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BANK RISK MANAGEMENT

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The U.S. financial system is not a monolith. Composed of many interlocking systems—including the banking, insurance and pension sectors, and private and public capital markets—it could be vulnerable to risks. This Mercatus on Policy surveys such risks in one of the oldest and most heavily regulated components of the financial system: banking.

BANKING PRACTICES

While Americans are relying increasingly on capital markets to allocate credit, banks remain one of the most important intermediaries in the financial system.[1] Only banks take deposits and originate loans, transforming short-term liquid assets (cash deposits) into longer-term less-liquid assets (loans) while retaining sufficient funds to meet demand for withdrawals.[2] This continuous low-cost, large-scale conversion of assets to money on demand has greatly facilitated consumption and investment in the United States.

Because banks must have funds on hand to pay withdrawals, they cannot loan out 100 percent of the value of deposits. Instead, they reserve a fraction of this amount, loan out the rest, and collect fees and interest for services. This service increases the amount of funds available for economic activity. Say a bank accepts $100,000 in deposits. If it reserves $50,000 and loans $50,000, the value of the bank's activity in the economy is not $100,000 but $150,000. In short, banks increase the supply of money when they make loans. Hence, banking services are not pure private goods or services, but quasi-public ones.[3]

The quasi-public aspects of banking arise not only from the ability of banks to create money, but also from the systemic

impact of their activities. Banks that do not properly price their products and services or safely manage risks can fail. Unless they are insured, they cannot return the full value of deposits to their customers.[4] When one bank fails, its failure can create uncertainty among depositors about the soundness of other banks. If too many depositors panic and demand to withdraw their funds at the same time, even healthy banks will not be able to meet the demand, leading to a system-wide financial crisis and severe macroeconomic pressure.[5]

Experience demonstrates that bank managers often do not take such systemic externalities into account in pricing risk and determining the amount of private capital to invest, which means the optimal capital ratio for a bank in terms of its public risk may be greater than the bank would normally choose on its own. Some form of industry-neutral system-wide coordination is required to protect macroeconomic stability.[6]

SOURCES OF RISK IN BANKING

Modern banking must account for six sources of risk:

- **Economic risk** arises from the business that bankers pursue. When midwestern banks lent aggressively to farmers in the 1970s and 1980s, the falling price of agricultural commodities created considerable economic risk. Farmers did not have adequate income to meet their loan payments and had to sell land to pay debts. As large numbers of farmers sold their land, the price of the land dropped, forcing banks to negotiate workouts that would forestall large-scale bankruptcies and bank failures.

- **Operations risk** arises from how a bank does business, maintains business continuity, and recovers from disruptions. Transaction processing operations in New York City were severely compromised on September 11 when some banks' operations risk-management systems proved inadequate to protect them, prompting regulators to establish requirements for business continuity and disaster recovery.

- **Technology risk** comes from the tools a bank uses to support operating processes, including computer hardware, software, and information and communications networks. The risk of security breaches in electronic transaction technologies is a technology risk.

- **Financial risk** arises from a bank's asset transformation activities. Common sources of financial risk include credit, interest, and exchange-rate risk; asset/liability management; and market risk. The way commercial banks managed the financial risk associated with securitizing mortgage loans and trading for their own accounts is partly responsible for the current fiscal crisis.[7]

- **Regulatory risk** results when changes in the policy or regulatory environment make it difficult to predict the behavior of others in the financial system or create perverse incentives for investors. For example, some analysts argue that a number of regulatory changes intended to address problems in the Savings and Loan banks in the 1970s actually worsened the crisis, creating incentives for bankers to assume too much financial risk.[8]

- **Systemic risk** happens when banks cannot meet a significant and unexpected demand for liquidity. Changes in the demand for liquidity can occur because banks are insolvent, as the result of "contagion" where the problems of a weak bank spread to healthy banks that have claims on them, or in response to events such as natural disasters or other types of economic disturbances.[9]

WHAT QUESTIONS SHOULD WE ASK ABOUT REGULATING BANKING ACTIVITIES?

There are many theories of regulation and studies of regulatory behavior in banking.[10] Nevertheless, there is general agreement that well-designed regulations distribute the risks associated with market failures, improve coordination, remove uncertainties, and reduce the risks involved with investment and exchange. There are six general principles that should guide regulatory reform.

