stephenson, *supra* n. 429, p. 1432.

<sup>632</sup> R. Nebel, *supra* n. 86, p. 281 – 282. See also: S.J. Liebowitz and S.E. Margolis, ‘Network Externality: An Uncommon Tragedy’, (1994) 8/2 *The Journal of Economic Perspectives*, 133, 135.

<sup>633</sup> R. Nebel, *supra* n. 86, p. 281.

<sup>634</sup> R. Mason, *supra* n. 610, p. 3.

costly both to the regulators and to the financial firms. It is for this reason that, when a change is being discussed on the global level, each jurisdiction commonly prefers the others to adopt its own standards, and not vice versa.

This also implies that adopting a standard which is closer to the standard of a certain jurisdiction provides that jurisdiction with an advantage – it is able to extract some rent over the other jurisdictions which have to comply and adjust to a completely new standard or norm.

Another negative consequence of having a global standard is that it might lead to problems of congestion. Congestion may have unwanted side effects, also known as negative network externalities. For example, if all firms can choose to be traded on any stock exchange they wish, and if there is competition between different stock exchanges around the globe, the result of such competition could lead to congestion of firms into one stock exchange. The reasons for this are diverse and may include: proximity to headquarters; specialization of courts; better IT which increases the speed of transactions, etc; or just a plain herding phenomenon - if everyone is traded there, we want to be traded there as well.

This can cause problems: first, the stock exchange on which the firms are congested may become over-loaded and thus give a slower treatment to each firm wanting to register; and second, other countries may lose a core of their business as firms choose to register elsewhere, creating localized unemployment, etc.

Furthermore, concentrating power in the hands of an already powerful jurisdiction gives it the capacity to further dictate global standards, which makes it even more specialized and helps it exclude other future possible competitors. This might be an additional explanation, other than political economy, as to why the EU takes care to distribute its financial regulatory institutions among several member states instead of concentrating them all in one state.

On the one hand, as has been shown in past chapters of this research, distributing, rather than concentrating, regulatory institutions among different geographical areas harms coordination. On the other hand, in the EU it decreases local accusations against one state having all of the regulatory bodies concentrated in its territory and thus having a larger amount of power and influence over the regulatory situation in all other EU states.

When we talk about setting global standards on the international level things get even more complicated, as the differences between states grow bigger. History has shown that the way Americans view a certain problem in the financial markets usually differs from the way in which Chinese or Europeans view the same problem. The cultural differences might even

suggest that what one country considers a problem is not a problem in the eyes of another country.

Even if different countries agree on the identification of a problem, they may have very different ideas on how to solve such a problem. Add to that the political problems and the old rivalries between states around the globe, and coordination becomes well nigh impossible.

The following pages contain suggested ways to overcome these problems, taking into consideration the fact that different states have different goals and different problem-solving mechanisms.

#### ***6.4 Coordination of global financial regulators: what are the difficulties and how can we try to overcome them?***

The need for global coordination with regards to financial regulation has been emphasized by the last financial crisis. In the world of today it is clear that what happens in one country probably has an effect on other countries as well. The existence of global financial conglomerates further increases the need for coordination and cooperation with regards to financial regulation.

As emphasized earlier in this chapter, coordinating regulatory demands can have a positive influence on financial markets, as it allows for greater network effects which in turn make the financial markets more efficient.

However, as discussed earlier, financial regulatory coordination on a global level is very hard to achieve. Coordination between authorities can only start if there is mutual identification of a common problem which the parties believe can be solved through cooperation.<sup>635</sup>

When we look back at global standard settings, such as anti-money laundering standards or the ISDA agreements, we see that countries will only cooperate if it is in their own financial interest to cooperate. It seems that the last financial crisis brought the issue of the need to coordinate global regulatory standards to the attention of most countries, including the most influential ones, and there is an understanding and a general agreement about the necessity for such coordination, at least with regards to financial firms' risk-management requirements and liquidity rates. The crisis has shown that lack of cooperation between states may lead to an escalation of the crisis and put obstacles in the way of a fast response to the crisis once it begins.

The crisis raised huge political and public pressure for international coordination and cooperation. Such pressure is known to be the main driving force behind cooperation and coordination of authorities, as without such pressure each authority seeks to preserve its independence.

