

Bank Regulation and Supervision: Lessons from a New Database

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Abstract: Based on our new database, we find that bank regulatory and supervisory practices that (1) require and enforce accurate information disclosure (2) empower private-sector corporate control of banks, and (3) foster incentives for private agents to exert corporate control work best to promote efficient bank intermediation and stability. Emerging evidence finds that, absent key supporting conditions, powerful bank supervisory agencies frequently exert a negative influence on bank performance. Existing research raises a cautionary flag regarding reform strategies that place excessive reliance on countries adhering to an extensive checklist of regulatory and supervisory practices that involve direct government oversight of and restrictions on banks.

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I. Introduction

The importance of banks for economic growth coupled with their fragility has led governments to establish official agencies to regulate and supervise banks (Levine, 1997, 2003). The common goals for these agencies are to promote the development of banking systems that (a) avoid excessive fragility and (b) efficiently intermediate between savers and borrowers. Two crucial questions naturally arise in this context: (1) which specific regulations and supervisory practices should these agencies implement to achieve stability and efficient intermediation, and (2) Are the best regulations and supervisory practices the same for each country? Although major international financial institutions are rapidly developing increasingly specific supervisory and regulatory guidelines, there is no cross-country evidence to support many of these policy recommendations. Indeed, only very recently have researchers assembled the data necessary to conduct international comparisons of bank supervision and regulation (Barth, Caprio, and Levine, 2001a,b, 2002a,b, 2003).

The basic intuition underlying most approaches to bank supervision and regulation is based upon a “helping hand” vision. According to this view, numerous market failures – information asymmetries, enforcement impediments, and transaction costs – make it impossible to rely on the “invisible hand” of the market (Coase, 1960). More specifically, market failures imply that private agents alone cannot effectively monitor banks, so the private market will

not achieve sufficient stability and efficient intermediation (Atkinson and Stiglitz, 1980). Thus, the government can play a helping hand by directly monitoring banks. According to this helping hand view, the government, through a powerful supervisory agency, should directly supervise and regulate banks to promote bank stability and efficiency.

There are alternative views of bank supervision that take a less optimistic view of the role of government officials. Politicians may use powerful supervisory agencies to induce banks to lend to favored borrowers on advantageous terms. Thus, government supervision and regulation of banks may hinder the efficient intermediation of society's savings and perhaps even create a more fragile banking system. This "grabbing hand" view assumes that politicians act in their own self interest; politicians do not necessarily act to ameliorate information, enforcement, and transactions costs (Buchanon and Tullock, 1962; Olson, 1965; Becker and Stigler, 1974; Shleifer and Vishny, 1998; Rajan and Zingales, 2003). Thus, the grabbing hand view focuses on political failures, while the helping hand view focuses on market failures.²

Some approaches to bank supervision and regulation seek to find a compromise that incorporates the "grabbing hand" fear of political failures with the "helping hand" concern that the banks are large, powerful, and difficult to monitor (Haber, 2003). Specifically, the "private monitoring" view stresses that

² We employ the illustrative phrases --invisible hand, helping hand, and grabbing hand-- used in Shleifer and Vishny's (1998) insightful book titled, The Grabbing Hand.

official supervisory agencies need to require accurate information disclosure and provide legal means for private agents to exert corporate control.³ At the same time, the private monitoring view holds that the official supervisory agency should not excessively restrict bank behavior or have the power to control bank lending practices. According to this view, empowered private agents with sound incentives will improve the oversight of bank managers with positive implications for bank stability and the efficient allocation of credit. This private monitoring view is not a laissez-faire, invisible hand, approach. Rather, it acknowledges that the government must require and enforce information disclosure and provide sound incentives to private agents so they adequately monitor banks.⁴

In this paper, we review recent evidence on those specific bank supervisory and regulatory policies which work best to support bank stability and efficient intermediation. Specifically, we first discuss our new database, describing cross-country differences in national bank supervision and regulatory practices. Then, we discuss the recent and growing evidence on what works best. While preliminary, the evidence runs counter to the advice of many bank supervisory and regulatory agencies.

