

# REGULATION'S ROLE IN BANK CHANGES

## 1. INTRODUCTION

**B**anks are heavily involved in facilitating the modern chain of market-based financial intermediation. This chain is long and complex: It involves loans originated to be securitized, special-purpose vehicles that purchase and bundle these loans, investors who buy the securities, entities that provide credit and liquidity enhancement to guarantee assets and make the corresponding securities more reliable, asset-backed commercial paper conduits that sell commercial paper, money market mutual funds that purchase that commercial paper, and the repo market, where highly rated securities have come to be a form of currency (Gorton and Metrick 2010). There are also many other steps, players, and processes.

The thesis set forth in the introduction to this volume (Cetorelli, Mandel, and Mollineaux 2012) is that financial intermediation technology has evolved in recent years and that banks have adapted to this evolution. However, the authors remain agnostic as to the causes of this technological evolution, focusing instead on documenting the evolving role of banks. The goal of this article is to acknowledge the importance of the regulatory environment as a main driver of such developments.

In 1986, Nobel Prize-winning economist Merton Miller spoke of how government action frequently played a role in the advent of financial innovation, arguing that the government provided the “grain of sand in the oyster” that led to the pearl. In fact, Miller went so far as to declare that “the major impulses to successful financial innovations over the past twenty years have come from regulations and taxes.”

This article is not an attempt to show that regulation has been the major impulse to innovation, nor does it reason at length on the endogeneity of regulatory changes (in some instances, rules are changed to match an evolving marketplace rather than the reverse, though even then we can learn much from the law of unintended consequences).<sup>1</sup> Rather, it argues that government involvement has been a significant factor, and describes a number of the regulatory, legal, and policy decisions that have influenced the development of this new financial intermediation landscape and shaped banks' roles within it over the past thirty to forty years.

## 2. THE EMERGENCE OF MONEY MARKET MUTUAL FUNDS

### 2.1 Increase in the Federal Funds Rate and Regulation Q

In January 1978, the federal funds rate was 6.5 percent. By year's end it had risen to 10 percent (Federal Reserve Bank of New York 2011). At the time, the interest rate that commercial

<sup>1</sup> Kroszner and Strahan explore the nature of regulatory change in a number of papers (1999, 2001, forthcoming). They argue that much of the banking deregulation in recent decades—and its timing—can be attributed to the power that private interests have in pressing for or stalling regulatory change.

banks could pay on deposits was capped by the Federal Reserve Board's Regulation Q (Gilbert 1986), so the rapid increase in the fed funds rate to such high levels created great demand for bank substitutes that were safe yet could deliver a higher yield than banks were legally permitted. In 1980, Congress passed the Depository Institutions Deregulation and Monetary Control Act, which mandated the lifting of Regulation Q. However, by the time the interest rate ceiling was completely phased out in 1986, money market mutual funds (MMMFs) were already flourishing. According to Gorton and Metrick (2010), MMMFs were created as "a response" to the interest rate caps on bank deposits.

## 2.2 Money Market Mutual Funds and Regulation 2a-7

Money market mutual funds gained a reputation for being very reliable, in part because their investments were legally restricted to "high-quality" assets. The creation of MMMFs dates back to the late 1970s and early 1980s, when certain mutual funds sought relief from the accounting rules of the Investment Company Act of 1940, which stipulated that the funds had to mark-to-market the values of their portfolios (Securities and Exchange Commission 1983). At first, the Securities and Exchange Commission granted such accounting exemptions on a case-by-case basis, but in 1983 it codified these rules in the form of Regulation 2a-7, which stated that, in exchange for restrictions on the types of assets in which they could invest, MMMFs were permitted to value their shares based on either 1) the amortized value, or 2) the current market value, but rounded to the nearest penny, with one share equaling one dollar (Securities and Exchange Commission 1983).

