

Chapter 1

**REGULATORY GOVERNANCE AND
THE REGULATORY FRAMEWORK FOR
SAFEGUARDING FINANCIAL STABILITY**

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ABSTRACT

The financial crisis of 2007-09 revealed several flaws in the regulatory frameworks across the world. While there is a consensus on the need for regulatory reform, the focus of such a reform is much less clear. This paper argues that the improvement of regulatory governance arrangements should be a key building block of financial reform since the current framework lacks the ability to guard supervisors from being influenced by the financial sector as well as political interference. After contrasting two complementary theories of bank regulation – the helping and grabbing hand view – we thus make a case for regulatory governance. First, we explain the key characteristics of this institutional aspect of bank regulation. Second, we systematize empirical studies examining the effects of good regulatory governance on financial sector performance. The evidence surveyed indicates that regulatory governance can indeed have an influence on financial stability. Nevertheless, more robust evidence for supporting the view that good regulatory governance has positive effects on financial stability is needed. Finally, we touch upon the issue of whether placing bank regulation inside an independent

central bank creates a better institutional environment for safeguarding financial stability.

Keywords: Bank Regulation, Financial Stability, Governance, Institutions, Central Banks, JEL Classification Code: G21, G28, L51, E58.

1. INTRODUCTION

“Political interference is the Achilles’ heel of any regulatory system.” During the financial crisis of 2007-09 this quote from Honohan (1997) was impressively confirmed. By now, the origins of the financial crisis of 2007-09 are well understood – with regulatory shortcomings put at center stage (see Wagner, 2010). While macroeconomic causes comprise the build-up of imbalances in international claims and difficulties related to the long period of low real interest rates, the microeconomic origins consist of flawed incentives, failures of risk measurement and management and particularly regulatory failures (BIS, 2010).

As regards regulation and supervision, systemic repercussions due to the failure of non-banks as well as the systemic risks entailed by the interaction between regulated and unregulated institutions, financial activities and markets were not appropriately recognized. Furthermore, regulatory authorities did not have sufficient powers to limit the build-up of highly concentrated credit risk in unregulated entities, and market discipline was not sufficient in terms of constraining excessive risk-taking. Closely related to this, regulatory arbitrage has not been addressed properly so that financial institutions shifted their business into unregulated or lightly regulated sectors (Carvajal et al., 2009).

Many commentators view governance failures as a key contributing factor to the global financial crisis. The evidence provided by Levine (2010) indicates that regulatory agencies apparently were aware of the build-up of risk in the financial sector associated with their policies, but chose not to modify those policies. Mian et al. (2010) lend support to this finding by showing that vested interests influenced the financial sector policy-making of the US government in the wake of the financial crisis. Buiters (2008) argues that “cognitive regulatory capture” of the Federal Reserve by the financial industry led to a policy stance that excessively considered concerns and fears of vested interests by those being regulated. Igan et al. (2009) find that financial institutions which lobbied more intensely originated mortgages with

higher loan-to-income ratios, securitized more intensively and had faster growing mortgage loan portfolios

In light of these observations, we make a case for regulatory governance as an essential building block regarding reforms to strengthen bank regulation with the objective of safeguarding financial stability. The issue of independence and accountability for regulatory authorities has received an increasing attention. The Basle Committee on Banking Supervision has recognized the importance of independence and accountability for regulatory authorities by including these two governance arrangements in the Basel Core Principles for Effective Banking Supervision. Today, the implementation of an independent regulatory authority is viewed as a key principle for prudential regulation, being a common financial-sector policy recommendation in the IMF's Financial Sector Assessment Programmes. However, recent studies have shown that there still is a serious lack of regulatory independence across all countries and regions (see Seelig und Novoa, 2009).

The aim of this paper is to discuss the theoretical foundations of regulatory governance and more importantly, to examine and systematize the empirical evidence on the financial stability effects of regulatory governance and related aspects thereof. This review is basically motivated by the fact that many regulatory authorities still lack the mandate, sufficient resources and independence to effectively contain systemic risk and to implement early action in the run-up to a financial crisis (see Claessens et al., 2010). We also turn to the question of whether locating the regulatory function inside the central bank might be preferable to other institutional regulatory arrangements, since the central bank could be in a better position to regulate and supervise the financial sector when evaluated against the background of governance aspects such as independence, professionalism and remuneration (Cukierman, 2011).

The remainder of the article is organized as follows: section 2 puts regulatory governance into proper perspective by discussing two contrasting views of bank regulation. Section 3 makes the case for regulatory governance as an institutional mechanism for improving the functioning of the financial sector and explains the key characteristics of this institutional aspect of bank regulation. The subsequent section reviews the empirical literature on the impact of regulatory governance on the stability of the financial sector and related aspects. In light of the issues raised in this article, section 5 asks the question of whether bank regulation should be undertaken by the central bank. The last section concludes.

2. TWO VIEWS OF BANK REGULATION

In general, economists emphasize the conflict between public and private interests in determining policy outcomes. In this section we will discuss two contrasting approaches to bank regulation.¹ We begin by outlining the traditional approach to explaining the existence of financial regulation– the helping hand view of regulation.

