Genie out of the Bottle: The Evolution of Too-Big-to-Fail Policy and Banking Strategy in the US

Gary A. Dymski*

Department of Economics

University of California, Riverside.

Email: gary.dymski@ucr.edu

June 15, 2011

ABSTRACT

This paper critically examines the emergence of "too big to fail" (TBTF) banking policy: the extension of implicit public insurance guarantees to a small set of large financial institutions. TBTF policy has evolved from a tool used by government authorities to maintain financial-market stability, into a constraint imposed by a megabanking complex on financial and regulatory policy. Regulators and analysts favoring TBTF have attempted to draw a line between the more restricted and more expansive versions of this policy: on one hand, a guarantee that prevents bank runs, and on the other, a pre-commitment to preserve some financial firms as operational entities, no matter the economic damage their risk-taking may have caused. But this line is too easily manipulated in a political system that places few constraints on regulatees' financial contributions. The beneficiaries of expanded TBTF protection, even in their weakened post-crisis condition, have argued that financial reforms aimed at controlling systemic risk will prevent the resumption of normal loan-making activity.

This shift is problematic because the economic functionality of the US financial system has not been restored. There are alternatives: put size limits on banks, restructure financial relations so that no financial firms are too big to fail, or reconstruct banking using a public-utilities model. A growing number of economists, if not all willing to go along with these proposals, see the need for regulation that prevents financial firms from taking systemic risks. The question is how to put the genie back into the bottle.

Keywords: banking strategy, too-big-to-fail, financial regulation, 2007-09 financial crisis, savings-and-loan crisis, Shadow Financial Regulatory Committee, megabanks, power

JEL Codes: G21, G24, G28, H12, L12, L51

*The research undertaken in preparing this paper was supported by the Institute for Applied Economic Research (Instituto de Pesquisa Econômica Aplicada – IPEA) in Brazil

Genie out of the Bottle: The Evolution of Too-Big-to-Fail Policy and Banking Strategy in the US

Gary A. Dymski

"It is necessarily part of the business of a banker to maintain appearances and to profess a conventional respectability which is more than human. Lifelong practices of this kind make them the most romantic and the least realistic of men. It is so much their stock-in-trade that their position not be questioned, that they do not even question it themselves until it is too late. Like the honest citizens they are, they feel a proper indignation at the perils of the wicked world in which they live,-when the perils mature; but they do not foresee them. A Bankers' Conspiracy! The idea is absurd! I only wish there were one! So if they are saved, it will be, I expect, in their own despite."

- *John Maynard Keynes (1931, p. 178)*

"Adam Smith would have been delighted. Information and transactions costs are falling. New competitors are entering the financial services field while others seek exit or combine with viable players as elegantly as possible. New financial products are introduced almost daily, their number and variety limited only by the human imagination. Artificial barriers to competition, some of which have been in place for decades, are being subjected to steady erosion. … An environment of vigorous competition, based at its core on Adam Smith's concept of competitive advantage and specialization, is delivering enormous benefits in the prices and qualities of products made available to customers of all kinds."

- *Ingo Walter (1985, p. 1)*

"… the expansion to multiple functions, the LCFI model, produces greater systemic risk… Unless the financial legislation … [is] successful in reducing the LCFI's asset risk and leverage, there is a strong economic case for some form of return to Glass-Steagall and functional separation."

- *Matthew Richardson, Roy C. Smith, and Ingo Walter (2011, p. 196)*

1. Introduction

The problem of "too big to fail" (TBTF) financial institutions has been at the center of policy debates in three distinct periods in recent financial history. It emerged in September 1984 when the US Comptroller of the Currency, C.V. Conover, used this phrase in a Congressional hearing about Continental Illinois bank, the then-seventh-largest US bank and crippled by insolvency and bank runs since April 1984. TBTF figured centrally in the resolution of the banking crises of that decade. TBTF made a second appearance in the 1990s: large Japanese and French banks and the Long Term Capital Management hedge fund required massive levels of public assistance. The financial crisis of 2007-09 then saw TBTF's third coming: after Lehman Brothers failed in September 2008, the many highly-publicized bailouts made TBTF a household term.

This paper reviews the history of TBTF interventions and policy in the United States, and develops two arguments. First, the phenomenon of TBTF itself has evolved dramatically: from a status conferred by government regulators on large banks that were economically important but insolvent; to a status achieved by a complex of large banking firms on the basis of its direct and indirect control over the day-to-day operations of core financial markets. As first formulated in the 1980s, TBTF policies aimed at stabilizing insolvent institutions so as to maintain order in financial markets and to preserve important financial objectives (in particular, a viable mortgage-finance system). But TBTF status has now come to refer to megabanks' claim that any regulatory challenge to or constraint on their freedom of action compromises economic growth and the integrity of the financial-market mechanism.

The second argument developed here is that analysts have been slow to take this shift into account. Assessments of the nature of TBTF and of the threat posed by TBTF policy to financial stability and economic prosperity have lagged this institutional evolution. This lag has arisen because experts have focused largely on how TBTF interferes with market discipline, while ignoring the implications for TBTF policies of the strategic transformation of banking, which has unfolded in the evolving regulatory environment created by TBTF interventions. Ironically, most analysts have argued until recently that overcoming the adverse consequences of TBTF is best done by giving banks maximum freedom of action in markets, including mergers and acquisitions; yet precisely this freedom of action has permitted megabanks to create a more institutionally entrenched version of TBTF. In the wake of the 2007-09 financial crisis, many economists are rethinking their ideas about financial-market structure and regulation, in large measure to rein in TBTF policy.

This paper proceeds as follows. Section 2 reviews the origins of "too big to fail" and defines it, making a crucial distinction between a TBTF *intervention* and a TBTF *policy*. Section 3 discusses how TBTF affects banking strategy. Sections 4 and 5 explore the emergence of TBTF policy in the 1980s. Section 6 then describes the strategic shifts and competition-by-merger-and-acquisition that preceded the subprime crisis. Section 7 reviews the unfolding of the financial crisis of 2007-09, with special attention to TBTF interventions. Section 8 reflects on developments in the wake of this crisis. First, it covers shifts in economists' debates about financial regulation and TBTF policy. The financial-reform effort that led to the Dodd-Frank Act of 2010 is summarized, as is the financial industry's fierce reaction to this effort, which included no-holds-barred lobbying. Section 9 concludes.

2. The Origins and Elements of the "Too-Big-to-Fail" Doctrine in Banking

The US banking system was restructured in the 1930s in the wake of the huge insolvency problems and bank runs suffered by many financial institutions during the Great Depression. Since President Roosevelt had started his four terms in office by declaring a month-long bank holiday, the emphasis in this restructuring was on "safety first": bank activities and competitive pricing were tightly restricted, and geographic expansion was blocked. A key implication of this approach was a near-absence of bank failures. Figure 1 demonstrates this dramatically – there were only 3.9 commercial-bank failures annually between 1947 and 1974.

Figure 1: Commercial bank failures and assisted mergers, 1947-2010

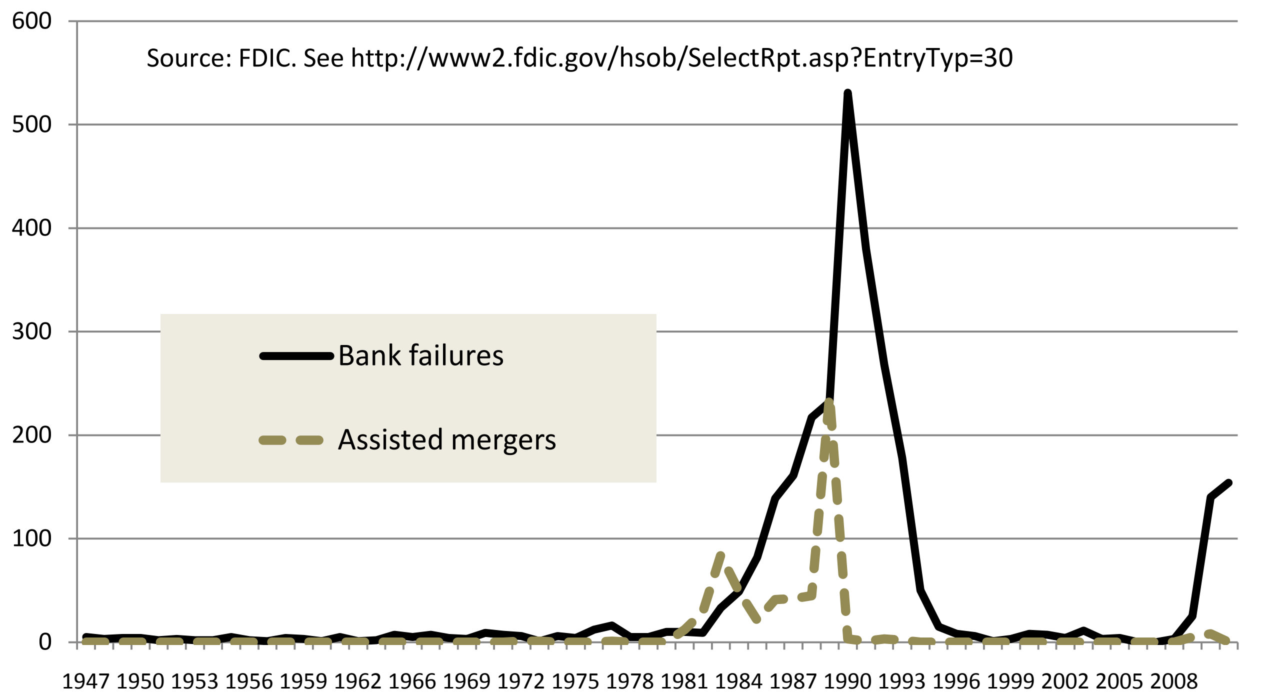
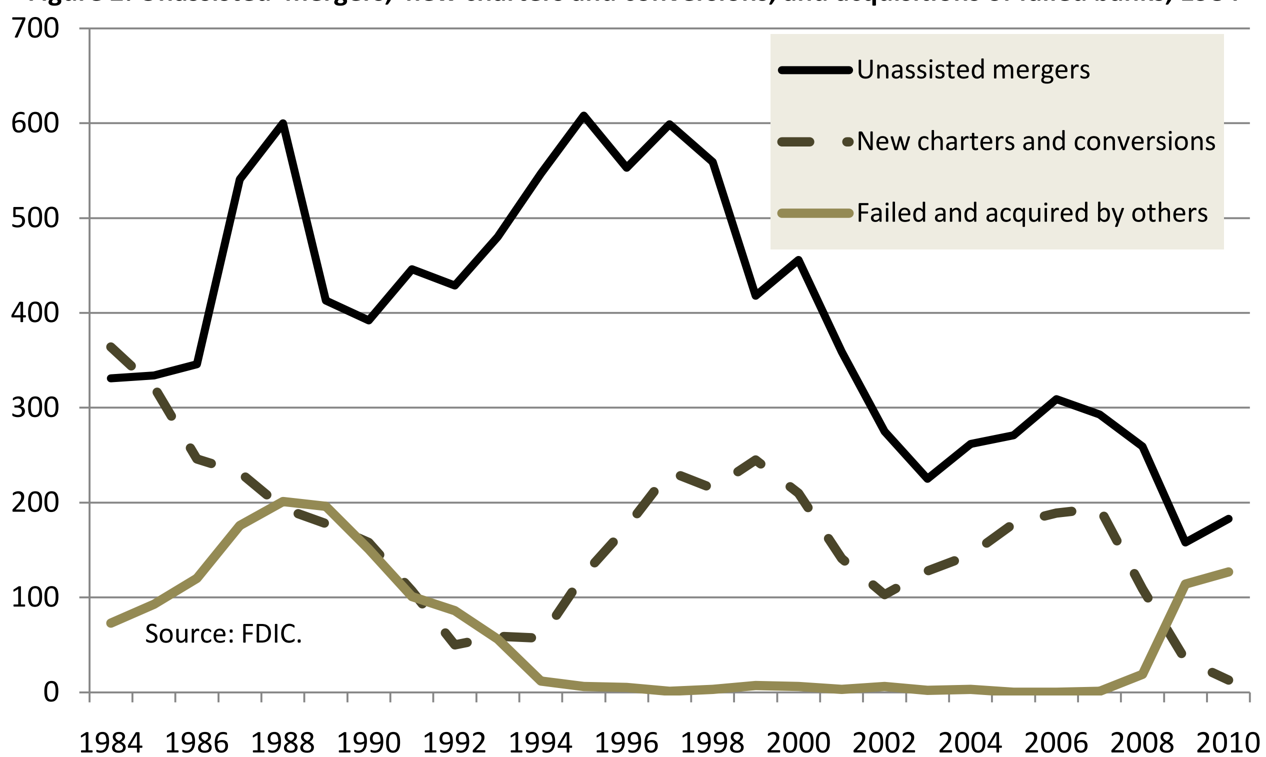


Figure 2: Unassisted mergers, new charters and conversions, and acquisitions of failed banks, 1984-



The legal basis for “too big to fail” interventions was established in the Federal Deposit Insurance Act (FDIA) of 1950, which modified the operating guidelines for the Federal Deposit Insurance Corporation (FDIC).[1] Until then, US federal bank regulators had two options for resolving an insolvent institution: closure, with liquidation of assets and payouts for insured depositors, or finding another firm willing to acquire this institution’s assets and assume its liabilities. FDIA made a third option available: the FDIC could provide assistance, supporting an institution through loans or asset acquisitions until it recovered from distress. This statute limited the "assistance" option to cases where "continued operation of the bank is essential to provide adequate banking service." Regulators shunned this third option for many years, fearing that if regionally- or nationally-important banks were regarded as immune to liquidation, markets in their shares would be distorted.

This legal “too big to fail” mechanism was not set up to impose costs on the taxpaying public; the idea was to avoid them through patience in permitting temporarily insolvent banks to recover their viability. To understand why regulators shunned TBTF and why many commentators have criticized it, we must distinguish between a TBTF intervention and a TBTF policy.

In essence, a TBTF *intervention* entails four elements: first, one or more large financial intermediaries that are insolvent or in danger of insolvency; second, these banks’ location in a financial system overseen by a government with the capacity and credibility to prevent these institutions’ failure; third, an action by this government overseer that prevents the failure of the endangered institutions; fourth, a general awareness on the part of market participants that this action has been undertaken to prevent not just the insolvency of the assisted organization, but this insolvency’s likely adverse spillover effects on financial markets and in the broader economy. A TBTF *policy*, by contrast, consists of a pre-commitment by a financial regulator to prevent the failure of a set of financial intermediaries whose actual or prospective failure could generate adverse spillover effects compromising the integrity of the financial-market system and/or the economy. The regulator in question must have the capacity and authority to implement this policy.

Both definitions rest on counterfactuals that are typically untested. The notion that a financial institution’s failure would cause significant adverse effects can be tested only by permitting it to fail. If failure is never allowed, then the premise is at best untested, and at worst an exercise in logical circularity; and it is impossible to know which – logical circularity or lack of proof – is the case. This is one of those situations of uncertainty about which Keynes reminded us, and in which beliefs and the confidence with which beliefs are held matter immensely. In this respect, it is worth recalling Keynes’ observation in 1931 (reproduced above) that bankers do not like having their judgement questioned.

There is, in any event, a great difference between a TBTF intervention and the belief of market

[1] The FDIC was created as a temporary government corporation by the Banking Act of 1933. This law, which is popularly known as the Glass-Steagall Act, also separated investment banking from commercial banking. The FDIC provides deposit insurance for member commercial banks; the parallel system for savings and loan institutions, the Federal Savings and Loan Insurance Corporation, was created by the National Housing Act of 1934. The 1950 Act established the FDIC’s permanent operating guidelines.

participants that a TBTF policy is in place. For in the latter case, those intermediaries that are believed to be TBTF may alter their behavior in ways that may ultimately subject the premise to the test of experience. For this reason, in conducting any intervention which is judged to be a TBTF bailout, the logic of the situation demands that the authorities make firm statements that this action is both regrettable and non-repeatable. The only guaranteed method of guaranteeing that no financial-market participants believe that a TBTF policy exists is to never undertake an intervention that can be interpreted as motivated by TBTF concerns.

In any event, a TBTF policy can never be declared as such; there should be some fuzziness about which institutions are 'in' or 'out' of the TBTF pool. When specific language is used in enabling legislation – such as the term "essential" in the 1950 FDIA – it is important that no clear delineation be made regarding which firms meet the implicit standard. We will see below that TBTF was introduced in the US in such a way that risk-enhancing behavior was almost certainly encouraged.

A government that has the capacity to implement a TBTF intervention or to adopt a TBTF policy may be motivated by several different goals: (1) preserving the ongoing operations of the covered institutions as independent entities; (2) preserving the value of the equity and/or debt claims of the covered institutions' owners and/or liability-holders; (3) maintaining the viability of the overall financial system, or of those parts of it in which the covered institutions are involved. Lurking behind these goals is the government's overriding objective of preserving the value of its national currency, and thus the position of the nation's currency in global money markets. Ultimately, what is at stake here in a potential sequence of disastrous financial insolvencies is any government's own claim to sovereignty. And a crucial measure of this is whether the government can emit a currency that retains a stable value, and maintain effective control over the firms and agencies to which it grants special privileges in using (and even multiplying the effective volume of) that currency.

Four comments are in order. First, preserving an institution by nationalizing it does not constitute TBTF rescue. For in such a case, the institution's owners lose any future prospect of recapturing the value of their equity claims. Second, the notion that a financial intermediary is (in the language of the 1950 FDIA) "essential" in providing "banking activity" (or words to that effect) and thus TBTF invariably raises the question of what this means. This is a moving target; and in a complex financial system, one participant's core market activities may be another participant's frivolous speculation, and vice-versa. Third, to refer to any institution as TBTF is to presume that a TBTF policy is in effect.

Fourth, TBTF is closely connected with the concepts of economic rent and rent-seeking. Economic rent arises when participants in allocation processes derive payments from positional advantage, not from productive efforts; that is, rent is a payment that cannot be considered a legitimate reward for effort or risk-taking. The rents that a party obtains from its control over access to resources, or from uncompensated access to third-party guarantees against loss, impose costs on other members of society. In principle, if the allocation process were better designed, such rents would disappear.

The resources transferred in a TBTF intervention are readily classified as rent. The enhanced risk-taking by intermediaries operating under the premise that they are under a TBTF umbrella generates rent for whatever classes of these institutions' creditors are protected (small or large depositors, bond-holders, owners). This rent is likely to be reflected in bond and equity price premia.

3. Financial strategy and the logic of too-big-to-fail

Understanding the transformation of TBTF and its role in the 2007-09 economic crisis requires an understanding of the evolution of financial firms' strategies since the late 1970s. Our aim in these brief comments is to highlight the links between banking strategy and TBTF policy.[2]

Banking firms' motivations vary over time and across institutions, but always center around the maximization of expected profit in the markets to which these firms have access. Retail banking involves the provision of core banking services that businesses and residents in any locality need in their everyday economic activities - making payments, transferring funds, and borrowing money. If banking laws permit, banks may be able to offer other "everyday" financial services – insurance, specialty financing, wire-orders, and so on. The banks offering these services may operate only locally, or they scale these activities up to the national level.

Beyond "everyday" financial activities, banks may generate earnings by providing financial services to large firms operating at national or global scales, and/or to wealthy individuals with access to global markets. This depends on whether the banks in question have access to instruments and markets that can facilitate global transactions: trade credit, insurance, exchange-rate hedging, and funds transfers, and so on. Critical here is whether the home currency functions as a global reserve currency (or is readily accepted in settling debts offshore), the presence or absence of robust capital markets within national or regional borders, and national tax and regulatory policies. Banks that gain access to sophisticated national and global financial markets, in turn, may be able to take positions in those markets on their own behalf. When the latter behavior is feasible, it is important to different banks' behavior as an *intermediary* – which involves seeking profits via the provision of financial services to customers, especially deposit-holders – and as a *principal* – which involves seeking profits on behalf of the bank's owners and/or employees.

