Reforming EU and Global Financial Regulation: Crisis, Learning and Paradigm Shifts

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ABSTRACT

The global financial crisis that erupted in the summer of 2007 exposed the numerous flaws and fault lines of the pre-existing architecture of financial regulation and supervision. The dominant paradigm, one of light-touch regulation and loose coordination between regulators and standard-setters, along with the underlying assumptions and beliefs, was proved to be inadequate for dealing with systemic and stability issues, and, as a result, reform of financial regulation become one of the top priorities of public policy. This article uses Peter Hall's framework of social learning and paradigm change in public policy and applies it in the study of policy developments in financial regulation at the EU and global levels in the aftermath of the global financial crisis. In particular, it analyses the policy developments at both levels and investigates if the learning process triggered by the crisis have led not only to cognitive shifts and extensive reforms but also to the emergence of a regulatory paradigm, significantly different from the pre-existing in order to be characterized as "new" and in order for the result of the learning process to be characterized as a "paradigm shift".

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Introduction

The late-2000s global financial crisis or the "Great Recession" that was triggered by the bursting of the U.S. housing bubble, followed by the collapse of several large financial institutions and generalized downturns in stock markets around the world, has been characterized as the greatest crisis of the last century, and even as "the greatest crisis in the history of finance capitalism" (Turner Review, 2009, pp. 5). The repercussions of these events were wide-spread and led not only to the collapse of financial markets and institutions, but also to a sharp decline in industrial output growth, foreign trade flows and several macroeconomic indicators. Almost four years after the declaration of bankruptcy of Lehman Brothers on September 15, 2008 and the effects of the crisis are still evident at multiple levels.

After the first systemic events of the crisis, a wide debate concerning the causes and possible remedies was launched, including academics and other epistemic communities, politicians and policymakers, journalists and other qualified observers. Complex issues, economics terminology and statistics entered the daily coverage and discussion of the various phases and aspects of the crisis as it was escalating, reaching cataclysmic proportions.

Contemplating the origins, causes and triggers of the crisis, academic and policy research has highlighted a rather extensive list of failures that paved the road for what has been happening after the summer of 2008. Ample liquidity and rapid credit expansion, low interest rates in the U.S. and elsewhere that helped create the housing market bubble, mispricing of risk and excessive risk-taking, increasing levels of leverage, highly complex financial products and lack of the sufficient background in mathematics and statistics in order to properly assess the risk, emergence of a shadow banking system of significant size and little transparency; all are included in the list of triggers and vulnerabilities that contributed to the outbreak of the crisis (Carmassi, Gros & Micossi 2009, De LaRosiere 2009, Financial Crisis Inquiry Commission 2011, Financial Stability Forum 2008, Group of Thirty 2009, Group of Twenty 2009). Some rather unorthodox accounts of the crisis present it as a systemic failure of financial capitalism, as a product of the boom/bust cycle (Posner 2010), or as a failure of the efficient-market hypothesis (Fama 1970) and of the neoclassical theory to capture possible sources of instability, that is in a certain degree inherent in the financial system (Minsky 1977, Kindleberger 1978).

Apart from the vulnerabilities of the financial system and the inefficiencies of markets and economic actors, collectively characterized as market failures, a significant role has also been played by the obvious policy failures: in fact, the failure of an inadequate regulatory framework for banking and finance in the U.S. and other large jurisdictions as the E.U., and also at the global level. The interconnectedness between market failures and regulatory failures set the stage for the financial crisis that "emerged from an over-supply of financial innovation and under-supply of financial regulation" (Seabrooke & Tsingou, 2010, pp. 313). The Chairman of the Federal Reserve, Ben S. Bernanke, was one of the first policy-makers that pointed out the proved inadequateness of the existing regulatory framework, stressing the "need to reorient our supervisory approach and to strengthen our regulatory and legal framework to help prevent a recurrence of the events of the past two years" (2009). Two more key people in designing and implementing economic policy in the US, Timothy Geithner and Lawrence Summers, admitted that "our framework for financial regulation is riddled with gaps, weaknesses and jurisdictional overlaps, and suffers from an outdated conception of financial risk" (2009).

On the other side of the Atlantic, there were also voices calling for a rethinking of the existing regulatory architecture that proved to bear flaws that could not contain the economic damage. The Turner Review, published by the Financial Services Authority of the U.K. (2009), provided a review of the causes and 28 recommendations for redesigning financial regulation and supervision in order to enhance efficiency and stability. The De LaRosiere Report, issued by the European Commission (2009), stressed the need for reforms in regulation and supervision at the national, European and global levels and for stronger coordination between regulators both at the field of financial services regulation and at the field of prudential supervision. A similar rationale was adopted by supranational organizations that pushed for multi-lateral agreements on regulatory standards and for more coordination, especially in the field of prudential supervision (Basel Committee on Banking Supervision 2009, Financial Stability Forum 2008, Group of Twenty 2009, Group of Thirty 2009, International Monetary Fund 2009, World Bank 2009). Following that consensus reached by policymakers at regional and global levels, a series of extensive reforms in the regulatory architecture for finance and banking were designed and implemented, including changes in both the organizational structures and policy content.

This article shall put under the microscope the reforms of financial regulation at the EU and global levels following the global financial crisis and examine them through the theoretical lenses of learning and paradigm shifts in public policy. In more detail, it shall address the questions of whether the global financial crisis has functioned as a learning mechanism, stimulating reforms in financial regulation at the EU and global levels, and whether the regulatory reforms implemented through the policy learning process represent a shift from the pre-crisis dominant regulatory paradigms.