Once countries understand that coordination and cooperation with regards to financial regulatory standards is required, the question at hand is: what is the best way to achieve such coordination and cooperation?

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<sup>635</sup> J.A. Weiss, *supra* n. 382, p. 111.

The following paragraphs scan through a few optional mechanisms for cooperation and coordination between financial regulators of different states:

#### **6.4.1 Recommendations rather than mandatory standards**

When we look at global coordination mechanisms that have already been used to achieve successful standardization of regulation, it seems that at the first stage, countries find it easier to accept recommendations rather than obligatory standards. As was presented earlier in this chapter, these recommendations, if coupled with a “soft” sanction mechanism for those states which do not adopt the recommendation, (such as refusal by compliant states to do business with non-compliant states), might at a later stage turn into law.

Looking back at the adoption of anti-money laundering regulation teaches us that setting recommendations at the first stage might actually lead to the formation of laws in each jurisdiction.<sup>636</sup> The steps in this process are listed below.

The first stage of the recommendation process begins with an identification by a number of states of a common problem and the recognition that the problem can only be solved through cooperation.

The second stage is forming an international body or forum in order to discuss possible solutions to the problem. At this stage suggestions are brought up and discussed within the forum. Once there is an understanding of the problem, its possible solutions, and the pros and cons of each prospective solution, the forum issues a set of recommendations which are adopted, or not, by the international community.

If the forum manages to receive the support of the most influential states in the world, its recommendations then become the norm and are implemented in each country in the way that country sees fit, in light of its own market conditions.

The international forum then needs to develop a monitoring department which can assess the different jurisdictions and issue reports as to which country or jurisdiction needs to improve and how.<sup>637</sup> These reports are helpful in spreading information with regards to compliance with the recommendations, and with aiding the creation of a “soft” sanctioning mechanism.

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<sup>636</sup> The fight against money laundering started with the issuance of forty recommendations by the FATF. The current recommendations may be found at: [www.fatf-gafi.org](http://www.fatf-gafi.org)

<sup>637</sup> Take for example the IMF country reports which assess market conditions and failures in different countries around the globe and issue a set of recommendations for improvement where needed.

There is at least one very big advantage to adopting recommendations as opposed to obligatory standards - room for implementation is left with each jurisdiction. In this way some diversification among the different jurisdictions is maintained.

If we think that diversification of regulation might be beneficial, for reasons discussed in previous chapters of this research, then using recommendations allows us to coordinate states while leaving room for interpretation and diversification. This might be a way to enjoy both worlds; on the one hand it achieves coordination and cooperation, and on the other hand it allows for some diversification between different markets.

In order to adopt such recommendations, there needs to be a joint forum where proposed recommendations can be discussed. This is indeed what the Basel 2 and Basel 3 committees aim to achieve with regards to risk-management and liquidity rules.

When we examine the driving forces behind the setting of global standards, it is quite clear that the large influential jurisdictions have an interest in coordinating financial regulatory standards on a global scale, as lack of coordination hurts their economies first. But what about smaller and less influential countries and jurisdictions? Do they too have an interest in complying with global standard settings?

In practice, smaller countries with smaller markets have an interest in making themselves compatible with larger states or regions such as the USA and the EU; therefore they tend to be in favor of adopting global regulatory standards which allow for network effects, as by doing so they enhance the global competitiveness of their own markets or firms.<sup>638</sup>

Furthermore, if a country is geographically situated in an area which adopted the global standards, it will be more likely that this country will adopt the regulatory standard as well.<sup>639</sup> The reason for this lies in the increased network benefits enjoyed by all member countries in the region when new countries join in.<sup>640</sup>

In a way this makes things easier as it reduces the number of parties who have to agree on a given standard. It is reasonable to assume that if the EU and the USA manage to agree on a set of recommendations between themselves with regards to financial regulation, then other countries are likely to adopt these standards as well.

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<sup>638</sup> M. Bojanowski & V. Buskens, 'Coordination in dynamic social networks under heterogeneity', (2011) 35/4 *Journal of Mathematical Sociology*, 249, 249–286 show that people also choose their social relations based on their preferred behavior. This can also be true for states.