How banks earn profits depends on how on these activities are structured. Financial relationships sustained on intermediaries' balance-sheets through time – deposit-holding, securities purchases and sales, and loan-making – generate interest income. Through-time activities also give rise to risks that must be managed through time. The two most important are liquidity risk, the likelihood that the cost of funding a given asset portfolio will exceed the returns on these assets, and default risk, the likelihood that the payment streams promised on assets will not be realized. Fees for financial services constitute an alternative and increasingly dominant form of revenue-generation. In these cases, the financial intermediary offering a financial service is compensated by one-time or recurring payments. The fee-for-service concept encompasses diverse activities: sales of insurance policies, the bundling of loans and their sale as securities, the provision of guarantees that credit

[2] For more thorough treatments of banking strategy, see Smith and Walter (2003) and Walter (2003).

will be provided on a contingent basis, and so on. The idea is to book fees and avoid risks. Whether apparently point-in-time fee-generating transactions may lead to through-time risks is not always clear until market conditions worsen.

Market expansion and bank mergers. Ceteris paribus, earning more profits requires more penetration of existing banking markets, expansion into new geographic markets, and/or expansion into new financial product areas. Whether a bank is able to expand in this way depends, in turn, on the adequacy of its capital, available technology, and regulations regarding market expansion.

Before the information-technology revolution of the last quarter of the 20th Century, financial business was organized according to market scale: national banks (often New York-based "money-center" banks) provided through-time credit and transaction services to larger corporate customers, and local banks to smaller local customers, each making extensive use of scale-specific informational advantages; meanwhile, non-bank financial firms sold other financial services. After the IT revolution, this tri-fold division of markets has broken down. Standardized information-gathering and assessment has permitted banks to make loans at a distance, with larger intermediaries at a distinct advantage due to their greater technological sophistication and ability to absorb fixed costs.

Another factor encouraging market expansion has been the loosening of rules on bank mergers and acquisitions. The crisis of banking as of the end of the 1970s widened opportunities for market entry: both because some banks became weaker financially and were willing to be acquired, and because regulators increasingly favored mergers and acquisitions as tools for solving the US's "overbanking" problem (Dymski 1999).

A fundamental shift in regulatory philosophy occurred between the Carter and Reagan presidencies, as the 1980s began. Until then, potential bank mergers and acquisitions had been evaluated on the basis of the existing laws regarding geographic expansion, using anti-trust criteria. But after that, the doctrine of "contestable markets" (Baumol, Panzar, and Willig 1982) gained ascendancy. This theory suggests that as long as entry into a market by new competitors is feasible, monopolistic market structure does not imply that firms in that market can extract monopolistic rents. Further, despite compelling evidence regarding economies of scale or scope in banking, regulators and analysts accepted the premise that the United States was overbanked. Thus, mergers and acquisitions reducing the number of financial firms would increase efficiency; and relaxing the rules for financial takeovers would facilitate potential entry and generate efficiency gains that could be shared with bank customers. In consequence, regulators came to regard laws and regulations restricting financial firms' activities and geographic expansion as atavistic.

This Compact provided the mechanism for the growth-by-merger of several important banks, including NationsBank, First Union, SunTrust, and Wachovia. So bank mergers, the expansion of bank financial activities, and step-by-step banking deregulation have grown hand-in-hand with the deregulation of banking. Figure 2 shows the explosion in the number of bank mergers in the 1980s.

Consequently, for the past three decades, bank mergers and acquisitions – both assisted (linked to bank failure) and unassisted – have been rampant, leading to huge fluctuations in the mix of banks that have served local markets. Generally, more and more local markets are served by a handful (at most) of large megabanks and by a small number of 'niche banks' (often chartered since 1981).

Geo-economic factors. Given the state of technology and regulatory regime, a banking firm's strategy (including acquisition planning) is delineated by its size and activities, as these interact with the scale and market reach of this banking firm's customers. Whether possible acquisitions are feasible depends on whether they can be financed, which in turn rests on bank profits and on access to robust equity markets.[3] Overall, the size, wealth, and financial markets of the national economy set a baseline for the scale at which its financial firms can operate. Operating at a larger scale requires access to other nations' customers and to offshore sources of liquidity.

Overlaid on any given global structure of banking markets is a distribution of 'geo-economic' power. For any given nation-state, consider the answers to these three questions: Does it issue currency that is universally accepted as means of payment? Is its central bank able to operate as a lender-of-last resort in the event of a financial crisis? And can this nation sustain systematically negative (positive) balances on its current (capital) account without severe adverse consequences for the value of its currency? The answers to these questions are often but not invariably the same: nations whose currency is most readily accepted are best able to undertake whatever liquidity creation is necessary to resolve financial crises. A country for which all three questions can be answered in the positive possesses geo-economic power.

At any point in time, only a handful of countries possess geo-economic power – hence the logic behind the term. And only these countries are able to provide global monies and intervene at will in financial crises, and to sustain continued cross-border imbalances. TBTF intervention is an example of intervention-at-will. The two factors are linked. A country can run a systematic current-account deficit only if counter-parties in other countries are willing to accumulate assets denominated in its currency. The recent example here is the United States.

The geo-economic dimension has important implications for financial intermediation. Banks in countries with sustained current-account surpluses tend to become large (Japan in the 1980s, China in the 2000s). Banks in countries with lender-of-last resort capacities enjoy an extra margin of safety, as they are more likely to be protected in downturns.

A regulator that lacks lender-of-last-resort powers has, as its primary objective, maintaining safe and sound operations by its banks; for lacking the ability to cure systemic trouble, systemic trouble must be avoided. A regulator with lender-of-last-resort powers has a different primary objective –

[3] The importance of the capital constraint for a bank headquartered outside the US money centers is illustrated by another McColl quote. It concerns NationsBank's 1996 acquisition of Boatmen's Bancshares of Missouri, its first outside the south. On this occasion, as on many others, McColl's firm sold equity shares to secure the deal: "[I]t allowed us to bulk up capital. I always had a little litany that said, 'No Boatmen's, no Barnett; no Barnett, no Bank of America.' So, I needed their capital. I needed the amalgamated capital to get larger." (Hills 2007, page 91).

that is, to maintain the operational integrity of its financial markets. Its largest national banks, knowing this, can take more chances. Indeed, the more certain they are of a regulatory authority's ability to maintain order in national financial markets, the more they can disregard "market-disaster" possibilities in formulating their strategies.

In sum, the degree of national 'hegemony' implicitly underlies firm strategies, including merger plans. Financial firms that perceive themselves to be protected from failure are more likely to take riskier positions and to operate as 'principals' (acting on behalf of their shareholders' interests) rather than as 'intermediaries' (acting on behalf of their depositors' interests).

Financial-firm strategies and TBTF. This discussion leads to some observations regarding TBTF. First and most obviously, TBTF policy is most likely to emerge in nations with regulators who are friendly to mergers and acquisitions, and which possess geo-economic power. Two parties are required for a too-big-to-fail scenario: first, a bank endowed with (or seeking) this status; second, a regulator who is willing and able to provide too-big-to-fail assurance.

Second, a regulator can credibly make a TBTF guarantee only if the markets believe that this nation's reserve currency-status and LLR capabilities can stand up to whatever financial crisis is feared. Third – turning to the institutional level – the important question is not whether a given bank actually *is* too big to fail, but whether regulators and, in turn, politicians treat it as TBTF. And in practice, notwithstanding legislative intent, more important than whether a bank is "essential" is whether the direct and spillover costs of its failure are regarded as worse than the costs of its continued operation. This includes a calculation by regulators about whether its survival is essential to maintaining order in financial markets.

So TBTF involves faith and belief, as much or more than it involves immutable institutional "facts." For one thing, proving that any given institution *is* TBTF would require a real-time experiment that regulators are unwilling to conduct; and if regulators are willing to let a firm fail (as in the Lehman Brothers case), then clearly that firm was not TBTF. Thus, the premise is fundamentally untestable. For another thing, lists of TBTF institutions, when these have been produced, suggest fallacies in the working premises of the concept as well. Consider Table 1, which contains a list of the eleven institutions identified by Comptroller Conover as too big to fail in 1984. Of the eleven, only five survive to the present. One failed and spent several years in receivership (Continental Illinois). But the bank that was reconstituted by federal authorities (Continental Bank) was subsequently sold to BankAmerica – as was another of the eleven, Security Pacific. Bankers Trust did not fail, but was bought by Deutsche Bank when it was on the brink of failure in 1998. Five of the eleven engaged in a sequence of mergers between 1991 and 2004 that eventually brought them all under the JP Morgan-Chase roof. Most of these mergers occurred under similar conditions – the pre-merger partners were saddled with bad loans or other problems, and Wall Street enthusiasm about these combined entities' post-merger prospects provided a price boost to their owners' share values. Both empirical studies conducted close in time to the Comptroller's announcement (O'Hara and Shaw 1990) and those conducted much later (Morgan and Stiroh 2005) found that these eleven banks' share prices, ratings, and cost of funds all were positively affected by this enumeration. Being considered TBTF generates tangible value.

This leads to a fourth point. No strategy was involved in the 1984 enumeration of the eleven TBTF institutions; the Comptroller simply picked the largest bank holding companies at that point in time. But as other firms passed them (for example, when NCNB became the third largest bank in 1991 due to its purchase of C&S/Sovran, renaming itself Nationsbank), implicitly the list shifted too. In effect, since being TBTF adds value, the Comptroller's approach made it rational for banks near the TBTF cutoff to take risks to grow in size.

In banking markets that are under the cover of LLR protection, TBTF can be played as a game of "chicken": an institution may take additional risks to become TBTF; and once TBTF, it has an incentive to take even more risks, since the expected value of the penalty can be discounted or even disregarded.[4] Whether this institution's failure will compromise financial markets and processes is not the critical factor; what matters is whether the markets believe that regulators think its failure will have this effect.

A fifth point about the link between TBTF and banking strategy is this: the game of "chicken" involves the calculated risk that firm failure, while an apparent possibility, never occurs.[5] In any event, "failure" itself is a term with many shades of meaning. To not fail means that the firm itself will survive intact and continue to operate, with or without its current managers.

Sixth, any large institution's claim to TBTF protection increases with its interconnectedness and its opaqueness. The more interconnected is any institution's balance sheet with short-term claims and payments responsibilities, the wider the spread of the losses and delays that would result from an institution's failure. When balance-sheet positions are not opaque to third-parties and regulators and borrowing-lending positions are interconnected, the extent of disruption from institutional failure is not calculable in advance. This plays into regulators' need to protect core financial-market operations. In any event, a financial firm can achieve the requisite interconnectedness status either by performing highly technical services on which the entire market depends, by enmeshing itself in a large volume of the daily trading and position-taking that moves the markets, or by growing so big in one or more important financial markets that these markets depend on this firm's presence.

This leads to a seventh and final point about TBTF and strategy. The firms whose managers believe themselves to be operating TBTF enterprises are themselves in a game of bluff about which firms will be considered TBTF, at the end of the day, by the regulatory authorities. For if a manager guesses wrong, her firm's assets and its market positions will be taken over by those competitors

---

[4] The game of 'chicken', which is logically identical to the Prisoner's Dilemma, is described at http://www.gametheory.net/Dictionary/Games/GameofChicken.html. Also see Dixit and Nalebuff (1991).

[5] It was precisely this aspect of the Lehman Brothers' failure in September 2008 that convinced many Wall Street insiders that the world as they knew it was in jeopardy – nobody was supposed to die after driving her car over a cliff.

who actually have this coveted status.[6] That is, TBTF protection does not imply that any firm that is big enough can provoke a crisis through reckless behavior, knowing the regulatory authority can fix it. Provoking ruinous loss through excessive risk-taking may signal a financial firm's lack of perspective – its undependability, from a regulatory perspective. So it is one thing to presume that one's firm has TBTF protection, and another to maintain this protection under all circumstances.

There is thus a fine line between pushing to be the first or the biggest in new markets – so as to secure the requisite scale of operation – and being perceived as among the most dependable of a group of otherwise equally-guilty firms in the aftermath of the crash. Keynes once observed that, "A 'sound' banker, alas! is not one who foresees danger and avoids it, but one who, when he is ruined, is ruined in a conventional and orthodox way along with his fellows, so that no one can really blame him." (Keynes, 1931, p. 176). To escape ruin as well as blame – that is, to walk this line – is not anticipated in Keynes' essay. But whether the game of TBTF bluff is won through a refined sense of timing, quiet collusion between regulators and regulatees, or simple luck, Keynes' dictum about the proper decorum that "ruined" bankers must maintain after financial disasters still holds. Consider the comments of Lloyd Blankfein, Goldman Sachs' chair, when interviewed by reporters from the *Economic Times* in Mumbai in 2010: "I regret that we participated in transactions that brought too much leverage into the world. It led to people taking too much leverage. But those were the standards of the moment."[7]

4. The triple crisis of banking at the end of the Golden Age

The first half of the 20th Century involved repeated experiences of financial meltdown, depression, and war. Financial panics led to efforts to build up structures of governance and liquidity sharing to protect against systemic meltdowns. These were far from sufficient; in the Great Depression, banks failed in large numbers. In the wake of Mr. Roosevelt's banking holiday, drastic measures were taken to stabilize the business of banking. Banks in the US emerged from the Depression years as closely regulated businesses with well-defined, segmented markets, with little or no ability to set prices in the markets in which they could compete. The world over, banking systems emerged from World War II as tame institutions with carefully controlled activities and market extension.

As the Golden Age of capitalism (Glyn *et al*., 1988) matured, banking regulations and national controls over the ownership and control of banks gradually loosened. The initial impetus came from money-center banks, pushing against regulations that limited their ability to service corporate and large-balance customers who had access to money markets. A second impetus was the growing Euro-dollar market. But the decisive turn of events occurred in the 1970s, when the conditions for

[6] Sorkin (2009) describes the circumstances surrounding the consequences of the false impression held by Richard Fuld, head of Lehman Brothers, that his tottering firm was so securely in the TBTF category that its failure was an impossibility. That then-US Treasury Secretary Paulson was formerly chair of Goldman Sachs, and that Goldman Sachs stood to gain if Lehman failed were two elements of these circumstances.

[7] This quote was printed in "Goldman Chief Regrets Leveraged Transactions" a post to the New York Times' *Dealbook* blog on May 21, 2010. See http://dealbook.nytimes.com/2010/05/21/goldman-chief-regrets-leveraged-transactions/. For a record of the interview itself, see Nair and Vikraman (2010).

stable macroeconomic growth deteriorated. As the US unlinked the dollar from gold, inflationary pressure built up. Market interest rates rose and economic growth stalled. These forces had several impacts. The oil-price spikes changed global financial flows and forced “petro-recycling,” that is, the internationalization of banking (Mullineux 2006). Domestically, banks lost customers on both sides of their balance sheets. On the liability side, depositors with larger balances fled to non-bank funds. On the asset side, non-financial firms increasingly obtained the finance they needed directly from money and bond markets. Golden-age laws prevented banks from offering more competitive rates or entering new markets in the US. Banking in Europe was also constricted by dissimilar rules and legal barriers involved in crossing national borders; differences in both language and in corporate cultures posed additional challenges there.

As the 1980s opened, then, banks and savings and loan associations (thrifts) were in distress due to customer loss. At the same time, the national economy faced a problem of rampant inflation as well as stagnant growth; and the Federal Reserve’s ability to pursue strong enough monetary-policy medicine to squeeze the inflation out of the US economy was compromised by the fact that the higher interest rates rose, the more disintermediation weakened US banks and thrifts.

The first attempted solution to this dual problem was the Depositary Institution Deregulation and Monetary Control Act (DIDMCA) of 1980, which loosened controls over the instruments banks could emit, and permitted banks to win back some of the customers that were fleeing to money-market funds and direct credit markets. But this additional room for maneuver with liability customers hardly compensated for the unstable macroeconomic environment created by the Federal Reserve’s inflation-throttling monetary-policy offensive. The US economy experienced a double-dip recession in 1980 and in 1981-82, and nominal interest rates at historically-unprecedented levels. The DIDMCA notwithstanding, more regulated intermediaries experienced prohibitive losses. Thrifts, which were restricted by state and federal law to holding most of their assets in long-term mortgage loans, were hit especially hard, in every market. housing prices did not collapse, as they later would in the subprime crisis However, thrifts were largely restricted to holding mortgage loans, not other assets; and most mortgage loans – made for long periods at very low fixed interest rates – had to be financed by the same thrifts that had issued them. These institutions were losing liabilities to disintermediation, and had to replace them with costly money-market borrowing.

A debate ensued as to whether thrifts were illiquid or insolvent: that is, whether they had made fundamentally sound loans which would be attractive again once interest rates stabilized closer to historical levels, or whether their negative returns reflected the tight conditions on thrifts’ use of assets. Congress passed a bill (the Garn St Germain Act of 1982) that deregulated the asset-side activities of federally-chartered thrifts. Many states followed suit. Meanwhile, regulatory staffs were cut by the Reagan Administration. The investment prospects that appeared most promising, in the recessionary environment of the early 1980s, were those in states that had cashed in on rising oil and commodities prices – either as energy providers (Texas, Louisiana, Oklahoma) or as new residential destinations for those who had wearied of paying high residential-heating bills (Arizona, Colorado, California). Thrifts in these high-flying states took advantage of their new asset-side freedom by financing and investing in numerous speculative developments.

Large banks, facing high costs of funds and customer loss for years, had already found new commodity-rich borrowers in Latin America; some also financed assets in the "oil-patch states." Latin American lending - or more broadly, lending to less-developed countries (LDCs) - was led by the US's money-center banks. These large banks (shown in Table 1), had developed loan-financing capacities far larger than their deposit bases due to their location in areas of concentrated business activity (New York, San Francisco, and Chicago) and to the constraints on banks' deposit-seeking activities. These loans reflected both an effort to find new asset markets and to make loans that leveraged rising commodity prices; over half the total volume of Latin American loans were made to Mexico and Brazil. By 1977, loans to less-developed countries already stood at 228 percent of money-center banks' capital; in 1981, this ratio peaked at 264 percent.[8] Lending to Latin American lending was spread out by the use of loan syndication.

Continental Illinois lagged behind the other money-center banks in LDC lending, in part because when it shed its traditionally conservative approach in the mid-1970s, it aimed at becoming the largest commercial and industrial (C&I) lender in the US By 1981, it had succeeded in this goal; its domestic C&I lending rose by 180 percent between 1976 and 1981.[9] The risk from this lending was not diluted via syndication; indeed, Continental took the opposite approach. It took on loan participations of $1 billion from Penn Square Bank, largely in gas- and oil-exploration loans.

So large US banks had, in various ways, laid heavy bets on loans linked to rising energy prices. Thus, they were exposed when the roof caved in on commodities markets: the crude oil price peaked at $35.24 per barrel in 1981 and fell dramatically over several years, reaching a low of $12.52 per barrel in 1998.[10] This reversal – in the context of a deep recession – quickly generated problems for large US banks. In July 1982, Penn Square Bank failed, putting Continental Illinois into a tight spot. A month later, Mexico defaulted on its overseas loan obligations, triggering the Latin American debt crisis and the subsequent "lost decade" of Latin American growth.

While the big banks were in deep trouble by 1982, the thrift crisis was brewing. Its first manifestation of this crisis actually involved mutual savings banks (MSBs), a set of hybrid institutions used to finance home-mortgage loans in New England and New York. The MSBs experienced widespread insolvency in 1982.[11] For the far more numerous savings and loan institutions, the crisis was smoldering in the early 1980s, not yet coming to a head. The gap between high borrowing costs and low mortgage earnings continued to reduce thrift resources – a problem made the more complex because most thrifts were organized as mutuals, and thus had no ability to raise capital (as such) in the markets. As noted, federal regulation designed to ease thrifts' crisis (the Garn-St Germain Act) passed only in December 1982; and many states relaxed rules for state-

[8] Table 5.1a, FDIC 1998, Volume 1, page 196. These figures are calculated only for the largest eight US banks; Continental Illinois is excluded, since data are shown until 1989 and Continental failed in 1984.
[9] FDIC 1997, Volume 1, page 236.
[10] EIA 2005, page xxiv.
[11] The term "thrift" refers jointly to mutual savings banks and to savings and loan institutions.

chartered thrifts at the same time. The result was two-dimensional regulatory arbitrage – thrifts both sought out more permissive charters and regulators, and (along with banks) had to compete with non-banks able to offer very similar services without regulatory constraints.