This topic is particularly interesting for three reasons. First, the flaws in the architecture of financial regulation have been an important cause for the financial crisis and, as a result, there was a wide consensus about the need for extensive reforms to organizational structure and policy content. Second, there was ample evidence that the pre-crisis dominant regulatory paradigms were built around theoretical assumption that overestimate the efficiency of the markets and needed to be replaced or radically revised. So, it would be expected that the reforms adopted and implemented would reflect a major break from the previous assumptions and views held by the regulators. Third, there has been important activity and efforts in order to promote financial regulation both at the EU and global level, and the efforts were intensified after the crisis. So, an overview of policy developments concerning financial regulation at both levels is interesting on its own.

The article aims to be at the same time academically interesting and policy relevant. Academically interesting as it contextualizes actual policy developments and tries to explain them through certain theoretical tools, and policy relevant as it deals with actual policy developments in a domain with great significance, especially after the financial crisis.

The article and the research it contains aims also to contribute to four strands of academic literature. The one on policy learning and policy paradigms, that has been renovated by the study of how policy is designed and implemented in jurisdictions such as the European Union. The burgeoning one on the reforms implemented in the regulation of finance and banking after the global financial crisis at various jurisdictions. The one on the role of financial crises (and other crises of courses) as learning mechanisms that prompt cognitive shifts and associated policy developments. And the one on the process of designing, implementing and assessing economic policy, and public policy more generally, at the global level and at certain jurisdictions, such as the European Union.

The first section of the article presents the analytical framework the research builds on, along with an overview of the literature concerning policy learning and policy paradigms, and the research design. The second and third sections present an overview of the regulatory reforms proposed and adopted at the EU and global levels at the aftermath of the financial crisis. The fourth section attempts to analyze the reforms through the theoretical lenses of learning and paradigm shifts in public policy. In the fifth section the main arguments of the research are presented along with directions for potential future research.

I. Analytical Framework and Research Design

This article applies the concepts of policy learning and policy paradigms in the study of financial regulatory reforms at the EU and global levels in the aftermath of the global financial crisis. Both concepts have attracted the interest of political scientists and political economists and have been used in the analysis of decisions in various areas of public policy. The notion of learning in the public policy process is a complex one, involving the dynamic interaction of individual and collective interests and bounded by parallel structures and processes. Dunlop & Radaelli (2011) define policy learning as an updating of beliefs about policies, including "the ideas that underpin them, their performance or the governance mechanisms and institutions of policymaking" (pp. 2).

The theoretical concept on policy learning is directly related with the literature on the interrelationship between ideas and policies (Hall 1997, Walsh 2000). Mark Blyth (1997) supported that the mechanism that incorporates ideas in the policymaking process is more or less opaque, similar to a "black box" whose inside cannot be completely understood by outside observers. Other researchers (see Berman, 1998) support that ideas do not have any impact by themselves in the making and change of public policy, but change the state of mind of politicians and policymakers and are thus incorporated into policy decisions and processes. Similar to these views are these of an important number of political scientists that present the policy-making process as the product of the interplay of three forces: ideas, interests and institutions (Blyth 1997, Lieberman 2002, Majone 2001), an opinion that has gained significant ground in the field of political science and political economy the last years. Despite that, this approach to the study of public policy still does not shed light to the inside of the "black box".

Several theories of learning have been presented in the literature and have enriched the study of politics and policy. May (1992) introduced the basic distinction between political learning and policy learning. Political learning, originally introduced by Heclo (1974), concerns the strategies and procedures employed within the political process in order to influence it in the direction of specific policy targets. Policy learning is distinguished by May in two forms: a) instrumental policy learning that is about the availability of the appropriate policy instruments that could be used in order to achieve specific policy goals, and b) social policy learning that is about the social construction of policy problems, the acceptability and efficiency of policy goals and the optimality of policy instruments. Other categories of learning were added to the former ones, including managerial learning, reflexive learning, thin learning and non-learning (May 1992). Other theories present learning as a product of reflexive governance (Sabatier & Weible 2007), study the role of epistemic communities in learning and policy change (Boswell 2008, Dunlop 2009, Haas 1992), treat learning as a product of bargaining and social interaction (Dunlop 2010, Waterman & Meier 1998) and focus on the institutional-organizational context in which learning processes take place, an approach also called "learning in the shadow of" (Borzel 2010, Scharpf 1988). For a more complete overview of the various theories on learning and typologies see Dunlop & Radaelli (2011) and Radaelli (2012), along with the bibliography and references included.

The other concept used in this article is that of the policy paradigm, developed as an application of Thomas Kuhn's concept on paradigms (1962) on the study of the interplay between ideas, institutions and interests engaged in political processes. A policy paradigm is defined as a "generally coherent complex of assumptions and principles, simplifying metaphors, and interpretive and explanatory discourses" (Carson, Burns & Calvo 2009, pp. 17). The concept has been used in many different setting and contexts in order to study large scale changes in public policy (Jenson 1989, Hall 1992, Coleman 1998, Burns 2008), and it is mostly treated as a socio-cognitive model that is used in order to study and understand issues and affairs that fall under the umbrella of public policy. Significant changes in policy are characterized as paradigm shifts, in a Kuhnian sense, especially when they take place in a context of generalized departure from past assumptions and principles and adoption of new ones. The majority of studies in policy paradigm shifts use historical institutionalism in order to identify past structures and trace the change process (Hall 1989, Steinmo et al. 1992).

Peter Hall presented a framework that uses both concepts of learning and policy paradigm, through the concept of "social learning" and the three orders of paradigm change in public policy he suggested, in a very influential article titled "Policy Paradigms, Social Learning and the State: The Case of Economic Policy Making in Britain" (1993). Hall uses and extends the "social policy learning" concept introduced by Heclo (1974), along with basic tools from the historical institutionalism literature, especially the notion of path dependency. The shift of a policy paradigm is defined as a fundamental change in the core assumptions and beliefs of policy makers regarding a particular policy area, involving a shift of "the framework of ideas and standards that specifies not only goals of policy and the kind of instruments that can be used to attain them, but also the very problems they are meant to be addressing" (Hall 1993, pp. 279). Based on that definition, Hall suggested three types or orders of policy change:

i. First order change, occurring when changes in the setting of existing policy instruments take place.

ii. Second order change, occurring when changes in the strategies and tactics used to attain particular policy goals (including the adoption of new instruments) take place.

iii. Third order change, occurring when changes in the hierarchy of the goals behind particular policies take place.

