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## Institutional and regulatory changes in the financial markets after the crisis emergence (2007-09)

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## **INSTITUTIONAL AND REGULATORY CHANGES IN THE FINANCIAL MARKETS AFTER THE CRISIS EMERGENCE (2007-09)**

### **ABSTRACT**

In this paper we analyze the most likely and the most desirable developments in financial markets and in a broader sense, the most desirable regulation of the financial sector. The purpose of the essay is in fact to analyze the most important issues of financial regulation and to highlight that finding the most desirable solutions are particularly difficult. These difficulties come from purely technical reasons, the multi-dimensionality of the analyzed problems, but also some aspects of the methodology and philosophy under the current methodological approach for financial regulation.

**Keywords:** financial regulation, financial crisis, Eurozone

### **RESUMEN**

En este trabajo se analiza las novedades más probables y más deseables en los mercados financieros y en un sentido más amplio, la regulación más deseable del sector financiero. El objetivo del ensayo es de hecho la señalización de los temas más importantes de la regulación financiera y poner de relieve que la búsqueda de las soluciones más deseables es particularmente difícil. Estas dificultades provienen de razones puramente técnicas, la multidimensionalidad de los problemas analizados, pero también algunos aspectos de la metodología y la filosofía bajo el enfoque metodológico actual de la regulación financiera.

**Key words:** regulación financiera, crisis financiera, zona euro

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## 1. INTRODUCTION

When F. A. von Hayek received the Nobel Prize during the crisis of the seventies he said these significant words: "*The effects on policy of the more ambitious constructions have not been very fortunate and I confess that I prefer true but imperfect knowledge, even if it leaves much indetermined and unpredictable, to a pretence of exact knowledge that is likely to be false.*" (von Hayek, 1975). In response to the economic and political events during the period of 2007-2009, R. Caballero published the article Macroeconomics after crisis that analyzed the Pretense-of-Knowledge syndrome in the current research paradigm in macroeconomics.

As the author emphasized in the article, the recent financial crisis has contributed significantly to the weakening of the reputation of macroeconomics. After the crisis emergence, the predicting capacity has been widely questioned. However, the main problem is not the lack of this capacity but rather the doubtful choice of dominant paradigm in macroeconomics that has been shared between the researchers during many years. Of course it is not all about carrying out endless methodological or philosophical disputes, but rather about the awareness that the underlying model assumptions are directly related to the paradigm and the approach chosen by the researcher.

The aim of this paper is to analyze the most likely and the most desirable institutional and regulatory changes introduced immediately after the crisis emergence, in the period 2007-2009. Nowadays, in 2014, the time span is sufficient to acquire the necessary perspective to discern and judge properly the reactions of the policy-makers involved in the financial policy.

Due to the strong causal relationship of economic and political events during the last seven years, the analysis also takes into account regulatory arrangements relating to the financial and economic crisis in Europe of up to 2010 and the subsequent debt and banking crises (Schambaugh, 2012). The extension of the period is necessary in order to present a complete picture of events as well as to analyze the most desirable institutional and regulatory mechanisms.

The paper is composed by five sections in addition to this introduction It is descriptive as well as theoretical and normative in its nature. In the second section, the essence of financial regulation as well as the relations between regulation and politics are analyzed. Then, in the third section, the U.S: institutional regulatory framework is presented. In the following section, the regulatory and institutional changes in the Euro Area are analyzed. In the fifth one, the role of the central bank for the maintenance of the stability of financial system is taken under consideration. Finally a set of conclusions are presented.

Each of the sections rise further normative doubts. Many questions still remains unanswered as the one of the future paradigm of macroeconomics research. In such context, R.Caballero (2010) seems to be right: *"This distinction between core and periphery is not a matter of freshwater versus saltwater economics. (...) The challenges are big, but macroeconomists can no longer continue playing internal games. The alternative of leaving all the important stuff to the "policy"-types and informal commentators cannot be the right approach. (...) whatever the solution ultimately is, we will accelerate our convergence to it, and reduce the damage we do along the transition, if we focus on reducing the extent of our pretense-of knowledge syndrome."*

## 2. FINANCIAL REGULATION AND ITS RELATION TO POLITICS

**I**n order to define the relationship between economics and politics, it is worth recalling an interesting statement of F. Chodorov (2007): *"Economics is not politics. One is a science, concerned with the immutable and constant laws of nature that determine the production and distribution of wealth; the other is the art of ruling. One is amoral, the other is moral. Economic laws are self-operating and carry their own sanctions, as do all natural laws, while politics deals with man-made and man-manipulated conventions. As a science, economics seeks understanding of invariable principles; politics is ephemeral, its subject matter being the day-to-day relations of associated men. Economics, like chemistry, has nothing to do with politics. The intrusion of politics into the field of economics is simply an evidence of human ignorance or arrogance, and is as fatuous as an attempt to control the rise and fall of tides."*

Chodorov believes that the intrusion of politics into economics is a manifestation of human ignorance and arrogance. The author plays with the reader. He notices the fact that economics is not politics, the first one is moral and the other one is immoral, but he drives the reader to the concept of immorality (social immorality versus absolute immorality) and how it shall be defined. Regardless of the philosophical aspect of this intrusion into economic policy, it does not seem possible to separate them totally.