The thrift crisis was given two jolts in 1985, as thrift failures in two states with state-level deposit insurance, Ohio and Maryland, led anxious depositors to stage bank runs. State regulatory action and the Federal Reserve stabilized these situations. These state-level runs demonstrated the weakness of thrifts' balance sheets across the country. As the 1980s ground on, depositor wariness, failed speculative schemes by deregulated thrifts, and negative interest margins generated an avalanche of solvency problems: there were 33 insolvent US thrifts in 1981, 130 in 1985, and 351 in 1987.[12] These problems went unresolved, however, because the Federal Savings and Loan Insurance Corporation (FSLIC), which was dedicated to maintaining the integrity of thrift deposits, lacked the resources to resolve all the insolvent institutions it insured. By 1986, the federal-level savings-and-loan deposit insurance fund, FSLIC, was $6.3 million in arrears.

5. The emergence of TBTF policy

This triple banking crisis had to be handled before the decade-long debate about whether and how to resolve these situations could reach any firm conclusion. In consequence, a range of resolutions representing partial or full TBTF policies were implemented in response to institutional failures.

The situation of Continental Illinois came to a head first. In May 1984, Continental Illinois, the seventh-largest bank in the US, became insolvent after an electronic bank run (FDIC 1997, Chapter 4). The FDIC provided some temporary assistance to stop the run, and sought a buyer. As mentioned above, the FDIC was operating under an "Open Bank Assistance" (OBA) provision that permitted it to assist insolvent banks whose continued existence was "essential" to maintaining adequate banking services in the community. In the 1970s, this mechanism was used for the first time, rendering assistance to banks in inner-city communities.[13] In 1980, this provision was used to assist the First Pennsylvania Bank, then the 23rd largest in the US with $8 billion in assets. What made this bank "essential" was its size; given the strict inter-state branching restrictions of the time, no other bank in Pennsylvania would be able to acquire it; and fear was expressed about the repercussions for the regional and national banking market.

The looming banking crisis increased the FDIC's flexibility in providing OBA. Indeed, it was used 14 times in the 1981-83 period in resolving the situation of insolvent MSBs. The Garn-St Germain Act of 1982 subsequently removed the "essentiality" requirement. This additional latitude permitted the FDIC to use OBA 98 times in the 1987-88 period, which represented the peak years of 1980s insolvency problems for commercial banks.

As noted, Continental Illinois was materially hurt by the 1982 failure of Penn Square Bank. Continental also experienced serious loan losses in the 1982 Latin American debt crisis. As its

[12] Table 8, Litan, Isaac, and Taylor 1994, p. 531.
[13] This section draws on FDIC 1997, Chapter 5, and FDIC 1998, Chapter 7.

condition weakened, some of its investors pulled out and confidence drained away. Hanging over this scenario were the examples of First Pennsylvania and Penn Square. First Pennsylvania's OBA in 1980 had included the issuance of large volumes of subordinated debt and new equity shares, substantially diluting the ownership interest of the original investors. In the July 1982 resolution of Penn Square, the outcome had been more drastic. Penn Square was liquidated: its depositors were held harmless, but it was made a ward of the FDIC. In April 1984, Continental avoided a net loss only by selling off its credit-card business; and rumors swirled that the FDIC was looking for a buyer for the $40-billion institution. On May 9, 1984, Continental experienced an "electronic run," as foreign holders of large (uninsured) Continental CDs withdrew their funds. On May 11, Continental borrowed $3.6 billion line at the reserve window of the Federal Reserve Bank of Chicago; this was supplemented on May 14 by a $5 billion line of credit provided by 16 large banks (led by Morgan Guaranty). Several days later, an interim solution involving equity injections by large banks and additional lines of credit was worked out. A buyer was sought; but none was found.

The distinction between insured and uninsured depositors (many of the latter providing funds through the Euromarkets) was huge: only $3 billion of Continental's deposits were insured through the FDIC. Liquidation would, in principle, have been relatively low-cost, had not the actions of foreign wealth-holders and large domestic banks raised the stakes so high. But without a willing buyer, Continental had to be either liquidated, as Penn Square had been, or resolved under OBA provisions, as First Pennsylvania had been. Either way, losses for liability holders loomed. This is the context in which the term "too big to fail" emerged.

On September 19, 1984, Comptroller of the Currency C.T. Conover testified before Congress that some banks – he mentioned the number "eleven" – had become a new category of bank – it was "too big to fail." He explained: "Had Continental failed and been treated in a way in which depositors and creditors were not made whole, we could very well have seen a national, if not an international, financial crisis, the dimensions of which were difficult to imagine. None of us wanted to find out" (Conover, 1984, page 288). The next day, a *Wall Street Journal* article (Carrington 1984) named the eleven names shown in Table 1. Six days later, on September 26, 1984, the resolution for Continental was announced.

TBTF Debate. The banking crisis and TBTF policy responses generated much new research by economists; here we focus on specific responses to TBTF.[14] TBTF policy measures clearly had the short-term effects of stopping bank runs and of maintaining a semblance of stability for a banking system permeated by insolvent institutions for nearly a decade. One short-term measure of policy success was that consumers did not flee from the banks, as they had in the Great Depression. Large financial-market investors too remained at the table. Debate focused instead on the longer-term implications of TBTF policy, and on the fact that these drastic interventions had only been necessary because the banking system as a whole had escaped the control of regulatory authorities.

[14] In particular, we are passing over a large empirical literature on banking market structure and efficiency, and a primarily theoretical and institutional literature on cross-border lending and crisis. These literatures are summarized, respectively, in Dymski (1999) and (2011a), and in Dymski (2011b).

The beginnings of the US banking crisis coincided almost exactly with the incoming Reagan Administration's thematic that liberating market forces and reducing tax burdens on capital gains and high incomes constituted a supply-side revolution that would yield both more efficient resource use and faster economic growth. Regulations and government practices that limited competition or price flexibility were systematically modified. In this context, the shifts from segmented markets and restricted product-line competition that began with the 1980 DIDMCA (and ended 19 years later) participated in this broader trend. So did the shift from an anti-trust to a contestable-market approach to market structure, which opened the way to the bank merger wave.

As the Reagan Administration took office, several academic economists published studies showing that problems of insolvency in the savings and loan industry and, in turn, in the FSLIC were serious; in particular, see Carron (1982, 1983) and Kane (1985). These warnings quickly attracted attention; indeed, Kaufman (2002, page 3) argues that they represented a voice normally overlooked in financial policy-making: "academics had long … publicly warned that the reported numbers on the financial health of the industry were significantly overstated and that the problem was far more serious than officially admitted."

This "academic" group, drawn from industry as well as think tanks and universities, grew into a small cluster. Its members generated a series of books and articles that framed the reform debate, guiding discussion about what should be done. Particularly influential were Benston *et al*. (1986), Benston and Kaufman (1988), and Barth, Brumbaugh, and Litan (1994). These economists (Barth and Brumbaugh excepted) became founding members of the "Shadow Financial Regulatory Committee" (SFRC), which in turn has provided market-friendly advice on financial reform issues up to the present.[15]

Some members of this group subscribed to public-choice theory, while others did not. But they all worked within the parameters of neoclassical economics and efficient market theory, and found common ground in the view that restrictive regulatory policy had become an impediment to efficient financial intermediation. Industry lobbyists made side-payments to preserve policies that sustained mismatches between the locus of risk-taking and risk-bearing; these mismatches resulted in economic rents which were captured by industry insiders and paid for by taxpayers.

Consequently, liberating markets would create a more efficient intermediary sector, lower tax rates, and a more prosperous economy. It was Ingo Walter of NYU who most glowingly sketched out a vision for the financial markets of the future. Walter, in a continuation of the quote from the beginning of this essay, wrote in 1985, just after the Continental Illinois meltdown:

[15] The SFRC's founding members in 1986 were: Lawrence Connell and George Kaufman(*), co-chairs, Richard Aspinwall, George Benston, Franklin Edwards(*), Robert Eisenbeis(*), John Hawke, Paul Horvitz, Edward Kane(*), Roger Mehle, Allan Meltzer, and Kenneth Scott(*). Current members include the original members whose names are starred (*), plus Marshall Blume, Charles Calomiris, Kenneth Dam, Richard Herring, Robert Litan, Catherine Schrand, Chester Spratt, and Peter Wallison. Former members include Scott Harrington, Randall Kroszner, Franco Modigliani, Roberta Romano, and Hal Scott. http://fic.wharton.upenn.edu/fic/policy%20page/us%20shadow.htm. All the SFRC policy statements are available at http://fic.wharton.upenn.edu/fic/policy%20page/us%20shadow.htm.

> "If the process is permitted to work itself out, a far more efficient national financial system will eventually evolve, where excess profits ultimately disappear, transactions costs are driven to a bare minimum, information becomes much more readily available, the basis for rational decision making improves, and only the fittest competitors are able to prosper for very long. The process of financial allocation in the national economy will improve materially …
>
> It is perhaps in the American tradition that much of the dynamism giving shape to the new financial system is the product of free enterprise. Government planning has played a negligible role, and private decisions largely determine both the pace and the direction of change. Yet finance has traditionally been a regulated industry, and so regulatory reform must eventually validate and consolidate the kinds of market-driven changes that are rapidly evolving." (pp. 1-2)

The members of the SFRC undoubtedly concurred; the group's ultimate target was overturning the Glass-Steagall Act's separation of retail and wholesale banking.[16] But the ground had to be prepared: liberating markets meant recruiting market forces to discipline intermediaries; and the links between bank performance and market discipline were severed in the highly-regulated banking system. So effective reform had to meet a triple challenge: to liberate market forces, to create incentives for bank liabilities and owners to discipline bank managers (via deposit withdrawals, falling share values, higher debt costs, and so on), and to break the complicity between the industry and those that regulated it.

Clearly, the emergence of TBTF policy as a defining feature of financial regulation threatened to undercut this entire agenda. The strategy that SFRC members used to avoid this was to link TBTF to deposit insurance; if TBTF and deposit insurance were equated and seen as the font of inefficiency in banking outcomes, then the SFRC's policy-reform agenda would go through. Kane was especially forceful in making this connection. He saw the fundamental problem as one of regulatory capture (White 1992, footnote 10).[17] Kane argued that this problem had become pervasive in the financial depository sector because deposit insurance made deposit-holders indifferent about the soundness of depository investments.[18] Restoring the link between bank performance and depositor returns was crucial, in his view: for then the bank's liability-holders would be incentivized to monitor the performance of the bank's assets.

The question then was how this might best be done. The radical alternative, following Kane's logic,

---

[16] Litan (1988) portrays the main line of argument: Glass-Steagall is being continually eroded, so its demise is inevitable; the question is how to achieve it sooner than later. The key to such accelerated repeal is to "constructing a framework for allowing all types of financial organizations to diversify their activities without jeopardizing the deposit insurancesystem" (pages 269-70).

[17] Regulatory capture (Stigler 1971) arises when the regulators who are responsible for overseeing an industry do not block excess risk-taking because they are "captured" – for example, by the prospect of earning lucrative salaries in this industry in the future.

[18] The moral-hazard implications of deposit insurance were first explored by Merton (1977) and Kareken and Wallace (1978). Kane identified the problematic links between bank incentives, depositors' interests, and deposit insurance by 1981 (see Buser, Chen, and Kane 1981). By the mid-1980s he incorporated the moral-hazard argument regarding depositor indifference. While the author of this chapter was a research fellow at the Brookings Institution in 1985 and 1986, he saw Kane speak several times on this topic. For a mature statement of Kane's argument, see Kane (1989).

would be to simply end all deposit insurance (also see O'Driscoll 1988). A softer approach would be to institute risk-based deposit insurance. Federal Reserve economists began exploring this alternative actively early in the 1980s crisis period; see Avery, Hanweck, and Kwast (1985). Litan (1987) and Tobin (1987), among others, suggested another approach: splitting banks into two – 'narrow banks' that would provide payments and liquidity services, and lending affiliates whose assets would be supported by short-term commercial paper. The idea would be to restrict narrow banks to safe investments (Treasuries, for example), and then forcing any banks investing in risky assets (such as loans) to fund them directly in financial markets.

This same sort of discipline of bank risk could also be facilitated, in principle, by making a distinction between large and small deposit-holders – for example, those with more than $100,000 and those with less than $100,000. Those above this threshold were not protected by deposit insurance. The idea was that large deposit-holders should face the possibility of losses if financial institutions whose paper they held experienced enterprise risk. Insofar as these large wealth-owners could have their funds frozen in the event of an insolvency proceeding, they would have an incentive to monitor banks' financial health closely. Their refusal to roll over funds would send a signal both to the broader market and to the bank's managers and board of directors. In effect, large depositors' position vis-à-vis financial risk was similar to that of owners of the bank's equity shares: a sell-off would send a signal and permit some market-based error-correction in bank behavior without leading to a collapse.

All these efforts at recruiting some or all holders of bank liabilities to provide market discipline for banks ran into problems. The radical alternative was never seriously considered: bank deposits represented the heart of the national payments system more fundamentally than they did investment choices by wealth-owners, and the protection of the payments system was not debatable. Further, as Pierce (1993) pointed out, instituting deposit insurance after the Great Depression had removed the threat of destabilization inherent in fractional-reserve banking. "Narrow banking" would require radical institutional redesign when the focus was on saving the existing system; and the idea of protecting only some depositors proved to be a slippery slope after the Continental Illinois episode.

Adjustments in Banking Policy and TBTF. The analyses and suggestions put forward by the SFRC and its members and affiliates helped to shape legislative responses to the savings-and-loan and oil-patch banking crises. The first several pieces of legislation combined insights from the SFRC with pragmatic adjustments by federal regulators. The first example was the Competitive Equality Banking Act (CEBA) of 1987, crisis decade resulted in two capstone pieces of legislation. CEBA created a mechanism called a "bridge bank," which the FDIC could put in place to facilitate the orderly closure and acquisition of insolvent banks.[19] Following the practice established in the Continental case, all deposits were transferred to the bridge bank. Between 1987 and 1994, the FDIC placed 114 banks, with assets totaling $90 billion, in bridge banks. So CEBA facilitated the FDIC's seizure of Texas' largest commercial banks and their acquisition by out-of-state institutions.

[19] See FDIC 1997, Chapter 6.

In 1989, the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) specified that the deposit-insurance fund both for thrifts and for commercial banks be run by the Federal Deposit Insurance Corporation (FDIC). FIRREA also specified a mechanism for "resolving" insolvent thrifts.[20] More money was needed to do this: the 1980s bank and savings-and-loan meltdowns had exhausted the bank insurance funds. So in December 1991, Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA). FDICIA provided the funds needed for resolving insolvent institutions, and also mandated a shift from flat to risk-adjusted deposit-insurance premia. On a parallel track, if slightly earlier in time, was the Basel Accord of December 1987. This Accord, approved by representatives of the G-10 nations, spelled out risk-based capital standards for large (globally active) banks.

Taken together, these new laws codified some version of the many ideas that had been proposed for containing risk-taking and reducing incentive-distortion in banking-market outcomes. The key provisions regarding TBTF appeared in FDICIA: prompt corrective action (PCA) should be undertaken to resolve insolvencies, using the principle of least-cost resolution (LCR). There was an exception: the FDIC could protect uninsured liability-holders and violate LCR if its failure to do so "would have serious adverse effects on economic conditions or financial stability".[21] Subsequently, in 1993, the FDIC was prohibited from assisting shareholders. So these Acts of Congress prohibited TBTF except for a "systemic risk exemption" (SRE), and in any case were forbidden to protect insolvent banks'shareholders. Further, future SRE actions required approval at the highest government level – a "documented determination by the Secretary of the Treasury in consultation with the President in response to a written recommendation by two-thirds of both the Board of Directors of the FDIC and the Board of Governors of the Federal Reserve System that such action is necessary" (Kaufman, 2003, page 12), as well as Congressional notification and subsequent study and investigation. Another design feature aimed at discouraging use of SRE was that costs of resolution would be repaid by assessments on banks scaled to their total assets.

So the SFRC did not achieve all that its members wanted from the legislative reforms of the 1980s and early 1990s, as a retrospective conference concluded (Kaufman and Litan 2003). Still, the goal of a liberalized, self-adjusting banking market was close at hand: the end of interstate bank was just two years away, and Glass-Steagall would be repealed before the end of the decade. Deposit insurance was effectively privatized (Kaufman 2003, page 12); and regarding the TBTF/deposit insurance link, FDICIA accomplished SFRC's goals almost entirely. Going into the 2000s, the US banking system seemed to have resolved its TBTF problem (Kaufman 2002). Federal Reserve Chairman Alan Greenspan could observe in 2001 that "The potential for greater market discipline at large institutions is substantial" in large part because a regulatory regime had been created in which

> " … an organization that is very large is not too big to fail, it may be too big to allow to implode quickly. But certainly, none are too big to orderly liquidate… What you want to

[20] Between 1989 and 1995, the Resolution Trust Corporation established by FIRREA resolved 747 insolvent thrifts with assets of $402.6 billion (FDIC 1997, Volume 1, Chapter 4).
[21] This quote and much of the material in this paragraph is drawn from Kaufman (2003).

> avoid is the quick reaction. And that we can do. But not to protect shareholders. And presumably, not to protect non-guaranteed deposits from loss" (Greenspan 2000, page 14)

Unheralded TBTF supports in the 1980s. But while SFRC members and their associates focused on the TBTF/deposit-insurance linkage, they largely missed the TBTF implications of two other resolutions found for 1980s banking crises. One involved mortgage lending. The US housing finance system was completely transformed in the 1980s (Dymski 2010), from a system in which mortgages were primarily held on local thrifts' balance sheets to maturity, to one in which most mortgages were underwritten by two government sponsored enterprises (GSEs), the Federal National Mortgage Association (FNMA) and the Federal Home Loan Mortgage Corporation (FHLMC), bundled into securities, and sold off. The shift from one system to another was handled so quickly that mortgage volumes recovered strongly in the last half of the 1980s: that is, while the thrift industry was wilting, the GSE-underwritten mortgage-backed securities (MBS) market became the largest securities market in the world. Looked at the right way, this can be understood as a TBTF policy intervention, applied not to savings and loans (which were allowed to fail and be acquired in large numbers), but to savings-and-loans' principal assets (and, in turn, the housing assets that these mortgages backed).

Another TBTF issue that the SFRC largely missed was the federal role in the Latin American debt crisis.[22] As noted above, because of the large volume of LDC lending by large US banks, this crisis threatened these institutions' solvency. Beginning in 1982, all US money-center banks' bond ratings were downgraded. In the buildup of LDC debt, bank regulators had established "safety and soundness" rules-of-thumb about LDC-loan/capital ratios, which these lenders had uniformly ignored. However, regulators went easy as the LDC crisis emerged: they did not require the large US lenders to set aside loan-loss reserves against their LDC exposure, on the basis that this could induce an economic and political crisis (FDIC 1997, Volume 1, page 207). Then-FDIC Chairman Lawrence Seidman, contrasting this case with the leniency on capital adequacy that was shown to savings and loans, argued that whereas in the latter case this led to a national disaster because there was no "visible plan in place", in the former case it "gave the lending banks time to make new arrangements with their debtors and meanwhile acquire enough capital so that losses on Latin American loans would not be fatal. Like medicine and the other healing arts, bank regulation is an art, not a science." (Seidman 1993, page 128).