Doing so, we first have to distinguish between objectives and the rationale for regulation.² The key objectives of a bank regulator are the promotion of economic development, the prevention of financial crises and the protection of consumers (see, e.g., Herring and Litan, 1995). The main objective is the proper functioning of the financial system which is presumed to significantly contribute to economic development (see, e.g. Levine, 2005). A related objective is the prevention of financial crises, which can entail significant costs for the economy (see, e.g., Reinhart and Rogoff, 2009). Finally, consumer protection is also a core duty of a bank regulator. By establishing rules and regulations concerning the appropriate practices and business models in the financial sector, the regulatory agency should ensure that there is a fair and open competition in the financial sectors.

The rationale for a constructive and more active role for governmental regulation goes back to Pigou (1938) who argues that market failures impede the proper functioning of the financial market so that the market would produce a sub-optimal outcome when left to itself. The *helping hand view* assumes that there are serious market failures, that the government has the incentives to maximize social welfare and wishes to prevent or correct these market imperfections (Shleifer and Vishny, 1998). In this view, bank regulation can enhance the functioning of the financial system by intervening in the banking sector and thereby promote economic growth. There are basically three reasons for government intervention in the financial sector – asymmetric information, negative externalities and monopoly power – which we do not want to dwell on here. For a detailed discussion of the market failures that impair social welfare and distort market mechanisms, we refer to, e.g., Goodhart et al. (1998), and Llewellyn (1999).

¹ See also Barth et al. (2006) for an extensive review.

² Typically the term “regulation” refers to the setting of rules and guidelines, while “supervision” describes the process of enforcing these rules and monitoring the banks’ activities. Note, that we use the term “bank regulation” in a rather broad sense. Hence, “regulatory agency” or “regulatory authority” will refer to all institutions involved in the process of bank regulation and supervision.

While governmental solutions to correct market imperfections rest upon the assumptions that governments are better informed than the markets and always act in the public interest, such assumptions seem to be ill-founded because regulators are subject to political and regulatory capture (Beck, 2006). According to the *grabbing hand view*, regulators do not implement rules and supervise the financial sector to overcome market failures. The involved interest groups – the regulatee (financial industry), politicians and regulatory agency officials – rather interact to maximize their ability to extract rents from economic activity (Shleifer and Vishny, 1998). Even in situations in which regulatory authorities try to maximize social welfare, they may fail due to a lack of competence or limited expertise (see, e.g., Claessens, 2006). Hence, this view predicts that regulators give priority to private interests and are scarcely guided by public interests. Consequently, no improvement in the functioning of the financial system or bank stability may evolve.

The theoretical literature on the economics of regulation starts with the work by Stigler (1971), Posner (1974) and Peltzman (1976). Their results suggest that regulators are subject to regulatory capture, i.e. regulated firms put great pressure on regulators so that rules and guidelines are implemented in a way suiting their interests. Large financial institutions may influence the regulatory agency directly by offering a “revolving door” in exchange for being cooperative (Hardy, 2006). Furthermore, powerful financial institutions may capture regulators indirectly through politicians via lobbying and influence peddling (see, e.g., Kane, 2002) so that the regulator supports the interests of the financial industry, rather than promoting social welfare. As elaborated by, e.g., Kroszner (2001), interest groups from the financial industry may influence politicians through campaign contributions, donations or votes who in turn pressure regulators to act in the interest of the financial industry.

Usually the financial sector represents a compact, well-organized group, which is able to use coercive powers of the government and impose their interests at the expense of other groups which have more diffuse membership. Or as Kane (1997) puts it: “(...) regulators and regulatees may connive to allocate the costs and benefits of regulation to other parties, with taxpayers and unsophisticated financial-services firm customers being strong candidates for getting the short end of regulatory deals”. As pointed out by Olsen (1965), Stigler (1971), Peltzman (1976) and Becker (1983), more cohesive groups will find it easier to organize themselves, and the effectiveness of groups rises with the concentration of benefits among group members. Furthermore, regulation

is less likely to be successful when deadweight costs are high.³ Finally, marginal costs and benefits to different groups play an important role, as the benefits of regulation are dispersed among many different groups (see also Krozner, 1998 for a more detailed discussion). Krozner and Strahan (1999) argue that the balance of power between various interest groups shifts over time so that different political or regulatory outcomes are achieved, depending on which interest group is most successful in pursuing their interests.

Politicians have incentives to participate in the regulatory game and serve self-interests, too, in that they facilitate the financing of government expenditures, direct credit to politically attractive ends and politicize resource allocation. Especially in emerging and developing countries the banking sector is the primary source of domestic financing so that the control of the sector via regulations is of vital interest (Barth et al., 2006). Recent studies have shown that economies with weakly constrained governments are characterized by an alliance between political and economic elites enjoying special benefits (see Haber and Perotti, 2008 for an extensive survey). While the government tends to influence regulations so as to promote political constituencies (Djankov et al., 2002), such political connections can matter through the suppression of competition and the delay of reform in the financial sector (Rajan and Zingales, 2003). Through government-owned banks or concentrated ownership, the government can have influence on the allocation of credit, so that state-owned or politically connected enterprises can gain preferential access to finance.

Empirical work has shown that regulators are heavily influenced by politicians and financial industry lobbyists alike. In spite of the fact that close links between the political, financial and corporate sector are rather common and there often is an increase in state ownership in the aftermath of financial crises, government ownership of banks tends to be rather inefficient. An influential study by Djankov et al. (2002) finds that government ownership is associated with lower subsequent growth of per capita income and less financial development. Government ownership is particularly pervasive in countries with low levels of per capita income and interventionist governments. Claessens et al. (2000) show that the majority of East Asian enterprises is controlled by a single shareholder. The concentration of corporate control in the hands of a few interest groups or families provides the basis for preferential treatment by public officials, i.e. through preferential

³ Krozner (1998) describes deadweight costs as the difference between the winner's benefit and the loser's cost arising from a regulatory measure.

access to finance or preferential contracts, as enterprises with more concentrated ownership structures are more likely to establish close political ties.