The first two orders of change constitute only incremental adjustments within the policymaking process in order to correct minor failures, without radical alterations. A first or second order change in policy usually takes place, according to Hall's framework, when existing policy instruments and techniques seem to be suboptimal for the attainment of certain policy goals, so adjustments in the mix of instruments and techniques are necessary in order for them to be used more efficiently. Third order change, on the other hand, represents a series of radical changes in the components of the policy process, including assumptions, goals, targets and instruments. A third order change can be described as a large-scale or wholesale change in policy, including changes in the ideational framework within which policy decisions are made and not limited to changes in individual parts or stages of the policy process. A change of that scale, according to Hall, is the equivalent of Kuhn's paradigm shift, as it suggests a radical (or even revolutionary) change in the ideas and practices employed by policymakers.

The next more important issue for the study of a paradigm shift in policy is the mechanism that leads to that shift. In Hall's article, this occurs through a process of "social learning", a process of using past experience and new information to adjust policy goals and techniques in order to better respond to current needs. The process bears similarities with that of "scientific learning", but tends to be more "sociological", given that it concerns wider struggles and shifts not only in the arena of experts and policymakers, but also in other arenas such as the public discourse and even politics (e.g. through elections that give power to a new government with ideas that reflect the need for a policy paradigm shift and willing to institute the new paradigm). According to Hall's framework, the power of the advocates of one paradigm to impose it over the advocates of the incumbent paradigm or of another competitive paradigm takes great importance, while this does not happen in the process of "scientific learning" where the shift is usually the result of changing assumptions and goals within certain policy circles. A second implication is that political decisions on which out of several conflicting opinions from experts to recognize as authoritative are critical. A third implication is that policy experimentation and policy failure occupy a significant role in the process of the shift between different paradigms.

When exogenous events create new data in a policy area, a formerly stable policy paradigm begins to become unstable, losing gradually its efficiency and credibility. The appearance of anomalies that cannot be solved within the terms of the paradigm leads to policy experimentation with new instruments and settings that might or might not be successful (a first or second order change, or both). If the experimentation and the subsequent adjustments are successful, the paradigm shall return to stability with the appropriate changes, therefore the paradigm evolves. But if the experimentation fails to cope with the anomalies and problems observed, the road for a change in paradigm opens. Since the existing paradigm becomes discredited, a struggle between ideas, scientific opinions and interests begins in order to advocate a new paradigm and to secure a privileged institutional position. The underlying ideational framework of policy changes, the new dominant ideas are composed in a new policy paradigm and the new paradigm is institutionalized through reforms and new legislation. Oliver & Pemberton (2004) modified Hall's framework, supporting that a new paradigm might be rejected and it shall open the road for more experimentation and new ideas in order for a paradigm that will answer to specific problems to emerge and replace the existing one(s).

This article shall use Hall's framework of learning and paradigm shift in public policy and shall apply it in the study of post-crisis reforms in financial regulation at the EU and global levels. Hall's original article applied his framework in the study of macroeconomic policymaking in Britain between 1970 and 1989, but noted that "such paradigms (as elaborate or forceful as the ones associated with macroeconomic policymaking) are most likely to be found in fields where policymaking involves some highly technical issues and a body of specialized knowledge pertaining to them" (Hall 1993, pp. 291). Oliver and Pemberton (2004) extended the scope of Halls' analysis, studying the evolution of economic policy in Britain throughout the 20th century. Recently, Hodson & Mabbett (2009) applied Hall's framework to the changes in economic policy in the United Kingdom in the aftermath of the global financial crisis. Financial regulation is a highly technical and complex policy area and its practice requires a significant body of specialized knowledge. Secondly, after the financial crisis and its vast consequences, a consensus for the need of a new regulatory paradigm emerged, going well beyond the epistemic communities and circles of policy experts and encompassing advocates of different, and occasionally even opposing, ideas and interests. Consequently, the processes of learning and paradigm change in financial regulation can be studied using Hall's framework of learning and the three orders of policy change.

The two research questions this article shall attempt to address are:

i. Has the global financial crisis initiated a learning process on the area of financial regulation at the EU and global levels?

ii. Do the reforms and policy changes in financial regulation at the EU and global levels represent a shift towards a new paradigm?

To the research design of the article the global financial crisis is the antecedent variable linking the statuses of financial regulation at the EU and global levels prior and after the outbreak of the crisis in 2007-2008. The dependent variable is made up by the changes in the regulation of finance at the EU and global levels after the crisis, including legislation and policy coordination. The causal mechanism is the process of learning and the independent variables are competing ideas and regulatory paradigms. The questions presented above shall be formulated into two hypotheses, the validity of which shall be tested in order to get answers to questions. The hypotheses that shall be tested are as follows:

i. H_{a0}: If this hypothesis is correct, the global financial crisis has triggered a process of policy learning within the policymakers of financial regulation at the EU and global levels, that was translated into policy change and reforms.

ii. H_{b0}: If this hypothesis is correct, through the process of learning, triggered by the global financial crisis, the reforms implemented in financial regulation represent a paradigm shift, therefore a change of third order according to Hall's framework.

Methodologically, the article uses the study of the developments at the particular levels of regulatory policymaking, the EU and the global level, as case studies. The empirical evidence was collected through systematic survey of primary (official policy documents, press releases etc.) and secondary sources (press coverage, interviews of policymakers etc.), in order to cross-check data between the different sources and produce more sound results.