Two founding members of the SFRC, Robert Eisenbeis and Paul Horvitz, supported this forbearance in an essay published in a book co-edited by two other founding SFRC members:

> "Had these institutions been required to mark their sometimes substantial holdings of underwater debt to market or to increase loan-loss reserves to levels close to the expected losses on this debt (as measured by secondary market prices), then institutions such as

[22] Only four of the 57 statements released by the SFRC between 1986 and 1990 focused on the LDC debt crisis. The SFRC's very first statement denounced the Baker plan as wasteful and likely to cost taxpayer money. Its statement 49, entitled "Latin American Debt" (December 4, 1989), compared the Brady plan to the Baker plan and demanded that more Latin American countries handle their problems as had Chile – privatizing state enterprises, reducing inflation, and repurchasing outstanding debt.

> Manufacturers Hanover, Bank of America, and perhaps Citicorp would have been insolvent" (Eisenbeis and Horvitz 1994, page 60).

Forbearance notwithstanding, the federal government did step in. The first effort, by Treasury secretary Jim Baker, was introduced at the October 1985 IMF/World Bank meeting; it called for new lending without any debt write-downs by banks, leveraging Japan's current-account surplus. The plan was a non-starter: the banks refused to throw good money after bad, while the debtor LDCs could neither repay nor renew economic growth. Finally, Citibank took the lead among money-center banks and declared loan losses in May 1987; the others soon followed. And in March 1989 a second plan was proposed by Baker's successor as Treasury secretary, Nicholas Brady. This plan included several components: the negotiation of loan write-downs between debtor nations and bank creditors; agreements by borrowers to pursue more orthodox economic policies, with some reserve provision by the IMF; and banks' exchange of their claims on debtor countries for tradeable instruments ("Brady bonds").

Brady bonds were written in a way that both provided flexibility in payment parameters for borrowers and yet insured that the instruments were homogeneous. Thus, a secondary market opened and facilitated the work-out of the LDC debt of these (and subsequently other) nations over a period of years. This was no fairy-tale ending. For one thing, the borrower countries typically had to operate under macroeconomic constraints that compromised their growth (the mid-1980s inaugurated what is called the "lost decade" in Latin America).

For another, half the eight money-center banks that dominated US banking entering the 1980s were so weakened by LDC losses – and by subsequent wrong-way bets on commercial real-estate loans, bridge loans for mergers, and so on later in the 1980s and early 1990s – that they were acquired by competitors before the turn of the century.[23] This numerical reduction was accomplished via a pattern of Wall-Street-guided "competition by merger and acquisition" that remained at work until the subprime crisis emerged. In some sense, the eight money-center banks that operated in the US at the end of the 1970s were redundant: they made similar loans to similar customers; and their competition for market-share in emerging credit areas (LDCs, then commercial real estate, then merger-bridge loans) invariably led to overlending. Wall Street reacted by lowering these banks' credit ratings (*New York Times* 1984) and/or equity prices, criticizing their mistakes (Bennett 1988, Quint 1991) and virtually pushing these banks into consolidations. After the indicated mergers, credit ratings and/or equity prices would further differentiate the favorites from among those that remained (Hansell 1994). Seeking certainty in a time of confusion, the market sought its own consensus on which were the strong that should (and thus would) survive.[24]

---

[23] See Table 1. Two other banks (JP Morgan and Chemical) engaged in a merger of equals in 2000; so by the end of 2000, only three of the eight 1980s money-center banks (BankAmerica, Citibank, and JP Morgan Chase) survived.

[24] Hansell (1944) wrote suggestively that while the equity prices of Chemical and Chase Manhattan were selling at 80 percent of book value, Citi – a "good pick" – stood at 115 percent. Chemical and Chase merged two years later, as Table 1 shows. This same sort of process also played out in regional markets; a dynamic like this led to Wells Fargo's 1986 purchase of Crocker Bank, which had suffered large losses on LDC lending (Broder 1986).

The larger point for our purpose bears emphasis: the FDIC's forbearance regarding loan-loss reserves, the Baker plan, and finally the Brady plan and Brady bonds represented TBTF interventions that reassured investors, calmed markets, and permitted US money-center banks to continue to operate under private ownership years after they were technically insolvent. Further, Wall Street was permitted to guide these banks' restructuring through market signaling.

This sequence of TBTF policy interventions, however, went largely unrecognized as such – even by the SFRC – because they were all premised on a denial of the balance-sheet reality that these banks' bad loans had made them insolvent. But since most thrifts were small and specialized, and the prevailing regulatory wisdom held that the overbanked US system needed fewer banks, larger banks, and more diversified banks. The three money-center banks that survived the 1980s crisis, of course, constitute three of the four giant commercial banks that survived the 2007-09 crisis (the other, Wells Fargo, was already on Comptroller Conover's list of TBTF banks in 1984).

6. The reformulation of banking strategy and competition-by-merger-and-acquisition[25]

The 1990s represented a long denouement to the 1980s' triple banking crises. The banking firms that survived the 1980s, at every scale, found themselves in a situation that would have been unthinkable just fifteen years earlier. Not only did they need to redefine their customer bases and their revenue-generation models, they needed to justify their very existence – whether to continue to operate independently, or to merge with a larger or more ambitious competitor.

Commercial banks' strategic rethinking had a dual focus. One focal point was the retail market. There, the emergent strategy was upscale-retail banking (Dymski 1999): identifying, attracting, and holding a preferred customer base to which the bank can deliver traditional banking services—consumer loans, mortgages, deposits—as well as non-traditional services such as mutual funds, insurance, and investment advice. This strategy was implemented via the recalibration of cross subsidies. In the rate-regulated banking world, cross-subsidies existed within product lines: wealthier and poorer depositors earned the same amount and paid the same fees for their accounts, for example. Now, faced with fierce non-bank competition, intermediaries now used cross-subsidies between product lines to cement customer loyalty; free deposit accounts were offered, for example, for those with a mortgage loan at the same bank. This strategic shift implied judgements about which customers had more net-revenue potential; those who did were courted with incentives, while those who did not faced increased fees for the basic banking services they used.

A second strategic focal point was a shift toward credit instruments utilizing external funding. This initially took the form of syndication for large loans – such as loans to Latin American borrowers or loans that underwrote merger activity. Syndication permitted the sharing of the risks associated with large commitments to small numbers of borrowers.[26] Another method of sharing credit funding was

---

[25] Portions of this section and of section 8 below are largely drawn from Dymski (2011a).
[26] Syndication was a long-standing practice among investment banks underwriting equities and other securities (Hayes, Spence, and Marks 1983).

loan securitization, which was suited for situations in which the initial lender had large numbers of small borrowers in credit sub-markets (such as mortgages). Initially, securitization depended on whether or not terms, conditions, and loan characteristics (such as the probability of early repayment) could be standardized; with time, this constraint was relaxed. This shift, in turn, led banks to reduce the risks implicit in intermediation over time. In particular, secondary-market sales – and as noted, eventually securitization – reduced maturity-transformation-based liquidity risk. Many derivatives were also created with the aim of shifting lending risks onto third-parties.[27]

Both strategic shifts led to a recentering of bank revenue streams: instead of deriving revenue primarily from interest-based income, banks that embraced these new strategies came to rely for profits on fee-based income, on holding the profitable (upscale) customers that constituted their customer base, expanding the services they sold to their customer base, and also on expanding their customer base. These shifts toward desirable up-market customers and toward fee-based services were mutually reinforcing. Banks began to market more standardized financial services – credit cards, specialized investment accounts, and so on – to the upper tier of the middle market.

Outside of commercial banking per se, two other strategic options emerged. First, the rapid maturation of markets for securitized debt permitted the use of the "originate-and-distribute" lending model to make risky loans not carried on banks' balance sheets. In the 1990s, lenders– sometimes subsidiaries of large banks – began making and selling predatory loans, including subprime mortgages. These were instruments which were likely to lead to borrower distress or failure, but which were profitable because they carried high interest rates and fees and were collateral-backed (Engel and McCoy 2011, Dymski 2010). They proved attractive to an emerging set of lightly-regulated non-bank intermediaries. These entities – hedge funds, private-equity funds, offshore accounts, in particular – were designed to avoid existing regulations, and were captained by managers commanding high fees and promising above-market returns to their investors.

Further, financial firms operating in global markets were pioneering new contingent financial instruments – derivatives, interest-rate swaps, and so on – that could be used either to take on insurance against adverse price movements or to take bets on the future direction of prices (or price ratios). Many such contingent contracts were custom-designed (sold "over the counter") and thus had no secondary market. The spread of these unregulated and unregistered instruments was contested by the Commodity Futures Trading Commission (CFTC), which oversaw the Chicago futures markets. This effort did not succeed. The Commodity Futures Modernization Act of 2000 clarified that most over-the-counter derivatives transactions would be overseen under general federal "safety and soundness" guidelines, and would not be subject to either the CFTC or to laws governing financial securities. This pushed the door to the post-regulation era fully open.

---

[27] Facilitating the rise of securities-based risk-taking was the structural current-account deficit of the US economy; this deficit created a chronic capital-account surplus, which resulted in billions of dollars annually of overseas earnings deposited in US banks and funds and, in turn, invested in US-dollar denominated securities.

Super-regionals vs. money-center banks vs. investment banks and non-bank banks. This new set of strategic options, combined with the hands-off-competition view of regulators and the step-by-step deregulation of financial activities, led to a competitive free-for-all. One arena of competition involved efforts by "up and coming" regional banks to match the money-center banks in size and market reach. This was, initially, a battle for dominance in consumer banking markets.

Competing with money-center banks meant getting bigger; and the most efficient way to increase customer base, in turn, was via mergers and acquisitions. As noted, from the Reagan administration on, the regulatory regime has deemed bank mergers as an essential tool for solving the US economy's overbanking problem. The articulation and use of TBTF policy in the 1980s crises provided a further impetus to mergers: for in a TBTF world, some banks are more survivable than others. In the history of US banking, money-center banks alone had enjoyed a privileged status. But Comptroller Conover's TBTF list (Table 1) constituted a new sort of challenge, precisely because it included other banks along with money-center banks. Implicitly, this list suggested, large banks already inclined to use mergers to expand their operations could seek to make themselves TBTF. And this elevated the strategic importance of the control of retail banking markets.

Section 2 above made the point that a regulator who identifies TBTF banks by name guarantees the adverse behavioral consequences that s/he would, in principle, like to avoid. One can only surmise that Comptroller Conover was attempting to signal that there were just three banks beyond the eight money-center banks, in 1984, which could be considered in the same category as the eight money-center banks – that is, TBTF. What the Comptroller did not perhaps consider is that his list guaranteed adverse behavioral modifications for the eleven named banks.

With money-center banks sidelined by their own crises, a new breed of big bank, "super-regional banks" such as NationsBank and BancOne emerged.[28] The crises of the savings-and-loan industry and of commercial banks in "oil-patch" states created opportunities for them to acquire weaker or failing institutions. Especially important was the Texas banking crisis. In 1987-88, the five largest banks in Texas, all insolvent, were acquired in federally-assisted mergers by out-of-state banks, only one of which (Chemical) was a money-center bank. NCNB took over the largest Texas bank, First RepublicBank.[29]

Banks outside the money-centers saw their chance to take on their industry's giants. Increasingly well-capitalized and confident super-regionals in the US south, having been protected by their Banking Compact, were now ready to compete freely for banks and customers. They supported the Riegle-Neal Interstate Banking Act of 1994 (Hills 2007). Ed Crutchfield, former CEO of First Union, later commented:

---

[28] The emergence of the super-regionals is related to the extensive losses and failures of money-center banks due to non-performing oil-patch and Latin American loans. For example, Continental Illinois and Manufacturers Hanovers Bank failed in the 1980s, and BankAmerica and Citibank barely survived.

[29] Then-CEO McColl observed, regarding this move: "I always looked at the Texas deal as the turning point of the company … it vaulted us to where we could do what we wanted to do, and we did do what we wanted to do after that. After that, we did think we were going to build the biggest bank in the country." (Hills 2007, page 86)

Table 1: The 11 “Too Big to Fail” US Banks of 1984

1. BankAmerica*
2. Continental Illinois – brought under FDIC receivership in September 1984, operated with 80% government ownership as Continental Bank until 1994, when BankAmerica acquired Continental Bank
3. Security Pacific National Bank – merged with BankAmerica in 1992

4. Citibank*

5. Bankers Trust* – suffered major losses in 1994 and 1998, acquired by Deutsche Bank in November 1998.

6. J.P. Morgan and Company* – merged with Chase Manhattan Bank in 2000 and created the JP Morgan Chase Bank as a subsidiary
7. Manufacturers Hanover Trust* – merged with Chemical Bank in 1991
8. Chase Manhattan Bank*– purchased by Chemical Bank in 1996
9. Chemical Bank* – took on the name Chase Manhattan Bank after acquiring Chase Manhattan Bank in 1996
10. First Chicago* – after bad-loan-loss problems in 1970s and 1990s, merged with Banc One Corporation in 1994; Banc One merged with Chase in 2004.

11. Wells Fargo National Bank

Source: The 11 TBTF banks were cited as such by Conover (1984) and named by Carrington (1984). The two internal boxes indicate 1984 TBTF banks that were later merged into other members of the 1984 TBTF bank list. The eight banks considered to be money-center banks (FDIC 1997, Vol. 1, page 202) are designated by an asterisk (*).

> “There was no consolidator in the Northeast. The New York banks were, but by that time they were getting a little on the defensive. Their currency wasn’t worth anything, meaning their stock wasn’t doing well. They had all these international bad loans. My feeling was this is a pretty good time to steal a march right up in their backyard and do it while they were on the defensive ... [W]e were beginning to get into the brokerage business in a big way and into the mutual fund business. The thinking was we will bring brokerage, mutual funds, insurance to these customers who had pretty good money … It was a play on diversification.” (Hills 2007, page 90)

First Union bought Fidelity Bancorp, the largest bank in New Jersey, in 1995, and then in 1997 acquired CoreStates Financial Corp. of Philadelphia, in the largest bank acquisition to that time.

But competitive pressure on large banks was coming from another direction as well: they were on a collision course with investment banks. Goldman Sachs and the other leading names in investment banking had growth strongly in the robust growth years of the Golden Age, especially the 1960s, by developing emerging market areas (Hayes, Spence, and Marks, 1983, Chapter 1); this permitted them to escape from the gentlemen’s-club world of older investment banks, whose first-in-line market-share agreements left only scraps for newcomers. For years, old-line and newer investment banks alike benefitted from high fees for their services, in part because the Glass-Steagall act forbade cross-market competition from commercial banks. In the late 1970s, just as disintermediation was decimating depository institutions, investment-bank revenues were rocked by the deregulation of brokerage fees. Investment banks began their own series of mergers and acquisitions; the triple banking crisis of the 1980s provided them with many opportunities for fee-making. The securitization of most housing-finance and the maturation of originate-and-distribute lending, along with the proliferation of mortgage brokerages and investment funds (including hedge funds), turned a large portion of banking loan activity into a set of fee-generating possibilities.

So by the mid-1990s, money-center banks found competition on three fronts. On the consumer-services front, they faced super-regionals and well-established regional competitors. On the securitization and derivatives front, they faced US investment banks, non-bank banks, and foreign competitors. And they had always competed fiercely with one another; indeed, overlending driven by competition for market share had been one cause of the LDC lending crisis. The last problem was handled by consolidation; as Table 1 shows, the original eight money-center banks became four through mergers by the end of the 1990s. This permitted the survivors to raise equity in the markets, as part of their recovery from the LDC crisis. Regarding the other two fronts of competition, one of the remaining money-center banks (Deutschebank, which bought Bankers Trust) chose to compete only on the wholesale/global-markets front. The other three remaining money-center banks chose to compete on both fronts.

Similarly, the super-regional banks were locked into competition for retail banking market-share with one another and with the money-center banks; and they competed as well, though more selectively, in the non-traditional areas, especially securitization and predatory/subprime lending. And as with the money-center banks, mergers among members of this group was one solution. First Union and Wachovia, both large, expansion-oriented banks headquartered in North Carolina, merged in 2001. Wells Fargo acquired First Interstate Bank in 1996, in a merger that led to considerable acrimony by customers and employees alike; and subsequently, it agreed to a merger with Norwest Bancorp of Minneapolis (the resulting bank retainin Wells Fargo's name and San Francisco headquarters) in 1997.

The result of these clashing ambitions for market share and market presence, in a merger-friendly period in which the US economy – thanks to the recurrent US current-account deficit – functioned as a global liquidity sink, was a deepening of the competition-by-merger-and-acquisition process that had already been deployed to reduce the ranks of money-center banks.

Now the terrain of conflict widened, as more regulatory barriers fell. Indeed, the Federal Reserve helped to push the conflict along by playing an activist deregulationist hand that pushed at the boundaries of the Glass-Steagall Act, which remained law. So the Fed agreed, for example, to permit Bankers Trust to buy Alex. Brown, a Baltimore investment bank in April 1997, a move that *The Economist* (April 12, 1997) hailed as the practical end of the Glass-Steagall Act. Both BankAmerica and NationsBank bought San Francisco investment-banking firms later in 1997: BankAmerica, Robertson, Stephens for $540 million; NationsBank, Montgomeries Securities for $1.2 billion. Then, in September 1998, the Federal Reserve tentatively approved a proposed merger that violated the Bank Holding Company Act – the planned combination of Citicorp and Travelers – with the proviso that the law be appropriately modified within 24 months.[30] Two months later, the Gramm-Leach-Bliley Act repealed the Glass-Steagall Act's firewalls between investment and commercial banking, and also eliminated the BHC prohibition of combinations among banks, securities companies, and insurance companies. This cleared the way for a $70 billion deal that created the world's largest financial services firm (*Wall Street Journal*, April 13, 1998).

The competition-by-merger-and-acquisition process was wide and deep. Consider several examples. BankAmerica made two acquisitions aimed in part at strengthening its wholesale/non-bank banking competitiveness: its 1991 purchase of Security Pacific National Bank, and the 1997 acquisition of Robertson Stephens noted above. However, BankAmerica ran headlong into the ambitions of the most aggressive super-regional. While all the super-regionals worked to add market share and consolidate, NationsBank was at the head of this line. NationsBank followed its 1987 purchase of Texas' RepublicBank with purchases of C&S/Sovran of Georgia (1991), Maryland National (1993), BankSouth (1995), Boatmen's Bancshares of Missouri (1996), Barnett Bank of Florida (1997), Montgomery Securities (1997), and then Bank of America (1998), whose name it took on. Meanwhile, after Wachovia's merger with First Union in September 2001, it bought Golden West Financial, California-based and then the second largest thrift in the US, for $25 billion in May 2006. In May 2007, Wachovia purchased AG Edwards, the second largest US retail brokerage. Washington Mutual (WaMu), which had de-mutualized in 1983, expanded its retail banking operations with 1990s purchases of banks in Washington, Utah, and Oregon, with the 1997 and

[30] See the Federal Reserve Press Release dated September 23, 1998, at http://www.federalreserve.gov/boarddocs/press/bhc/1998/19980923/.

1998 purchases of California's Great Western and Home Savings, and also the 2002 purchase of Dime Bancorp. These mergers made WaMu the largest thrift in the US. It also moved aggressively to expand its mortgage and credit-card lending via acquisitions: in 2001 and 2002, it acquired PNC Mortgage, Fleet Mortgage, and Homeside Lending (mortgages); then in 2005 it bought Providian Financial Corporation (credit cards).

Among money-center and investment banks, acquisitions and mergers occurred at no less hectic a pace. Apart from the Citigroup-Travelers merger, other notable deals included the February 1997 purchase by Morgan Stanley of Dean Witter, Discover, the third largest US retail broker and a leading credit-card provider. Chase acquired the British investment-banking house Robert Fleming Holdings in April 2000, and then in September 2000 purchased J.P. Morgan, the fifth largest US commercial bank, for $36 billion. In February 1999, Deutsche Bank took over the stumbling Bankers Trust to build up its trading and investment banking capacity. In July 2000, Switzerland's UBS purchased the brokerage firm PaineWebber for $12 billion. A month later, Credit Suisse First Boston acquired the brokerage firm Donaldson, Lufkin, & Jenrette.