A wave of empirical studies examines the interplay of the political, financial and corporate sector and provides cross-country and country-specific evidence that political connections play a crucial role in obtaining access to external financing and matter for increasing firm value. Dinc (2005) studies whether government-owned banks behave differently around election years and shows that state banks increase their lending in election years, relative to private banks. Faccio (2006) finds in a cross-country study that connected firms have higher leverage, lower taxes and stronger market power than otherwise similar firms. Several recent papers take an event-study approach and find similar results for countries such as Indonesia (Fisman, 2001), Malaysia (Johnson and Mitton, 2003), Mexico (La Porta et al., 2003), Italy (Sapienza, 2004), Pakistan (Khwaja and Mian, 2005), Thailand (Charumilind et al., 2006) and Brazil (Claessens et al., 2008).

Besides preferential access to finance, political connections may generate other, substantial benefits to the financial industry. Recent empirical work by Faccio et al. (2006) illustrates that in case of economic or financial turbulences, politically connected enterprises are more likely to be bailed out by their home country in comparison with their non-connected firms. Brown and Dinc (2005) demonstrate that government interventions in the banking sector are often delayed due to political concerns. While politicians tend to avoid costly interventions in the banking sector before elections, most government takeovers or closings of failing banks occur in the first half of the electoral cycle. Finally, there is strong evidence that less democratic regimes suppress entry and competition (see, e.g., Djankov et al., 2002) and that such barriers matter for financial development and economic growth (see, e.g., Rajan and Zingales, 1998).

3. REGULATORY GOVERNANCE TO THE RESCUE?

The upshot from the theoretical considerations regarding the grabbing hand behaviour of bank regulation and the empirical evidence that regulators sometimes do not maximize social welfare is that there seem to be substantial reasons for the search for an institutional mechanism limiting the regulatory authorities' leeway in fulfilling their mandate. We argue that regulatory

governance can be an important institutional mechanism for safeguarding financial stability and review its basic characteristics.⁴

The increasing popularity of this topic can be attributed to financial liberalization that changed the financial landscape and the challenges to bank regulators (Goodhart, 2007). More importantly, recent banking crises have brought the discussion about the appropriate institutional framework for regulatory agencies to the forefront. Following Williamson (2000), governance “(...) is an effort to craft order, thereby to mitigate conflict and realize neutral gains. So conceived, a governance structure obviously reshapes incentives”. In the case of bank regulation, Das and Quintyn (2002) distinguish four defining pillars of regulatory governance: independence, accountability, transparency and integrity.

The most discussed and probably most important pillar tends to be the *independence* of the regulatory agency. Reflecting the discussion in the previous section, independence of regulatory agencies has two dimensions: independence from political interference and freedom from regulatory capture by the regulated industry (Quintyn and Taylor, 2007). While the case for central bank independence (CBI) is well established (see, e.g., Cukierman, 2008), the discussion of independence in the sphere of bank regulation is relatively new; with Goodhart (1998) as well as Das and Quintyn (2002) being among the first drawing the attention on this important institutional aspect.

As put forth by Majone (2005), the willingness of politicians to delegate powers to independent authorities can be explained in various ways. First, specialized authorities with neutral experts are characterized by a higher level of expertise in carrying out regulatory policies and have the capacity to adapt to changing conditions. Second, delegating regulatory powers contributes to reducing the costs of decision-making since policy makers can economize on time and effort in identifying desirable refinements to legislation. Third and probably the main reason for delegating powers to an independent institution, there is a strong need to achieve credible long-term policy commitments.

In this regard, Quintyn and Taylor (2007a) draw two analogies between CBI and the independence of regulatory agencies. First, short-term policy objectives do not always coincide with the requirement of a stable, long-term regulatory framework. And second, politicians could also face the well known time inconsistency problem when making decisions in the field of bank regulation. Accordingly, politicians have incentives to keep insolvent financial

⁴ See, e.g., Quintyn and Taylor (2002; 2007a) for an in-depth treatment of the theoretical foundations of regulatory governance.

institutions alive by organizing a bailout or granting exceptions from regulatory requirements, thereby delaying the unpopular decision because they want to avoid the short-term costs in form of lost campaign contributions or lost votes (see Brown and Dinc, 2005). Thus, the logic of Rogoff's conservative central banker could be extended to the area of regulation. By insulating regulators from policy makers whose objectives may differ from the regulators' objectives, the credibility of regulatory commitments could be enhanced (Majone, 2005). Furthermore, the delegation of regulation powers to an independent agency is desirable to the extent that it is given a clear mandate in the form of a financial stability objective because independence is easier to achieve when there is a single, widely-shared objective (see, e.g., Bini Smaghi, 2007).

Alesina and Tabellini (2007; 2008) make a more formal case for regulatory independence by building a model to investigate the criteria that guide the allocation of policy tasks to elected politicians versus independent bureaucrats. They find that it is preferable to assign tasks rather to bureaucrats than politicians if these tasks require certain abilities relative to effort and if there is uncertainty about the abilities of the politician, if time inconsistency is a relevant issue, and if vested interests have large stakes in the policy outcome.