Mutual relations between politics and economics have been subjected to considerable studies from the middle seventies of the last century although classical economist as Adam Smith or John Stuart Mill had mentioned these article. The first article was published by W. Nordhaus (1975) in a seminal paper that established the foundations of the so-called *Political Business Cycle* (PBC) at the seed of the electoral theory. In a parallel line, but under a different approach, partisan character.

Hibbs (1977a and 1977b) found that the influence of politics on the economy is performing according to their ideology, in such a way that left-wing governments (Democratic Party in its analysis for the U.S. ) seeking its intervention to reduce unemployment as a priority, while conservative governments (Republican Party in his study ) focused their priority to price stability. In both approaches, as made explicit below, the basic assumption was to consider voters as rational. The road to the systematic study of the interdependence between politics and economics was open a clear way for economists (Mancha, 1993).

Since the second half of the eighties, the literature on PBC increased considerably as a branch of game theory, but modifying the previous approaching with the assumption considering the rationality of voters and emphasizing the idea of that a rational public intervention possibilities of governments and their influence on the evolution of the economy is clearly limited. In this line, taking as its starting point the work of the Nobel Prizes in Economics Kydland and Prescott (1977) and Barro and Gordon (1983), Cukierman and Meltzer (1986), Alesina (1987) and (1989), Rogoff and Sibert (1988), Rogoff (1990) or Persson and Tabellini (1990), it became evident to both the particular case of U.S. source references all pioneers in this area, as for most Western democracies, it was possible to question the existence of cycles systematic both opportunistic or partisan electoral character.

From the last decade of twentieth century up to now the growth of PBC has been exponential devoting a special attention to the political purposes of economic policies. Alesina, Roubini y Cohen (1997) is a good example. The crisis emergence encouraged again the interest for PBC in old prominent authors as A. Alesina and and their new collaborators<sup>1</sup>,

Alesina and Stella (2010); Alesina, Carloti and Lecce (2012); and, Alesina, Favero and Giavazzi (2012) show two possible institutional changes aimed to ensure financial stability. According to the first one, the Fed shall be responsible for the financial system supervision. In opposition, according to the alternative one, the powers of supervision, inspection bodies and prudential regulation shall be taken over by another institution, independent from the Fed that shall be focused primarily on monetary policy. Alesina emphasized the need to examine both possibilities, not only from the perspective of the economic efficiency and the potential for regulatory capture, but also from the point of view of theory of democracy.

In the above mentioned articles Alesina et al. also underlines the fact that each of the elements of the analysis may give a different answer to question of the necessity to disconnect the financial supervision and the monetary policy competences. This issue is analyzed in the last section

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<sup>1</sup> See Alesina, A. and Stella, A.(2010; )Alesina, A., Carloti, D. and Lecce G. (2012); and, Alesina A., Favero C.and Giavazzi F, (2012)

of the work on the role the central bank in maintaining financial stability. Pointing out this issue is useful to emphasize the close relationship between the economic policy (and politics as such) and the financial regulation.

The object of the study is to analyze the most desirable and most likely institutional and regulatory changes in the financial markets after the crisis. In a broader sense, it is also a question of how to ensure the stability of the entire financial system. It would therefore be difficult to separate the regulatory mechanisms and institutional changes from the preceding discretionary decisions of governments and central banks as well as from the analysis of macro-prudential policies.

Therefore, it seems reasonable to adopt a broader notion of governance and regulatory regime. The adoption of the term governance and regulatory regime is not determined only by the desire of comprehensive description of events in the period of 2007-2009. From the point of view of theoretical and normative analysis, the presentation of data related to the institutional and regulatory changes in the financial markets after the financial crisis requires also macroprudential policies to be included, but macroprudential policies are not regulatory changes in the common sense. On the other hand, the concept of financial regulation shall be first defined.

Financial regulation is a set of legislative changes that shall lead financial institutions to certain behavior in financial markets. Regulatory changes may be the minimal bank capital requirements, restrictions on trading of instruments and standards in risk assessment. Their aims include maintaining the stability of the financial system as a whole. The justification of financial regulation is commonly presented in terms of the theory of market failure. The theory of regulation as such balances between the theory of partial equilibrium and the general equilibrium theory. (Hanson, Kashyap and Stein, 2011)

From the point of view of the theory of market failure, the issue of the financial system stability is analyzed as an example of public good (Shirakawa, 2012). Regulatory changes are also designed to solve other type of market failures. First of all, in the context of the functioning of financial markets and institutions dealing with the existence of external effects and asymmetric information, in particular, moral hazard.

Examples of asymmetric information problems in financial markets are analyzed in the third part of the article. Among them we can find the liquidity problems in the federal funds market in the U.S. after the collapse of Lehman Brothers and the issue of institutions too-big-to-fail in the context introduced by the Dodd-Frank Act (2010) as well as in the context of systemic risk.

Correcting market failures is not the only purpose of the financial regulation. L. White (1997) presented the objectives of regulation as a

counterpart of the general public intervention. The first objective of the financial regulation is to promote and to guarantee free competition in the financial intermediation sector. The second objective is to promote market transparency and investor protection. Justice in the distribution of resources is parallel to the non-discriminatory access to information in the case of the financial regulation. According to the third objective, the stability of the financial sector is assumed as part of the broader concepts of micro-and macro-economic stability.