One indication of the frantic pace of mergers in those years is that of the 25 largest US BHCs as of December 1997, only 13 remained in December 2004 (and another 9 of those 13 would be bought out or merged by December 2008). The growth of super-regionals and the mergers and failures of money-center banks had eliminated these two categories. For example, in 1999 HSBC, which had entered the US via its purchase of Marine Midland of Buffalo in 1980, bought Republic National Bank, an old-line money-center bank, and moved its headquarters to New York City. By 2007, US retail banking was dominated by three giant BHCs (BankAmerica, JP Morgan-Chase, and Citi) dominated the market, with Wachovia and Wells Fargo close behind. Meanwhile, US investment banking was dominated by four surviving firms – Goldman Sachs, Morgan Stanley, Lehman Brothers, and Bear Stearns.

The TBTF Debate Reconsidered. It might have been expected that the string of the advocates of more market discipline would have been mollified. But this did not occur. The effort to link the elimination of deposit insurance with the instilling of market discipline had not worked. There was never any serious policy discussion of ending deposit insurance during the triple banking crisis; to the contrary, guarantees and assurances had been made more widely. Further, progress in the analysis of principal-agent situations (which were rampant in banking) suggested the limits on the influence of informationally-disadvantaged agents on outcomes. Prescott (2002), for example, pointed out that risk-based deposit insurance presumed the absence of informational barriers to the evaluation of bank-asset condition by depositors – an unlikely assumption at best.

Given these limits, a split emerged regarding how to retain a role for market discipline. Some advocates (such as Todd and O'Driscoll, Jr., 1993) argued that reforming or eliminating deposit insurance was just one step in dismantling a "federal financial safety net" that distorted market outcomes in banking and led to the frequent crises in the banking system. This was certainly the position of the SFRC as a whole (see, for example, SFRC 1996).[31]

Even in the mid-1980s, some advocates of market discipline had begun to recognize the practical difficulties of designing a better institutional alternative. Pierce (1985) observed that the source of instability in the 1930s was the fractional-reserve banking system; deposit insurance had stabilized that system, and its maintenance would thus permit the (desirable) elimination of activity barriers for banks. Anthony Saunders (1985), in the same volume, considers the possibility of conflicts of interest under a system of newly-integrated financial activities. He concludes that if markets are highly competitive and the speed and quality of information dissemination to customers is good, then it is unlikely that conflicts can be consistently and profitably exploited.

Kane, a founding member of the SFRC, began to shift his view. He increasingly acknowledged that pervasive asymmetric information creates many sources of instability in the financial sector. Financial-firm owners, managers, depositors, and borrowers are all intertwined in relations that involve risk-taking and risk-bearing in complex combinations. Regulators "must balance a series of subtle tradeoffs" among these parties' interests. "There is no general reason to suppose that governments should .. either .. tax or .. subsidize institutional risk-taking." (Kane 2001, p. 239). In effect, it is not simply a matter of government regulation distorting otherwise efficient market equilibria by providing opportunities for enrichment and risk-shifting. Instead, "regulatory culture in almost every country [involves] … three strategic elements: (1) politically-directed subsidies to selected bank borrowers … ; (2) subsidies to bank risk-taking … ; (3) defective monitoring and control of the[se] subsidies" (Kane 2008, p. 10). The weak link in this sequence is (3); so the key to eliminating inappropriate risk-taking is to make government officials "specifically accountable for delivering and pricing safety-net benefits fairly and efficiently." (Kane 2010, p. 145).

Meanwhile, TBTF itself remained a topic of regulatory concern. A *Federal Reserve Bulletin* article (DeFerrari and Palmer 2001) introduced the notion of large complex banking organizations (LCBOs). They observed that large banks were increasingly dominating US banking – the ten largest gone from 26 percent of all banking assets in 1989 to 49 perent in 1999. Further, large banks had ever more derivatives positions, were involved with every more non-bank banks, and were continually expanding their global reach. This created a new set of regulatory challenges, which should be met by risk-focused supervision. This article appeared just after the 1999 Gramm-Leach Bliley Act rescinded the Glass-Steagall Act and permitted the creation of financial holding companies (FHCs) that combined insurance, investment-banking, and commercial-banking activities. The Federal Reserve was designated the FHC regulator; and DeFerrari and Palmer (2001, page 49) listed the relevant "supervision and regulation letters" that the Federal Reserve had established for the oversight of FHCs. LCBOs did not have legal status; instead the Federal Reserve was signaling its intention to more closely regulate systematically integrated, large institutions.

[31] One analyst, Snook (2000), has pushed the rent-seeking approach to an extreme, arguing that financial and banking crises around the world in recent decades are attributable to "crisis makers" (economists, politicians, and the IMF and World Bank, among others) for whom business opportunities and professional recognition derive from the breakdown of flawed financial mechanisms.

Federal Reserve supervision will place "strong emphasis on understanding and evaluating each institution's internal risk-management processes" (page 50).

In this same time period, the *Federal Reserve Bulletin* published several complementary studies on the renewal of regulation in the new era: one advocating more transparency in reporting by LCBOs as as to facilitate informed market reactions (Study Group on Disclosure 2000) and another advocating LCBOs' issuance of subordinated debt as a means of maintaining market discipline (Study Group on Subordinated Notes and Debentures 1999). [32]

This approach foreshadowed the June 2004 Basel II Accord, the Bank of International Settlements' update of the original the December 1987 Basel agreement. Like Basel I, Basel II's first "pillar" consists of risk-based capital standards; these are more flexible, and are accompanied by two other pillars – more discretion for regulators and greater use of market discipline. This last pillar has been implemented by bank "stress tests."

While Federal Reserve policy hinted at TBTF institutions, this issue was addressed directly in a 2004 Brookings Institute volume. Authors Stern and Feldman introduce their text as a "warning", and describe the various problems that stem from having TBTF banks: equity- and bond-price premia, excessive risk-taking, and so on. They then list TBTF institutions, described as those "whose uninsured creditors will likely receive government protection" (page 37).

They describe their compilation as based on the Comptroller's original list, asset concentration, and banks whose payments activities lead supervisors to classify them as systematically important. Their list of TBTF institutions appears in Table 2; the authors note that those on it could "potentially have LCBO status" (page 38) and thus likely to have special supervisory attention under the 1999 Gramm-Leach-Bliley Act. In Stern and Feldman's original graph, foreign-owned and domestic LCBOs are listed chronically on the basis of their reported assets. Here, Table 2 separates domestic and foreign-owned banks, and – as in Table 1 – indicates which members of this list subsequently merged with other institutions. Again, there is substantial instability; six of the 19 US LCBOs, and one of the 15 foreign LCBOs have disappeared since appearing here as TBTF. On page 65 of their volume, the authors go on to update the Comptroller's original 1984 TBTF list for US banks, delineating the institutions that are TBTF as of September 2001.[33]

Their argument about what to do closely follows Kane. They assert that several types of spillover effects would constitute reasons to protect liability holders at TBTF banks: the prospective personal gains for regulators, the prospective political losses for the government, and the possibility of economic downturn and/or financial-system chaos. They assert that only the latter is legitimate. The remainder of their text considers how to effectively use market discipline (including LCBOs' issuance of subordinated debt), in advance of failure. Their unstated premise is that LCBOs are,

[32]Holders of subordinated-debt claims on LCBOs would lose their entire stake in the case of insolvency.
[33] From their LCBO/US list, they drop MetLife, Charles Schwab, Countrywide, and Northern Trust. They add First Union (sixth largest in assets in 2001), LaSalle Bank (16th largest), BBT (17th), South Trust (18th), Bankers Trust (19th), and Regions Bank (20th).

Table 2: The Stern-Feldman 2004 List of "Large Complex Banking Organizations"

Banks Headquartered in the US	
1. Citicorp	
2. JP Morgan Chase	
10. Bank One Corp	Merged with JP Morgan Chase on July 1, 2004
3. Bank of America	
14. FleetBoston Financial Corp	Merged with BankAmerica in 2004
33. Countrywide Financial Corp.	Purchased by BankAmerica in January 2008
9. Wells Fargo	
8. Wachovia Corporation	Purchased by Wells Fargo on October 3, 2008
13. MetLife	
15. US Bankcorp	
18. SunTrust Banks	
23. Bank of New York Company	
28. Mellon Financial Corporation	Merged with Bank of New York on July 2, 2007
26. State Street Corporation	
27. PNC Financial Services Group	
20. National City Corporation	Purchased by PNC Financial on Oct 24 2008
28. KeyCorp	
32. Charles Schwab Corporation	
34. Northern Trust Corporation	
Banks Headquartered Outside the US	
4. Deutsche Bank AG	
5. Mizuho Holdings	
7. UBS AG	
11. Credit Suisse Group	
13. HSBC Holdings PLC	
16. BNP Paribas SA	
17. Mitsubishi Tokyo Financial Group	
19. Societe Generale	
21. Bank of Montreal Holdings	
22. RBS Group PLC	
6. Abn Amro	Acquired in 2007 by RBS, Fortis, Santander
25. Toronto-Dominion Bank	
29. Royal Bank of Canada	
30. Bayerische Hypo-und Vereinsbank AG	
31. Desdner Bank AG	

Source: Stern and Feldman 2004, page 39. This list is in turn based on DeFerrari and Palmer 2001, p. 501.

indeed, TBTF. In this respect, they mimic Comptroller Conover's strategy of naming names, which has already been critiqued above.

Interestingly, one factor they cite is the interconnection of the payments mechanism with the real economy; but they fail to consider the interconnected claims of parties and counter-parties in overnight, over-the-counter derivatives, and options markets – a set of considerations that would trump all others in the consideration of possible systemic spillovers in the September 2008 crisis that lay ahead. This problem was hiding in plain sight in 2004. The authors discuss the failures of Drexel Burnham (February 1990) and Long Term Capital Management (September 1998). As they note, neither firm was TBTF; but as they observe, the extensive intervention of the Federal Reserve in the latter case "supports our claim that fear of financial market instability drives government response to the failure of financial firms" (page 83). LTCM, of course, was neither an investment nor a commercial bank, and its bets were largely in the options markets; and given the interpenetration of its commitments with many investment banks, an orderly workout of its claims was crucial for maintaining stability in financial markets.

7. TBTF in the 2007-09 financial crisis

The 2007-09 financial crisis unfolded with dizzying speed, forcing public authorities and large banks to make hugely important decisions about financial structure and function under the pressure of possible collapse. The very immensity and pace of this crisis reflected the interpenetration of large US (and other nations') banking sector(s) with financial-market players whose largest paydays come when they are the first to yell 'fire!'[34] Until the LDC crisis, this extreme interpenetration was restricted to the money-center banks. But as the ranks of the old-line money-center banks thinned and their special designation faded, mergers brought new megabanks – notably Wachovia and Washington Mutual – to the fore. And in the post-Graham-Leach-Bliley-Act world, these banks' balance sheets were supported not just by deposits, but by liquid money-market funds. And these banks were as dependent as were money-center banks on the judgement of the financial marketplace – and as vulnerable to reversals of opinion therein.

The outbreak of the 2007-09 crisis can be a slow run on non-bank subprime mortgage lenders which began in January 2007 (Acharya and Richardson 2009, page 15). This slow run eventually led to funding problems in June 2007 for two hedge funds that Bear Stearns had organized (off-balance-sheet) as vehicles for investing in subprime-heavy collateralized-debt obligations (CDOs). Bear Stearns was forced to use $3.2 billion of its resources to bail out these funds. The market for subprime loans began to deteriorate, and by July 2007, Bear Stearns was forced to admit that these funds had become insolvent. A September 2007 run by depositors on Northern Rock PLC, a large UK mortgage lender, precipitated the collapse of the asset-backed commercial paper market – the primary source of liquidity for most CDOs. The Federal Reserve and Bank of England were forced to purchase securities to maintain market liquidity, a balance-sheet intervention ('quantitative

[34] The leading recent example of this is some hedge funds' bets that the subprime-heavy CDO market would collapse. Lewis (2010) shows how the billions that were won reflect the result not of luck but of strategy.

easing') that has persisted to the present day.

The collapse of the asset-backed commercial paper market signaled money markets' retreat from risky asset-backed securities; soon liquidity began drying up for highly-leveraged financial firms and for issuers of asset-backed securities, especially those with positions in risky paper. Many megabanks listed in Table 2 were forced to take off-balance-sheet CDOs back onto their balance sheets (at a loss), and to sell equity stakes. Bear Stearns, a "big four" investment bank, came under the heaviest pressure. In May it was sold for a bargain price to JP Morgan Chase in a government-orchestrated deal.[35] The money markets collapsed in fear, and liquidity continued to dry up.

On September 14, BankAmerica announced its intentions to purchase Merrill Lynch, whose fortunes were declining precipitously due to its large subprime-debt exposure.[36] The next day, the investment bank Lehman Brothers failed. For the next month, a drama of global proportions ensued (Sorkin 2009). On September 15, a 10-day bank run began on WaMu, the largest savings and loan in the US.[37] On September 20, a New York bankruptcy court approved Barclays' offer to buy the investment-banking and trading divisions of Lehman Brothers. The next day, Goldman Sachs and Morgan Stanley, the two surviving US investment banks, were converted into bank holding companies, bringing these two firms under the protective umbrella of the Federal Reserve without public hearings due to the "emergency conditions" Board of Governors 2008) affecting the financial markets. On September 25, WaMu was seized by federal regulators, in the largest banking failure in US history; the next day, WaMu branches opened under the ownership of JP Morgan Chase.

On the next day, another high-speed drama began. Wachovia share prices fell 27%. No bailout announcement was forthcoming. This was surprising, in that Wachovia was, going into 2008, the fourth-largest US bank holding company, its assets 37 percent larger than those of Wells and almost double those of WaMu. By either the Comptroller's or Stern-Feldman measures, Wachovia was TBTF; and while it was later described as having taken excessive risks (see text below), Hirsch and Dowdy 2009) argue that Wachovia was salvageable, if not sound. But other factors were at work: fear had seized banks and financial markets alike (Leonhardt 2008); and the short-term loans that Wachovia needed (in the normal course of its operations, not just in the crisis) to support its asset position were not forthcoming.

Then a second surprising thing happened. On the morning of September 29th, the sale of Wachovia to Citigroup was announced; however, on October 3, Wells Fargo announced an agreement to purchase Wachovia. The Citi-Wachovia deal had been arranged by the Federal Reserve; unable or

---

[35] Skeel (2010) disputes the widely-held notion that Lehman Brothers' September 2008 failure was the key to the financial meltdown. He argues that the Bear Stearns sale signaled to the financial markets that the Federal Reserve would improvise as necessary to prevent any firm's failure. Thus Lehman had no incentive to take its impending failure seriously, and its chair, Richard Fuld, was able to maintain a wildly inflated view of his firm's options until the very end. Had the Federal Reserve forced Bear Stearns to fail, argues Skeel, events may have unfolded very differently.
[36] This deal was approved by the Federal Reserve on November 26, 2008.
[37] WaMu's $307 billion in assets (Sidel, Enrich, and Fitzpatrick 2008) would have made it the eighth-largest US bank holding company at that time.

unwilling to save Wachovia, the Fed needed a bank big enough to do the deal quickly – and with BankAmerica and JP Morgan Chase preoccupied with other acquisition processes, Citi was the remaining member of the “big three.” Wells Fargo moved fast and won the acquisition by offering a better deal to Wachovia’s equity owners. In effect, Wells’ leap represented a desperate (and successful) bid to achieve TBTF status. For as in the 1980s crisis (see Table 1), only some of the TBTF banks would survive this crisis.

On the very day of the Wells-Wachovia announcement, President Bush signed a bill creating the $700-billion Troubled Asset Relief Program (TARP) as an emergency measure to save the US financial system. This action broke the chain of uncontrolled megabank meltdowns. Over the next several months, the US Treasury Department and the Federal Reserve used decisions about which banking firms should receive TARP money and which additional companies should be given BHC status, respectively.[38] About half of the TARP allocation was used to provide equity support for a significant number of banks and non-bank financial firms.[39] Meanwhile, t Federal Reserve issued orders approving further BHC applications as follows: for example, American Express, November 10, CIT Group, December 22, and GMAC, December 24. Further acquisitions were also approved: for example, PNC of Pittsburgh acquired National City of Cleveland in December 2008.

So as in the triple banking crisis of the 1980s, US regulators designated which banks were TBTF and should receive support to expand their market shares, and which should be terminated through acquisition-by-force. The justification for these interventions inevitably ran along familiar lines:

> “the ramifications of that kind of failure are so broad and happen with such lightning speed that you cannot after the fact control them. It runs the risk of bringing down other banks, corporations, disrupting markets, bringing down investment banks along with it….We are talking about the failure that could disrupt the whole system.” (LaWare, 1991, p 34)

This statement was made by former Federal Reserve governor John LaWare in 1991 as a retrospective explanation for TBTF interventions in the 1980s crisis. The 2008-09 crisis was back to the future, with a vengeance.

What TBTF led to. The mergers that occurred in the heat of the crisis were questionable in operational terms; but they make sense for large banks’ hoping to achieve TBTF status. Wells Fargo, for example, had been a large consumer bank with only regional presence and virtually no investment-banking capacity; its merger with Wachovia did not solve the latter problem, but did elevate Wells to the balance-sheet weight class of the three largest banks. BankAmerica’s takeover

[38] These two entities worked together closely in this period, with some analysis provided by staff borrowed from Wall Street megabanks (Sorkin 2009). The Federal Reserve also aggressively used quantitative easing to maintain liquidity in the US and global financial systems. At its peak in December 2008, the Federal Reserve had $1.5 trillion in credit outstanding on its balance sheet (Chan and McGinty 2010).

[39] Other governments were also moving fast. In October 2008, the British government infused 37 billion pounds into RBS, Lloyds TSB, and HBOS. On October 5, the Belgian government announced its purchase of Fortis, and its subsequent sale of a portion of Fortis’ assets to BNP Paribas of France. In December 2008, Lloyds TSB’s takeover of HBOS was approved.

of Merrill Lynch gave it a presence it had lacked in brokerage and, to a smaller extent, in investment banking. Both takeovers – and, for that matter, BankAmerica's January 2008 absorption of Countrywide – were extremely risky; but the ability to take additional risks is precisely the point of aiming for TBTF status.

The big four (BankAmerica, JP Morgan Chase, Citigroup, and Wells Fargo) are now securely ensconced as the privileged TBTF mass-market banks. Two of them (Citi and JP Morgan Chase) have globe-straddling investment banking operations. This is clear enough, given the point made earlier that naming TBTF may have systemic risk-enhancing effects. But what is less clear is the implication of the continued presence of Goldman, Morgan Stanley, MetLife, and Ally Financial (the former GMAC) as bank holding companies.

Banks have been defined for years as institutions whose primary activities consist of deposit-taking and loan-making; adding investment banks to this list, securities-underwriting and long-term financing would be included. Most banks below the megabank level continue to pursue these primary banking activities; experiments with alternative financial instruments and strategies have mostly led to failure, when banks at this level have tried them. As both Tables 1 and 2 demonstrate, megabanks have had high rates of failure and merger from the 1980s to the present. As a strategy for surviving the moment of crisis, regulators' logic in providing TBTF support for the big-four banks, the two remaining investment banks, and several other firms – using BHC status to justify TARP subsidies and Federal Reserve credit facilities – was clear. But after the crisis moment has passed, confusion reigns regarding what banking is and what banking guarantees are for.

