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**Article**

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# Bank Regulation and Supervision

Ross Levine\*

A large body of research suggests that banks matter for human welfare. Most noticeably, banks matter when they fail. Indeed, the fiscal costs of banking crises in developing countries since 1980 have exceeded \$1 trillion, and some estimates put the cost of Japan's banking problems alone over this threshold.<sup>1</sup> Recent research also finds that banks matter for economic growth.<sup>2</sup> Banks that mobilize and allocate savings efficiently, allocate capital to endeavors with the highest expected social returns, and exert sound governance over funded firms foster innovation and growth. Banks that instead funnel credit to connected parties and the politically powerful discourage entrepreneurship and impede economic development. Recent work further shows that banks matter for poverty and income distribution.<sup>3</sup> Well-functioning banks that extend credit to those with the best projects, rather than to the wealthy or to those with familial, political, or corrupt connections, exert an equalizing affect on the distribution of income and a disproportionately positive impact on the poor by de-linking good ideas and ability from past accumulation of wealth and associations.

The important relationship between banks and economic welfare has led researchers and international institutions to develop policy recommendations concerning bank regulation and supervision. The International Monetary Fund,

World Bank, and other international agencies have developed extensive checklists of "best practice" recommendations that they urge all countries to adopt. Most influentially, the Basel Committee on Bank Supervision recently revised and extended the 1988 Basel Capital Accord.

## Data

Until recently, the absence of data on bank regulation and supervision made it impossible to conduct broad cross-country studies of which regulations and supervisory practices promote sound banking. While analysts used models, country-studies, and the experiences of supervisors to make policy recommendations, there were simply insufficient data with which to conduct extensive international comparisons and to test the validity of Basel II or other proposals for reform. Clearly expert advice and evidence from individual countries should inform banking policies; but just as clearly, cross-country econometric evidence can provide a valuable input.

Consequently, James Barth, Gerard Caprio, and I assembled an international database on banking policies. We conducted two surveys. The first was conducted in 1998–9 and involved over 100 countries and included information on almost 200 regulations and supervisory practices. The second covered 2003–4 and included 50 more countries and 100 additional questions, many of which were recommended by users of the first survey.<sup>4</sup>

Using these data, I am working with others to assess which banking sector policies promote sound banking around

the world. In terms of defining "sound banking," many take for granted that stability is the primary objective of bank regulation. While we study stability, my co-authors and I also examine the impact of banking policies on bank development, efficiency, corruption in lending, and corporate governance of banks. Banks are not simply safe places to stash funds. Banks play pivotal roles in mobilizing and allocating resources, monitoring firms, and providing liquidity and risk management services. Thus, bank regulation and supervision should be judged by more criteria than stability alone.

## A Political Economy Approach

Consistent with research on the political economy of banking policies, the patterns we observe in the data suggest that countries do not choose individual regulations in isolation; rather, individual choices reflect broad approaches to the role of government in the economy.<sup>5</sup> Some governments choose an active, hands-on approach, where the government owns much of the banking industry, restricts banks from engaging in non-lending activities such as securities underwriting, insurance, real estate, and non-financial services, limits the entry of new banks, and creates a powerful supervisory agency that directly oversees and disciplines banks. Other countries rely substantially less on direct government control of banks. These countries place comparatively greater emphasis on forcing banks to disclose accurate information to the public as a mechanism for facilitating private sector governance of banks. Thus, some of my research can

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be viewed as using the laboratory of bank regulation and supervision to assess the historic debate about the proper role of government in the economy.

Given these observations, my coauthors and I have framed our initial international investigations of bank regulation and supervision within the context of two views of government. The public interest approach stresses that market failures — information and contract enforcement costs — interfere with the incentives and abilities of private agents to monitor and discipline banks effectively. From this perspective, a powerful supervisory agency that directly monitors and disciplines banks can improve bank operations. The public interest approach assumes that there are market failures and official supervisors have the incentives and capabilities to ameliorate those market failures by directly overseeing, regulating, and disciplining banks.

The private interest view, however, questions whether official supervisory agencies have the incentives and ability to fix market failures and enhance the socially efficient operation of banks. The private interest view holds that politicians and government supervisors do not maximize social welfare; they maximize their own welfare. Thus, if bank supervisory agencies have substantial influence over bank decisions, then politicians and supervisors may abuse this power to force banks to divert the flow of credit to ends that satisfy the private interests of politicians and supervisors, not the interests of the broader public. Thus, strengthening official oversight of banks might reduce bank efficiency and intensify corruption in lending.

According to the private interest view, most countries do not have political and legal systems that induce politicians and government officials to act in the best interests of society. Thus heavy

regulation of bank activities and direct, hands-on influence over banks is unlikely to promote sound banking. Rather, the private interest view holds that the most efficacious approach to bank supervision relies on using government regulations and institutions to empower private monitoring of banks. Specifically, the private interest approach advocates effective information disclosure rules and sound contract enforcement systems so that private investors can use this information to exert sound corporate governance over banks with positive ramifications on bank operations. This is not a *laissez-faire* approach. To the contrary, the private interest approach stresses that strong legal and regulatory institutions are necessary for reducing information and contract enforcement costs. My research is beginning to provide cross-country empirical evidence on these different approaches to bank regulation and supervision, including analyses of the role of legal and political institutions in determining the effectiveness of different banking sector policies.