1. **Accountability.** Since regulation aims to serve the public interest, a regulatory authority must be accountable first and foremost to the public. Banking has an extensive public reach, including households, for- and non-profit enterprises, and governments. When banking activities are regional or global, the public interest may extend beyond our borders.

   To be accountable, a regulatory authority must encourage participation in its deliberations and be open, accessible, and subject to sanction if it fails to meet duties proscribed by law. Examples of regulatory accountability include publishing information about activities, holding public hearings, soliciting comments, and hearing complaints. Fortunately, the Internet makes it easy to provide a high level of accountability at a relatively low cost.

2. **Checks and Balances.** The exercise of regulatory authority must be subject to checks and balances so that no individual, group, or political or special interest

can dominate regulatory activities. Checks and balances are typically achieved by proportional representation in decision making, voting rules, public or other third-party oversight, and judicial review.

3. **Independence.** A truly independent authority would regulate industry *and* government. It would depend exclusively on public support and the rule of law for its authority. It must have the freedom and authority to structure and govern its own affairs, raise revenues to finance activities, investigate and discover information, hold hearings, compel testimony, make and enforce rules and procedures, and so on.

4. **Predictability.** A well-designed regulatory authority produces predictable outcomes that enjoy widespread public support. These outcomes form its mission and are the measure against which the public may hold it accountable. Examples of predictable outcomes include effectiveness, efficiency, fiscal equivalence, and distributional equity.[11]

5. **Due Process.** To maintain public support, a regulatory authority must create and consistently follow standards that provide due process for those it regulates. Due process includes fundamental standards of fairness, respecting legal rights (including the right to be adequately notified of charges or proceedings), the opportunity to be heard, timeliness in addressing issues, and so on.

6. **Adaptability.** Regulations often impose rigidities, which can become sources of systemic risk. Effective regulatory authorities encourage enterprises to sustain themselves by innovating in response to changes in the environment—and they perform periodic stress tests at random intervals on their covered institutions. Regulation based on general principles encourages adaptation more than strictly codified rules, which sophisticated players can easily evade.

Another way that regulators can encourage adaptability in industries like banking that have periodic upturns and downturns is with the use of counter-cyclical policies that address fundamental sources of instability. For example, asset bubbles such as the recent property market bubble are often harbingers of a downturn in the business cycle, which poses an economic risk for banks. Vigorous stress testing and enforcement when the signs of a bubble emerge can discourage lax management and excessive risk-taking.

Finally, a well-designed regulatory authority allows regulators to exercise good judgment in enforcing rules. Flexibility is required to avoid rigidities that impede industry adjustments to changing conditions such as price changes; technological, managerial, and marketing innovations; crises and disasters; changes in demand; or cycles of expansion and consolidation. Examples of flexible enforcement mechanisms include forbearance, temporarily suspending rules or relaxing enforcement, granting tradable rights, and permissions based on risk.

CONCLUSION

Policymakers who seek to ensure a robust and effective regulatory regime for banks must always keep in mind the interconnected nature of the industry as well as the various distinct risks that banks themselves specialize in managing. Adhering to the above six principles will be necessary in any major reforms of the banking regulatory regime.

ENDNOTES

1. Commercial banks are one of the oldest types of financial intermediaries and they are the largest class of banks in the U.S. financial system. In 2007, commercial banks held $11 trillion in financial assets. Other major classifications of banks include savings and loans (thrifts) and credit unions. Other types of intermediaries in the U.S. financial system include insurance companies; private capital market funds (venture capital, private equity, private stock offerings, and other investment funds such as mutual funds, index funds, and hedge funds); public capital market exchanges; commodities exchanges; and pension funds.

2. For an explanation of the role of capital and leverage in banking, see Lawrence J. White, "The Role of Capital and Leverage in the Financial Markets Debacle of 2007–2008," *Mercatus on Policy* 37, Mercatus Center at George Mason University, 2009.

3. Margaret M. Polski, *The Invisible Hands of U.S. Commercial Banking Reform: Private Action and Public Guarantees*. (The Netherlands: Kluwer. 2003); Charles P. Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises*, rev. ed. (1978; repr., New York: John Wiley & Sons, 1996) makes a similar argument in analyzing the role of money and credit mechanisms in financial crises. From a policy perspective, the public nature of the banking business has been widely recognized since its inception in the United States. The earliest American banks were chartered because they were considered to be "some sort of public utility," or in the earlier terminology, "public blessings" (Fritz Redlich, *The Molding of American Banking: Men and Ideas* (New York: Johnson Reprint Corporation, 1968). Banks are still widely regarded to have unique functions that distinguish them from other financial service firms and hence justify subsidies in the form of discounted borrowing, federally guaranteed deposit insurance, and extensive regulation of management decision-making (Gerald E. Corigan, "Are Banks Special?" *Federal Reserve Bank of Minneapolis Annual Report*, 1982). For a critical analysis of these suppositions, see Anthony Saunders, "Bank Holding Companies: Structure, Performance, and Reform," in William S. Haraf and Rose Marie Kushmeider, eds., *Restructuring Banking and Financial Services in America* (Washington, DC: American Enterprise Institute, 1988).