<sup>639</sup> K. Ramanna & E. Sletten, *supra* n. 595, p. 3.

<sup>640</sup> K. Ramanna & E. Sletten, *supra* n. 595, pp. 3-4.

The problem is that even though coordination is wanted, each jurisdiction would like to adopt standards or recommendations which are closer to its already existing standards or recommendations, as this gives the companies and regulators active in its market an edge; fewer changes will be required from them in order to meet or supervise the new standards.<sup>641</sup> Countries may well end up playing a sort of a “Chicken Game” similar to the one discussed in Chapter Four of this research; each side will hold his ground and wait for the other side to give in first.

The solution might be to start with standards which are at the heart of the consensus and gradually move on to discussing and negotiating on the standards which are debatable. As we have seen in Chapter Five of this research, there is value in regulators meeting each other on a regular basis, as this encourages exchange of information.

Through such information–exchange, the parties could find that some of the obstacles in the way of coordinating and deciding on a regulatory standard are either nonexistent or easily solvable.

However, the question remains, what can we do with the standards which countries do not agree on?

#### **6.4.2 Consolidation**

As discussed in Chapter Five of this research, if coordination is absolutely necessary then it makes sense to consolidate the regulators. This is also true from an information-flow point of view.

Indeed, where the political and geographical conditions allow it, we find that states sometimes do form new jurisdictions which are combined from several smaller jurisdictions, thus enjoying the network effects of consolidation to the maximum. This is the case of the European Union.

The fact that most states which are located in Europe have joined the EU provides all European states with several benefits resulting from belonging to the EU and to the common market, benefits which they could not achieve on their own, or without the EU’s existence.

These benefits are reflected in the single market and its four freedoms - the free movement of people, goods, services, and capital.<sup>642</sup> Following the creation of a single

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<sup>641</sup> K. Ramanna & E. Sletten, *supra* n. 595, pp. 3-4.

<sup>642</sup> The Consolidated Version of the Treaty Establishing the European Community, Dec 2006, Official Journal of the European Union C 321 E/39, Art. 3 (1) C.

market, it is logical to have some sort of standardization for financial regulation as it promotes the idea of the aforementioned four freedoms.

The new Banking Union initiatives coupled with the new EU financial regulatory bodies - the European Banking Authority,<sup>643</sup> the European Securities and Markets Authority,<sup>644</sup> the European Insurance and Occupational Pensions Authority,<sup>645</sup> and the European Systemic Risk Board (ESRB)<sup>646</sup> - are an example of consolidation of regulation from the state level up to the regional level. This regional consolidation may also yield positive network effects and advance the idea of a single market.<sup>647</sup> How so?

The formation of one EU authority responsible for supervising one type of financial firm across Europe is supposed to completely remove all barriers to entry which might have been created by a country's financial regulation, knowingly or unknowingly, with the effect of deterring the entry of financial firms from other EU countries.

For example, if one country demands specific requirements from firms wishing to receive a banking license, (which is needed in order to open and operate a bank in that country), and if those requirements are very different than those which are required by another financial regulator in a different EU country, then having a central EU banking regulatory authority may help standardize the requirements. This would remove a barrier to achieving a single market and allow banks to enjoy the network effects created by the fact that the requirements for receiving a banking license are standardized.

Indeed the European Banking Authority itself declares it has vast competence which includes:

*“...preventing regulatory arbitrage, guaranteeing a level playing field, strengthening international supervisory coordination, promoting supervisory convergence and providing advice to the EU institutions in the areas of banking, payments and e-money regulation as well as on issues related to corporate governance, auditing and financial reporting.”*<sup>648</sup>

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<sup>643</sup> Established by: Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010, *supra* n. 354.

<sup>644</sup> Established by: Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010, *supra* n. 356.

<sup>645</sup> Established by: Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010, *supra* n. 355.

<sup>646</sup> Established by Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010, *supra* n. 353.

<sup>647</sup> As established in EU legislation starting from The Single European Act of 1986.

<sup>648</sup> See the official homepage of the European Banking Authority at: <<http://www.eba.europa.eu/Aboutus.aspx>> accessed 07.06.2013

If indeed the new authorities are successful in standardizing financial regulation across Europe, they will open up the possibility for greater network effects, for reasons discussed elsewhere in this chapter.