### **Initial Results on What Works and What Does Not**

Using different cross-country, bank-level, and firm-level datasets and employing different econometric techniques, the initial results are broadly consistent with the predictions from a private interest view of bank regulation. Bank regulations and supervisory practices that force banks to disclose accurate information to the public tend to: 1) boost the development of the banking system as measured by private credit relative to Gross Domestic Product; 2) increase the efficiency of intermediation as measured by lower interest margins and bank overhead costs; and 3) reduce corruption in lending as measured by survey information from firms around the world.<sup>6</sup> For example,

Thorsten Beck, Asli Demirgüç-Kunt, and I estimate that the probability that a firm reports bank corruption as a major obstacle to firm growth would decrease by over half if a country moved from the 25<sup>th</sup> percentile of our measure of the degree to which regulations force information disclosure and foster private sector monitoring to the 75<sup>th</sup> percentile.<sup>7</sup> Furthermore, information disclosure rules have a particularly strong effect on reducing corruption in lending in countries with well-functioning legal institutions. Thus, private investors need both information and legal tools to exert sound governance over banks.

Results on banking system crises also advertise the importance of the incentives facing private investors. While we do not find a relationship between information disclosure rules and bank fragility, there is a strong link between deposit insurance design and crises. The results are consistent with the view that generous insurance schemes reduce the incentives of private investors to monitor banks and this increases the ability of bank owners to take on excessive risks, increasing the probability that the country suffer a systemic crisis.<sup>8</sup> For example, James R. Barth, Gerard Caprio, and I estimate that if Mexico changed its very generous deposit insurance to the sample average, then its probability of suffering a systemic crisis would drop by 12 percentage points.<sup>9</sup>

In contrast, the results across a range of studies do not support the public interest view of regulation and raise a cautionary flag regarding reliance on direct official oversight of banks, government ownership of banks, regulations restricting bank activities, and impediments to the entry of new domestic and foreign banks. We never find that giving official supervisors greater powers (to force a bank to change its internal organizational structure, suspend dividends, stop bonuses,

halt management fees, force banks to constitute provisions against actual or potential losses as determined by the supervisory agency, supersede the legal rights of shareholders, remove and replace managers and directors, obtain information from external auditors, and take legal action against auditors for negligence) enhances bank operations or reduces bank fragility. Similarly, greater government ownership of banks, regulatory restrictions on bank activities, or limitations on the entry of new banks never has positive effects. While some theories predict that strengthening direct official oversight and regulation of banks will promote social welfare in countries with well functioning political and legal institutions, we do not find support for this hypothesis either.<sup>10</sup>

Across the different studies that I have conducted thus far, the bulk of “hands on” government policies lowers bank development, induces less efficient banks, exacerbates corruption in bank lending, and intensifies banking system fragility. Specifically, countries that grant their official supervisors greater disciplinary powers have lower levels of bank development and greater corruption in lending. Governments that heavily regulate bank activities and restrict entry into banking have banks with bloated interest rate margins and larger overhead costs. For example, Demirgüç-Kunt, Luc Laeven, and I compute that if Mexico had the same level of restrictions on bank activities as Korea, its interest rate margins would be a full percentage point lower.<sup>11</sup> Furthermore, countries with greater government ownership of the banking industry have less banking system development. We also find that restricting banks from diversifying into non-lending activities and prohibiting banks from lending abroad increases banking system fragility.

Thus, the evidence is broadly con-

sistent with the private interest prediction that regulatory restrictions on activities, impediments to entry, limits on investing abroad, government ownership, and strengthening the discretionary power of official supervisors increase cronyism, corruption, and collusion with adverse ramifications on the efficiency and effectiveness bank intermediation. In analyses, however, we find that well-functioning political and legal institutions negate the negative effects of empowering direct official oversight of banks. But even in these cases, the results do not indicate that empowering direct official oversight improves bank operations.

## Basel II and Beyond

This research has implications for the three pillars of Basel II. Regarding pillar one, my coauthors and I did not find a significant impact of capital regulations on bank development, efficiency, stability, or corruption. Many factors may explain this result. The harmonization of national capital regulations makes it difficult to find a relationship between capital regulations and bank performance. Or, the lack of clear evidence on the beneficial effects of current capital regulations may reflect the inadequacy of the Basel I capital regulations and the need for implementing Basel II. Or, banks may evade capital regulations.

The findings support Basel II’s third pillar, but not its second. For most countries, the data indicate that strengthening official supervisory powers will make things worse, not better. Unless the country is “top ten” in terms of the development of its political institutions, the evidence suggests that strengthening official supervisory powers hurts bank development and leads to greater corruption in bank lending without any compensating positive effects. Instead, the results advertise the

efficacy of Basel II’s third pillar: market discipline. Regulations that require informational transparency and that strengthen the ability and incentives of the private sector to monitor banks tend to promote sound banking.