Thanks to actions taken in the heat of the 2007-09 crisis, the protections associated with TBTF status have been intermixed with BHC status; and now some institutions that have BHC status are not primarily banks. One way to see this mismatch is by considering the conduct of core banking activities. Figure 3 sets out the ratio of loans and leases to assets for nine large banks: the "big four" banks, three large regional banks (Suntrust, BB&T, and Fifth Third Bancorp), and for Goldman Sachs and Morgan Stanley. It is clearly seen that the two former investment banks do not make loans to any significant amount.[40] A graph of the deposit-to-asset ratio would be virtually identical. Figure 4, in turn, sets out the ratios of derivatives to assets for this same bank population. The derivatives-to-asset positions of Goldman and Morgan Stanley dwarf even those of Citibank and Wells Fargo, which in turn are hugely higher than those for the three regional banks depicted.

Another way to see this mismatch is by these firms' contrasting missions. Consider Goldman Sachs' CEO Lloyd Blankfein's statement to the Financial Crisis Investigation Commission in early 2010:

> "In our market-making function, we are a principal. We represent the other side of what people want to do. We are not a fiduciary. We are not an agent. Of course, we have an obligation to fully disclose what an instrument is and to be honest in our dealings, but we are not managing somebody else's money" (FCIC, 2010, page 27).

[40] These two institutions have no data for 2007 because they did not report under bank-holding company law then.

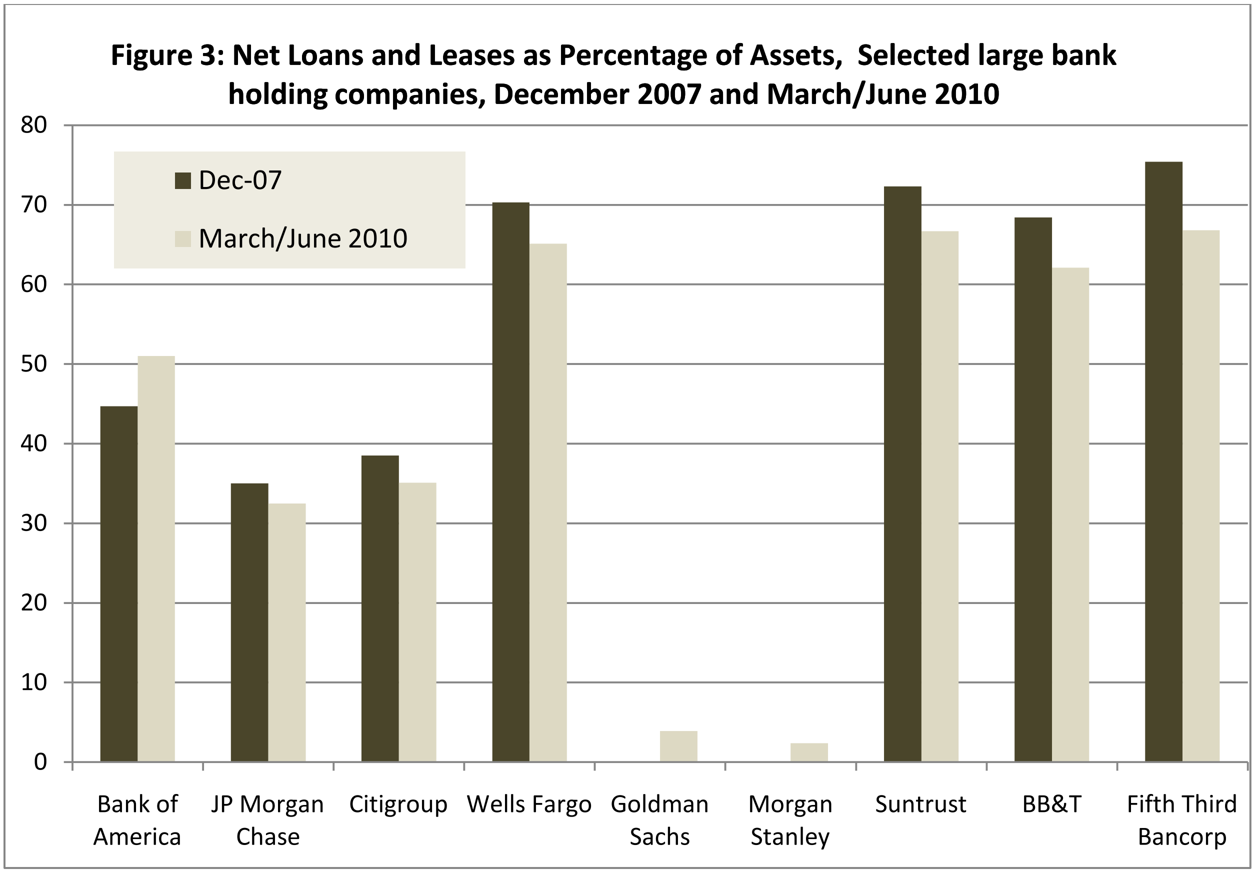


Figure 3: Net Loans and Leases as Percentage of Assets, Selected large bank holding companies, December 2007 and March/June 2010
80
70
60
50
40
30
20
10
0
Dec-07
March/June 2010
Bank of America
JP Morgan Chase
Citigroup
Wells Fargo
Goldman Sachs
Morgan Stanley
Suntrust
BB&T
Fifth Third Bancorp

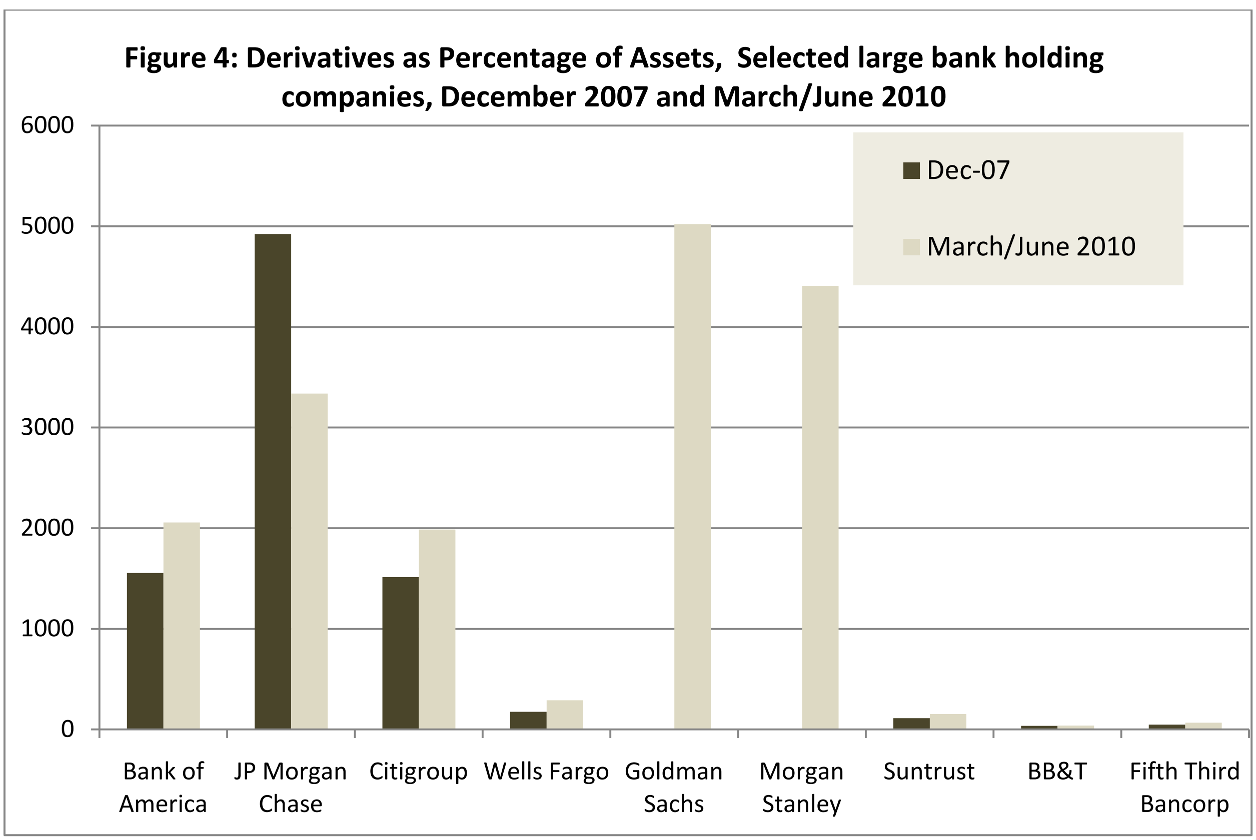


Figure 4: Derivatives as Percentage of Assets, Selected large bank holding companies, December 2007 and March/June 2010
6000
5000
4000
3000
2000
1000
0
Dec-07
March/June 2010
Bank of America
JP Morgan Chase
Citigroup
Wells Fargo
Goldman Sachs
Morgan Stanley
Suntrust
BB&T
Fifth Third Bancorp

Figure 5: Outstanding loans at US commercial banks, by loan category, in trillions of 2005 dollars, 1984-2010

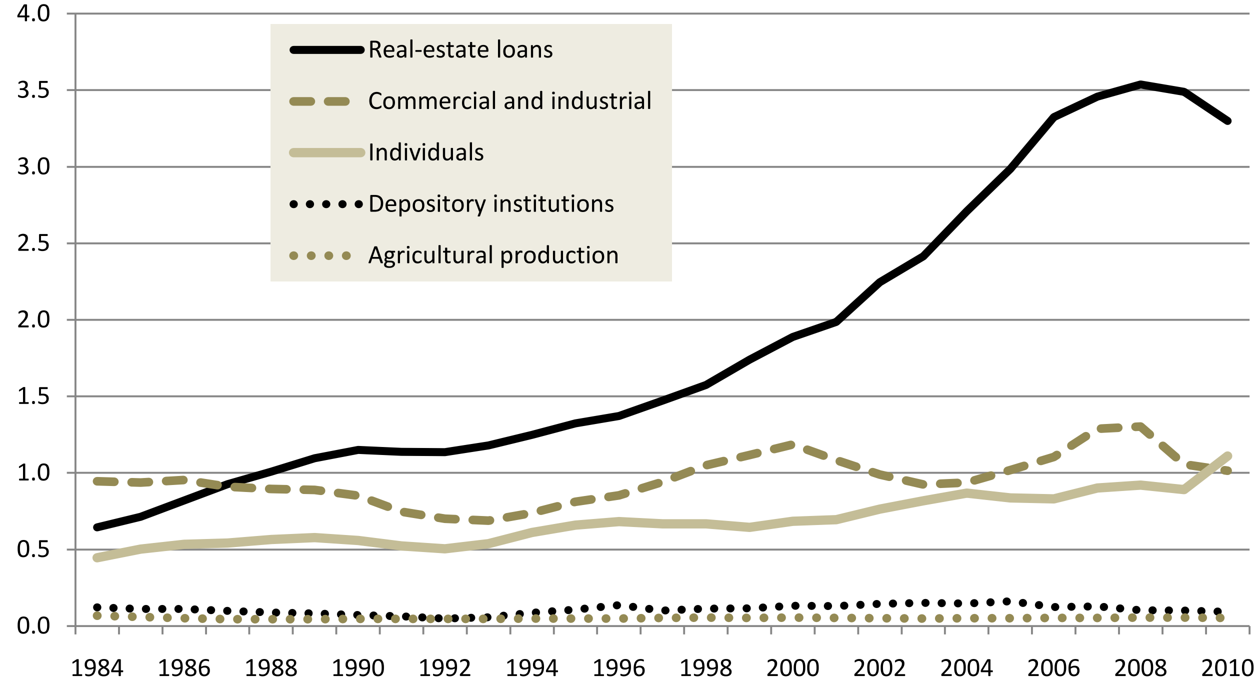
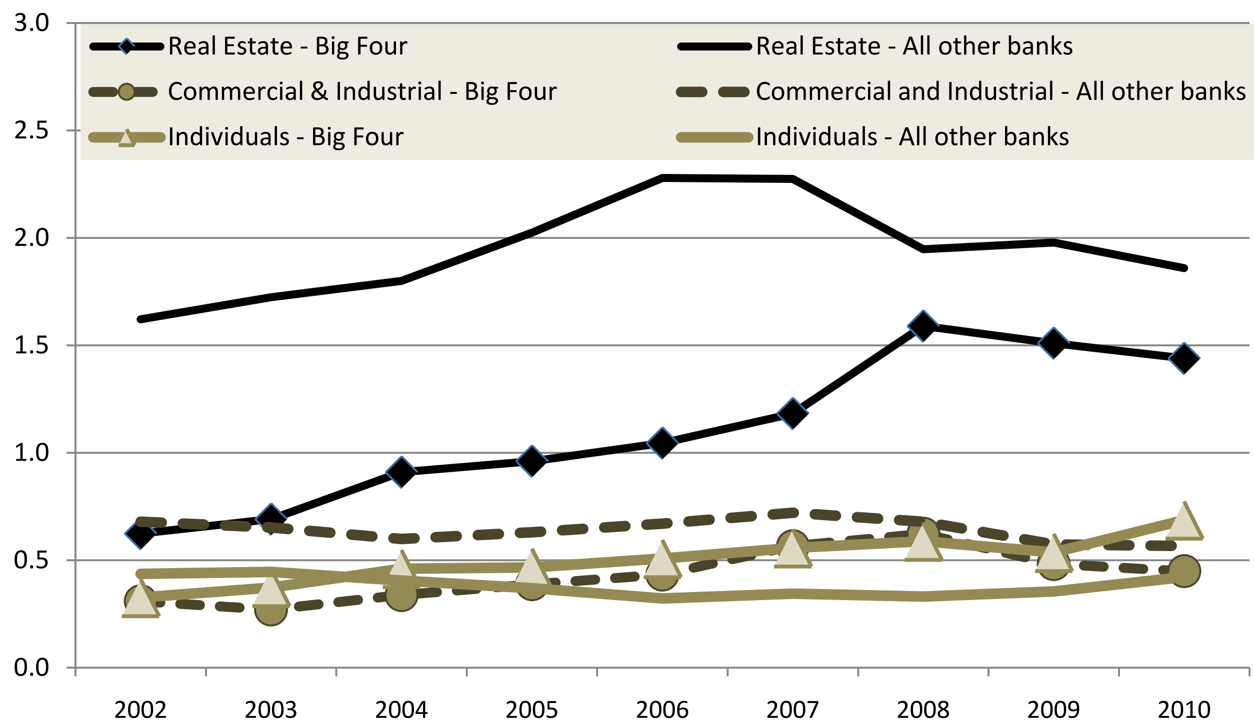


Figure 6: Outstanding loans at "Big Four" and All other US commercial



The word that characterizes a commercial bank, by contrast, is "depository" (which commercial banks share with thrifts): the primary responsibility of a depository is to serve and protect the interests of its deposit-holders. The fact is, Goldman has virtually no deposits to protect. And Blankfein, as a Goldman Sachs banker, is simply stating reality as investment banks understand it. The fact that Goldman and other former investment banks have aggressively resisted limits on their pay and on their firms' activities is consistent with the eat-or-be-eaten approach that defines contemporary investment banking.[41] Nor is it surprising that these institutions used the "emergency conditions" of late 2008 to avail themselves of geo-economic advantages. But these "former" investment banks are institutions whose core philosophy of market action is only sustainable in the longer run if they face real enterprise risk, wherein failure is a possibility.

8. Post-crisis pressures, debate, and reform efforts

The TBTF rescues that accompanied the 2007-09 crisis made "too big to fail" an everyday term in popular culture. How many of these actions were necessary to save the financial system from collapse is unknowable and is not considered here. What these forceful governmental actions undeniably did was to make crystal-clear which financial firms were TBTF, and which were not.

One nearly-immediate impact of the subprime crisis was a sharp decline in lending activity. Figure 5 shows that loans outstanding in two banks' two largest lending categories – real-estate-backed loans and commercial and industrial loans – have fallen after 2008. Because this figure depicts loans outstanding, and not net new loan activity, it understates the slowdown in net loan activity. Note that loans to individuals are the only category to have risen after the crisis.

Figure 6, in turn, illustrates the evolution of loan volume, by category, between the "big four" banks – BankAmerica, JP Morgan Chase, Citi, and Wells Fargo – and the remainder of the US banking population, in the three most quantitatively important loan categories. This figure shows, first, that between 2002 and 2010, the loan volumes of the "big four" have equaled the remainder of the banking system for consumer and commercial and industrial (C&I) loans, and nearly achieved equality for real-estate loans. Another notable feature of this graph is that whereas the "other" banks' constant-dollar real-estate loan volume turned down after 2006, volume at the "big four" continued rising. The shift from 2007 to 2008 is difficult to interpret, because the "big four" merged with some of their largest competitors; but "big four" real-estate loan volume continued to rise even after accounting for these mergers. This is the sort of risk-insensitive behavior that one might expect from banks operating under TBTF coverage.

Financial reform debate. The intense crisis period in the US, UK, and EU created pressures for legal and regulatory reform. One immediate effect was that a much broader set of analysts' voices weighed in than had previously. Up until the crisis period, most prominent academic economists

[41] On Wall Street megabanks' resistance to restrictive regulations under the 2010 US reforms, see Harper (2010). On the evolution of investment banking, see Cassidy (2010). For "principal" behavior inconsistent with "depository" responsibilities, see Eisinger (2011).

who specialized in banking and finance had had little to say about US domestic banking regulation. This been the largely exclusive domain of the SFRC; but no longer. A group of prominent economic theorists of diverse approaches and views produced the collaborative Squam Lake report (French *et al.*, 2010). Concurrently, a vigorous assemblage of faculty in the Stern School of Business at New York University produced numerous articles and ultimately an ambitious volume (Acharya, Cooley, Richardson, and Walter 2011) setting out detailed ideas on financial reform and on the implementation of the Dodd-Frank Act. Theorists that had long been engaged primarily in purely academic discourse – to pick three examples, Yale's John Geneakoplos, Princeton's Markus Brunnemeier, and Stanford's Darrell Duffie – became active in policy debates. Further, two Congressional investigations of the financial crisis were undertaken – one by the House (FCIC 2010) and one by the Senate (US Senate 2011).[42]

The SFRC and its individual members remained as active as ever; its February 2009 statement (Blume, Kaufman, and Wallison 2009) blasts the federal crisis-relief efforts as "ad hoc and inconsistent" and "still not fully explained", lamenting banks' lack of foresight in having sufficient capital – which is attributed to the prospect of bailout interventions – and the broad inattention to moral-hazard problems. Indeed, one SFRC member (Peter Wallison of the American Enterprise Institute) was appointed to the Financial Crisis Inquiry Commission (FCIC) and signed the dissenting report signed by the FCIC's Republican appointees (Republican Commissioners 2010).

At the same time, the active and well-publicized interventions by new analysts with solid academic credentials introduced a new dynamic into the interpretive context. The familiar SFRC assertion that financial markets – and especially large, powerfully-situated institutions in those markets – could ever be self-governing was fundamentally challenged. For example, Acharya and Richardson (2009, pages 196-97) wrote:

> "The legitimate and worthy purpose of securitization is to spread risk. It does so by removing large concentrations of risk from the balance sheets of financial institutions, and placing small concentrations into the hands of large numbers of investors. But especially from 2003 to 2007, the main purpose of securitization was not to share risks with investors, but to make an end run around capital-adequacy regulations. The net result was to keep the risk concentrated in the financial institutions—and, indeed, to keep the risk at a greatly magnified level, because of the overleveraging that it allowed."

At the center of these authors' concern were the large complex financial institutions (LCFIs) – a variant on the LCBO term used at the Federal Reserve – that had been at the heart of the crisis. The core impulses of LCFIs led led directly to a direct challenge to regulatory intent:

[42]Fox (2009) and the movie *Inside Job* point out that another group of economists had been crucial in facilitating the crisis: financial-market experts whose unrelenting belief in the efficient-markets hypothesis blinded them to warning signs about impending asset bubbles and unsustainable lending patterns. As *Inside Job* points out, some of these economists received substantial financial support – in one form or another – from the large financial firms predisposed to the view that deregulating markets further would pose no systemic risks.