³ On balancing law and regulation in securities markets, see Glaeser, Johnson, and Shleifer (2001) and La Porta, Lopez-de-Silanes, and Shleifer (2002).

⁴ Furthermore, many, empowered private agents may be more difficult for politicians and banks to capture than a single **or a few** government **agencies**.

II. A New Database

A. The Need for a New Database

To assess which bank supervisory and regulatory policies work best to create a stable banking system that efficiently mobilizes society's savings and allocates those resources to the most productive ends, two key pieces of information are needed. First, what are current regulations and supervisory practices? Second, what is the impact of current practices on the efficiency of bank intermediation and bank stability?

To this end, we have assembled a new database on the regulation and supervision of banks in over 100 countries. It should prove useful to policymakers in comparing the different choices countries have already made and in deciding upon which if any potential reforms would be most desirable. Indeed, we have already used the data to assess which among the many regulations and supervisory practices in countries around the globe best promote bank development, performance and stability.

The database itself is the culmination of the efforts of numerous individuals over two years who helped document the current state of bank regulation and supervision in 107 countries. A survey composed of twelve parts, with about 175 questions, was sent to the official banking authorities in each country. Considerable effort was devoted to assuring the accuracy of the responses. This was done in part by relying upon information collected in

separate but related surveys by the Office of the Comptroller of the Currency and the Institute of International Bankers.

The remainder of this article will briefly describe the richness of the database and then discuss some lessons that can be drawn from it. The comprehensiveness of our new database can be appreciated with several illustrations of the choices that individual countries have already made and the resulting diversity that exists across countries. But first one must realize that there are wide differences in the size and structure of banking industries across countries.

B. Banking Industries Differ Widely in Size and Structure

The size and structure of banking industries could hardly vary more widely across countries. For example, total bank assets as a percentage of GDP range from 313 percent in Germany, 66 percent in the United States, and only 6 percent in Venezuela. The ownership of banks also displays wide variation. The percentage of total bank assets that are state owned, for example, ranges from 80 percent in India, to 43 percent in Taiwan (China), and zero percent in the United States. The percentage of total bank assets that are foreign owned, in turn, ranges from 99 percent in New Zealand, to 40 percent in Peru, and zero percent in Saudi Arabia. Furthermore, the concentration of bank assets displays substantial variation. In terms of the percentage of deposits accounted for by the

five largest banks, for instance, the figures range from 97 percent in Finland, to 50 percent in Turkey, and 25 percent in Italy.

C. What Is a Bank?

What a bank may do also differs widely across countries. Indeed, what a bank is allowed to do largely defines what is meant by the word “bank.” Specifically, the degree to which banks are permitted to engage in securities, insurance, and real estate activities as well as to own and be owned by nonfinancial firms differs widely. Countries like Germany and New Zealand are very permissive in this respect, whereas others like China and Indonesia are severely restrictive. The U.S. recently changed from being very restrictive with respect to allowing “non-traditional” activities to being very permissive. At the same time, however, it decided to prohibit the mixing of ownership between banks and nonfinancial firms.

The most restricted bank activity among countries is real estate, while the least restricted is securities. Indeed, in the 107 countries surveyed, forty prohibit real estate activities, whereas only seven prohibit securities activities. A much larger number of countries permit unrestricted ownership of banks by nonfinancial firms (thirty nine) than permit unrestricted ownership of nonfinancial firms by banks (fourteen). More generally, the mixing of banking and commerce is prohibited in a relatively small number of countries.

D. Supervisory Practices Are Not Uniform

Our database provides information on various supervisory practices that are used to monitor and control bank behavior. This information tells whether the supervisory authorities can take specific actions to prevent and correct problems. In seventy-four countries the authorities can supersede shareholder rights and declare a bank insolvent, whereas in the other twenty-seven they cannot. Also, in forty-nine countries there are predetermined levels of solvency determination that force automatic actions, such as intervention, whereas in fifty-five countries there are not. Furthermore, in twenty-nine countries supervisors cannot meet with external auditors to discuss their reports without bank approval and in forty-two countries auditors are not legally required to report any misconduct by managers and directors to the supervisory authorities. The supervisory authorities cannot suspend either the directors' decision to distribute dividends in twenty-two countries or to distribute bonuses in forty-one countries. In seventeen countries the supervisory authorities can forebear certain prudential regulations regarding bank restructuring and reorganization. Some countries, moreover, hold their supervisors legally liable for their actions, whereas others do not. There is a fairly even split, with forty-two countries (including Argentina and Brazil) doing so, and with fifty-six not doing so (such as the UK and US).