White distinguishes four types of the financial sector supervision and institutional change: supervision by segments of the financial markets, supervision by objectives, functional supervision and single regulator supervision (Di Giorgio, Di Niola and Piatti, 2000). The greater the degree of financial markets integration is, the greater the need for monitoring segments of the financial sector and the degree of achievement of the previously defined objectives. It therefore seems reasonable to choose the last model of financial regulation: to divide the tasks of a central bank between two different organisms, one in charge of supervision and regulation and the other one focuses on the monetary policy.

From the point of view of the theory of regulation, financial regulation is divided into micro-prudential regulation and macro-prudential regulation. At the same definitions of terms micro-prudential and macro-prudential regulations have their own dogma problems. It is assumed that the micro-prudential regulation focuses on the mechanisms and effects described in the theory of partial equilibrium while macro-prudential regulation is related to the neoclassical general equilibrium theory (Hanson, Kashyap and Stein, 2011). This explanation, however, is closely related to the mainstream economics paradigm that arises a great deal of controversy nowadays.

It would seem that the way the terms are defined and their relationship with the accepted mainstream paradigm are not so relevant to the actual analysis of the institutional and regulatory changes in the financial markets after the financial crisis. Notwithstanding, one shall remember that the neoclassical belief in the microfoundations but at the same time the need for analysis of the economy as a whole (multiple markets simultaneously), led not only to a specific canon of describing the functioning of the economy, but also to the development of computable general equilibrium models that provide forecasts nowadays (Santos, 2012).

An interesting fact is the models used by central bankers before the financial crisis widely excluded the financial sector from the analysis. It seems also inappropriate that such models focus on the steady state and the mathematical conditions of its existence, unity and stability, (Hoalle, 2011) without modeling the adjustment process that is only partially depicted in the saddle-path stability diagram and the impulse-response analysis.

Due to the strong relationship between politics and economics, both the way the economy is analyzed by the policy-makers and forecasts made by central bankers have their direct impact on regulatory mechanisms and institutional changes.

So far two theories were presented: the theory of market failure and the theory of general equilibrium that both largely determined the study of financial regulation. The last normative question of this part of the study is related to the potential paradigm shift in macroeconomics and the appropriateness of the current perception of the essence, the role and purpose of financial regulation. These issues were taken under study during the series of conferences in the Bank of England and the European Central Bank in the period between 2010 and 2012. In the consequence of the discussions about the challenges in systemic risk measurement and modeling, P. Hartman (2011) expressed his point of view on the need of monitoring the so called amplifications and feedback effects as well as changing in the econometric modeling: inclusion of non-linearities and regime changes.

In fact, the feedback and amplification effects are not new concepts. One of the most important publications is Kiyotaki and Moore (1997) paper on the dynamic multiplier effect. After the crisis emergence, the importance of this topic has grown considerably. Notwithstanding, one shall remember that the amplification mechanism is in fact a multidimensional concept and it is used in many ways. A. Korinek (2011) indicated the close relation between the amplification effects and negative externalities. In the last section of the paper the issue of amplification and feedback effects will be analyzed with more details for the U.S. and Euro Area countries.

### **3. INSTITUTIONAL AND REGULATORY CHANGES IN THE FINANCIAL MARKETS IN THE UNITED STATES**

**T**here are many publications on the causes, course and consequences of the financial crisis of 2007-2009, as well as the sovereign debt and banking crises (Nawrot, 2009). In this section, however, we will focus primarily on the analysis of the obstacles and challenges faced by the financial regulation and the presentation of the strengths and weaknesses of the reform of the financial system in the United States after the crisis. It is necessary to analyze all those challenges to point out the difficulties that regulatory institutions can face.

Initially, different interpretations of the role of securitization in the financial crisis will be presented. Secondly, the liquidity problems in the federal funds market will be analyzed in order to verify two hypotheses

(Alfonso, Kovner and Schoar, 2010): the moral hazard hypothesis and the liquidity hoarding one. They are decisive for the analysis of the loss of confidence on the interbank market (Brunnermeier and Gordon, 2012). In the third subsection, the main elements of the Dodd Frank reform will be analyzed and we present several conclusions from the discretionary policies and reforms undertaken in the United States.

The outbreak of the global financial crisis in the first place, before its effects on the real sector, had impacts on the financial markets, the banking and insurance sectors as well as the equity markets (Nawrot, 2009). In most of the analyses, the role of the CDS and MBA securities is emphasized. For that reason, in the analysis begins with the explanation of securitization.

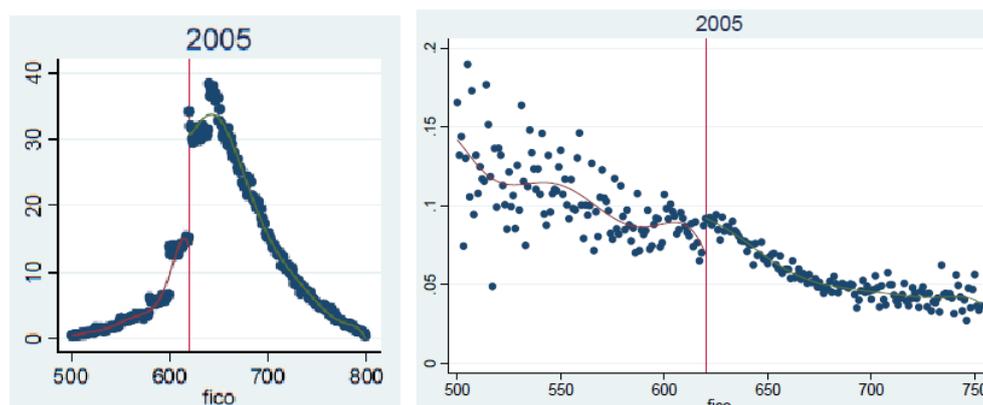
Securitization is the “process through which loans are removed from the balance sheet of lenders and transformed into debt securities by investors” (Ashcraft and Schuermann, 2008).