II. The post-Crisis status of Financial Regulation in the EU

The global financial that erupted in the summer of 2007 and exposed a series of fault-lines in the architectures for financial regulation and prudential supervision of numerous developed countries around the world, could not leave the European Union area intact. Several large financial institutions were severely hit, with some of them needing government rescue and others downsizing operations in order not to collapse. IKB Deutsche Industriebank, Northern Rock, Royal Bank of Scotland and Fortis were only the most known cases. The European Central Bank had to step in, accepting write-downs of hundreds of billions euros on securities and loans by Euro area banks, providing significant sums for short-term liquidity of financial institutions and lowering the interest rates. Political leaders also recognized early the shortfalls of the existing regulatory paradigm and framework, or as the French President, Mr. Nicolas Sarkozy, phrased it "The idea of the all-powerful market that must not be constrained by any rules, by any political intervention, was mad. The idea that markets were always right was mad" (September 25, 2008). German Chancellor, Ms. Angela Merkel, also highlighted the need for tighter regulation and financial policy coordination, arguing that "The excesses on the financial markets have now shown us the kind of damage that can occur when such guidance is missing on the international level" (G20 Summit, November 2008).

The catalyst for financial reform in the EU was the De Larosiere Report, published in February 25 2009 by the special high level group created by the European Commission and chaired by Jacques De Larosiere. The report reviewed the status of financial regulation in the EU and the flaws exposed by the financial crisis and proposed a new architecture for financial regulation and supervision, based on three-tiers of control. Prior to the crisis, financial regulation within the EU was structured according to the proposals of the Committee of Wise Men chaired by Alexandre Lamfalussy, included in a report published in 2001 that was adopted by the European Parliament on February 5 2002. The Lamfalussy Process, as it has been called, included a four-level regulatory approach that works as follows:

i. Level 1 included legislative acts, namely Directives or Regulations, proposed by the European Commission following consultation with all interested parties and adopted by the Council and the European Parliament.

ii. Level 2 included the assistance of the Level 2 Committees (European Securities Committee, European Banking Committee, European Insurance and Occupational Pensions Committee) towards the Commission in adopting the relevant implementing measures.

iii. Level 3 included the implementation of Level 1 and 2 acts in the Member States, with the Level 3 Committees (Committee of European Securities Regulators, Committee of European Banking Supervisors, Committee of European Insurance and Occupational Pension Supervisors) providing guidelines and regulatory standards.

iv. Level 4, finally, included the enforcement of Community Law by the Commission.

The De Larosière Report identified several flaws in the existing architecture for financial regulation, including the lack of adequate macro-prudential supervision, the lack of cooperation between different supervisors, the lack of harmonization of regulatory standards, the lack of consistent implementation of Directives within the Member States, the lack of processes for joint decisions between the different supervisors and the lack of early-warning mechanisms and agreed methodologies for assessing risk. The Report also proposed a new regulatory structure that would enhance coordination and consistency in the structure itself, between macro and micro-prudential supervision, in crisis management and in standards applied in Member States (Black 2010). According to that, the European Central Bank undertakes a more active role in macro-prudential supervision, through the creation of a new body, the European Systemic Risk Board (ESRB) established on December 16 2010 (Regulation No. 1092/2010 of the European Parliament and the European Council), that would monitor and assess potential sources of systemic risk that threaten the stability of the financial system as a whole and would provide early warning of systemic risks and recommendation on how to deal with these risks.

The European System of Financial Supervisors (ESFS) was established as a network of regulators and micro-prudential supervisors. The Level 3 Committees of the Lamfalussy Process were replaced by the new European Supervisory Authorities (ESAs): a) the European Securities and Markets Authority (ESMA, established by Regulation No. 1095/2010 of the European Parliament and of the Council), responsible for regulating securities and other financial services, preserving transparency and protecting the consumers, b) the European Banking Authority (EBA, established by Regulation No. 1093/2010 of the European Parliament and of the Council), responsible for supervising banks, protecting depositors and investors and preserving the stability of the financial system, and the c) European Insurance and Occupational Pensions Authority (EIOPA, established by Regulation No. 1094/2010 of the European Parliament and of the Council), responsible for protecting policyholders, pension scheme members and beneficiaries. The three ESAs' tasks include legally binding mediation between national supervisors (the third level supervisors of the new structure that preserve the responsibility for day-to-day supervision), the adoption of binding regulatory standards and technical decisions, the oversight and coordination of colleges and networks of supervisors (especially for dealing with multinational financial institutions) and the coordination of crisis management measures (ICFR, November 2009).

Apart from restructuring the regulatory architecture, reform efforts in other areas of financial regulation have not been lesser in importance. Areas such as capital requirements, cross-border crisis management and resolution regimes for mega-banks, OTC derivatives, credit rating agencies, alternative investment funds and remuneration practices have been in the epicenter of the interest and reform efforts of EU policymakers. An overview of the developments in these areas shall follow to offer a clearer view on the topic.

In the area of capital requirements, the Directives 2009/111/EU and 2009/83/EU amended the Capital Requirements Directive (CRD II) revised the definition of capital tiers and the large exposures regimes and toughened the rules regarding securitization. Directive 2010/76/EU introduced the third revision of the Capital Requirements Directive (CRD III) imposing increased due diligence and disclosure requirements relating to securitization activity, changing VaR calculations and introducing tough rules to the structure and amount of remuneration. In July 2011 a draft proposal for a Directive on prudential requirements for credit institutions and investment firms (known as CRD IV) was presented, implementing the framework of Basel III and making a number of amendments and revisions to the CRD I, II and III directives, including a revision of the nature and structure of capital, stronger capital requirements, introduction of an unweighted leverage ratio and a moveable capital buffer range above the minimum requirements. Amendments, revisions and guidelines for better implementation of the Directives were issued by the European Banking Authority (Recommendation of the creation and supervisory oversight of temporary capital buffers to restore market confidence, December 2011) and the Committee of European Banking Supervisors (Implementation guidelines for hybrid capital instruments, December 2009 and Implementation guidelines for core Tier 1 instruments, June 2010).