Regulation 2a-7 gave MMMFs a special status within the mutual fund world. Many investors came to believe that MMMFs were so thoroughly restricted by regulation that they had an implicit government guarantee, a viewpoint somewhat validated when the funds were essentially bailed out in 2008, as Gorton and Metrick (2010) have observed. These authors add that MMMFs do not pay insurance premiums to the Federal Deposit Insurance Corporation (FDIC) for this seeming guarantee—an advantage that has given them a competitive edge over commercial banks.

## 3. THE GROWTH OF THE REPO MARKET

### 3.1 Volatile Interest Rates

The dramatic move in the federal funds rate in 1978 was not an isolated event. Between 1976 and 1981, the funds rate swung from a low of 4.75 percent to a high of between 19 and 20 percent, then dropped back, slipping below 6 percent temporarily in 1986 (Federal Reserve Bank of New York 2011). According to Garbade (2006), the "rising volatility of interest rates . . . elevat[ed] the importance of risk management." Concerns about risk provided fertile ground for the repo, a contract with powerful hedging potential. For example, if an investor holding bonds was worried that those bonds might decline in value, he or she could short-sell securities and use a reverse repo to borrow the securities to be delivered against the short sale. If interest rates went up and the value of bonds in the marketplace decreased, the investor would lose money on the bonds he or she was holding long, but gain money off the fact that, when the repo contract came due, he or she could purchase securities at a lower price than that obtained on the short sale and use those securities to close out the reverse repo. If interest rates went down, the investor would lose money on the short sale, but that loss would be offset by the increase in the value of the bonds held long. The volatile interest rate environment made such hedging tactics more of a priority, and repo use grew as a result (Garbade 2006).

The repo market was not used solely for hedging purposes, however. According to Acharya and Onucu (2011), those wanting to invest large sums on a temporary basis found repos attractive because 1) funds in the repo market can earn a higher interest rate than funds in commercial bank deposits, and 2) funds in the repo market are safe (backed by collateral), whereas, beyond the FDIC-insurance limit, funds in commercial banks are not. Consequently, the rise of the repo market is directly relevant to commercial banks because the repo market is a substitute for commercial bank deposits. As Gorton and Metrick (2009) put it, "Repurchase agreements are economically like demand deposits; they play the same role as demand deposits, but for firms operating in the capital markets."

### 3.2 Bankruptcy-Remote Status for Repos

As repos grew in popularity, a major legislative event secured the efficacy of the repo contract. For years, ambiguity about whether the repo contract represented the formal sale of a

security or merely the lending of a security had served traders well; clients who did not want to purchase a security could be told that it was a loan, and vice versa (Stigum 1983). But there was the presumption that if an investment bank or other firm dealing a security through a repo contract went bankrupt, the security would remain firmly in the hands of the counterparty. If this were not the case and repos were subject to the automatic stay (the restriction that the assets of bankrupt firms be frozen until the court determines how those assets should be distributed), the value of the security could potentially fall in the interim while the counterparty waited to receive the asset. In short, having repos be subject to bankruptcy proceedings would dramatically decrease the usefulness of the repo contract, a mainstay of today's financial system (Garbade 2006; Stigum 1983).

In 1982, the issue finally arose in court and it was decided that repos were merely "secured loans" (Garbade 2006). This conclusion was worrisome to many, including Federal Reserve Chairman Paul Volcker. Prompted in part by Chairman Volcker's recommendation, Congress passed the Bankruptcy Amendments and Federal Judgeship Act of 1984, which, though it did not settle the loan/sale issue, protected repos involving Treasury and federal agency securities from the automatic stay (Schroeder 1996; Garbade 2006). Were it not for this legislation, repos would likely not be the foundational transaction tool they are today because being subject to the bankruptcy process would make them a far less sure form of collateral.

## 4. RISE AND GROWTH OF SECURITIZATION

### 4.1 Government-Sponsored Enterprises' Involvement in Mortgage-Backed Securities

As DeYoung (2007) has observed, "Securitization is a story about government intervention right from the beginning. Securitization began in the 1960s with the creation of the Ginnie Mae pass-through and exploded in the 1980s with the development of the collateralized mortgage obligation."