However, there is always the risk that such a regional regulator will miss part of the picture with regards to the local jurisdictions. Even though the EU does have a single market, not all EU states are the same and different states suffer from different problems which need to be regulated accordingly.

Things get even more complicated at the global level. Obviously complete consolidation on the global level is very difficult to achieve due to the differences between jurisdictions and the different market structures. However, it may be a good idea to establish some sort of international organization which will set the standards for all jurisdictions in the form of recommendations, not only for systemic risk and stability concerns but also for consumer protection and competition enhancement. For this task, information exchange is crucial, and some coordination mechanisms, such as joint forums or college of regulators, are and should be used in order to bridge information gaps.

#### **6.4.3 Market-based mechanisms**

Another interesting solution might be to encourage market-based mechanisms. After all, adopting a common standard is also in the interest of many of the firms active on the financial markets. These firms can benefit from adopting a common standard as it may give them easier access to new markets and consumers.

Furthermore, a common standard makes it easier for them to know what legal demands exist in the market and to obey them. Having such knowledge enables them to reduce the number of compliance employees and cut down on litigation costs.

All this is especially true for large conglomerates active in many jurisdictions. These firms are the greatest “winners” under standardized regulation, as economies of scale come in to play with regards to the ability to penetrate new markets and enjoy network externalities.<sup>649</sup>

Take for example a credit card company, such as Visa or MasterCard; on the one hand the more consumers use their card, the more businesses accept the card; having more

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<sup>649</sup> O. Shy, *supra* n. 603, p. 120.

businesses accepting the card leads to more consumers wanting to join the network and use the cards.

For the consumers this is an indirect network effect gain,<sup>650</sup> but for the credit card companies it is a direct network effect gain; the more businesses choose to respect their cards, the more consumers choose to be their clients. If they manage, as they do, to go global, they have an increasing edge over other smaller, and perhaps local, brands of credit cards.

It is therefore in the interest of large global companies active in the worldwide financial markets, to agree on common regulatory standards. Furthermore, as they like to avoid regulatory intervention in standard setting, they know that self-regulation would have to reach an acceptable level in order to please the regulators and prevent them from intervening.

There is evidence in some areas of the financial markets in which global standard setting was done voluntarily by the industry. An example is the International Swaps and Derivatives Association (ISDA) which is a voluntary trade organization of participants in the market for over-the-counter derivatives (OTC's). This organization has successfully managed to standardize the contracts used in order to trade in derivatives. Even though OTC derivatives are also regulated by financial regulators<sup>651</sup> in order to ensure stability and protect against systemic risk, the contracts themselves were standardized by the industry as a result of the industry's need for standardization. This is an example of how the industry itself may come to realize the network effects hidden within standardization and work towards achieving it.

Even though market-based mechanisms of regulation incur some costs, such as the risk for setting the regulatory standard too low, or moral hazard on behalf of the regulators who rely too heavily on the industry to regulate itself, it is important to support such initiatives. This support is important because a solution agreed upon by market participants is likely to be more efficient to the market, as long as it solves the market failure which it comes to regulate, than a solution dictated by an external regulator.

Going back to the issues discussed in Chapter Two of this research, regulation is always costly as it disrupts the market and should only be used when its benefits outweigh its costs. If there are market-based solutions providing a satisfactory answer to the market failure, it is advisable to use them over obligatory regulation dictated by financial regulators.

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<sup>650</sup> O. Shy, *supra* n. 603, p. 120.

<sup>651</sup> See for example: Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties (CCPs), and trade repositories (TRs) (EMIR), 16 August 2012.

To sum up, the financial crisis has provided us with an opportunity to leverage public and political pressure in order to coordinate financial regulatory standards that exceed those needed to preserve stability and prevent systemic risk, and to enjoy the benefits of network effects in other areas of the financial sector.

However, even though countries understand that global standard settings for financial regulation is important, they still face problems of coordination and cooperation in setting and maintaining these standards.

As mentioned in this subchapter, the way to move forward and solve these problems may be through recommendations, consolidation (where needed), and market-based mechanisms where possible.