E. Information Beyond Supervisory Practices

The new database also provides information on capital regulations, foreign loans, liquidity requirements, and deposit insurance schemes, among other factors. For example, in fifteen countries banks are prohibited from making loans abroad, and in twenty-six countries there is no minimum liquidity requirement. Every country except one has a minimum capital requirement that conforms to the Basel guidelines, but in eighty-one countries it does not vary with market risk. Countries also differ with respect to having an explicit deposit insurance scheme. Of the 107 countries, fifty do not have an explicit scheme.

F. Differences among Country Groups

Some of the more interesting differences among countries are evident when they are grouped

1. By income:

- There is a clear trend for the restrictiveness of bank activities to decline when moving from the lower-income countries to the higher-income countries.
- The stringency of capital requirements is lower for lower-income countries than for upper-income countries.
- The degree of private monitoring increases as one moves from lower-income countries to high-income countries.
- Government ownership of banks increases in countries, on average, as one moves from the high-income level to the lower-income level.

2. By development status:

- Developing countries place more limitations on foreign bank ownership of domestic banks and foreign bank entry through branching than developed countries.
- The independence of the supervisory authority is lower in developing countries than in developed countries.
- The number of supervisors per bank is more than three times greater in developing countries than in developed countries.

3. By geographic regions:

The EU --

- The EU countries are uniformly the least restrictive when it comes to securities, insurance, and real estate activities as well as bank ownership of nonfinancial firms.
- They are the least restrictive with respect to the ownership of banks by nonfinancial firms.
- They place no limitations on foreign bank entry in contrast to other regional groupings.
- They display the greatest stringency as regards capital regulation.
- They have the fewest supervisors per bank.
- They display the greatest degree of independence with respect to the supervisory authority.
- Both foreign bank ownership and government bank ownership are the lowest in the EU countries as compared to the other groupings.

South Asia --

- South Asian countries, in contrast to the EU countries, are the most restrictive with respect to the ownership of banks by nonfinancial firms.
- These countries also place the most limitations on foreign bank entry, with the East Asian and Pacific countries a close second.
- The South Asian countries have the highest number of supervisors per bank, again with the East Asian and Pacific countries not far behind.
- The South Asian countries have the lowest degree of private monitoring and the highest degree of moral hazard.
- These countries have nearly the lowest percentage of foreign-bank ownership, while simultaneously having the highest percentage of government-bank ownership.

Offshore Centers --

- Compared to other groupings, banks in offshore centers display the highest degree of foreign ownership, highest fraction of domestic entry application denied, and least degree of supervisory authority independence.

III. What Works Best?

Our new database clearly demonstrates that countries differ widely in terms of banking size, structure, regulation and supervision. There is, in other words, a broad menu from which individual countries can mix and match various items when it comes to banking reform. However, knowing the “lay of the land” or providing various “benchmarks” for more than 100 countries around the world does not tell one which combination is best for promoting a healthy and stable banking industry within individual countries. This database, however, should prove invaluable in attempting to address this crucial issue. Banking researchers everywhere can now use this information to begin assessing which combination of regulations and supervisory practices are best in individual countries. We have already begun this process and will now report on our initial and necessarily tentative effort. Some of these results are summarized in Figure 1.

A. Bank Development and Regulation / Supervision

We have examined the relationship between bank development (i.e., bank credit extended to the private sector) and various regulations and supervisory practices. Some argue that to alleviate market failures and improve bank development, governments should restrict foreign-bank ownership, limit bank entry, restrict bank activities, rigorously supervise banks, and perhaps direct credit through government-owned banks. Yet, we find that bank development does not improve with tighter entry regulations, more restrictions on bank activities, greater power of the supervisory agency, or a higher degree of government ownership of banks. However, greater supervisory independence, which may proxy for supervisory skills, is linked positively with bank development.