One widely shared opinion is the key role of mortgages securitization in the financial crisis. This opinion had impact on the shape of the Dodd-Frank reform in the United States.

However, as R. Bubb from the New York School of Law and A. Kaufman from the Federal Reserve Bank of Boston note the role of the securitization as an generator of the mortgage crisis is not so clear (Bubb and Kaufman, 2011). The authors worked with a method of evaluating the role of securitization in the financial crisis presented by B. Keys, T.Mukherjee, A. Seru and V. Vig in 2008. According to the methodology under study, banks lend money to borrowers only above a certain score (above the score 620).

Figure 1

**Number of loans and annual delinquencies for low documentation loans**



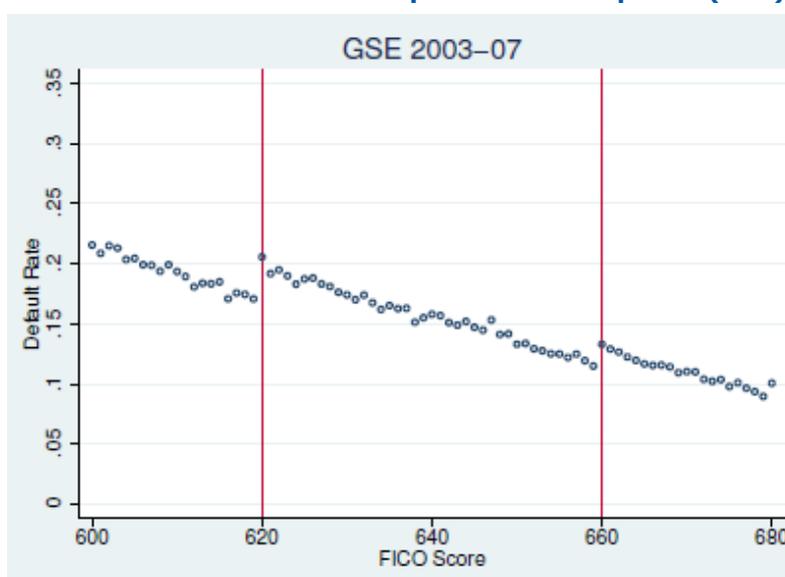
Source: B. Keys, T.Mukherjee, A. Seru , V. Vig (2008)

It turns out that the same result is used in the process of making decision to purchase a loan in the securitization process. As a result borrowers with FICO scores 619 have similar solvency characteristics to those that have the result of 621. However, for the borrowers in the first group the securitization opportunities are limited. The question that arises is to what extent these borrowers are treated differently by the banks than those achieving the score 621.

The figures presented above depict total loans depending on the score and default depending on the result of the scoring. On the first one, one can see a huge jump at the level 620. In the second case, one can observe that the level of non-performing loans is maintained at the same level on both sides of the score 620. The conclusion extracted by the authors was straightforward. Because securitization is easier on the right side of the chart, in principle, banks lend to borrowers with higher levels of non-payment. Securitisation is closely related to moral hazard and it leads to a higher level of non-performing loans. The interpretation seems to be reasonable. Meanwhile, in 2010, R. Bubb and A. Kaufman presented a completely different interpretation of the same fact. After further analysis of the data, one can notice that while the probability of default increases at 620, the level of securitization at this level drops slightly.

Figure 2

**Default rate of Government Sponsored Enterprises (GSE)**



Source: R. Bubb, A.Kaufman (2010)

The authors pointed out that at this level increase both the total number of loans securitized and non-securitized. According to Bubb and Kaufman, the overall increase in loans carries a greater amount of securitized loans, even if the rate of securitization does not change.

Without increasing the likelihood of securitization, we cannot unequivocally state the higher level of default occurs because easier access to securitization encourages a greater borrowing. It is worth noting that the explanation by Bubba and Kaufman calls into question some of the elements of the Dodd-Frank reform in the United States, which we will analyze in the next part of the work. We turn now to the second example of the challenges for regulation become known after the financial crisis: the problems of liquidity in the financial markets.

G. Alfonso, A. Kovner and A. Schoar ( published in 2010 an article entitled Stressed not Frozen: Interbank market and bank liquidity, which analyze the causes of the inhibition of federal funds market liquidity. There are two hypotheses for this behavior. The first one of them refers to the problem of moral hazard. The second one is related to the lack of trust in financial markets and the so-called liquidity hoarding. Once again, it must be stressed that the answer to the question about what was the reason to stop federal funds market liquidity (and their equivalents in other monetary areas) is crucial for finding the most proficient regulation.

The immediate response of central banks to the crisis of confidence in banks and other institutions was to inject liquidity. It was coordinated with a series of non-conventional discretionary measures by central banks on such a large scale and unprecedented in its nature. Without a doubt, desirable regulation should refer to the liquidity problems that may arise in the future, both banks and other financial institutions. Once again, however, it is difficult to accept the thesis of the unequivocal rejection of the hypothesis of liquidity hoarding presented in the article Stressed not frozen. To a large extent the result obtained by the authors are dependent of the Furfine's algorithm, recently critiqued (Armantier and Copeland, 2012). The application of this methodology for the interbank market in Europe leads to a series of problems such as errors of type 1 and 2 or systematic errors. The proposed correction method still presents a number of open questions (Brunetti, Di Filippo and Harris, 2011).