4. Most U.S. banks insure deposits up to $100,000 through membership in the Federal Deposit Insurance Corporation (FDIC). While banks pay premiums to the FDIC to cover potential draws against the fund, the U.S.

Treasury serves as an insurer of last resort in the event that FDIC funds are not adequate.

5. For an influential analysis of systemic risk in banking activities, see D. W. Diamond and P. Dybvig, "Bank Runs, Deposit Insurance, and Liquidity," Journal of Political Economy 91 (1983): 401–419. For more contemporary overviews of systemic risk issues, see Charles W. Calomiris, "Bank Failures in Theory and History: the Great Depression and Other 'Contagious' Events," (NBER working paper 13597, November 2008); Franklin Allen and Douglas Gale, "Financial Contagion," *Journal of Political Economy* 108, no. 1 (2000): 1–33; and Olivier De Bandt and Philipp Hartmann, "Systemic Risk: A Survey," (European Central Bank working paper no. 35, November 2000).

6. Since the benefits of system-wide stability accrue to all economic actors, not just to bank owners, it may not be socially or economically appropriate to have only bank owners bear the costs of systemic risk. This potential negative externality provides the justification for government intervention to provide a safety net (see Randall S. Kroszner, "Rethinking Bank Regulation: A Review of the Historical Evidence," *Bank of America Journal of Applied Corporate Finance* 11, no. 2 (Summer 1998).

7. For a detailed analysis, see Gary Gorton, "The Panic of 2007," (NBER working paper 14358, September 2008).

8. See for example Lawrence H. White, "The Partial Deregulation of Banks and Other Depository Institutions," in Leonard W. Weiss and Michael W. Klass, eds., *Regulatory Reform: What Actually Happened* (Boston, MA: Little, Brown and Company, 1986). Similarly, Gorton and Calomiris argue that policy choices and regulatory behavior are sources of current systemic instability in the banking system.

9. See Kindleberger for a historical analysis of panic and mania and Margaret M. Polski, *Wired for Survival: The Rational (And Irrational) Choices We Make From the Gas Pump to Terrorism* (FT Press. 2008) for an analysis of what science is telling us about how we make decisions that involve our security.

10. See Rose Marie Kushmeider, "The U.S. Federal Financial Regulatory System: Restructuring Federal Bank Regulation," *FDIC Banking Review* 17, no. 4 (2005): 1–29 for a contemporary overview of U.S. bank regulation and issues, and William Nelson and Wayne Passmore, "Pragmatic Monitoring of Financial Stability," in Bank for International Settlements, "Marrying the Macro and Micro Prudential Dimensions of Financial Stability," (BIS paper #1, March 2001) for pragmatic approaches to monitoring systemic risk in the banking sector. For an overview of the theoretical literature, see Margaret M. Polski, *The Invisible Hands of U.S. Commercial Banking Reform: Private Action and Public Guarantees*. (The Netherlands: Kluwer. 2003. For a general primer on regulation, see Susan E. Dudley, *Primer on Regulation*, Policy Series Resource no. 1, (Arlington, VA: Mercatus Center at George Mason University, November 2005).

11. Effectiveness is the extent to which a regulatory authority makes and enforces rules that address market failure in less onerous ways than not regulating. Efficiency standards vary. In a technically efficient outcome, the marginal cost of producing a unit of output equals the price. Allocative efficiency is achieved if the marginal social benefit equals the marginal social cost. In fiscal equivalence or proportionality, those who benefit from a good or service bear the cost of providing it in measure equal to the benefits received. Those who derive greater benefits must pay more than those who derive fewer benefits. Distributional equity exists if individuals contribute toward the cost of goods and services based upon their ability to pay for them. Depending upon the distribution of income in a society, a progressive equity scheme may directly conflict with those based on the principle of fiscal equivalence.

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