Our results also highlight governments' success in promoting bank performance and stability when they empower the private sector and do not restrict bank activities. More specifically, the results suggest that an overall approach to bank regulation that stresses private-sector incentives is associated with greater banking-system success than an overall approach to bank regulation that emphasizes official government oversight and regulation of bank activities. Official government power is particularly harmful to bank development in countries with closed political systems.

We find that the denial of entry applications, regulatory restrictions on bank activities, and government ownership of banks retard bank development,

while regulations that boost private monitoring of banks and tight capital requirements promote bank development.

B. Regulations on Bank Activities and Banking/Commerce Links

Our empirical results indicate that restricting banking activities is negatively associated with bank development.⁵ Bank development is a particularly important indicator to examine because this variable exerts a positive impact on economic growth (Levine, 1997, 2003).

Our results also provide qualified support that restricting bank activities tends to increase the likelihood of suffering a major crisis. Specifically, we find a weak, positive link between the likelihood of a crisis and restricting bank activities. The ability of banks to stabilize income flows by diversifying activities, however, may only work in countries with some basic level of securities market development. When restricting the sample to countries where the International Finance Corporation (of the World Bank) has been able to collect at least some data on stock market transactions, we find that greater regulator restrictions are indeed positively associated with the likelihood of suffering a crisis. Thus, the results are consistent with the view that diversification of income sources through nontraditional bank activities tends to be positively associated with bank stability, especially in economies with active nonbank-financial markets.

C. Regulations on Domestic and Foreign Bank Entry

Our results indicate that tighter restrictions on entry into banking tend to increase overhead costs. We find that although regulatory restrictions on competition influence bank performance, there is no link between bank performance and the actual level of bank concentration. The impact on bank efficiency from restricting entry, however, is economically small.

Our results further indicate that the likelihood of a major banking crisis is positively associated with greater limitations on foreign-bank participation. We find that foreign-bank ownership per se is not critically linked to the likelihood of a crisis. We also find no evidence that restricting bank entry enhances performance or stability.

D. Deposit Insurance Design

We do not find a strong link between the generosity of the deposit insurance system and bank development. However, using our database, Beck, Demirguc-Kunt, and Levine (2003a) find that the generosity of the deposit insurance regime is positively associated with the financing obstacles perceived by the average firm. Thus, while the moral hazard produced by deposit insurance may foster the allocation of credit to a few firms, deposit insurance generosity, on average, raises the financing obstacles felt by firms.

⁵ See Kroszner and Rajan (1994), who examine the experience of U.S. banking before Glass-Steagall.

We do find a very strong and robust link between the generosity of the deposit insurance system and bank fragility, which confirms work by Demirgüç-Kunt and Detragiache (2003). Countries with more generous deposit insurance schemes have a much higher likelihood of suffering a major banking crisis. This result is consistent with the view that deposit insurance not only substantially exacerbates moral hazard but also produces deleterious effects on bank fragility. The results, moreover, suggest that the adverse incentive effects from deposit insurance overwhelm any stabilizing effects.

E. Regulations on Capital Adequacy

We examined whether more stringent capital regulations produce positive effects in particular policy environments. Strict capital adequacy regulations may be particularly important in countries with very generous deposit insurance regimes. We find no evidence for the proposition that official regulatory restrictions ameliorate the risk-taking incentives produced by generous deposit insurance.

This finding contradicts conventional wisdom and the current focus of policy advice being advanced by international agencies. These results do not suggest that bank capital is unimportant for bank fragility. They do, however, suggest that there is not a strong relationship between the stringency of official capital requirements and the likelihood of a crisis after controlling for other features of the regulatory and supervisory regime.

F. Supervision

In terms of supervision, there are two sets of conclusions. The first involves broad cross-country comparisons of the links between bank supervision and (i) aggregate financial development and (ii) bank stability. The second involves firm level results on the influence of different bank supervisory policies on the ability of firms to raise external finance. We first describe the results on the broad cross-country comparisons. We then summarize the firm level results.