## ***6.5 Summary and conclusions***

Coordination and cooperation between financial regulators on a global scale is not only important due to the obvious need to mitigate and prevent systemic risk and correct other market inefficiencies and failures, but also due to the positive benefits arising from network effects. Such network effects are present when regulatory standards are coordinated and some of the local regulatory barriers to entry are removed, as this allows firms to penetrate new markets with greater ease.

Standardizing financial regulation also makes it easier for professional advisors to specialize, and reduces the price of their services. Specialization reduces prices as it reduces the marginal cost of providing advice to a new client.

This is beneficial both to the clients seeking expert advice, as they now get the advice they need for less money, and also for the specialists, as their market of potential clients grows larger with the removal of fragmentation of standards in the markets.

Even though standardization also incurs costs such as congestion and loss of diversification, it can also be very beneficial. This is especially true for weaker states.

As there is a global understanding of the need to enhance cooperation and to coordinate financial regulation on a global scale post the 2007-2009 financial crisis in order to solve joint problems, it seems advisable to use this momentum in order to coordinate regulatory standards not only in the area of liquidity requirements and risks, but also in other areas, in order to reap the network effect benefits that are likely to follow such coordination.

As discussed earlier in this chapter, once the influential jurisdictions are able to agree on an acceptable standard, it is very likely that all other jurisdictions will adhere and adopt the standard as well.

The way to move forward and advance cooperation and coordination goes through one (or more) of the following stages: recommendations, consolidation, and market-based mechanisms.

In order to get the influential jurisdictions to adopt a common standard, it is advisable to form a global forum for discussions. Looking back at successful standardization in the field of anti-money laundering, it is recommended that such a forum issues recommendations rather than obligatory standards, coupled with some sort of pressure mechanism which is translated into sanctions for non-compliant states, such as the refusal by compliant states to trade with non-compliant states.

Where cooperation is absolutely vital consolidation of regulators should be considered as it decreases problems of coordination.

Another road to standardization is the adoption of a global standard based on market-based solutions. As regulation is costly to the industry it is advisable that whenever possible, and as long as the standards meet a high enough level, we leave it to the industry to regulate itself.

## 7. SUMMARY AND CONCLUSIONS

Since the 2007-2009 financial crisis, issues regarding financial supervision and its structure have received greater public attention. Seeking to escape the turmoil which swept the financial markets, many countries around the globe, including the UK, Germany, Switzerland, and the USA, have been rethinking and changing the structures of their financial regulators in an attempt to reach an “optimal” structure.

As was presented in this research, countries change their financial supervisory models, but they don’t seem to converge towards one type of model. This research project was designed to find reasons for this ongoing divergence. It set out to find whether there is an “optimal” structure for financial regulators, i.e. a structure which minimizes the occurrence of financial crises, and which functions better when such a crisis needs to be mitigated, and if so, what attributes need to be taken into account when trying to reach such an optimal structure.

However, as presented in this research, the complexity of financial markets does not allow for a “one solution fits all” regulatory structure. Different markets and different strategic interactions between the regulators in the financial market call for different solutions with regards to the optimal regulatory structure for financial supervisors and lead to different costs and benefits. This reasoning is also reflected in the spectrum of structures which exist in the world today.

The answer to the question of consolidation versus fragmentation for financial regulators, which is also the primary research question of this dissertation, depends largely on political choices with regards to states of the world that society would like to create or avoid.

In order to answer the primary research question, this research first examined the need for financial regulation, what the supervisory authorities are meant to achieve, and its related costs. For this reason Chapter Two of this research provides a thorough understanding of the need for financial regulation and of its costs.

Chapter Three of this research described the types of regulatory structures which exist in the world. This chapter surveyed the regulatory structures in 15 jurisdictions around the globe, comparing them and discussing their strengths and weaknesses (when such weaknesses were identified). An important finding of this chapter was that over one third of the reviewed jurisdictions do not follow one of the pure approaches to financial supervision but rather a Hybrid Approach, which is a combination of more than one approach. These

combinations are formed through the influence of other approaches on the financial supervisory structure, and come into play in areas where legal, political or practical reasons demand deviation from a pure approach. This chapter shed light on the processes which different jurisdictions underwent after the 2007-2009 financial crisis and served as a platform for the theoretical discussions in the following chapters of this research.