Having elaborated the case for agency independence, we now turn to the four dimensions of independence – namely institutional, regulatory, supervisory and budgetary independence. First of all, institutional independence refers to the status of the regulatory authority as an institution operating separately from the executive and legislative branches. Quintyn et al. (2007) identify three critical components of institutional independence. First, there should be clear rules regarding the terms of appointment and dismissal of senior personnel. Second, collegial decision-making in multi-member commissions are considered superior to decision-making by one individual chairperson. And third, the decision-making process should be open and transparent so as to minimize the risk of political interference.

Regulatory independence, the second dimension, refers to the ability of the regulatory authority to have an appropriate degree of autonomy in setting fundamental prudential rules and regulations for the financial sector which is a crucial prerequisite for ensuring that the financial sector complies with international best practices (see, e.g., Masciandaro et al., 2009). As Quintyn and Taylor (2003) point out, especially the growing complexity and internationalization of financial markets give rise to the importance of regulatory independence since regulators need to be able to adapt rules and

regulations quickly and flexibly in response to changing conditions and the build-up of risk in the financial sector.

The most difficult component of independence to achieve is supervisory independence. With supervisory independence, the agency is in the position to exercise its judgment and powers in supervisory activities such as licensing, on- and off-site monitoring, sanctioning and the enforcement of these sanctions, which are the regulatory agencies' main tools to safeguard banking sector stability (Quintyn and Taylor, 2002). The difficulty stems from the fact that in order to preserve its effectiveness, the supervisory function involves private ordering between the regulator and the regulatee. However, this "invisibility" makes the agency vulnerable to political and industry interference (Masciandaro et al., 2009).

Finally, budgetary independence refers to the role of the executive and legislative branch in the determination of size and use of the agency's budget. This component is of importance since regulatory agencies with a higher degree of autarky in terms of source, size and use of their budget are better equipped to restrain from interference by the government, attract competent staff and adapt prudential regulations quickly in response to changing conditions (see, e.g., Quintyn and Taylor, 2003).

Independence of regulatory authorities cannot deliver the desired results in terms of policy outcomes if it is not accompanied by accountability arrangements (see Quintyn and Taylor, 2003). As Majone (1993) stresses, policy makers are rather concerned about an independent regulatory authority virtually acting as an unelected fourth branch of government without any checks and balances. Accordingly, Quintyn (2009) characterizes *accountability* as the other, indispensable side of independence. Accountability can be defined as the obligation owed by the accountable to the accountee according to which the former must give account of, explain and justify his actions and decisions and take responsibility for any fault or damage (Lastra, 2001).

Hence, there is no trade-off between accountability and independence. Rather, these two institutional arrangements should be seen as complementary. Accountability arrangements reinforce the independence of a regulatory authority by giving its actions and decisions legitimacy and enabling the authority to build a reputation, thus improving agency governance and performance. Equally important, an agency with a good reputation is seen as more reliable and trustworthy by the public; consequently, a good reputation bolsters the agency's independence (see Hüpkes et al., 2006).

Hüpkes et al. (2005) identify at least four functions that a well structured accountability arrangement fulfils: first, to provide public oversight; second, to provide and maintain legitimacy; third, to enhance integrity of public sector governance; and finally, to enhance agency performance. Nevertheless, holding regulators accountable tends to be a rather complex task since much of their operations is cloaked with commercial confidentiality (Goodhart, 2001) and unlike monetary authorities, regulatory authorities have to be accountable to the industry they regulate and to the executive/legislature (Hüpkes et al., 2006).

While independence and, to a lesser degree, accountability are the most debated pillars in the regulatory governance literature, transparency and integrity are equally important because the four pillars are mutually reinforcing and hold each other in balance. Weakening one of the four pillars thus means that the balance between the pillars is undermined.

Transparency, the third pillar of regulatory governance, is increasingly recognized as an institutional arrangement for mitigating uncertainty in financial markets in general (see, e.g., Cady and Pellechio, 2006; Glennester and Shin, 2008). According to the IMF's Code of Good Practices on Transparency in Monetary and Financial Policies, transparency refers "(...) to an environment in which the objectives of monetary and financial policies, their legal, institutional, and policy framework, monetary and financial policy decisions and their rationale, data and information related to these policies, and the terms of central bank and financial agencies accountability are provided to the public in a comprehensible, accessible, and timely manner" (IMF, 2000).

Transparency and accountability are closely interrelated since they both share the provision of information as a common requirement. Whereas accountability constitutes the obligation to give account of, explain and justify the regulatory authorities' actions, transparency is the degree to which information on such actions is available in comprehensible, accessible, and timely manner. Thus, transparency directly supports accountability and vice versa. The provision of information in the context of accountability facilitates a transparent economic and political environment, while transparency promotes accountability by making the regulatory policy clear to the outside world (see Lastra and Shams, 2001; Das and Quintyn, 2002). Furthermore, transparency protects the independence of the regulatory authority by revealing when the authority is under political or industry pressure thereby discouraging politicians and financial industry lobbyists from interfering in the regulatory process (Quintyn and Taylor, 2002).

Integrity, the last but no less important pillar, refers to institutional mechanisms that ensure that the staff of regulatory agencies can pursue the goals of good regulatory governance without compromising them by falling victim to self-interests (Das and Quintyn, 2002). This pillar comprises institutional arrangements such as appointment procedures of heads, internal audit arrangements or legal protection against law suits.