Dealing with cross-border crises, especially those related with the collapse of large and complex or systemically important financial institutions (LCFIs or SIFIs) was not a priority of EU financial regulation prior to the crisis. On October 2010 the Commission published the Communication on an EU framework for crisis management in the financial sector, outlining the intended policy on crisis management and resolution, based on an earlier document and the relevant consultation process (Communication on an EU framework for cross border crisis management in the banking sector, October 2009). On January 2011 a document with technical details of the proposed framework was published. The framework comprises three types of measures: preparatory-preventative, early supervisory and resolution measures, with emphasis on cross-border cooperation and coordination for dealing with multinational financial institutions. The technical details document included requirements for institutions to prepare recovery and resolution plans, resolution tools (such as sale of business, bridge bank, asset separation and debt conversion), resolution triggers (capital and insolvency tests) and approaches to bail-in debt and living wills resolution regimes. The

Commission also published a Communication on Bank Resolution Funds on May 2010, proposing an EU network of bank resolution funds which would be used to manage bank failure and orderly resolution, in order to protect financial stability and limit contagion.

On September 2010, the Commission published the Proposal for a regulation on OTC derivatives, also known as the European Market Infrastructure Regulation (EMIR). The main proposals covered a procedure for assessing the eligibility of a class of OTC derivatives contracts for mandatory clearing, guidelines for information reporting and clearing obligations on non-financial firms, a framework of common requirements for central counterparties (CCPs), a series of proposals for tackling the fragmented nature of European cross-border trading, and other measures. A series of proposals regarding the regulation of short-selling (Proposal for a regulation on short-selling September 2010) and of credit default swaps (Final agreed text for a regulation on short selling and certain aspects of credit default swaps, November 2011), along with consultation papers prepared by the ESMA (ESMA consultation on draft technical standards on the regulation on short selling, January 2012 and ESMA consultation on draft technical advice on possible delegated acts concerning the regulation on short selling, February 2012) were published, proposing greater transparency of credit default swaps and short-selling, the reduction of settlement risk on short sales and the right of Member States to impose temporary restrictions or bans on short selling and credit default swaps in order to reduce systemic risk and preserve financial stability and market integrity. Finally, a series of revisions in the Markets in Financial Instruments Directive of 2007 were needed to include the developments in the OTC derivatives and enhance the efficiency and transparency of financial markets (Consultation on the MiFID Directive Review, December 2010, Directive on MiFID repealing Directive 2004/39/EC, October 2011 and Regulation in Financial Instruments, October 2011).

Credit Rating Agencies (CRAs) are another area that had not attracted EU policymakers' attention prior to the crisis. When there was enough evidence that the unrestricted operation of CRAs was vulnerability for the financial system and markets, regulators started dealing seriously with the issue trying to formulate sound policies. On November 2008 the Commission adopted a proposal for the regulation of CRAs and a year later, on November 2009, the Regulation No 1060/2009 of the European Parliament and of the

Council on credit rating agencies was adopted. It was later amended on June 2010 and on June 2011. The rules adopted included the inability of CRAs to provide advisory services, their inability to rate financial instruments if they do not have sufficient quality information, their obligation to disclose the models, methodologies and key assumptions on which they base their ratings, to differentiate the rating of more complex financial products, to publish an annual transparency report and to create an internal function to review the quality of ratings. The amendments focused on reforming corporate governance in financial institutions (better functioning of boards of financial institutions, establishment of a risk culture within the institutions, more involvement of shareholders, financial supervisors and external auditors in corporate governance matters, remuneration packages that do not encourage excessive risk-taking), on the registration of CRAs (with the ESMA being responsible for the rules and procedures of registration), on the conduct of business (independence and integrity of the rating process, increased quality of the ratings issued) and on the supervision of CRAs (with the ESMA being responsible for supervising the CRAs registered in the EU and for enforcing the rules even by imposing administrative sanctions, fines and periodic penalty payments).

The European Commission presented on July 21, 2011 the Directive of the European Parliament and of the Council on Alternative Investment Fund Managers (AIFM), entered into force on 21 July 2011 and to be implemented in Member State law by July 22, 2013. The AIFM Directive was the first effort to regulate AIFM (including private equity and hedge funds) within the European Union. The regulatory framework included measures on authorizing AIFMs, marketing and passporting both for EU and non-EU AIFMs, the obligation of each AIFM to appoint a single depository for each Alternative Investment Fund it manages, the obligation to provide investors with a minimum level of services and information, specific requirements on the use of leverage at the fund level and for acquiring control of stakes in companies, conduct of business requirements, capital requirements, remuneration requirements and organizational requirements. The ESMA published two relevant documents, one technical document on possible implementing measures (November 2011) and one discussion paper on key concepts of the AIFM Directive and types of AIFMs (February 2012). The ESMA was given broad responsibilities over AIFMs, including authorization and supervision of AIFMs and occasional reviewing of the implementation of the legislation and technical standards.