The main message that emerges from our broad cross-country study, which encompasses a large number of official supervisory policies, is that we were not able to identify a strong connection between bank performance and official supervision. Specifically, overall official supervisory power is not related to bank development or bank efficiency or the level of nonperforming loans. Declaring insolvency power is also unrelated to development or efficiency. Prompt corrective power is negatively related to bank development. Loan classification stringency, liquidity requirements, diversification guidelines, and restrictions on making loans abroad are not related to bank development or efficiency or the level of nonperforming loans. In sum, those features constituting official “core” supervision are not strongly linked to bank development, bank efficiency, and the level of nonperforming loans in a predictable, convincing manner.

In terms of banking crises, the same basic message emerges (with one exception). Official supervisory power, declaring insolvency power, loans classification stringency, and supervisory independence are all unrelated to the likelihood of a crisis. In turn, prompt corrective power and provisioning stringency are unrelated to the likelihood of a crisis.

The one exception involves diversification (which refers to diversification guidelines and the absence of restrictions on making loans abroad): greater diversification significantly reduces the likelihood of suffering a major crisis in small economies – and most emerging market financial systems are small.

The firm-level study by Beck, Demirguc-Kunt, and Levine (2003a) provides much stronger evidence about the adverse effects of strong official supervision. This study uses information on almost 5,000 firms across 49 countries. The study assesses the impact of official supervisory power on the ability of firms to raise external finance and the likelihood that these firms report needing special connections or corrupt ties to obtain funding.

The firm-level results are broadly consistent with the major predictions of the grabbing hand view (Shleifer and Vishny, 1998). Firms in countries with strong official supervisory agencies tend to report greater obstacles to obtaining financing after controlling for many firm-specific and country-specific characteristics. Moreover, powerful official supervision tends to increase firm reliance on special connections and corruption in raising external financing. These findings raise a cautionary flag regarding supervisory policies designed to

empower official supervision of banks without simultaneously recognizing that politicians will have incentives to use the supervisory agency to achieve political ends.

G. Regulations Promoting Private-Sector Monitoring of Banks

Private monitoring is strongly linked with bank development and negatively associated with net interest margins and the level of nonperforming loans. The relationship is economically large. In terms of crises, there is not much of a link between private monitoring and the likelihood of a banking crisis.

Again, the results emphasize that those economies facilitating private-sector monitoring of banks have better performing banks than countries less focused on empowering private-sector corporate control of banks. Taken together with the results of official supervisory power, the results are inconsistent with supervisory approaches that emphasize direct government oversight of banks. Rather, the results are more consistent with supervisory and regulatory policies that emphasize the adoption of policies that foster private monitoring of banks.

Recent firm-level results are also consistent with the private monitoring view. The private monitoring view holds that bank supervisory policies that focus on ameliorating information and enforcement costs faced by private agents can have beneficial effects on the operation of banks. Specifically, Beck, Demirguc-Kunt, and Levine (2003a) show that bank supervisory policies that

require and enforce accurate information disclosure by banks and enhance private monitoring of banks tend to ease the financing obstacles faced by firms. Thus, while the results are inconsistent with the simple helping hand view that envisages powerful government supervisors promoting efficient banking, the results are also broadly inconsistent with the invisible hand view that sees no positive role for government actions. Bank supervisory policies that are limited to easing information and enforcement costs tend to be associated with more efficient intermediation.

H. Government Ownership of Banks

In terms of the direct relationship between bank performance and government ownership of banks, government ownership is generally positively related to the level of nonperforming loans in an economy but not robustly linked with the other performance indicators. We do not find a strong, positive relationship between government ownership and the likelihood of a crisis. Furthermore, there is no evidence, even in under-developed economies, that government-owned banks overcome market failures and channel credit to productive ends.

IV. Conclusion

The evidence suggests that regulatory and supervisory strategies that focus on empowering the private sector and limiting the adverse incentive effects from generous deposit insurance work best to promote efficient bank intermediation and bank stability. Countries with policies that promote private monitoring of banks reduce the financing obstacles faced by firms. Countries without excessively generous official deposit insurance regimes have less bank fragility and banks that facilitate the flow of credit to firms.