Taken together, good regulatory governance enhances the ability of the financial system to withstand unsound market practices and the occurrence of moral hazard and hence, improves the system-wide risk management capabilities. By contrast, dysfunctional government arrangements undermine the credibility of the regulatory authority and lead to the spread of unsound practices, jeopardizing the stability of the financial system (Das et al., 2004). In this regard, Quintyn (2007) argues that weak regulatory governance promotes weak financial sector governance in general, which in turn impairs the smooth functioning of the financial system, curbing economic performance and growth.

According to Barth, Nolle, Phumiwasana and Yago (2003), there are particularly three common practices that undermine regulatory governance. First, credit granted due to directed lending might not be justified under safe banking standards because it is more likely that it turns out to be non-performing. Such practices could undermine the credibility of the regulatory authority and the development of a sound loan base and consequently restrict economic growth. Second, government ownership of banks could threaten the stability of the banking system in a similar vein since the regulatory authority might not be allowed to apply the regulatory standards to state-owned banks. Accordingly, the credibility of the agency could be impaired and solvency problems at poorly managed state-owned banks could lead to a liquidity crisis. Finally, the protection of weak regulations by politicians and government-encouraged regulatory forbearance are the most common types of undermining the integrity of the regulatory authority and exacerbating banking crises, with Japan (see, e.g., Hoshi and Kashyap, 2001) and the US (see, e.g., Kane, 1989) being the most prominent casualties. Rochet (2008) concludes that many recent banking crises were largely amplified or even provoked by political interference and the key to successful financial reform lies in ensuring the independence and accountability of regulatory authorities. Indeed, there is ample evidence that the policies described undermined the independence of the regulatory authority, contributing to the emergence of banking crises (see, e.g., Caprio and Klingebiel, 1997; Lindgren et al., 1999; De Krivoy, 2000).

4. THE IMPACT OF REGULATORY GOVERNANCE

Having reviewed the theoretical case for independent and accountable regulatory agencies, we now turn to the empirical evidence regarding the impact of regulatory governance on the functioning and stability of the financial system. In doing so, we concentrate primarily on those studies which examine the effects of regulatory governance (and related aspects) on economic performance and on the stability of the banking sectors or financial stability more generally. We also collect the empirical work which deals with the organizational structure of the regulatory agency and the determinants of regulatory governance.⁵ We grouped the empirical work on regulatory governance into eight categories; table 1 provides an overview of the relevant studies.

Two studies examine the *determinants of regulatory governance*. Following Quintyn et al. (2007), Masciandaro et al. (2008) construct a regulatory governance index to evaluate the independence and accountability of the regulatory authority. Using a wide set of control variables, their analysis indicates that public sector governance has a decisive impact, but more on accountability than on independence arrangements. They also found that placing the regulator inside the central bank has a negative impact on governance arrangements. Neyapti and Dincer (2005; 2008) build an index measuring the legal quality of bank regulation and supervision and show that prevailing financial crises, EU membership and higher levels of financial development and foreign direct investment inflows exert a positive influence on the quality of a legal regulatory framework.

Dalla Pellegrina and Masciandaro (2008) belong to the second category as they estimate the relationship between *public sector governance* and *the institutional structure of the regulatory authority*. Their main finding is the crucial role public sector governance plays in determining the unification of the regulatory agency. Concretely, there is a positive relationship between good governance performance and the degree of unification. A “helping hand-policy maker” will tend to prefer a unified regulatory authority different from the central bank, while a “grabbing hand-policy maker” will choose a single

⁵ See Quintyn (2007) for a comparable systematization of empirical studies on the impact of regulatory governance. In contrast to Quintyn’s survey, we added a few more categories and examined a broader range of studies since we cover a longer period of time.

regulatory authority.⁶ These results are more or less corroborated by the work of Freytag and Masciandaro (2007) and Masciandaro (2007; 2009).

Table 1: Systematization of empirical studies on regulatory governance

1 Impact of financial, macro, institutional factors on regulatory governance
Masciandaro, Quintyn and Taylor (2008) Neyapti and Dincer (2005; 2008)
2 Impact of public sector governance on institutional structure
Dalla Pellegrina and Masciandaro (2008) Freytag and Masciandaro (2008) Masciandaro (2007; 2009)
3 Impact of public sector governance on financial stability
Breuer (2006) Kaufmann (2002)
4 Impact of regulatory governance on financial stability
Beck, Demirgüç-Kunt and Levine (2003; 2006) Das, Quintyn and Chenard (2004) Donze (2006) Ponce (2009)
5 Impact of regulatory framework on financial stability and development
Angkinand (2009) Barth, Caprio and Levine (2004, 2006) Barth, Caprio and Levine (2008) Boudriga, Boulila and Jellouli (2009)
6 Impact of compliance with principles of financial stability
Das, Iossifov, Podpiera and Rozhkov (2005) Demirgüç-Kunt, Detragiache and Tressel (2008) Demirgüç-Kunt and Detragiache (2010) Podpiera (2006) Sundararajan, Marston and Basu (2001)
7 Impact of regulatory governance on compliance with standards and codes
Arnone, Darbar and Gambini (2007)
8 Impact of institutional structure on compliance with standards and codes
Arnone and Gambini (2007) Čihák and Podpiera (2006; 2007)

⁶ The authors explain this by pointing out that the helping hand-kind of policy maker does not need to please vested interests and fear political pressure from an influential single agency.