On the area of remuneration and executive compensation, both the Commission and the European Banking Authority were active, by legislating and issuing guidelines and standards respectively. The Capital Requirements Directive III - Directive 2010/76/EU was approved by the Commission on July 2009 and was adopted by the European Parliament and Council on November 24, 2010. In the directives key features were included, among others, provisions for the consistency of remuneration practices with sound and effective risk management, for the responsibility of firms for the design and application of their remuneration practices, amendments related to bonuses and bonus-like pensions, and special rules for banks and financial institutions that have received government support. Later, with the publishing of the CRD IV Directive, important amendments to remuneration rules were included, such as the obligation for public disclosure of staff that impacts the institution's risk profile and the restrictions on remuneration and pension benefits for institutions whose capital falls below the capital buffers set by CRD III and CRD IV. The EBA has issued a series of guidelines and standards for remuneration policies, based on CRD III (and later on CRD IV) requirements (Final guidelines on remuneration policies and practices, December 2010, Draft guidelines on the remuneration benchmarking exercise, July 2011, Follow-up review of banks' transparency in their 2010 Pillar 3 reports, October 2011).

III. The post-Crisis status of Global Financial Regulation

Since the global financial crisis erupted in the summer of 2007, significant efforts for tougher regulation and increased coordination at the global level have been made. The restructuring of the global regulatory regime is still under development, as a dynamic procedure, but until now it has paved the way for a new architecture of global financial regulation to emerge. Policy changes have been implemented both at structural arrangements, coordination arrangements and policy content.

Perhaps the most significant change has been the emergence of the Financial Stability Board (FSB) from the Financial Stability Forum (FSF), with wider membership (including the G20 countries and the European Commission) that offers it greater legitimacy as a regulating and standard-setting body, and more responsibilities, including the oversight of the financial system, the coordination of regulators and the monitoring, assessment and enforcement of the implementation of regulatory standards.

The centralization of policymaking authorities to a single body was considered to be critical for changing the whole landscape of global financial regulation. Despite that, the FSB is in ambiguous position, due to conflicting interests of the countries that participate, difficulties in overseeing the whole financial system and lack of resources and capacities to implement effectively its decisions (Black 2010, Schinasi & Truman 2010).

The International Monetary Fund (IMF) also has seen its institutional position in the regulation of finance at the global level growing stronger after the crisis. It has been already active in the field of financial regulation through its Financial Sector Assessment Program (FSAP), an assessment of the financial stability in each participating country. In 2010 the Fund reviewed its mandate, suggesting it could act as a global systemic risk and macro-prudential supervisor, while high officials started contributing at the public debate with policy proposals regarding regulatory affairs, such as taxation of the financial sector (Cottarelli, 2010) and emphasizing the IMF's capacities for undertaking regulatory responsibilities ("the Fund is well positioned to lead on financial sector issues", Moghadam in IMF, 2010). Through extending the FSAP and integrating it with economic surveillance, the Fund showcased its readiness to be more actively involved in global financial regulation. However, there exist several constraints to that, as the IMF's legal and organizational structure limit its field of action in bilateral relationships and do not permit it to operate multilaterally as a system-wide coordinator or to engage with private sector actors (Black, 2010, pp. 28). Furthermore, its mandate lacks of formal powers to enforce regulatory standards on entities such as multinational financial institutions.

The G20 is another institution that has significantly increased its power in the field of financial regulation in the aftermath of the crisis. Using strategically its privileged position in the architecture for global economic governance, it launched immediately after the outbreak of the crisis a series of initiatives. In the G20 Summits that took place since 2008, global financial regulation has been high in the agenda, while at the same time through the inclusion of more countries the G20 has been promoting more coordination and regulatory convergence. The results of these efforts have been varying, from successful implementation of guidelines in national legislation to abandoned proposals (Veron 2012), and are also dependent on the entities that were entrusted with the implementation of G20's financial regulation initiatives (Rottier & Veron 2010).

The Basel Committee on Banking Supervision (or Basel Committee) has been the main authority for banking supervision at the global level, and has displayed significant activity after the crisis. It has developed a reform programme to address the lessons of the crisis, focusing on stronger micro-prudential regulation, to raise the resilience of institutions, and on macro-prudential supervision, addressing system wide risks (Basel Committee, 2010). On July 2009 and on June 2010 the Basel Committee revised partially the Basel II framework, with emphasis on the capital requirements of the three pillars, the framework for risk assessment and the framework for computing capital for incremental risk. On December 2010 the document "A global regulatory framework for more resilient banks and banking systems" (or Basel III) was published, introducing a series of key changes in the nature and structure of capital, in the definition of capital tiers, in capital requirements for financial institutions, stronger capital requirements for counterparty credit risk exposures, the introduction of a capital conservation buffer and the introduction of a countercyclical capital buffer. Explanatory and complementary documents were published later, including a consultative document on the definitions of capital disclosure requirements (December 2011), frequently asked questions on implementation monitoring (October 2011) and counterparty credit risk (November 2011). The Basel Committee also issued guidelines on liquidity management, standards and monitoring (December 2010) and principles for remuneration standards and corporate governance (Principles for enhancing Corporate Governance, October 2010, Compensation principles and standards assessment methodology, January 2010, Basel Committee report on methodologies for risk and performance alignment of remuneration, May 2011, Pillar 3 disclosure requirements for remuneration, July 2011).

The FSB, the IMF, the Basel Committee and the Bank for International Settlements (BIS) have issued a series of guidelines, recommendations and methodologies for dealing with LCFIs or SIFIs or "too-big-to-fail" institutions, using five categories of "largeness" measurement: size, interconnectedness, lack of substitutability, global activity and complexity (Basel Committee and FSB, Global systemically important banks: Assessment methodology and the additional loss absorbency requirement – final document, November 2011). The FSB proposed measures for effective supervision (with IMF, November 2010) and resolution regimes for systemically important financial institutions (October 2011).