In an attempt to answer the above-mentioned primary research question, this research analyzed the possible regulatory structures using three methodological tools, as further explained below: (1) game theory concepts, (2) institutional design, and (3) network effects.

The incentives for regulatory action were examined in Chapter Four using **game theory concepts**. This chapter predicted how two regulators with overlapping supervisory mandates will behave in two different scenarios (i.e. where they stand to benefit from regulating, and where they stand to lose). Not surprisingly, when regulators assume they stand to benefit from regulating, an overlapping regulation problem will develop, whereas in cases where the regulators believe that they stand to lose from regulating, a ‘lack of regulation’ problem may occur.

The insights derived from the games described in this chapter were then used to analyze the different supervisory models that exist in the world, and to analyze their weaknesses and strengths. This chapter concluded by offering solutions to the problems it identified using game theory tools.

The problem of information-flow was discussed in Chapter Five of this research using tools from **institutional design**. The rationale for this lies in the need for the right kind of information to reach the hands of the decision maker in the shortest time possible in order to predict or stop a financial crisis from escalating.

This chapter divided the different regulatory structures that exist in the world into two main groups - a fragmented structure, which comprises several financial regulatory authorities active in the market, versus a totally consolidated structure, which comprises a single financial regulatory authority supervising the financial market. It then examined the efficiency of these structures in transferring information within and between different regulatory authorities.

**Network effects** and congestion in the context of financial regulation were discussed in Chapter Six of this research. The literature referring to network effects in general was applied to highlight the point that consolidating financial regulatory standards on a global level might also yield other positive network effects.

The results of the analysis which was carried out in Chapters Four to Six of this research are summarized below.

When examining the problem through the prism of the incentives of financial supervisors to regulate or refrain from regulating, as was done in Chapter Four of this research, the conclusion is that the consolidated model for financial supervision helps solve the “overlapping regulation” problem which may arise when two different regulators with overlapping mandates are active in the same market.

It is safe to assume that, due to the fact that under the consolidated model the regulators are subordinates of the same manager, the probability for overlapping regulation decreases. Therefore, assuming that “overlapping regulation” is not desirable from a social welfare point of view, the question became: what prevents the consolidation of all of the regulatory authorities in the financial market into one consolidated authority? The answer to this question lies in the need for diversity and minimization of regulatory mistakes as well as in the differences in goals of each regulatory authority.

As mentioned already in the introduction to this research, a regulatory authority is not foolproof, as a financial regulator can make mistakes and these mistakes can be very costly to the industry and the financial markets as a whole, having a few supervisory authorities with overlapping responsibilities acts as a sort of insurance against mistakes and helps minimize the chances for unregulated gray zones.

The analysis in Chapter Four also found that when a few regulators have overlapping supervisory powers, and each believes or expects that one of the other regulators will take care of the market failure, this might lead to the problem of ‘lack of regulation’ due to their fear of how the regulation will be perceived in public and how it will affect their private objectives function. This lack of regulation may contribute to the creation of a global financial crisis.

In order to solve this problem and incentivize regulators to regulate, even in cases where they fear that regulating will be unpopular and might personally damage them and their private objectives, Chapter Four of this research concluded by recommending that regulators be provided with some sort of monetary “safety-net” such as early retirement mechanisms, while establishing a peer monitoring mechanism to reduce the probability of Moral Hazard problems.

As was emphasized throughout this research, and especially in Chapter Four, under all supervisory models the independence of the regulatory body is important. Therefore, it is equally important to separate the budget of the regulatory institutions from that of the state,

preferably by levying taxes on the regulated firms, and to adopt mechanisms for increased independence of the financial regulators.

Looking at the issue of consolidation or fragmentation for financial regulators from the point of view of information-flow and using a framework developed from the field of institutional design, Chapter Five of this research concluded that, due to issues of dilution of information and rigidity of the consolidated structure, it is best, from an information-flow perspective, to use the fragmented model for financial regulators, as long as the coordination problems, which are expected to occur in a fragmented model, are mitigated.

The comparison made in Chapter Five between the structure of the new European financial regulatory institutions and those of Israel, the UK, and Switzerland, helps illustrate the pros and cons of the fragmented structure chosen by the European Union.