Next, we turn to the empirical studies concerning the impact of different forms of governance on banking or financial stability and economic performance. In spite of the compelling evidence that institutions and governance have a strong impact on economic development and stability (see, e.g., Carmichael, 2002; Rodrik et al., 2004), there currently exist only two studies that analyse the *impact of public sector governance on financial stability*. Kaufmann (2002) measures financial stability by using the microeconomic firm level data of the World Bank Global Competitiveness Survey. Regressing the variable against several governance indicators, his analysis reveals that the “control of corruption” significantly influences banking sector stability. In a more recent study, Breuer (2006) also finds that a higher degree of corruption raises banking sector instability, proxied by non-performing loans as a share of bank assets. More surprisingly, she finds that a lack of property rights reduces and improvements in law and order and government stability increase problem bank loans.

Five studies analyse the relationship between *regulatory governance* and *financial stability*. Beck et al. (2006) investigate the impact of different regulatory policies on the integrity of bank lending. Using the World Business Environment Survey, they approach the term financial stability by asking to which degree firms face obstacles in obtaining external finance. Their results are consistent with the “political/regulatory capture view”; that is, powerful official supervision may increase the flow of credit to well connected firms while it will hurt the availability of credit to firms in general. In an earlier study, Beck et al. (2003) take account of the “independent supervision” view. They find that creating an independent supervisory agency mitigates the negative effects of having a powerful official regulator by lowering the obstacles in obtaining external finance. Specifically, a higher degree of regulatory independence seems to reduce the likelihood that politicians or the financial industry will capture the agency.

Das et al. (2004) construct an index of regulatory governance based on the four pillars mentioned in the previous section. Banking sector stability is proxied by data on the capital adequacy ratio and the ratio of non-performing loans the authors collected from the IMF’s Financial Sector Assessment Program (FSAP). The estimation results suggest that regulatory governance has a positive impact on the stability of the banking sector. Ponce (2009) also uses data collected by the FSAP to capture regulatory governance arrangements but only uses the ratio of non-performing loans to total loans as an indicator for the degree of risk in the banking sector. His main findings are that regulatory independence significantly reduces the average probability of

banks' loan default, and that legal protection and accountability seem to be of even more importance. Ponce therefore concludes that regulatory authorities should have political independence but that independence should be complemented by legal protection and accountability arrangements. Donzé (2006) reaches a similar conclusion. His findings indicate that better regulatory governance tends to improve banking sector soundness. While regulatory governance is captured by aggregate measures of personnel, goal, instrument, and budgetary independence, he proxies banking sector stability by using financial strength ratings developed by the credit rating agencies Fitch and Moody's.

The next group of empirical studies takes a somewhat broader perspective, analysing the *influence of the regulatory framework on financial stability and development*. In this vein, Barth et al. (2004; 2006) conduct a comprehensive study on the impact of regulatory practices on the development, efficiency and stability of the banking sector as well as the occurrence of a banking crisis. Similar to Beck et al. (2003; 2006), the authors do not estimate the influence of regulatory governance directly. Instead, they test the validity of two contrasting approaches to bank regulation set out earlier in this article – the public and the private interest approach to regulation – by examining an extensive array of regulations and supervisory practices. In sum, their findings provide no support for greater official supervisory powers and are rather consistent with the private interest view of regulation. Supervisory independence is not related to bank development, efficiency and stability. In Barth et al. (2008) the authors present microeconomic evidence on the impact of the two competing views by using two microeconomic indicators on bank efficiency – bank-level data on overhead costs and the degree to which firms need corrupt ties with banks for obtaining external finance. Again, the empirical evidence is inconsistent with the public interest view, as empowering supervisors tends to increase corruption in bank lending.

Following the approach of Barth et al. (2004; 2006), Boudriga et al. (2009) estimate the impact of the regulatory framework on credit risk exposure. They introduce aggregate non-performing loans data as the dependent variable for which the data is drawn from the IMF Financial Soundness Indicators. Although their results indicate that higher capital adequacy ratios and higher provision seem to reduce the level of non-performing loans, regulatory practices have no significant impact. Only the level of independence of the regulatory authority seems to reduce the level of non-performing loans in countries with little corruption. Finally, Angkinand (2009) also uses a range of indexes from the database provided by Barth et al.

(2004; 2006). He examines the effects of regulatory practices on the severity of banking crises measured in terms of output costs. According to his results, bank capital requirements and fewer restrictions on bank activities tend to mitigate crisis severity.

While the empirical work reviewed so far typically assesses the compliance with standards and codes like the Basle Core Principles for Effective Banking Supervision (BCP) in order to construct indexes as proxies for regulatory governance arrangements, five studies have examined the *impact of the compliance with standards and codes on financial stability* directly – thereby implicitly estimating the influence of regulatory governance. Sundararajan et al. (2001) were the first who attempted to test the impact of BCP compliance on banking stability. Utilizing the non-performing loan ratio as a proxy for bank soundness, they do not find a direct impact of BCP compliance. Das et al. (2005) resort to more sophisticated methods. They construct two indexes; an index of the quality of financial policies based on BCP and IOSCO assessments and a financial stress index that builds on the work by Illing and Liu (2003) and encompasses the banking sector and the foreign exchange and equity markets. Their main finding is that economies characterized by a higher quality of financial policies are more able to mitigate the adverse effects of macroeconomic pressure on the financial system.