Another policy battlefront that has received a lot of attention by global regulatory and standard-setting bodies has been that of derivatives. The Declaration of the G20 Seoul Summit, on October 2010, highlighted the commitment of the G20 in promoting the standardization and resilience of credit derivatives markets. The FSB published a document on the implementation of OTC derivatives market reform (October 2010), presenting 21 recommendations in relation to standardization, central clearing, exchange trading and reporting to trade repositories, and two progress reports on implementation (April 2011 and October 2011). Two international associations of regulators, the International Organization of Securities Commissions (IOSCO) and the Committee on Payment and Settlement Systems (CPSS), presented a review of pre-crisis standards for systemically important payment systems and securities settlement systems (Principles for financial market infrastructures-Consultation, March 2011). Earlier, on May 2010, they presented a joint proposal on regulating OTC derivatives and encouraging use of trade repositories (Guidance on the application of the 2004 Recommendations for Central Counterparties to OTC derivatives, and Considerations for trade repositories in OTC derivatives markets, May 2010). Finally, the Basel Committee issued two consultative documents, the first being a set of rules for exposures to a capital counterparty arising as a result of financial derivatives, repos/reverse repos and specialist lending and borrowing transactions (Capitalisation of bank exposures to central counterparties – second consultative document, November 2011) and one on the valuation of derivatives and other securities (Application of own credit risk adjustments to derivatives – consultative document, December 2011).

IV. Crisis-induced learning and change of paradigm

From the overview of the organizational restructuring, policy reforms and legislative changes that were implemented in the financial regulation frameworks at the EU and the global levels after the global financial crisis, it is evident that the pre-existing regulatory structures and strategies were not adequate enough for tackling the challenges posed by the post-crisis era. Following Hall's framework for learning and paradigm change in policy, changes of first and second order have occurred and are still occurring, as the events that followed the collapse of Lehman Brothers exposed the numerous fault lines and failures of the pre-existing regulatory architecture.

However, to investigate whether the policy developments in the field of financial regulation represent a paradigm shift or a third order change, a closer look at the underlying ideational framework that, translated into regulatory paradigms, shapes policy is necessary.

Prior to the global financial crisis, the dominant regulatory paradigm was one of light-touch and principles-based regulation, with a significant portion of self-regulation. Since 1980, the increasing trend for liberalization of financial services and the lax prudential supervision, fueled by the almost unanimous adoption of the "efficient market" hypothesis within policymaking circles, had led the majority of regulators, politicians and academics to disregard the various sources of instability and risk that are inherent in the financial markets. A variety of soft-law bodies and contradictory policy targets, along with lack of provisions for stability and cross-border crisis management, composed the pre-crisis architecture for global financial regulation (Avgouleas 2012). At the same time, in the EU the primary task was the completion of the Single Market in Financial Services, transposing techniques and methodologies from the U.S., instead of shaping a "European" regulatory approach that would be active in the management of financial globalization (Posner & Veron, 2010).

In the arena of politics and public discourse, ideas opposing the existing regulatory structures and approaches started gaining ground quickly. Statements of key individuals in the design of economic policy, such as Ben S. Bernanke, Timothy Geithner, Lawrence Summers and Nicholas Sarkozy, talking about the inadequacy of existing regulatory framework to tackle with the multiple problems in the financial markets and institutions, showed that a gradual shift towards a different perspective on the regulation of markets is occurring. Regulating and standard-setting authorities, such as the European Commission and the Basel Committee, along with forums on economic policymaking like the G20, started discussing on the regulatory failures that did not contain the turmoil and adopting extensive reform programs at the structure and content of financial regulation (see sections II and III of the current article). At the same time, academics and other experienced economists started talking, writing and publishing extensively about the unsustainability of the existing regulatory models and the need for new thinking and interdisciplinary approaches to economic policy in general and to financial regulation and supervision in particular (Acharya & Richardson (eds.) 2009, Stiglitz 2010, Posner 2009, 2010, Rajan 2010).

Quaglia (2010), using Sabatier's advocacy coalition framework (Sabatier 1998), argued that although the EU has reformed significantly the architecture for financial regulation, it is however far from declaring a paradigm change. Two main coalitions exist in Europe, comprising politicians, policymakers and private interests, the market-making and the market-shaping one. Prior to the crisis, the first has been driving policy developments towards the direction of light-touch regulation. The crisis changed the policy environment and triggered a learning process for both coalitions, leading to a realignment of interests and ideas and to many agents (policymakers and economic interests) moving from the market-making to the market-shaping coalition that has gained significant influence in the EU policymaking arenas. The momentum has been clearly in favor of the market-shaping coalition, imposing a series of reforms in the regulation of financial services, but, as Quaglia supports, a fully-fledged paradigm shift has not occurred, since the reforms "failed to address key regulatory issues concerning banking, focusing instead on the regulation of financial activities that were not at the centre of the crisis."(Quaglia, 2010, pp. 15).

Contrary to Quaglia, Posner (2010) supported that a new European model of financial regulation is emerging from the crisis. Instead of copying and adjusting practices from the U.S., the European Commission is now setting its own standards in risk management and the supervision of financial markets and institutions. "EU policymakers are likely winning first-mover advantages in setting the rules of cross-border finance and the techniques of sovereignty-sharing" Posner mentions (pp. 117), although he expresses doubts on whether this shift shall continue until it gains a central institutional position in the global architecture for financial regulation.