> "The genesis of it all was the desire of employees at highly leveraged LCFIs to take even higher risks, generating even higher short-term "profits". They managed to do so by getting around the capital requirements imposed by regulators—who, in turn, were hoping to diminish the chance that deposit insurance, and the doctrine of "too big to fail," might cause LCFIs to take just such risks." (Acharya and Richardson 2009, page 209)

Darrell Duffie, too, examines the implications of institutional evolution by financial firms. He focused on "large dealer banks", who are both members of a class but also diverse, in that they:

> "act as intermediaries in the markets for securities, repurchase agreements, securities lending, and over-the-counter derivatives. They conduct proprietary (speculative) trading in conjunction with these services. They are prime brokers to hedge funds and provide asset-management services to institutional and wealth individual investors. … some operate 'internal hedge funds' and private equity partnerships" … (Duffie 2011, page 4)

This describes precisely the "non-core banking" activities of Goldman Sachs and/or JP Morgan Chase. For Duffie, large dealer banks are a game-changer; if not regulated well they will take inefficient risks, but their very centrality in the financial nexus imposes TBTF policy as a necessity:

> "When the solvency of a dealer bank becomes uncertain, its various counterparties and customers have incentives to reduce their exposure to the bank, sometimes quickly and in a self-reinforcing cascade. … Dealer banks have been viewed, with good reason, as 'too big to fail.' The destructiveness of the failure of Lehman Brothers in September 2008 is a case in point." (Duffie 2011, page 5)

In effect, Duffie both rationalizes the Federal Reserve's helter-skelter action during the crisis, but simultaneously calls for adequate regulation. In actuality, these new voices in the US debate over banking regulation were by no means *sui generis*. Charles Goodhart (1988, 1998) had been arguing for years that principal-agent problems in banking made a strong central bank and strong regulation a necessity: his core argument is that a free-rider problem characterizes credit creation (or any form of revenue-generating financial-intermediation activity), and leads every bank to generate a larger individual volume of credit (or other financial instruments) than the overall market can absorb without surpassing the limits that permit the alignment of financial and real-sector prices. This argument sets aside the ideal of efficient financial markets, which operates as the guidepost for the SFRC, as an impossibility. Banks' strategic impulses lead them to compete in ways that will erode the soundness of the markets in which they operate. Once these impulses toward excess are amplified by TBTF status, then market breakdowns due to the mismatch between risk-generation and risk-bearing will accelerate in speed and in the damage they can cause.

These policy perspectives had special force in the debate because they were supported by articles in respected refereed journals.[43] As demonstrated in the contrasting passages from Ingo Walter that

[43] For example, Acharya (2009) supports his policy conclusion in an academic article that shows how systemic risk can multiply uncontrollably in financial markets when banks with limited liability undertake correlated investments, a part of the risk of which is offloaded onto the market as a whole. This paper suggests that to control economy-wide aggregate risk, prudential regulators must consider the increase in both individual and aggregate risk to which any investment gives rise.

appear on the first page of this paper, even economists who once enthusiastically welcomed the innovation by integrated financial firms have now concluded that separation of financial functions should be reintroduced. Walter, Acharya, and Richardson are colleagues at NYU's Stern School.

This shift in the participants in the policy debate has not, however, resolved the question of what should be done. The Stern School/NYU approach – see Richardson, Smith, and Walter (2011) – holds that financial conglomerates have to be cut down to size. The only companies that can operate sustainably without triggering TBTF interventions eventually are smaller, specialized intermediaries that focus on a small set of financial functions. Johnson and Kwak (2010) argue for an explicit rule limiting the size of all financial intermediaries as a share of GDP. The approach taken in other studies (such as French *et al*. 2010 and Duffie 2011) is to permit wide-ranging activities by financial conglomerates, but to design incentive or punishment mechanisms in the various sub-areas of financial activity so as to avoid dangerous excesses in behavior and position-taking. Shiller (in Kroszner and Shiller 2010) argues that the key problem is not in the size or complexity of the firms serving the market, but instead in the structure of markets available to meet banking needs. His premise is that financial contracts have to be simplified so everyday people can understand them, and futures and derivatives markets should be established that allow everyday people to hedge their bets (such as a hedge against falling house prices in one's hometown). In his view, the US financial system is halfway to a brave new world of democratized finance; this is thus the moment to modernize financial arrangements in a pro-democratic-participation direction.

In sum, the idea in this latter approach is that a well-informed and well-intentioned regulator can understand motivations in markets as they evolve and react to them in time to stave off losses that might otherwise occur. This regulator can also insure that contracts and information dispersion permit more informed consumer participation in formerly esoteric markets. The idea in the former approach is that such wise oversight is not systematically possible over complex, innovating firms; so the firms must be simplified. Economists committed to the latter approach are convinced that good-enough mechanism design will yield huge allocative-efficiency gains without sacrificing the advantages of centralized financial markets. Economists committed to the former view believe that the mechanism design does not exist that cannot be undermined by speculative or insider behavior. That is, even among the ranks of reformers, debate is continued about whether efficient-market outcomes are feasible under any conditions.

Financial reform legislation and lobbying. While policy debate has been renewed, post-crisis legislative reform has followed a slow and tortured road, so that substantial policy confusion remains. In the UK and the EU, reform efforts started earlier (by 2009), but have been substantially frustrated.[44] In the US, a financial reform effort started belatedly in 2010. This reform does promise

[44] EU leaders made an effort to regulate hedge and private-equity funds for the first time in early 2009, but UK and Continental officials disagreed on the balance between freedom of action and control. Later in 2009, these same authorities disagreed over the imposition of restrictions on bankers' pay. Lorenzo Bini Smaghi, a board member of the European Central Bank, stated the core problem facing Europe financial reform succinctly in the *Financial Times*: the three aims of "financial integration, financial stability and national supervisory autonomy ... cannot be achieved simultaneously." (Smaghi 2009).

some meaningful reforms: a new financial consumer-protection agency; stricter capital requirements for large financial firms; limits on megabanks' ability to trade securities (including equity shares) on their own account (as opposed to executing trades requested by clients); the filing of "living wills" by megabanks, so that in the event of insolvency they can dismembered in an orderly way; limits on the charges and rates that can be charged on consumer credit and bank-cards; more monitoring capacity for the Securities and Exchange Commission; a requirement that several categories of derivative contract be exchange-traded; and so on.

In many cases, more fundamental changes were proposed than were adopted: some loopholes were inserted into the Volcker rule, which originally would have completely banned megabanks from trading on their own accounts; a bank-size limitation, which would have required excessively banks to break apart for prudential reasons, was eliminated; and so on. The resulting US legislation made only marginal changes in the degree of control over megabanks' freedom of action (Braithwaite, Guerrera, and Baer 2010).

Nonetheless, banks have been pushing back furiously against the 2010 US Dodd-Frank Act.[45] Since the Act itself is now law, resistance has taken two forms: attempts to repeal Dodd-Frank, and efforts to weaken its provisions in the regulation-writing stage. Some of this resistance may be defensive: in the US and elsewhere, the value of securitized and formerly securitized assets that megabanks continue to hold on their books remains uncertain; plunges in value that may force yet more banks into insolvency are thinkable. This same reason also explains why the surviving megabanks have so fiercely waged a passive resistance campaign against the federal government's foreclosure-prevention program. These loans can be carried at book value as long as foreclosure or loan-renegotiation is avoided.

Another part of this resistance is offensive. The financial industry has perfected the art of lobbying on legislation affecting its interests; and the Dodd-Frank Act and its aftermath have constituted a new high-water mark. A comprehensive review of the influence of financial-industry money is beyond the scope of this study; but even a small sampling of recent posts and reports illustrates the influence the industry makes to get its position across. Between 2006 and 2010, some 219 former employees of the Securities and Exchange Commission (SEC) have worked for the FIRE industry after leaving the SEC (Project on Government Oversight 2011). Since January 2009, some 1,447 former former federal employees have been employed by the finance, insurance, and real estate (FIRE) industries to lobby Congress and federal agencies (Center for Responsive Politics 2011); half the former members of Congress now engaged in lobbying were hired by the FIRE industry during the Dodd-Frank deliberations. It is worth considering in this respect that despite the many allegations of malfeasance and ineptitude in marketing and then foreclosing on subprime mortgage loans, no top executives at megabanks have yet been prosecuted (Morgenson and Story 2011).

In the first three months of 2011, 488 different organizations have lobbied Congress on the Dodd-

[45] In late 2010, the G-20 nations made an effort was made to harmonize financial regulations globally via a new set of balance-sheet-safety standards (Basel III); this effort has also been fiercely resisted (Braithwaite and Guerrera 2010).

Frank Act (Beckel 2011); this figure is down from the 815 that lobbied during the second quarter of 2010. But given that the Act passed in 2010, these 488 organizations have obviously organized to overturn or influence the implementation of Dodd-Frank. These efforts cross the partisan aisle. The two Republican US Senators leading the fight to repeal or weaken the Dodd-Frank Act, especially the Consumer Financial Protection Bureau, have received over $4.3 million in campaign donations from the FIRE industry during their careers, $2.2 million of that in the 2010 election cycle (Papagiannis 2011). At the same time, the *New York Times* reported on President Obama's fine-tuning of his fund-raising efforts on Wall-Street, as one preparation for his re-election bid in 2012 (Confessore 2011).[46]

Perhaps the most surprising recent report regarding the impact of money on financial politics was compiled by Igan and Mishra (2011), two economists at the IMF. Their study shows that pro-deregulation legislation is far more likely to be passed into law than stricter-regulation laws; and the influence of lobbying and connections explain much of this difference in outcomes.

Simon Johnson (2009) has argued that this pattern of revolving-door regulation and campaign contributions adds up to a financial "plutocracy" that has seized control of the policy levers in the US government. That is, arguments about "what banking is" and "whether binding regulations will preclude efficient credit allocation" unfold on a weighted playing field.

Downtrodden finance and regulatory competition. Given the proliferation of FIRE money being poured into Washington, it may be surprising to learn that the industry regards itself as besieged. This megabank argument is plausible when considered from the perspective of the impact of the 2007-09 crisis on its global position. Both BusinessWeek and Forbes have published "Global 1000" (or in Forbes' case, "Global 2000") lists of the largest firms in the world. A rough compilation of the market value of financial firms in the US and elsewhere (for those firms included in these lists) suggests that US financial firms have lost about 56 percent of the market value of their equity shares between 2004 and 2010, whereas firms elsewhere in the world have gained 174 percent in market value. So whereas the market value of US financial firms included in the "Global 1000" exceeded the market value of large financial firms in the rest of the world in 2004, by 2010 the US share of the equity value of the Forbes "Global 1000" was just 26 percent.

Ben Bernanke was confronted by Jamie Dimon, CEO of JP Morgan Chase, at an Atlanta conference on June 10, 2011. Dimon complained about some of the new regulations the Federal Reserve has been working to implement under the Dodd-Frank Act, including higher capital requirements for large banks such as Mr. Dimon's own. Dimon said, "Has anyone bothered to study the cumulative effect of all these things? .. And do you have a fear, like I do, that when we look back on them .. they will be the reason that it took so long that our banks, our credit, our businesses, and most importantly, job creation started going again?" Perhaps surprisingly, Mr. Bernanke replied that

[46] In fairness to President Obama, he journeyed to the moneyed chambers of Wall Street as Presidents Bush, Clinton, Bush, Reagan, and others had done before him. And while President Obama relied closely on the economic advice of Wall Street insiders Tim Geithner and Larry Summers, they too followed in the footsteps of Henry Paulson (Goldman Sachs), Robert Rubin (Citicorp), Donald Regan (Merrill Lynch), and others before them.

nobody had indeed done a study of the kind Dimon was suggesting.

Dimon's furious monologue came a day after US Treasury secretary Tim Geithner had asserted that because London's light-touch regulatory approach prior to the 2007-09 crisis had had such drastic effects, the Bank of England should follow the US lead in setting out firmer regulatory guidelines. This led a senior official at the UK Financial Services Authority to quip, "Clearly he wasn't referring to derivatives regulation because as far as I can recollect there wasn't any in America at the time."[47] As the *FT* article goes on to note, the new rules on over-the-counter derivatives that are being imposed – even while being resisted and weakened by industry pressure – will put the US-chartered financial firms that issue these instruments at a disadvantage relative to financial firms domiciled elsewhere, such as Singapore and possibly Hong Kong.[48] These US officials' dilemma (and indeed, the dilemma for any national or regional financial regulator) is that to avoid megabank flight – or the threat of such flight - they must either induce the national/regional financial regulators of any significance to go along with the stricter rules they hope to impose, or they must weaken their proposed rules. Secretary Geithner's ham-handed approach to do the former illustrates rather pointedly the dilemma of the US – and for that matter the UK and EU – in their post-crisis regulatory reforms: it lacks the credibility to induce cooperation with new rules, and lacks the power to impose them.

There is a passage from Sorkin's *Too Big to Fail* (2009), in which Tim Geithner is revealed as having a rather sentimental view of the financial industry. Sorkin describes a revelation experienced by Tim Geithner, then President of the Federal Reserve Bank of New York, when an early-morning jog in the midst of the crisis-management period in 2008 took him past the Staten Island ferry depot:

> "Those ferries, freighted with office workers, gave him pause. *This is what it is all about,* he thought to himself, *the people who rise at dawn to get in to their jobs, all of whom rely to some extent on the financial industry to help power the economy. Never mind the staggering numbers. Never mind the ruthless complexity of structured finance and derivatives, nor the million-dollar bonuses of those who had made bad bets. This is what saving the financial industry is really about*, he reminded himself, *ordinary people with ordinary jobs*." (Sorkin, Chapter 17).

The Dimon-Geithner connection revealed here illustrates the impasse that has been reached in US financial regulation. Chair Dimon asserts that his firm needs absolute freedom of action to accomplish most efficaciously its tasks, which will once liberated again generate jobs for US workers. Then-Federal Reserve official Geithner reveals his view that well-functioning finance maintains "ordinary people with ordinary jobs". Geithner accepts Dimon's framing of what banking is, and which firms are best able to efficiently conduct banking. At the very conference where Dimon confronted Bernanke, Secretary Geithner's speech included the following:

[47] Both exchanges appear in Masters *et al.* 2011.

[48] The issue is that the Dodd-Frank Act requires collateral to be posted on uncleared derivatives contracts, wherever they are made; the Singapore Exchange has set up trading and clearing facilities for derivatives contracts that do not impose these requirements.

> "The US financial system is recovering because of the "tough choices we made to fundamentally restructure the system as we were fighting the financial fires of 2008 and 2009. And it will be because we put in place the reforms necessary to preserve those changes, with a better balance of stability and innovation"
>
> … The weakest parts of the U.S. financial system – the firms that took the most risk – no longer exist or have been significantly restructured. That list includes Lehman Brothers, Bear Stearns, Merrill Lynch, Washington Mutual, Wachovia, GMAC, Countrywide, and AIG. …Of the 15 largest financial institutions in the United States before the crisis, only nine remain as independent entities." (Geithner 2011)

Secretary Geithner shows clearly here that he has helped navigate the US financial system through the crisis in such a way that its global-leader status is not compromised; the "weak" firms have been purged, while the strong survive and make for a stronger overall industry. That both lists of TBTF firms compiled here include numerous institutions that no longer exist does not square with Geithner's observation. The implications of managing a financial system in which TBTF firms cyclically and systematically fail are different from those of managing a financial system in which TBTF firms are the few and strong who have survived and will survive into the indefinite future. In Geithner's defense, his regulatory options are limited by flight risk (the risk of operational flight to tax havens, if not headquarters flight). And the impression of megabanks as strong survivors is not without empirical basis. In 1997, 2001 and 2004, the market value of the "big six" banking firms (the "big four" noted above plus Goldman and Morgan Stanley) equaled about 28 percent of the value of all the US banking firms ranked in the BusinessWeek or Fortune "Global 1000" lists; by 2010, this ratio had climbed to 46 percent. So if they have been falling behind in the global race for capital, these banks have become increasingly dominant in the domestic market.

9. Conclusion

This paper critically examines the emergence of "too big to fail" (TBTF) banking policy: the extension of implicit public insurance guarantees to a small set of large financial institutions. TBTF policy has evolved from a tool used by government authorities to maintain financial-market stability, into a constraint imposed by a megabanking complex on financial and regulatory policy. Regulators and analysts favoring TBTF have attempted to draw a line between the more restricted and more expansive versions of this policy: on one hand, a guarantee that prevents bank runs, and on the other, a pre-commitment to preserve some financial firms as operational entities, no matter the economic damage their risk-taking may have wrought. But this line is too easily manipulated in a political system that places few constraints on regulatees' financial contributions. The beneficiaries of expanded TBTF protection, even in their weakened post-crisis condition, have argued that financial reforms aimed at controlling systemic risk will prevent the resumption of normal loan-making activity: they need regulatory relief to serve the economy well.

This shift is problematic at this moment of cyclical flux. For this complex, which Johnson and Kwak (2010) characterize as a "plutocracy," has not restored the economic functionality of the US financial system, even as the Obama Administration has counted on its contribution to reinvigorating US economic growth. The events that have transpired from the Bear Stearns crisis of May 2008 to the present may or may not represent the “Bankers’ Conspiracy” for which Keynes so mockingly prayed; but for certain they pose very starkly the question of whether accumulated power in finance now threatens both national prosperity and global economic stability.

There are, however, other alternatives: put size limits on banks, restructure financial relations so that no financial firms are too big to fail, or reconstruct banking using a public-utilities model. A growing number of economists, if not all willing to go along with these proposals, see the need for regulation that prevents financial firms from taking systemic risks. The question is how to put the genie back into the bottle.

For the transformation of TBTF has been accompanied by – and indeed encouraged, as we have argued here – the transformation of banking. Some economists now would argue that whereas the failure of a TBTF bank in the 1980s was feasible, today the failure of one of the TBTF megabanks would generate a system stop that would cripple the entire credit apparatus. The “big four” US megabanks now account for about 50 percent of all outstanding loans held on US banks’ balance sheets; and since real loan volume has been declining since the crisis hit, these banks are thus centrally responsible for the drying up of credit. These twin facts can be read in two different ways. On one hand, they can suggest that the megabank sector’s positional power permits it to hold the economy as a whole hostage to its demands for more freedom of action. On the other, they can suggest that these banks’ ability to lend is compromised by a costly regulatory burden that gets in the way of simply doing business, and in any case, these banks cannot be expected to lend until their prospective borrowers are reassured by the restoration of a sustainable US fiscal policy. There are economists on both sides of these opposed views. But banks’ lobbying money weighs in on only one side.

REFERENCES

Acharya, Viral V., "A theory of systemic risk and design of prudential bank Regulation," *Journal of Financial Stability*, 5, 2009, pp. 224–255.

Acharya, Viral V., Thomas F. Cooley, Matthew Richardson, and Ingo Walter, *Regulating Wall Street: The Dodd-Frank Act and the New Architecture of Global Finance*. New York: Wiley Finance Series, John Wiley and Sons, 2011.

Acharya, Viral V., and Matthew Richardson, "Causes of the Financial Crisis," *Critical Review*, 21(2), 2009, pp. 195-210.

Avery, Robert B., Gerald A. Hanweck, and Myron L. Kwast, "An analysis of risk-based deposit insurance for commercial banks," No. 79, Research Papers in Banking and Financial Economics, Washington, DC: Board of Governors of the Federal Reserve System 1985.

Barth, James R., R. Dan Brumbaugh Jr., and Robert E. Litan, *The Future of American Banking*. Armonk, NY: M.E.Sharpe, 1994.

Baumol, William J., John C. Panzar, and Robert D. Willig, *Contestable Markets and the Theory of Industry Structure*. Fort Worth: Harcourt College Publishing, 1982.

Beckel, Michael, "Lobbying Push Targeting Federal Regulatory Agencies Continues in Wall Street Reform Fight," OpenSecrets.org at the Center for Responsive Politics. June 1, 2011. Available at http://www.opensecrets.org/news/2011/06/lobbying-push-targeting-federal-reg.html.