Podpiera (2006) explores in how far the adherence to BCP standards creates an environment supportive of a well-functioning banking sector. His work shows that higher degrees of BCP compliance tend to increase the asset quality and reduce the net interest margin. This finding is consistent with the results of Demirgüç-Kunt et al. (2008) who use Moody's Financial Strength Rating as a proxy for the soundness of the banking sector. However, their results indicate that the positive relationship between bank ratings and BCP compliance is rather weak. Accordingly, they attempt to estimate the impact of distinct aspects of the regulatory framework by distinguishing different core principles and find that compliance with information provision is significantly and positively associated with bank soundness. Demirgüç-Kunt and Detragiache (2010) extend this work by utilizing the *z-score*⁷ instead of Moody's rating. On the basis of these data, they fail to find any relationship between bank soundness and compliance with specific groups of principles or BCP compliance in general.

⁷ The *z-score* is defined as the ratio of the sum of the average return of assets and the asset-equity-ratio, and the standard deviation of the return on assets. The *z-score* is inversely related to a bank's probability of default (see, e.g., Demirgüç-Kunt and Detragiache, 2010).

Arnone et al. (2007) represent the only paper that studies the relationship between *regulatory governance* and *compliance with standards and codes*. They examine simple bivariate correlations between indexes of regulatory independence, transparency and BCP compliance or sub-indexes of various BCP chapters. The correlation coefficients indicate that there is a strong and significant relationship between the independence of the regulatory authorities and the quality and effectiveness of banking supervision. Furthermore, transparent authorities show a high degree of BCP compliance.

The last category of empirical studies comprises two papers. Arnone and Gambini (2007) conduct bivariate correlation analyses to analyse the *influence of the institutional structure on the compliance with standards and codes*. The descriptive analysis suggests that the organizational model of an integrated regulatory authority has a statistically significant advantage compared to a central bank-dominated multiple agency regime. Moreover, they run a regression analysis showing that a higher degree of BCP compliance is associated with a more integrated regulatory authority (responsible for the banking, insurance and securities sector) inside the central bank. Thus, their study provides hints in favour of placing regulation inside the central bank. Cihák and Podpiera (2006; 2007) follow the approach of Arnone and Gambini (2007), but include the IOSCO and IAIS standards and codes (for the securities and insurance sector respectively) in addition to the BCP. Their results lend support to the notion that integrated regulatory authorities seem to be characterized by a higher degree of regulatory governance and a higher overall quality of supervision. However, their study does not provide any support for locating regulation inside or outside the central bank.

Looking at the big picture, the empirical evidence surveyed here indicates that regulatory governance seems to lead to better regulatory practices which in turn have a positive impact on financial stability. To be sure, the evidence on the impact of regulatory governance on financial stability is far from conclusive. Hence, more robust evidence for supporting the view that good regulatory governance has positive effects on financial stability is needed. Some points are worth noting.

First, there is a need for clarification of what constitutes a good regulatory framework that promotes bank development, efficiency, and stability; especially, what range of official regulatory and supervisory powers an agency should be given. Second, due to a lack of theoretical guidance, any construction of an index that tries to capture regulatory governance arrangements relies on some certain degree of judgment. Evidently, this is reflected in the wide range of different proxies used for capturing regulatory

governance in the studies surveyed in this section. Finally, because there currently is no widely accepted measure, quantification or time series for measuring financial stability (see, e.g., Segoviano and Goodhart, 2009), similar difficulties relate to the dependent variable that should proxy financial stability. Most often utilized for capturing financial (in)stability is the ratio of nonperforming loans to total loans. However, statistics regarding the nonperforming loans in a banking sector may suffer from measurement problems which are likely to increase the noise in the data analyzed, since national regulatory authorities still often follow national guidelines that are not necessarily aligned (see Cihák and Schaeck, 2010).

5. WHAT ROLE FOR THE CENTRAL BANK?

The question of whether the central bank should be the bank regulator is still open to debate and has attracted great interest in academic circles. For the sake of brevity, we only brush over the main arguments briefly since the arguments for assigning some or all responsibilities to the central bank have been extensively debated elsewhere (see, e.g., Goodhart and Schoenmaker, 1993; 1995; Briault, 1999; Peek et al., 1999; Abrams and Taylor, 2000; Barth, Dopico, Nolle and Wilcox, 2002).

The main argument in favour of locating the regulatory function inside the central bank is the better access to information. Furthermore, central banks often possess a high degree of independence which insulates the regulator from outside pressures and enhances the regulators' ability to enforce regulations (see the discussion in section 3). Finally, the central bank has a comparative advantage in attracting the best staff. On the other hand, concerns with regard to granting central banks greater regulatory responsibilities are mainly based on the potential conflict of interest with monetary policy. Moreover, if bank failure or even banking crises occur, the central banks' reputation may be at risk. And finally, the central banks' independence may be compromised, since a wider financial stability mandate could politicize the central bank when being involved in supervision or the resolution of ailing financial institutions (see Barth, Nolle, Phumiwasana and Yago, 2003).

In contrast to the theoretical literature, there has been rather little research on the institutional structure of bank regulation. According to Barth, Dopico, Nolle and Wilcox (2002), Barth, Nolle, Phumiwasana and Yago (2003) as well as Barth et al. (2004; 2006), the institutional structure only has a weak influence on bank performance. Frisell et al. (2008) find that central banks

tend to be less independent and more subject to discretionary political control when bank supervision is assigned to the central bank. Estimating the relationship between central bank independence and financial instability, Klomp and De Haan (2009) conclude that political central bank independence is negatively associated with financial instability. As elaborated in the previous section, recent empirical evidence by Arnone and Gambini (2007) provide some hints for locating the regulatory and supervisory function inside the central bank whereas Masciandaro et al. (2008) show that the likelihood for more elaborate accountability arrangements is higher when the regulatory function is located outside the central bank although bank regulators inside the central bank have been granted the highest degree of autonomy.