In 1968, Congress granted Ginnie Mae (the Government National Mortgage Association) the right to issue mortgage-backed securities, known as MBS (Oesterle 2010), and Ginnie Mae did so for the first time in 1970 (McConnell and Buser 2011). Freddie Mac (the Federal Home Loan Mortgage

Corporation) followed suit in 1971, and Fannie Mae (the Federal National Mortgage Association) adopted the practice ten years later (White 2004). Initially, MBS could be issued only on mortgages guaranteed or insured by the government, but the Emergency Home Finance Act of 1970 lifted that restriction for Freddie Mac and Fannie Mae, enabling them to buy mortgages with no government guarantee (Reiss 2008; Van Order 2000; Carrozzo 2005). Since then, Freddie Mac and Fannie Mae have securitized huge numbers of mortgages. As of 2009, total Freddie Mac and Fannie Mae outstanding MBS issuance stood at nearly \$4 trillion (Dyner and Gayer 2011).

### 4.2 Creation of the Real Estate Mortgage Investment Conduit

In 1983, the government-sponsored enterprises once again found themselves on the cutting edge of securitization practices when Freddie Mac became the first institution to issue collateralized mortgage obligations (CMOs), which are multi-class mortgage-backed securities—or, in other words, MBS with multiple tranches (McConnell and Buser 2011; Roll 1987). Before long, the private sector followed suit (Kolb 2011).

CMOs were useful because they allowed investors to purchase tranches with varying characteristics. For example, investors who were concerned about prepayment risk (the risk that a loan will be paid off early because of a decline in interest rates, thus leaving the investor in a poor environment for reinvesting those funds) could purchase securities designed to mitigate that risk (Hu 2011). A complicating factor facing multi-class trusts was that their payments were considered equity dividends, which are not tax deductible, whereas payments to a traditional nontranching, pass-through security were considered payments on debt, which are tax deductible (Fabozzi 2001). This meant that, when money flowed from the loans to the investors, not only did the investors have to pay taxes, but the trusts needed to as well. "The resulting double taxation . . . made the transaction economically impractical," notes Fabozzi (2001).

Collateralized mortgage obligations were an innovation because, as the name suggests, they were structured such that their payments were debt payments collateralized by traditional pass-through securities rather than equity payments, and were thus tax deductible for the trust issuing them (Fabozzi 2001; Hu 2011). However, the structural constraints on CMOs were burdensome (residual interests needed to be held, capital requirements needed to be met, and so forth), making it difficult to issue the securities efficiently (Fabozzi 2001).

In the tax reform of 1986, Congress eliminated the double-taxation problem by calling for the creation of the real estate mortgage investment conduit (REMIC), a tax-exempt special-purpose vehicle specially designated for issuing multi-class MBS.<sup>2</sup> REMICs are “the tax vehicle of choice” in the multi-class mortgage-backed-securities market today (Peaslee and Nirenberg 2001).

### 4.3 Increasing Bank Capital Requirements

In 1981, regulators decided to impose primary capital requirements equal to 5 percent and 6 percent of total assets on regional banks and community banks, respectively (Wall 1989). In 1983, capital requirements of 5 percent of total assets were applied to multinational banks (Wall 1989; Baer and McElravey 1993). Then, in 1988, the Basel Committee on Banking Supervision passed a set of stricter capital requirements that were intended to provide the international banking community with a consistent capital ratio framework. Basel I, as it is called, was fully phased in by 1992 and required banks to have capital reserves equal to 8 percent of their risk-weighted assets (Choudhry 2007).

However, this “stricter” set of requirements disproportionately favored mortgage-backed securities. For instance, cash had a risk multiplier of zero percent, so holding additional cash did not require a bank to hold additional capital, and MBS had a risk-weight of 50 percent, so acquiring an additional \$10,000 of MBS meant that a bank would need  $\$10,000 \times 0.5 \times 0.08 = \$400$  more capital. However, other “customer loans are 100 percent risk-weighted regardless of the underlying rating of the borrower or the quality of the security held” (Choudhry 2007).