The two presented examples of problems and challenges are of course only a drop in the sea of the multiple complexities of logical and econometric analysis of such a complex subject that is the financial crisis and the prepared regulatory solutions. Nevertheless they allow assessing the difficulties on this topic. The next section will present both solutions developed by experts in the years 2009-2010 in the United States, as well as the criticism to these solutions.

In 2009, in response to the financial crisis, U.S. President Barack Obama and his advisers presented a series of proposals for regulatory and institutional policies. The proposals focused primarily on: consumer protection, creating buffers and establishment of capital requirements. It also tried to regulate the shadow banking system, the derivatives markets as well as it targeted the systemic risk problem. The

proposals set out in this period, all together with the amendments proposed in Congress and the Senate, in particular the so-called Volcker Rule (Section 619 of the Dodd-Frank Act) and The Durbin Amendment constituted the foundation of the Dodd- Frank Act (The Dodd-Frank Wall Street Reform and Consumer Protection Act) adopted in the United States in 2010.

Referring to the considerations of the first part of the work , it is worth noting that the Dodd- Frank Act is perceived by public opinion not only as the only possible consensus that can be achieved at that moment, but also the only existing complication of reasonable regulatory mechanisms. Meanwhile, at least to some extent, substantive discussion of regulatory changes and institutional proposals contained in the Dodd- Frank Act and in the alternatives proposal - The Paulson plan (US Department of Treasury, 2008), is driven by the need of political success. The object of this section is to evaluate regulatory mechanisms and supervision proposals presented in the 16 chapters of the Dodd-Frank Act as well as their posterior comparison with the proposals included in the so-called Paulson Plan.

In the first chapter the financial stability issues are concerned as well as the issue of systemic risk. In this part of the legislative act two institutions are set up: the Financial Stability Oversight Council (FSOC) and the Office of the Financial Regulator (OFR). The first one is responsible for regulations related to issues of systemic risk. The second one's aim is to prepare the analyses of financial data . According to the Act, the authority that has power of indicating systemically important financial institutions is FED. It is also in charge of determining the capital requirements and the permitted limits of leverage. The main weak point of the institutional framework established in the Act is the limited role of FSOC since 2010.

Identification of the systematically important institutions threatens the stability of the financial system as it is shaping the erroneous expectation that these institutions are too -big- to- fail. Thus it enhances the problem of moral hazard. Consequently, the discipline is being challenged in the market. Another issue is also the application by the Fed of the same regulatory model to both banks and other financial institutions.

The second chapter introduces the financial institutions resolution mechanisms by the government agencies. Two alternative methods used to be compared in such context: the old way of declaring bankruptcy, the so-called Orderly Liquidation Authority mechanism, and the second one: the so-called FDIC – run resolution mechanism. The positive thing is the inclusion of the resolution mechanisms to the solutions introduced in the U.S., contrary to the ones established in the Europe. Opponents, however, claim that the Dodd-Frank Act creates additional institutions instead of reforming the old one, so that the final institutional framework is rather blurred. The other weak point is the

procedure of evaluating the institutions that are indicated as the ones threatening the stability of the financial system. The resolution mechanisms is not supervised by the court, therefore, it is quite difficult to control the mechanism. In fact, the FDIC joins political and economic power.

The third chapter eliminates the Office of Thrift Supervision, one of the supervisory agencies that has committed a great number of errors in the initial phase of the financial crisis (e.g. Case AIG , Washington Mutual and IndyMac scandal) . It transmits its competence, also in accordance to the Paulson plan, to the Office of the Controller of the Currency. The regulations contained in the third chapter also raise the deposit insurance now up to \$ 250,000. The legitimacy of such a solution is not subject to discussion. Notwithstanding, the amount of the deposit insurance generates controversies. Too high level of the deposit insurance restrict the number of risky transactions that institutions are undertaking, leading to the instability of the whole financial system. In addition, in this chapter the creation of the new additional institutions was taken into account, such as the Office of Minority and Women Inclusion at financial regulatory agencies. In the fourth chapter, the risky institutions were regulated such as: hedge funds and private investment funds, and they are now subjected to the previous registration in the SEC (Security and Exchange Commission). In the fifth chapter, the insurance sector will be concerned. In this part, the FIO, the Federal Insurance Office, was established as the office associated with the Ministry of the Treasury.

The aim of this institution is to monitor the sector and to conduct research on the conditions of the institutions. It supports the FSOC in determining the systematically important institutions to the entire system. The problem of this institutional change is the one related to the unrestricted access to confidential information of the agency, which in opinion of some experts, has no substantial preparation for carrying out its activities. Therefore, instead of solving old problems, the new ones are created. The next chapter expands the Fed's regulatory powers and implements the so-called Volcker Rule, which prohibits banks to engage in real estate trading, hedge funds and private equity funds. Opinions about the acquisition of the majority of the regulatory and supervisory competence have both its supporters and opponents.