One of the findings in Chapter Five of this research was that the main flaw of the current EU financial supervisory structure is that the different regulatory authorities are based in different countries, thus diminishing the probability for informal meetings which are likely to induce information-exchange between employees from different regulatory institutions.

It was therefore recommended that all of the EU's financial regulatory bodies should be concentrated in the same physical compound. If, due to political reasons, that cannot be done on a permanent basis, rotation might be a solution. However this solution is also dependent on costs.

Last, examining this issue on a global level, as was done in Chapter Six, has shown that coordination of regulatory standards on a global level might have some positive network effects, such as increasing competition between different financial firms for the benefit of consumers, and raising the quality of the regulatory standard due to the fact that forum shopping can be avoided. This is true as long as diversity is not eliminated from the markets completely. Therefore it is preferable to use standards rather than binding laws in order to coordinate the regulatory actions on a global level, as standards leave more room for diversity of regulatory solutions.

A final word with regards to the results derived from the different chapters of this research; in general we can conclude that, as has been shown in this research, the fragmented model should be preferable over the consolidated model in most cases as it allows for greater diversity and information-flow. However, in cases in which close cooperation between two authorities is essential, the consolidated model should be used as it cuts down on coordination problems which occur in the fragmented model.

Having said that, it should be highlighted that all models will probably fail at some point, and so a reasonable goal should be to minimize the number of times such failures occur, while knowing that complete prevention of such failures is very rare. The fact that the fragmented regulatory model has failed a few times in the past does not mean that it is not the most efficient model, but rather that, like any model, it is also vulnerable to unexpected market failures and the forces of change.

## Appendix

Table 8: Deposit Insurance schemes in the surveyed countries<sup>652</sup>

Country	Saving Limit	Deposit insurance organization	Private or Governmental?
Israel	0 NIS	No deposit Insurance	No deposit Insurance
Mexico	1,615,134 pesos (around 160,000 USD)	Institute for the Protection of Banking Saving (IPAB)	Governmental
France	100,000 EUR	French Deposit Insurance Fund	Private Non-Profit Organization
Italy	100,000 EUR	Fondo Interbancario di Tutela dei Depositi (FITD)	Governmental
Spain	100,000 EUR	Fondos de Garantía de Depósitos	Private
Canada	100,000 CAD	Canada Deposit Insurance Corporation (CDIC)	Governmental
Germany	100,000 EUR	<ul style="list-style-type: none"> <li>• Bundesverband deutscher Banken BdB (for private banks)</li> <li>• Bundesverband Öffentlicher Banken Deutschlands VÖB (for public sector banks)</li> <li>• Bundesverband der Deutschen Volksbanken und Raiffeisenbanken BVR (for co-operative banks)</li> <li>• Deutscher Sparkassen- und Giroverband DSGV (for savings banks)</li> </ul>	Government insures up to 100,000 EUR per deposit. Additional insurance is provided by private companies formed by the German banks
Switzerland	100,000 CHF	Deposit Protection of Swiss Banks and Securities Dealers	Privately operated. Membership is compulsory for all banks and securities dealers which are supervised by FINMA
Japan	10,000,000 JPY	Deposit Insurance corporation of Japan	Governmental
Republic of Korea	50,000,000 KRW (Around 45,000 USD)	Korea Deposit Insurance Corporation (KDIC)	Governmental
The UK	85,000 GBP	Financial Services Compensation Scheme	Governmental – administrated under the FSA
Australia	250,000 AUD	The Australian Government	Governmental – deposits are insured by the government
The Netherlands	100,000 EUR	The Dutch Government	Governmental - deposits are insured by the government
The United States of America	250,000 USD	<ul style="list-style-type: none"> <li>• Federal Deposit Insurance Corporation (insures commercial banks)</li> <li>• The National Credit Union Share Insurance Fund (NCUSIF) insures deposits at credit unions.</li> </ul>	Government insures up to 250,000 USD per deposit. Additional insurance is provided by private companies for customers of some banks. In Massachusetts the Depositors Insurance Fund (DIF) insures deposits which exceed 250,000 USD at state-chartered saving banks.

<sup>652</sup> Data taken from the websites of the financial supervisory authorities in each country.

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