It was in part to correct the oversimplified nature of Basel I that Basel II was developed. Among other changes, it gave banks the choice between three different capital frameworks. The “standardized approach” was essentially the same as Basel I, but it incorporated asset ratings and applied more risk-weighting gradations between different assets. Meanwhile, the “foundation and advanced internal ratings-based (IRB) approaches” allowed banks to use their own, more sophisticated models of risk (Choudhry 2007). It is important to note, however, that the Basel II standards had not been implemented in the United States when the financial crisis hit (Elliott 2010).

<sup>2</sup> CMOs essentially disappeared in the early 1990s, so today the term CMO generally refers to a REMIC structure (Hu 2011).

The introduction of capital requirements in 1981, and the various revisions of those requirements in the decades since then (under the Basel capital rules), has had the significant unanticipated consequence of motivating banks to move assets off their balance sheets in order to avoid the regulatory capital cost. Securitization provided an effective way to accomplish this. As Kroszner and Strahan (forthcoming) put it, “Efforts to avoid capital may in part explain the rise in off-balance-sheet banking during the 1980s. Similarly, the 1988 Accord may have encouraged banks to securitize loans in order to reduce required capital ratios.” Likewise, Choudhry (2007) argues that “the Basel I rules . . . have been a driving force behind securitization” and that banks now use securitization “to improve balance sheet capital management.”

### 4.4 Low Capital Requirements for Banks’ Liquidity Support of Asset-Backed Commercial Paper

Interpretation 46, issued by the Financial Accounting Standards Board in 2003, stated that all commercial banks needed to include information in their financial reports about the special-purpose vehicles for which they were the primary beneficiaries. This rule would have meant that banks needed to include in their capital requirement calculations the asset-backed commercial paper (ABCP) conduits to which they provided credit and liquidity support. However, in 2004, the Office of the Comptroller of the Currency, the FDIC, the Office of Thrift Supervision, and the Federal Reserve made ABCP conduits exempt from the consolidation rules. Instead, regulators decided that the liquidity guarantees extended to ABCP conduits required a capital charge of one-tenth the capital needed to hold an equivalent dollar value of loans on the balance sheet, though credit guarantees had capital requirements similar to on-balance-sheet loans (Acharya, Schnabl, and Suarez, forthcoming; Gilliam 2005).

According to Acharya, Kulkarni, and Richardson (2011), banks were able to “exploit a loophole in Basel capital requirements” and structure their guarantees as “so-called liquidity enhancements,” which were effectively credit guarantees but without the more stringent capital requirements. Thus, banks could move loans off their balance sheets, securitize them, and then provide them with liquidity support. This strategy would leave banks with one-tenth the capital charges but the same level of risk they would have had if they had held the loans on their balance sheets (Acharya, Schnabl, and Suarez, forthcoming).

## 5. CHANGES TO BANKING STRUCTURE

### 5.1 Laws Promoting Growth of Interstate Banking and Branching

As documented in the introduction to this volume, banks have adapted to recent changes in intermediation technology by expanding into nontraditional banking activities and taking up the many roles needed in the process of asset securitization. The existence of important economies of scale in adopting this different business model made growth in size a necessity; yet for much of the twentieth century, banks faced expansion restrictions. As Jayaratne and Strahan (1996) note, bank holding companies of one state were not allowed to engage in interstate banking (owning and operating banks in different states), and most states prohibited individual banks from intrastate branching (opening new branches within the state). Moreover, as pointed out by McLaughlin (1995), banks were prevented from engaging in interstate branching (opening branches in other states).