Consequently, it is fair to say that up to the recent financial crisis, there is no consensus on what constitutes an optimal institutional architecture of bank regulation – neither on conceptual nor empirical grounds. To be sure, central banks around the world serve as the sole bank regulator or as one of several regulatory agencies (see Barth et al., 2006). Especially in emerging and developing economies central banks play a key role in the field of bank regulation. The foremost reason for this seems to be the fact that in less developed countries, central banks often are one of the few credible and reputable institutions with a certain degree of independence. Thus, regulators located inside the central bank are expected to “piggyback” a comparable degree of independence (Arnone, Laurens, Segalotto and Sommer, 2007). Furthermore, there are sufficient financial resources and a greater availability of skilled staff at the central bank. Additionally, developing countries typically face problems in financing the establishment of another agency (see Quintyn and Taylor, 2007b).

However, more recently, the balance has tipped in favour of assigning the central bank more responsibilities in bank regulation. The depth and severe consequences of the financial crisis of 2007-09 led to a reconsideration of the financial stability frameworks around the world and the role of central banks in bank regulation, in particular. As the importance of systemic risk and the need for the adoption of a macroprudential approach to bank regulation come to the fore, many commentators see the central bank as the natural candidate to be put in charge of systemic regulation and oversight (see, e.g., Blinder, 2010; Cukierman, 2011). As pointed out by Nier (2009), an expanded regulatory role for central banks may increase the effectiveness of bank regulation since central banks have incentives to reduce the occurrence of systemic crises as the realization of systemic risk incurs substantial costs for central banks. Moreover, the central banks’ expertise in financial infrastructure could prove

to be useful in crisis management. Caruana (2010) argues that central banks typically are the first public institution to act when a crisis occurs. Furthermore, they already perform two tasks that qualify them for the role as a systemic regulator. Central banks have got the responsibility for the oversight of payment and settlement systems and they are concerned with the analysis of macroeconomic and financial trends as well.

In addition, central banks have to take into account that monetary policy decisions affect financial conditions and a regulatory authority other than the central bank might not consider macroeconomic considerations in its decisions. Thus, Blinder (2010) notes that central banks seem to be more in the position of finding the right balance between financial stability considerations and monetary policy objectives than leaving the job to two independent agencies. As such, the often cited conflicts of interest should rather be interpreted as a rational balancing of competing objectives.

Summing up, there seems to develop a certain consensus that central banks are suited for the regulation and supervision of systemically important financial institutions. In fact, central banks now are increasingly put in charge of overseeing the financial system as a whole – two recent examples being the creation of the European Systemic Risk Board at the ECB and the Financial Stability Oversight Council in the US (Hannoun, 2010).

6. CONCLUSION

In this article, we have argued that the performance of bank regulation could be improved by properly designed government arrangements. Since regulatory authorities exercise important powers with distributional consequences they are subject to pressures from the financial sector as well as political interference. Accordingly, the development of independent and accountable regulatory authorities seems to be of utmost importance.

We took the two contrasting approaches to bank regulation as a starting point and learned that sometimes involved interest groups may interact to maximize their ability to extract rents from economic activity. Thus, regulators may give priority to private interests and thus, no improvement in the functioning of the financial system or bank stability may evolve. We proceeded to examine the four essential elements of regulatory governance – independence, accountability, transparency and integrity. These pillars are mutually reinforcing and hold each other in balance.

Most importantly, we asked the question of whether regulatory governance provides any measurable benefits in terms of financial stability. The empirical evidence surveyed indicates that regulatory governance seems to lead to better regulatory practices which in turn have a positive impact on financial stability. Nevertheless, more robust evidence for supporting the view that good regulatory governance has positive effects on financial stability is needed since the evidence on the financial stability effects of regulatory governance is far from conclusive.

Finally, we touched upon the issue of whether placing bank regulation inside an independent central bank creates a better institutional environment for safeguarding financial stability. Even though there was no consensus prior to the recent financial crisis, there now seems to develop a certain consensus that central banks are best suited for the regulation and supervision of systemically important financial institutions. Yet, the exact design of the corresponding macroprudential toolkit still has to be specified.

The financial crisis of 2007-09 has shown that governance failures in the regulation and supervision of the financial sector can contribute significantly to the severity of a crisis. The recent experience has shown that regulatory authorities should be equipped with clear mandates and adequate tools to take early action and deal with unacceptable build-ups in systemic risk. On the positive side, European officials have recently recognized the need for an improvement of the governance arrangements in bank regulation as they note in the De Larosière report (2009) that “the supervisory authority must be empowered and able to make its own independent judgements (...), without authorities or the industry having the right or possibility to intervene. Moreover, the supervisor itself must base its decision on purely objective and non-discriminatory grounds.” However, one should take it as a cautionary note that a recent study by the IMF (Cihák and Tieman, 2008) has shown that most frequent weaknesses in bank regulation are related to the potential for political interference in day-to-day supervision, the lack of budgetary independence, and the need to strengthen the legal protection of supervisors. Thus, there are still considerable gaps in the regulatory frameworks that need to be addressed by policy makers around the world.

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