Paying attention in the content of regulatory reforms at the EU level, one should be able to understand that the changes were focused in the area of financial services, and more precisely on the re-regulation of credit rating agencies, derivatives and alternative investment funds. An ideational shift strengthened the willing of both EU institutions and Member States to tighten the rules, with the latters also attempting to impose European rules on transatlantic financial transactions (McCreevy 2009) and a different variety of financial capitalism over that of the U.S. and the U.K. (Pagliari, forthcoming). What misses from the reform program implemented in order to be characterized as a paradigm shift, is "systemic thinking", the lack of which is evident from the limited efforts in the area of banking regulation and prudential supervision. Despite the creation of the ESRB and the developments in issues like capital requirements and remuneration practices, the EU was reluctant to undertake initiatives such as the much discussed Tobin-type tax on financial transactions and the separation of banking activities (Avgouleas 2011), measures included in the Dodd–Frank Wall Street Reform and Consumer Protection Act, passed in the U.S. Although these issues are still on debate (Masciandaro & Passarelli 2012), it is unlikely that they would be adopted by the EU. Consequently, a first estimation on the status of financial regulation in the EU after the crisis is that, according to Hall's framework, changes of first and second order have occurred, including organizational restructuring and policy content reforms, after a learning process triggered by the financial crisis and the exposure of the flaws of the pre-existing regulatory architecture (so the H_{a0} hypothesis that was formulated in Section II of the current article is accepted). Despite that fact, there is still no conviction on the academic and policy debate about a paradigm shift or a wholesale policy change in EU financial regulation (Buckley & Howarth 2010), as radical steps towards the establishment of a new paradigm have not been made until new at the EU level (so the H_{b0} hypothesis that was formulated in Section II is rejected).

Moving to the global level of financial regulation, there is also significant reform activity in the aftermath of the global financial crisis and with the primary goal of restoring stability in the markets. Emphasis has been given on policy coordination and convergence in regulatory standards, given the privileged institutional position of the G20 and the IMF in global economic governance and their active involvement with financial regulation following the outbreak of the crisis. Especially the G20 Summits that took place after 2007, have importantly facilitated the shaping of a consensus between leaders on the need for global regulatory reform, engaging epistemic communities and institutions as the IMF and the FSB in the design and implementation of reforms. Through the G20 Summits, much attention has been devoted to the regulation of banking (capital requirements, liquidity management, risk assessment, securitization, off-balance sheet activities etc.). The FSB, almost right after its establishment as the successor of the Financial Stability Forum, was delegated with the task of preparing, in collaboration with the IMF, early warning indicators for systemic-wide risks and supporting the creation of supervisory colleges for all major cross-border financial institutions (Helleiner & Pagliari 2010).

The IMF also empowered its position, undertaking regulatory initiatives to the point that they are not in conflict with its mandate, but is in deep for deeper reforms in its structure, technical and policy advice and in its role within international monetary and financial cooperation (Lombardi, Pagliari & Thistlethwaite 2008), while participatory reform and new procedures are crucial for reconfiguring its position within the global architecture for economic governance (Schinasi & Veron 2010). The FSB should open the debate on financial regulation and include as much countries as possible, in order to achieve legitimacy, and it "must focus its efforts on sponsoring the adoption of new international supervisory and regulatory standards that improve the ability to assess, monitor, and hopefully maintain systemic financial stability in addition to the safety and soundness of financial institutions" (Schinasi & Veron 2010, pp. 36).

Assessing the efforts towards regulatory reform at the global level since the global financial crisis started, a general trend towards regulation and re-regulation (where there was lack of and where what existed was not sufficient respectively) is observable. Important steps towards more coordination and harmonization of standards and policies have been made, but there are limits posed by the inherent difficulty of coordination, the inability to create a global financial regulator and the still omnipresent national and regional preferences that are an obstacle in implementing regulatory standards designed at the global level (Black 2010). Important challenges remain to be tackled, including the need for a sound framework for cross-border crisis management, the lack of consensus on macro-prudential approaches, the need for a coherent framework for regulating multinational financial firms and managing a possible resolution, and the still existing regulatory fragmentation that poses difficulties in the implementation of standards (Veron 2012). The global financial crisis triggered a learning process in the main bodies and institutions for global financial regulation, driving reforms in structure and policy content (the H_{a0} hypothesis is accepted). Although a paradigm shift takes time, especially in a highly complex area like financial regulation (Zimmermann 2010), the significant progress that already has occurred at multiple levels, makes reasonable the assumption that a shift towards a paradigm characterized by more coordination, new regulatory standards and more participation in order to enhance legitimacy of policy decisions is currently underway. Therefore, the H_{b0} hypothesis from Section II is partially verified, given that ongoing developments shall verify the emergence of a new paradigm.

V. Conclusions

Studying the policy developments related to financial regulation at the global level and at the level of an important supranational jurisdiction, such as the European Union, is a difficult and at the same time interesting task. The global financial crisis that erupted in the summer of 2007 has renovated the interest in financial regulatory reform and the process behind it, including the interplay of ideas and interests and the cognitive framework through which policymakers reconsider their assumptions and beliefs about the various components of the financial system and how they should be regulated and supervised. The financial crisis acted as an exogenous shock that triggered a process of adaptive learning within the circles of regulators and policymakers, leading them to reshape their policy preferences and priorities and to adopt and implement a series of reforms, including structural rearrangements and changes in policy content.

The article used the framework of social learning and policy paradigm change that Peter Hall proposed (1993) and applied it to the developments in EU and global financial regulation in the aftermath of the crisis. At both levels, the EU and the global, the financial crisis exposed the flaws in the design of the regulatory architecture and made the pre-existing regulatory paradigms unstable, triggering a process of learning and experimentation with new instruments and settings. At both levels, changes of first and second order occurred, changing significantly the landscape of financial regulation. However, only at the global level the changes were accompanied by an ideational shift of such importance that represents a major break from the past and the gradual emergence of a new paradigm. At the EU level, on the other hand, significant changes were adopted and implemented but focused on the re-regulation of financial services instead of encompassing a more radical program of reforms, with systemic issues being a priority.

More research has to be done in the same issues, as the dynamic developments in the area of financial regulation change constantly the landscape. It is crucial to engage policymakers and regulators in the research activities, in order to reveal important information on how cognitive frameworks shape their policy preferences and choices (e.g. through a series of semi-structured interviews), while at the same time a closer look at the individual reforms and incremental changes that collectively compose a new policy paradigm is necessary and should attract the attention of researchers.

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