We will return to this issue at the last part of the work on the role of the central bank in maintaining the stability of the financial system. In the context of the Volcker Rule, paying further attention to the details is needed because it is insufficient to determine which activities are acceptable and which are not. As a result the liquidity of the financial system can be compromised. In the chapter six, the regulator of the OTC markets was changed and in the charge of them are: CTFC and SEC. The experts draw attention to the possibility of conflicts of jurisdiction between the two institutions.

The rules require the submission of transaction reports or the use of controller to the central clearinghouses. Financiers emphasize, however, that established a regulatory regime corresponds to markets more liquid than OTC and central chambers of accounts poses greater systemic risks than to made transactions on OTC markets. In the seventh chapter were recognized the competence in the field of FSOC to indicate activities and institutions potentially threatening the stability of the financial system or the validity of the system.

Fed and the CFTC are in charge of determining risk management standards that are then set by the FSOC to the institutions. It also allows the Fed to lend funds on preferential terms to the threatened institutions. Once again, this element tends to abusive (moral hazard problem). Financial institutions are willing to diversify its operations over to the hazardous conditions to ensure a back-up in the form of public funds.

The ninth element of the reform is the creation of a number of agencies within the SEC (the Office of Whistleblower, the Office of the Investor Advocate, the Office of Credit Ratings, and the Office of Municipal Securities) and ensuring transfer of additional powers to SEC. One of the major misconceptions of the reform is only partial reform of credit rating agencies. Transfer of sovereignty over them, the SEC does not in itself solve the problems that create an incorrect classification of risk. A very superficial treatment of the problem complicates situation in the derivatives market and the process of securitization. During the discussion on the causes, course and consequences of the financial crisis, securitization was presented as the main "culprit" of the underestimation of risk, and thus the crisis. In fact, the populist polemic was confined only to the issue of systemic risk.

The remaining chapters implement the Consumer Financial Protection Bureau (CFPB) and introduce the Durbin that controls the charge for the use of debit cards. Also describe the conditions for the transfer of aid to financial institutions in difficulties.

The aim of the CFPB is to protect the consumer. Its activity is not, however, to be periodically assessed by the Congress or the Fed. Its tasks have been specified in the document too broad to allow this institution for effective fulfillment of its tasks. The Durbin Amendment distorts the market through introduction of the mechanism of self-determination and adjustment of prices. The establishment of support mechanisms creates certain expectations in the market that could lead once again to taking excessive risks in their business.

Even greater controversy arouses the discretionary way of Treasury to indicate and eventually provide funds to some systemically important institutions. However, such aid is inefficient and distorts the price mechanism.

The last important element is the order of selling shares and bonds. In this context, the role of Troubled Asset Relief Program was reduced and there was introduced the requirement of the Federal Housing Finance Agency to submit to Congress a report on its plans for financing investments related to the real estate market. In fact, the reduction of the role of TARP has enormous costs.

Without any doubt, the Dodd- Frank Act represents an ambitious legislative solution. The key question, however, is to what extent the institutional and regulatory changes that postulates the Dodd-Frank Act really solve problems after the financial crisis emergence. The answer to this question depends not only on our understanding of the nature and consequences of the regulation as such, but also on the existing consensus on the causes, course and consequences of the financial crisis. Some experts believe that the Dodd - Frank reform does not solve the problem of funding mortgages and other investments related to real estate market. In addition, attention is drawn to emphasize the role of insufficient capital buffers and a misunderstanding of the nature of the problem of systemic risk. We will go back to these issues after analyzing the solutions currently implemented in Europe, but it is worth stressing the importance of the rules of governing the institutions for the stability of the financial system and that the provisions for providing public back up as well as resolution mechanisms can in fact amplify the problems related to market failures (moral hazard and negative externalities), instead of solving them. It can be seen in the case of Fannie Mae and Freddie Mac. Both institutions were functioning in a similar way before the crisis and were backed up during the crisis. Another problem of the Dodd-Frank Act is related to the implementation of the Volcker Rule. The bank activities related to the real estate market do not cause itself financial crisis. Even after implementing the Dodd-Frank solutions, financial institutions will carry out such type of transactions even after the introduction of new regulations.

The last weak point is the one indicated by L. White (1997) in the book *Absence of a Tax on Size*. What does he mean by that? If the size of the financial institution (as measured by the amount of assets held) is understood as a social problem (because the size of these assets generates systemic effects). Then it should be analyzed in terms of the so-called paradigm of negative external effect. In microeconomic theory, we know that the best solution that can be implemented by the regulators in the case of a negative external effect is imposition of a tax on size. Of course, in this way, White wanted to draw our attention not only to rejected proposal of tax proportional to the size of the institution, but primarily, to a partial recognition of regulatory arrangements of the Dodd - Frank Act. It is impossible to fully present here a discussion on the merits of solutions introduced by the latest reform of the financial markets in the United States. In conclusion, it is worth mentioning that alternative proposals for reforming financial markets' structure was presented by Paulson half a year before the collapse of Lehman Brothers.

In contrast to the Dodd- Frank Act , the Paulson proposal does not put emphasize on the government agencies as a regulatory institutions. The Paulson was closer to the Hayek's idea that we should recognize some advantages of letting the market to order spontaneously. According to the Paulson proposal, the President Working Group (the PWGT) would be reformed and expanded, and it would consists of representatives of the Ministry of the Treasury , the Fed , the SEC and the CFTC. This agency should focus on the stability of the entire financial system , not only on the individual financial markets. The plan also payed more attention to the mortgage market . The author also advocated proposals for consolidation of the SEC and CFTC activities . Indeed, this is the item for which openly advocated Frank in 2011, and thus after the adoption of the reform in Congress. In this part of the work were presented challenges of both regulation of financial markets and the financial sector , as well as the most important aspects of the adopted reform in the United States . The next section will examine the financial regulation on the example of the Euro Zone.