In contrast, direct official restrictions on banks and official oversight of banks frequently yields counterproductive results. Countries that impose greater regulatory restrictions on bank activities have more poorly developed and performing banks and a higher likelihood of suffering a major banking crisis. Countries that impose severe limits on foreign-bank entry suffer greater banking-sector fragility and lower bank interest rate margins (Demirguc-Kunt, Laeven, and Levine, 2003; Beck, Demirguc-Kunt, and Levine, 2003b; Levine, 2002). Finally, countries with power official supervision of banks actually increase the financing obstacles perceived by firms without improving bank stability. Thus, the results are consistent with the view that legal and regulatory reforms that promote and facilitate private monitoring of financial institutions provide a useful financial reform strategy.

These findings raise a cautionary flag regarding reform strategies that place excessive reliance on countries adhering to an extensive checklist of regulatory and supervisory practices that involve direct government oversight of and restrictions on banks. Indeed, our findings suggest that regulatory and supervisory practices that (1) require and enforce accurate information disclosure, (2) empower private-sector corporate control of banks, and (3) foster incentives for private agents to exert corporate control work best to promote bank development, performance and stability. Our results do not suggest that official regulation and supervision are unimportant. Indeed, we find that regulations and supervisory practices limiting the moral hazard incentives of poorly designed deposit insurance critically boost bank performance and stability. Our basic results emphasize that a strategic approach to bank regulation that stresses private-sector monitoring of banks tends to be associated with greater banking-system success than strategies that place excessive emphasis on direct official government oversight of and restrictions on banks.

These findings are important in the context of the current discussion on the reform of the Basel Capital Guidelines. Originally developed for internationally active, money center banks, these guidelines have become the de facto standard for developing countries. In the wake of the 1988 Basel Accord, strengthening bank supervision has become a widely accepted goal. The line of research reviewed here suggests at the very least that transferring recommendations from industrial to developing countries is difficult and

requires a number of supporting institutional features to be successful. One size does not appear to fit all. Indeed, the only exportable lesson so far is that based on developing and facilitating market oversight of banks. Although governments may choose to develop both market-based and official supervision, evidence presented here supports the former as more likely to be successful.

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Figure 1
Characteristics of Countries with different Bank Supervisory Policies

Crisis Countries

- * Tighter restrictions on bank ownership of nonfinancial firms
- * Tighter restrictions on nonfinancial firms ownership of banks
- * More limitations on foreign bank ownership of domestic banks
- * More limitations on foreign bank entry
- * Less loan classification stringency
- * More supervisors per bank
- * Fewer certified audits require
- * Moral Hazard greater
- * Lower foreign bank ownership
- * Higher state bank ownership

Low Bank Development Countries

- * Tighter restrictions on securities, insurance, and real estate activities
- * Less initial capital stringency
- * Less capital regulatory stringency
- * Small percentage of 10 biggest banks rated by international rating agencies
- * Less private monitoring
- * More bank concentration
- * Higher foreign bank ownership
- * Higher state bank ownership
- * Greater fraction of entry applications denied (both foreign and domestic)

High Nonperforming Loans Countries

- * Tighter restrictions on insurance activities
- * More limitations on foreign bank ownership of domestic banks
- * Lower overall capital stringency
- * Less Loan classification stringency
- * More supervisors per bank
- * Small percentage of 10 biggest banks rated by nternational rating agencies
- * Less private monitoring
- * Lower foreign bank ownership
- * High state bank ownership
- * Greater fraction entry applications denied (both foreign and domestic)

High Net Interest Margin Countries

- * Tighter restrictions on securities activities
- * Tighter restrictions on bank ownership of nonfinancial firms
- * Less initial capital stringency
- * Less capital regulatory stringency
- * Greater likelihood supervisor moves into banking
- * Small percentage of 10 biggest banks rated by international rating agencies
- * Less private monitoring
- * Higher state bank ownership
- * Bank development lower
- * Overheads costs higher
- * More crises

High Overhead cost Countries

- * Tighter restrictions on securities activities
- * Greater likelihood supervisors moves into banking
- * Small percentage of 10 biggest banks rated by international rating agencies
- * Bank development lower
- * Net interest margin higher
- * More crises