Bennett, Robert A., "Shaky Loans and Strategic Errors at Manufacturers, Chase and Chemical could Jeopardize their Independence," *New York Times*, April 10, 1988, p. 118.

Benston, George J., Robert A. Eisenbeis, Paul M. Horvitz, Edward J. Kane and George G. Kaufman, Perspectives on safe and sound *banking*: Past, present and future. MIT Press Series on the Regulation of Economic Activity Washington, D.C.: American Bankers Association in cooperation with MIT Press, Cambridge, Mass., and London, 1986.

Benston, George J, and George G. Kaufman, *Risk and solvency regulation of depository institutions: Past policies and current options.* Monograph Series in Finance and Economics, no 1988-1. New York: New York University, Graduate School of Business Administration, Salomon Brothers Center for the Study of Financial Institutions, 1988.

Blume, Marshall F., George G. Kaufman, and Peter J. Wallison, "Statement of the Shadow Financial Regulatory Committee on Restructuring Financial Regulation," *Statement No. 269*. Washington, DC: American Enterprise Institute. Available at http://www.aei.org/docLib/Statement%20269.pdf.

Braithwaite, Tom, and Francesco Guerrera, "Financial regulation: a garden to tame," *Financial Times*, November 14, 2010.

Braithwaite, Tom, Francesco Guerrera, and Justin Baer (2010), "Financial regulation: A line is drawn," *Financial Times*, June 30.

Broder, John M., "Wells Fargo Will Take Over 116-Year-Old Bank This Week : Crocker Nearly Gone but Not Forgotten," *Los Angeles Times*, May 27, 1986.

Bryan, Dick, and Michael Rafferty, *Capitalism with Derivatives*. London: Palgrave Macmillan, 2006.

Buser, Stephen A., Andrew H. Chen, and Edward J. Kane, "Federal Deposit Insurance, Regulatory Policy, and Optimal Bank Capital," *Journal of Finance* 36(1), March 1981, pp. 51-60.

Carbo-Valverde, Santiago, Edward J. Kane, and Francisco Rodriguez-Fernandez, "Safety-Net Benefits

Conferred on Difficult-to-Fail-and-Unwind Banks in the US and EU before and during the Great Recession," *NBER Working Paper No. 16787*. Cambridge, MA: National Bureau of Economic Research, February 2011.

Carrington, Tim, 1984, "US Won't Let 11 Biggest Banks in Nation Fall," *Wall Street Journal,* September 20.

Carron, Andrew S., *The Plight of the Thrift Institutions.* Washington DC: Brookings Institution Press, 1982.

Carron, Andrew S., *The Rescue of the Thrift Industry*. Washington DC: Brookings Institution Press, 1983.

Center for Responsive Politics, *Banking on Connections: Financial Services Sector Has Dispatched Nearly 1,500 "Revolving Door" Lobbyists Since 2009*. Washington, DC: Center for Responsive Politics, June 3, 2010.

Cassidy, John (2010), "What Good Is Wall Street?" *The New Yorker*, November 29.

Confessore, Nicholas, "Obama Seeks to Win Back Wall Street Cash," *New York Times,* June 12, 2011, p. A1.

Conover, C.T. "Testimony." Inquiry Into the Continental Illinois Corp. and Continental Illinois National Bank: Hearing Before the Subcommittee on Financial Institutions Supervision, Regulation, and Insurance of Committee on Banking, Finance and Urban Affairs, 98-111, US House of Representatives, 98th Cong., 2nd Session, September 18 and 19, October 4, 1984.

DeFerrari, Lisa M., and David A. Palmer, "Supervision of Large Complex Banking Organizations," *Federal Reserve Bulletin*, February 2001, pp. 47-57.

Dixit, Avinash K., and Barry J. Nalebuff, *Thinking Strategically*. New York: W.W. Norton, 1991.

Duffie, Darrell, *How Big Banks Fail and What to Do about It.* Princeton: Princeton University Press, 2011.

Dymski, Gary A., *The Bank Merger Wave: The Economic Causes and Social Consequences of Financial Consolidation*. Armonk, NY: M.E. Sharpe, Inc.

Dymski, Gary A., "From Financial Exploitation to Global Instability: Two Overlooked Roots of the Subprime Crisis," in Martijn Konings, ed. *The Great Credit Crash*. London: Verso Press, 2010: pp. 72-102.

Dymski, Gary A., "Financial Mergers and Acquisitions: From Regulation to Strategic Repositioning to Geo-Economics," Chapter 22 in *The Oxford Handbook of Mergers & Acquisitions* (Oxford University Press), co-edited by David Faulkner, Satu Teerikangas, and Richard Joseph. Forthcoming 2011. (2011a)

Dymski, Gary A., "The International Debt Crisis," in *Handbook of Globalisation*, Second edition, Ed. Jonathan Michie. Northampton, MA: Edward Elgar, 2011. (2011b)

Eisenbeis, Robert A., and Paul M. Horvitz, "The Role of Forbearance and Its Costs in Handling Troubled and Failed Depository Institutions," in *Reforming Financial Institutions in the United States*, ed. by George G. Kaufman and Richard C. Aspinwall, Boston, MA: Kluwer Academic Publishers, 1994, pp. 49.68.

Eisinger, Jesse, "Misdirection in Goldman Sachs' Housing Short," web-published by *ProPublica*, June 15, 2011. Available at http://www.propublica.org/thetrade/item/misdirection-in-goldman-sachss-housing-short/.

Energy Information Administration (EIA), *Annual Energy Review 2005*. Washington, D.C.: US Department of Energy, 2005. Accessed at ftp://ftp.eia.doe.gov/other/perspectives05.pdf.

Engel, Katherine C., Patricia A. McCoy, *The Subprime Virus: Reckless Credit, Regulatory Failure, and Next Steps.* New York: Oxford University Press, 2011.

Federal Deposit Insurance Corporation, *Managing the Crisis: The FDIC and RTC Experience*. Volumes 1 and 2. Washington, DC: Federal Deposit Insurance Corporation, December 1997.

Federal Deposit Insurance Corporation, *A Brief History of Deposit Insurance in the United States*. Prepared for the International Conference on Deposit Insurance. Washington, DC: Federal Deposit Insurance Corporation, September 1998.

Financial Crisis Inquiry Commission (FCIC) (2010), *The Official Transcript: First Public Hearing of the Financial Crisis Inquiry Commission.* Washington, DC. January 13. Accessed at http://www.fcic.gov/hearings/pdfs/2010-0113-Transcript.pdf.

French, Kenneth R., Martin N. Baily, John Y. Campbell, John H. Cochrane, Douglas W. Diamond, Darrell Duffie, Anil K. Kashyap, Frederic S. Mishkin, Raghuram G. Rajan, David S. Scharfstein, Robert J. Shiller, Hyun Song Shin, Matthew J. Slaughter, Jeremy C. Stein, and René M. Stultz, *The Squam Lake Report: Fixing the Financial System*. Princeton: Princeton University Press, 2010.

Geithner, Tim, Remarks by Treasury Secretary Tim Geithner to the International Monetary Conference, Atlanta, Georgia, June 6, 2011.

Glyn, Andrew, Alan Hughes, Alan Lipietz, and Ajit Singh, "The Rise and Fall of the Golden Age," *WIDER Working Papers WP 43*, April 1988. Helsinki, Finland: World Institute for Development Economics Research of the United Nations University.

Goodhart, Charles, *The Evolution of Central Banks*. Cambridge, MA: MIT Press.

Goodhart, Charles, Philipp Hartmann, David Llewellyn, Liliana Rojas-Suarez, and Steven Weisbrod, *Financial Regulation: Why, How, and Where Now?* London: Routledge, 1998.

Greenspan, Alan, "Banking Evolution," *The Changing Financial Industry Structure and Regulation,* Chicago, Federal Reserve Bank of Chicago, May 2000, pp. 1-8.

Greenspan, Alan, "The Federal Safety Net," *The Financial Safety Net*, Chicago: Federal Reserve Bank of Chicago, May 2001, pp. 1-8.

Hansell, Saul, "Market Place: A Bleak Time for Bank Stocks, but Citicorp Remains a Top Pick," *New York Times,* October 24, 1994, p. D8.

Harper, Christine (2010), "Out of Lehman's Ashes Wall Street Gets Most of What It Wants," *Bloomberg News*, December 28. Accessed at http://www.bloomberg.com/news/2010-12-28/out-of-lehman-s-ashes-wall-street-gets-what-it-wants-as-government-obliges.html

Havrilesky, Thomas, "An Empirical Analysis of Public Choice Aspects of the Savings and Loan Disaster," in White, editor, 1993, pp. 55-80.

Hayes III, Samuel L., A. Michael Spence, and David Van Praag Marks, *Competition in the Investment Banking Industry*. Cambridge, MA: Harvard University Press, 1983.

Hills, Thomas D., "The Rise of Southern Banking and the Disparities among the States following the Southeastern Regional Banking Compact," *North Carolina Banking Institute* 11, 2007, pp. 57-104.

Hirsch Jr., Frank A., and Joseph S. Dowdy, "Whither Wachovia? Wells Fargo wins the Battle for the Storied North Carolina Banking Institution,"*North Carolina Banking Institute* 13, 2009, pp. 167-95.

Igan, Deniz, and Prachi Mishra, "Making Friends," *Finance and Development* 48(2), June 2011.

Johnson, Simon, "The Quiet Coup," *The Atlantic Monthly*, May 2009. Available at http://www.theatlantic.com/magazine/archive/2009/05/the-quiet-coup/7364/

Johnson, Simon, and James Kwak, *The 13 Bankers*. New York: Pantheon, 2010.

Kane, Edward J., *The Gathering Crisis in Federal Deposit Insurance*, Cambridge, MA: MIT Press, 1985.

Kane, Edward J., *The S&L Insurance Mess: How Did It Happen?* Washington, DC: Urban Institute Press, 1989.

Kane, Edward J., "Financial Safety Nets: Reconstructing and Modeling a Policymaking Metaphor," Journal of International Trade and Development 3, 2001, pp. 237–273.

Kane, Edward J., "What Policymakers in Other Countries should have Learned from the S&L Mess," *Business Economics*, January 2003, pp. 21-31.

Kane, Edward J., "Regulation and Supervision: An Ethical Perspective," *NBER Working Paper No. 13895*. Cambridge, MA: National Bureau of Economic Research, March 2008.

Kane, Edward J., "Incentive Roots of the Securitization Crisis and Its Early Mismanagement," *Yale Journal on Regulation* 26, Summer 2009, pp. 405–416.

Kane, Edward J., "The Importance of Monitoring and Mitigating the Safety-Net Consequences of Regulation-Induced Innovation," *Review of Social Economy* 68(2), 2010, pp. 145-61.

Kareken, John H., and Neil Wallace, "Deposit Insurance and Bank Regulation: A Partial-Equilibrium Exposition." *Journal of Business* 51, 1978, pp. 413–38.

Kaufman, George G., "Purpose and Operation of the Shadow Financial Regulatory Committee," in George G. Kaufman, editor, *Restructuring the American Financial System*. Boston, MA: Kluwer Academic Publishers, 1990, pp. 1-8.

Kaufman, George G., "The Use of Economic Analysis and Principles to Affect Public Economic Policy: The Case of the Shadow Financial Regulatory Committee," Lecture presented at the annual meeting of the National Association for Business Economics on September 30, 2002 in Washington, D.C. in acceptance of the Adam Smith Award. Loyola University Chicago, October 2, 2002.

Kaufman, George G., "Too Big to Fail in US Banking: Quo Vadis?," Loyola University Chicago, January 15, 2003. Downloaded from SSRN: http://ssrn.com/abstract=386902 or doi:10.2139/ssrn.386902

Kaufman, George G., and Robert E. Litan, Assessing Bank Reform: FDICIA One Year Later. Washington, DC: Brookings Institution Press, 1993.

Keynes, John Maynard, "The Consequences to the Banks of the Collapse of Money Values," Chapter 7 in *Essays in Persuasion*. London: Macmillan, 1931.

Kroszner, Randall S., and Robert J. Shiller, *Reforming US Financial Markets: Reflections Before and Beyond Dodd-Frank*. Cambridge, MA: MIT Press, 2011.

LaWare, John, "Testimony." Economic Implications of the "Too Big to Fail" Policy: Hearing before the Subcommittee on Economic Stabilization of Committee on Banking,Finance and Urban Affair, U.S. House of Representatives, 102nd Cong., 1st Sess., May 9, 1991.

Leonhardt, David, "Lesson from a Crisis: When Trust Vanishes, Worry," *New York Times*, September 30, 2008, p. A1.

Lewis, Michael, *The Big Short*. New York: W.W. Norton, 2010.

Litan, Robert E., *What Should Banks Do?* Washington, DC: Brookings Institution Press, 1987.

Litan, Robert E., "Reuniting Investment and Commercial Banking," in *The Financial Services Revolution*, edited by Catherine England and Thomas F. Huertas, Washington, DC: The Cato Institute, 1988, pp. 269-287.

Litan, Robert E., William Isaac, and William Taylor, "Financial Regulation," *American Economic Policy in the 1980s,* Martin Feldstein, ed. Chicago: University of Chicago Press for the National Bureau of Economic Research, 1994, pp. 519 – 572.

Masters, Brooke, Jeremy Grant, Kevin Brown, and Tom Braithwaite, “Dimon confronts Fed chief over banking regulations,” *Financial Times*, June 7, 2011.

Merton, Robert C., “An Analytic Derivation of the Cost of Deposit Insurance Guarantees.” *Journal of Banking and Finance* 1, 1977, pp. 3–11.

Molyneux, Philip, Klaus Schaeck, and Tim Mi Zhou, “’Too-Big-to-Fail’ and its Impact on Safety Net Subsidies and Systemic Risk,” Working paper of CAREFIN (Centre for Applied Research in Finance), Università Bocconi, July 30, 2010.

Morgan, Donald P., and Kevin J. Stiroh, “Too Big to Fail after All These Years,” Staff Report no. 220. New York: Federal Reserve Bank of New York Staff Reports, September 2005.

Morgenson, Gretchen, and Louise Story, “In Financial Crisis, No Prosecutions of Top Figures,” *New York Times*, April 14, 2011, p. A1.

Mullineux, Andy, “Financial Sector Convergence and Corporate Governance,” Birmingham Business School, University of Birmingham, June 2006.

Nair, Santosh, and Shaji Vikraman, “Goldman Sachs sees bigger role in Indian economy,” *Economic Times of India*, May 21, 2010.

New York Times, “S. & P. Lowers Ratings Of Major Banks' Debt,” January 17, 1984, p. D9.

O’Driscoll, Gerald, “Deposit Insurance in Theory and Practice,” in *The Financial Services Revolution*, edited by Catherine England and Thomas F. Huertas, Washington, DC: The Cato Institute, 1988, pp. 165-180.

O’Hara, Maureen, and Wayne Shaw, “Deposit Insurance and Wealth Effects: The Value of Being ‘Too Big to Fail’,” *Journal of Finance* 45(5), December 1990, pp. 1587-

Papagiannis, John, “Background Memo: Dodd-Frank Repeal Backers' Wall Street Cash.” Washington, DC: PublicCampaign.org, June 14, 2011. Available at http://www.publicampaign.org/pressroom/2011/06/14/background-memo-dodd-frank-repeal-backers-wall-street-cash

Pierce, James L., “On the Expansion of Banking Powers,” in Ingo Walter, editor, 1985, pp. 13-40.

Prescott, Edward S., “Can Risk-Based Deposit Insurance Premiums Control Moral Hazard?” Federal Reserve Bank of Richmond *Economic Quarterly* 88(2), Spring 2002, pp. 87-100.

Project On Government Oversight, *Revolving Regulators: SEC Faces Ethics Challenges with Revolving Door*. Washington, DC: May 13, 2011.

Quint, Michael, “Banks in a Shadow: Wary of Chemical, Bigger and Brawny, Some Rivals May Choose to Team Up,” *New York Times*, July 20, 1991, p. 31.

Republican Commissioners on the Financial Crisis Inquiry Commission, *Financial Crisis Primer*. December 15, 2010. Available at http://americanactionforum.org/news/financial-crisis-primer.

Richardson, Matthew, Roy C. Smith, and Ingo Walter, “Large Banks and the Volcker Rule,” in *Regulating Wall Street: The Dodd-Frank Act and the New Architecture of Global Finance*. New York: John Wiley and Sons, 2011, pp. 181-212.

Ritholtz, Barry, with Aaron Task, *Bailout Nation: How Greed and Easy Money Corrupted Wall Street and Shook the World Economy*. New York: John Wiley and Sons, 2009.

Saunders, Anthony, “Conflicts of Interest: An Economic View,” in Ingo Walter, editor, 1985, pp. 207-30.

Seidman, L. William, *Full Faith and Credit: The Great S&L Debacle and Other Washington Sagas.* New York: Times Books, 1993.

Shadow Financial Regulatory Committee (SFRC), "An Open Letter to President Clinton on Financial Reform," Statement No. 135, December 9, 1996. Washington, DC: American Enterprise Institute.

Sidel, Robin, David Enrich, and Dan Fitzpatrick, "WaMu is Seized, Sold off to J.P. Morgan, in Largest Failure in U.S. Banking History," *Wall Street Journal*, September 26, 2008: A1.

Sinn, Hans-Werner, *Casino Capitalism*. New York: Oxford University Press, 2010.

Skeel, David, *The New Financial Deal: Understanding the Dodd-Frank Act and its (Unintended) Consequences*. New York: John Wiley and Sons, 2011.

Smaghi, Lorenzo Bini (2009), "Europe cannot ignore its financial trilemma," *Financial Times*, June 21.

Smith, Roy C., and Ingo Walter, Global Banking, Second Edition. New York: Oxford University Press, 2003.

Snooks, Graeme Donald, *The Global Crisis Makers*. London: Macmillan, 2000.

Sorkin, Andrew Ross, *Too Big to Fail*. New York: Viking, 2009.

Stern, Gary H., and Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts*. Washington, DC: Brookings Institution Press, 2004.

Stigler, George J., "The Theory of Economic Regulation," *The Bell Journal of Economics and Management Science* 2(1), Spring 1971, pp. 3-21.

Study Group on Subordinated Notes and Debentures, "Using Subordinated Debt as an Instrument of Market Discipline," Staff Study 172, Washington, DC: Federal Reserve System, December 1999.

Study Group on Disclosure, "Improving Public Disclosure in Banking," Staff Study 173, Washington, DC: Federal Reserve System, March 2000.

Taleb, Nassim N., and Charles S. Tapiero, "Too Big to Fail, Hidden Risks, and the Fallacy of Large Institutions," Center for Risk Engineering, New York University Polytechnic Institute. May 2, 2009. Downloaded from SSRN at SSRN: http://ssrn.com/abstract=1398102

Tobin, James, "The Case for Preserving Regulatory Distinctions,"in *Restructuring the Financial System*. Kansas City: Federal Reserve Bank of Kansas City, 1987, pp. 167-83.

Todd, Walker, and Gerald P. O'Driscoll, Jr., "Deposit Insurance Reform is not Enough," in White, editor, 1993, pp. 119-38.

Walter, Ingo, editor, *Deregulating Wall Street: Commercial Bank Penetration of the Corporate Securities Market*. New York: Wiley Interscience, John Wiley and Sons, 1985.

Walter, Ingo, "Strategies in Financial Services, the Shareholders, and the System: Is Bigger and Broader Better?" *Brookings-Wharton Papers on Financial Services*, 2003, pp. 1-36.

White, Lawrence J., "What do Banks *Really* Do?" *Contemporary Policy Issues* X, July 1992, pp. 104-12.

White, Lawrence J., "Why is the US Banking Industry in Trouble? Business Cycles, Loan Losses, and Deposit Insurance," in White, editor, 1993, pp. 7-28.

White, Lawrence J., editor, *The Crisis in American Banking*. New York: New York University Press, 1993.