#### **4. CHANGES IN THE INSTITUTIONAL AND REGULATORY ENVIRONMENT IN THE EURO ZONE**

**T**o be able to analyze the causes of the financial crisis, firstly we should look at the subprime market in the United States. The effects of the subprime crisis were severe in the U.S. but also in the other parts of the world, including the Euro Area. In this section we present the institutional and regulatory mechanisms introduced in the Euro Area and other measures that could be potentially undertaken. As it will be presented in the following part, the European institutional and regulatory changes have been affected by the solutions implemented in the United States but they were also adjusted taking into account different characteristics of the continent.

To analyze those institutional and regulatory changes in the Euro Area, firstly the most import points of the Larosière Group report will be presented as well as its relations with the Basel II and Basel III solutions and G20 recommendations.

In 2009, in the United States the details presented in the legislative act called the Dodd- Frank Reform were discussed. At the same time in Europe the need for comprehensive reform of the financial markets and the whole financial system was also discussed. One of the proposals was the so-called the de Larosière Rreport (2009). In the first part of the report the shortcomings of regulation during the crisis were examined. Among the most important ones, the de Larosière Group indicated: the capital requirements that put too much confidence on the ability of the banks to manage their risks and on the evolutions made

by the credit ratings, the problem of paying too little attention to liquidity problems, problems with estimating the exposure of financial institutions to risks related to the subprime market by the regulator, the lack of information on the leverage, relying on the microprudential supervision and underestimating the systemic risk.

In the paper, there is a clear distinction between financial markets regulation and financial supervision. The goal of regulation is to maintain the stability of the financial system and to protect customers of financial services. Supervision means to adjust the financial institution behavior to ensure their proper application of rules and standards. In practice, financial regulation and supervision are closely related to each other. In the de Larosière Report the basic proposals to change supervision and regulation in Europe were made. All proposals were collected into 3 groups:

- Proposals for reforming some of the important aspects of the current regulatory framework
- Proposals for removing regulatory gaps
- Micro and macro-prudential supervision

With regard to the first group, we should analyze primarily Basel II regulations, e.g. too low capital requirements; the problems of ratings agencies as well as internal risk assessment models. In the context of the existing regulation, the problem of procyclicality also appears. To reduce the procyclicality of regulation, inter alia banks should assess the risk using an approach based on the cycle. In practice, it means that they should create buffers dynamically, larger during the boom, so they can be used during the recessions. Such procedure is justified by the micro-prudential regulation. It would reduce the probability of getting bankrupt by the particular bank.

According to the recommendations included in the de Larosière Report, statistical and econometric models used in the risk assessment as well as accounting rules should be changed. Another difficulty that was emphasized in the de Larosière Report is the way liquidity is measured and in this context the Basel Committee recommendations shall be followed. Another extremely important thing is the introduction of a new strict rule regarding off-balance sheet structures as well as internal auditing and risk management. The de Larosière Group recommends also the revision of the way rating agencies are functioning. First of all, their activities shall be reviewed and even some of their activities shall be limited. According to the members of the Group, it is necessary to adopt the II Solvency Directive, related to insurances.

With regard to the second one, the regulatory gaps, the emphasis should be put on regulating the shadow banking system. In this context, the existing regulation shall be expanded to cover at least the systematically important institutions conducting financial activities. The transparency on the financial markets shall be also improved and

capital requirements shall be adjusted especially in the case of banks owning hedge funds. The greater transparency is also needed in the functioning of derivatives markets. In this context, it is crucial to simplify and standardize derivatives, to create a central chamber of auditors and to improve the governance of financial institutions.

The third issue that was covered in the de Larosière Report was related to the distinction between the microprudential and macroprudential policies and regulation. As it was previously emphasized regulation and supervision are mutually interdependent and reinforcing. The objective of macroprudential supervision is to reduce imbalances in the financial system as a whole. This issue will be analyzed in the next section with more details. At the end, it is worth mentioning that recommendations of the de Larosière Report supposed a basis for the rearrangement of institutional framework in the Euro Area, especially we can notice it in the creation of European Systemic Risk Board, the European Banking Authority, the European Insurance and Occupational Pensions Authority as well as the European Securities and Market Authority.

The European institutional framework was influenced by the U.S. one, for that reasons, all arguments presented in the third part of the article can also be applied to the Euro Area. Notwithstanding, one of the main elements that distinguishes the new U.S. institutional framework from the European one is the lack of financial institutions resolution mechanism in the case of Europe. This element was widely criticized by many international experts in the financial regulation and prudential policies, especially in the context of the recent proposals of the Banking Union creation. However, the ideas of Banking Union or even the Vienna Initiative, though important and very interesting, are out of the scope of this article.

Finally, as two economists Ch. Goodhart and T. Back emphasized, there is a need to establish a mechanism that would allow for resolution of financial institutions that threaten the stability of financial system, but the situation is getting even more complicated as the Euro Area is not homogeneous and all decisions that should be made by the members would necessarily transfer some political competences to the supranational institution. In fact, it is that element that arouses a great deal of controversy between the members. Notwithstanding, this is also out of the scope of this article as it all should be subjected to the further analysis of interdependencies that exist between politics and economics.