In 1978, Maine passed a law allowing bank holding companies of other states to purchase banks in Maine if those states would grant Maine's bank holding companies the same privilege in return. Other states followed suit, and by 1992—with the exception of Hawaii—all the states had passed such legislation (Strahan 2003; Jayaratne and Strahan 1998). The Office of the Comptroller of the Currency furthered this movement in the mid-1980s by allowing banks with national charters to branch into any state that permitted the unrestricted branching of savings institutions (Strahan 2003). Intrastate branching was permitted in many states in some form even before the 1970s, and the percentage of states for which this was true increased substantially over the subsequent decades. By 1992, statewide branching was permissible in almost all states (Strahan 2003; Jayaratne and Strahan 1998).

Finally, in 1994, Congress passed the Riegle-Neal Interstate Banking and Branching Efficiency Act.<sup>3</sup> It required complete interstate banking by 1997 and encouraged states to permit interstate banking, which all states except Texas and Montana did (Strahan 2003). The interstate banking and branching deregulation commenced by the states and furthered by the federal government contributed to the consolidation of U.S. commercial banks. Indeed, DeYoung (2007) writes that, after Riegle-Neal was passed, “the immediate response was the highest ever five-year run of

<sup>3</sup> See <http://www.gpo.gov/fdsys/pkg/BILLS-103hr3841enr/pdf/BILLS-103hr3841enr.pdf>.

bank mergers in U.S. history in terms of both the number and the value” (Berger et al. 2004).

### 5.2 The Gramm-Leach-Bliley Act

In the wake of the catastrophic bank failures at the beginning of the Great Depression, legislators passed the Banking Act of 1933 (also known as the Glass-Steagall Act), which, among other things, segregated commercial banking activities from investment banking activities (Cornett, Ors, and Tehranian 2002; Spong 2000). From 1933 to 1963, banks largely adhered to the provisions of Glass-Steagall, but from 1963 to 1987 they challenged the restrictions on their ability to underwrite mortgage-backed securities, municipal bonds, and commercial paper—and often won in court. Then, with this “de facto erosion of the Glass-Steagall Act by legal interpretation,” in 1987 the Federal Reserve permitted bank holding companies to hold both commercial banks and investment banks, as long as no more than 5 percent of the investment banks' revenue was from “ineligible securities activities” (Cornett, Ors, and Tehranian 2002). This limit was increased to 10 percent in 1989 and to 25 percent in 1996.

This trend toward deregulation continued in subsequent years. In 1999, Congress passed the Financial Services Modernization Act (also known as the Gramm-Leach-Bliley Act), which created the financial holding company structure. Under this legislation, a financial holding company could have commercial banks, securities firms, and insurance companies as subsidiaries (Spong 2000). According to Spong, this act “[set] the stage for dramatic changes within the financial industry.” By permitting commercial banks to engage in a wide variety of fee-based activities such as equity and debt underwriting, securities brokerage, and insurance products, the Gramm-Leach-Bliley Act played a part in commercial banks' shift away from traditional on-balance-sheet banking toward off-balance-sheet, noninterest income sources (DeYoung 2007).

## 6. CONCLUSION

The government actions described in this article fall into a few distinct categories, and these categories reveal much about the growth of the financial intermediation industry as it relates to banks. In some cases, the government enacted restrictions that indirectly encouraged financial innovation by prompting

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banks and other actors to seek ways of circumventing the new rules. For example, Regulation Q led to the growth of money market mutual funds, while capital requirements indirectly promoted securitization and other off-balance-sheet activities.

Sometimes the government explicitly promoted or protected a particular entity, as it did when it declared asset-backed-commercial-paper conduits exempt from Interpretation 46, and again when it created the real estate mortgage investment conduit. In other instances, the government simply created an environment that proved fertile ground for innovation. Thus, the volatile interest rates of

the late 1970s and early 1980s encouraged the growth of repo contracts. And in the most obvious example of its involvement, the government put into practice its new vision of commercial banking by explicitly approving the consolidation of commercial banks through the Riegle-Neal Act and by expanding the banks' stock of permissible activities with the Gramm-Leach-Bliley Act.

In these and other ways, the guiding hand of policy and regulation has been influential in altering the institutions, contracts, and instruments used in financial intermediation and in reshaping the role that banks play in this process.

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