## Extensions

Finally, I have also begun to examine the determinants of bank supervisory and regulatory choices.<sup>12</sup> Perhaps not surprisingly, the data indicate that countries with more open, competitive, democratic political systems that have effective constraints on executive power tend to adopt an approach to bank supervision and regulation that relies more on private monitoring, imposes fewer regulatory restrictions on bank activities and the entry of new banks, and has less of a role for government-owned banks. In contrast, countries with more closed, uncompetitive, autocratic political institutions that impose ineffective constraints on the executive tend to rely less on private monitoring, impose more restrictions on bank activities and new bank entry, and create a bigger role for government banks. These findings underscore the difficulty in deriving uniform best practice guidelines for countries around the world. Much work remains, though. We have not exploited all aspects of the database on bank regulation and supervision and considerably more research is needed on designing strategies for reforming banking policies in ways that enhance the operation of banks and improve social welfare.

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<sup>1</sup> J. Barth, G. Caprio, and R. Levine, *Rethinking Bank Regulation: Till Angels Govern*, Cambridge University Press, forthcoming.

<sup>2</sup> R. Levine, “Finance and Growth: Theory and Evidence,” NBER Working Paper No. 10766, September 2004, and *Handbook of Economic Growth*, Philippe Aghion and Steven Durlauf eds., forthcoming.

<sup>3</sup> T. Beck, A. Demirgüç-Kunt, and R. Levine,

"Finance, Inequality, and Poverty: Cross-Country Evidence," NBER Working Paper No. 10979, December 2004; and T. Beck, A. Demirgüç-Kunt, L. Laeven, and R. Levine, "Finance, Firm Size, and Growth," NBER Working Paper No. 10983, December 2004.

<sup>4</sup> J. Barth, G. Caprio, and R. Levine, "Banking Systems Around the Globe: Do Regulation and Ownership Affect Performance and Stability?" in *Financial Supervision and Regulation: What Works and What Doesn't*, F. Mishkin ed., Chicago, IL: Chicago University Press, (2001), pp. 31–88; "The Regulation and Supervision of Banks Around the World: A New Database," in Robert E. Litan and Richard Herring, eds., *Integrating Emerging Market Countries into the Global Financial System*, Brookings-Wharton Papers on Financial Services, Washington, DC: Brookings Institution Press (2001), pp. 183–241; "Bank Regulation and Supervision: What Works Best?" NBER Working Paper No. 9323, November 2002, and *Journal of Financial Intermediation*, 13, (2004), pp. 205–48; and *Rethinking Bank Regulation: Till Angels Govern*.

<sup>5</sup> J. Barth, G. Caprio, and R. Levine, "Bank

*Regulation and Supervision: What Works Best?*", and *Rethinking Bank Regulation: Till Angels Govern*.

<sup>6</sup> J. Barth, G. Caprio, and R. Levine, "Bank Regulation and Supervision: What Works Best?"; A. Demirgüç-Kunt, L. Laeven, and R. Levine, "Regulations, Market Structure, Institutions, and the Cost of Financial Intermediation," NBER Working Paper No. 9890, August 2003, and *Journal of Money, Credit, and Banking*, 36 (2004), pp. 593–622; T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Supervision and Corporate Finance," NBER Working Paper No. 9620, April 2003, and "Bank Supervision and Corruption in Lending," mimeo (June 2005).

<sup>7</sup> T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Supervision and Corruption in Lending".

<sup>8</sup> A. Demirgüç-Kunt and E. Enrica Detragiache, "Does Deposit Insurance Increase Banking System Stability? An Empirical Investigation," *Journal of Monetary Economics*, 49, (2002), pp. 1373–406; and T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Concentration and Crises," NBER Working Paper No. 9921, August 2003, and "Bank Concentration, Competition and Crises: First Results,"

*Journal of Banking and Finance*, forthcoming.

<sup>9</sup> J. Barth, G. Caprio, and R. Levine, "Bank Regulation and Supervision: What Works Best?"

<sup>10</sup> G. Caprio, L. Laeven, R. Levine, "Governance and Bank Valuation," NBER Working Paper No. 10158, December 2003; J. Barth, G. Caprio, and R. Levine, "Bank Regulation and Supervision: What Works Best?"; A. Demirgüç-Kunt, L. Laeven, and R. Levine, "Regulations, Market Structure, Institutions, and the Cost of Financial Intermediation"; T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Supervision and Corporate Finance"; T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Supervision and Corruption in Lending"; T. Beck, A. Demirgüç-Kunt, and R. Levine, "Bank Concentration and Crises"; and J. Barth, G. Caprio, and R. Levine, *Rethinking Bank Regulation: Till Angels Govern*.

<sup>11</sup> A. Demirgüç-Kunt, L. Laeven, and R. Levine, "Regulations, Market Structure, Institutions, and the Cost of Financial Intermediation".

<sup>12</sup> J. Barth, G. Caprio, and R. Levine, *Rethinking Bank Regulation: Till Angels Govern*.