The last issue we would like to mention is the problem of systemic risk. Both the Dodd-Frank Act as well as the institutional framework introduced in the Euro Area based on the recommendations of the de Larosière Group is aimed to reduce also the systemic risk in the financial sector and real economy. The Dodd-Frank establishes the FSOC institution that has a power to indicate institutions that are

important from the point of view of the stability of the financial system as well as the ones that could be a potential threat to its stability.

Notwithstanding, the institutional changes introduced in the Dodd-Frank Act can create inappropriate expectation that the institutions indicated by the FSOC and FED are in fact too-big-too-fail. In the case of liquidity problems or even insolvency, there is a high probability that those institutions would be backed up by receiving public funds. In fact, it could exacerbate the problem of asymmetric information in the financial markets. This institutional and regulatory changes are not justified neither by the theory of market failure nor by the proposals presented by Hartman. Perhaps, however, it could be interpreted as a response to the certain temporal need justified rather by the political theory than the economic theory. And how the problem of systemic risk has been solved in the Euro Zone? Is the European systemic risk really similar to the U.S. systemic risk? The answer is negative. For that reason, all regulatory and institutional changes shall also be adjusted to the characteristics of the European financial system.

To depict this problem, let us consider the problem of banking sector in Spain. In the centre of the problem nobody would find too-big-to-fall interconnectividdness (too interconnected to fail). In the case of Spain, the problem was the existence of gaps in regulating savings institutions (esp. Cajas de Ahorros) and their relations with public sector. The problem is getting even more complicated if one notices that banks passed stress tests in 2008 and 2009. Taking into account not only those problems, but also a great deal of other questions and the multidimensionality of the concept of risk, there is a need to move to the macro-prudential policies and the idiosyncratic risk shall be treated only as a element of the wider systemic risk cube. Furthermore, we should also be aware of the margin of statistic errors that certain institutions provide to the regulator.

During the crisis, there is a great need to analyze carefully all theoretical and empirical aspects of risks, the way it could be measured and modeled as well as the potential proposals of policies that could mitigate the risk in the financial system. International institutions are extremely aware of that need and further indicators were prepared recently to evaluate risk, especially systemic risk in the markets. The good example is the Co-Var developed by Brunnermeier and Adrian from the University of Princeton. Of course it is not possible to analyze in depth the issue of systemic risk in the presented work and it was included just to emphasize the complexity of financial regulation and supervision issues.

In the fourth part, the most important elements of regulatory and institutional changes in the Euro Area were presented, including the main recommendations of the de Larosière Report, Basel II and Basel III as well the idea of Banking Union. There were also been indicated the institutions created to target main challenges of financial regulation

and policies, including the problem of systemic risk. The main conclusion of this part is a need for extending the analysis of risk in the Euro Area to include not only idiosyncratic risk but also the systematic component. In the broader sense, all risks shall be seen as a component of the systemic risk cube presented by Hartman.

## 5. THE ROLE OF THE CENTRAL BANK IN MAINTAINING THE STABILITY OF THE FINANCIAL SYSTEM

The concept of stability of the financial system repeatedly appeared in this paper, both in the context of the theory of market failure (such as the stability of the financial system as an example of a public good) as well as in the proposals for reform of the financial markets and supervision (Dodd-Frank Act, analysis of de Larosière Report and the institutional model later adopted in Europe inspired by this report).

The key questions asked by both theorists and practitioners (policy makers) are those related to the central bank's role in ensuring and maintaining the stability of the financial system and the relations between regulation and monetary policy. In a broader sense one should ask the question whether the central bank should monitor the prices of financial assets and treat appropriate indicators only as a source of additional information on the economy to maintain price and currency stability. On the contrary, it should actively work to counteract the formation of bubbles in asset markets (real estate market). The question boils down to the question raised in 2009 by W. White: *Should monetary policy 'lean or clear'?* The answer to the last of the questions is beyond the scope of this work. We focus instead on the analysis of the interactions between control (supervision of the financial and banking system) and the monetary policy.

The literature does not provide a clear answer to the question whether the central bank should take over the powers of supervision. On the one hand it points to increase the efficiency of decision-making, on the other hand, it draws attention to the problems of legitimacy (from the point of view of the theory of democracy). Likewise, in practice, combining both functions could bring both benefits and some losses. Because of a number of political issues, in that context many substantive arguments have been rejected. In the case of the US and Europe, the powers of the central banks were expanded, but the competences of supervision and monetary policy were not merged.

## 6. CONCLUSIONS

In this paper we have analyzed the most likely and the most desirable developments in financial markets (and in a broader sense, the most desirable regulation of the financial sector). Many of the issues we have been treated in a brief. The purpose of the essay was in fact signaling the most important issues of financial regulation and to highlight that finding the most desirable solutions are particularly difficult. These difficulties result from purely technical reasons (econometrics, statistics), the multi-dimensionality of the analyzed problems, but also some aspects of the methodology and philosophy under the current methodological approach for financial regulation.

It remains to express the hope that this essay will provide some kind of contribution to the further discussion of the nature, objectives and regulatory practices, as well as a thorough analysis of issues such as systemic risk if the relations that exist between economic and regulatory solutions.

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