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The Dodd-Frank Act: Key Features, Implementation Progress, and Financial System Impact

By James R. Barth, Apanard (Penny) Prabha, and Clas Wihlborg*

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1. Introduction

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) of 2010 provides for a wide variety of new regulatory and supervisory initiatives with the goal to promote a safer and sounder banking system. The extensive list of initiatives includes more stringent regulatory capital requirements, stricter consumer protections when accessing credit, a new office to monitor and address risks to financial stability, a new resolution process for troubled financial firms whose collapse might cause widespread damage, the prohibition of proprietary trading by banks, greater transparency for derivative instruments, the provision for shareholders of a nonbinding vote on executive compensation, more regulatory enforcement power over credit ratings agencies, "skin in the game" required for originators of assets backing securities, and limits on the Federal Reserve's emergency lending authority.

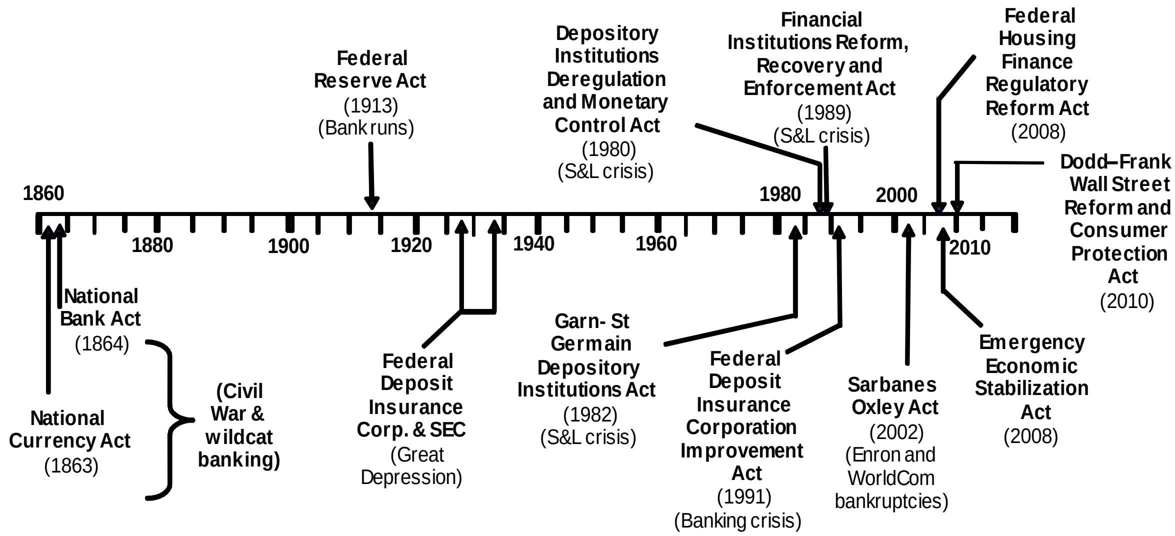
The various parts of Dodd-Frank are written in fairly general terms, and the different regulatory agencies have been using substantial discretion in implementing conforming regulations over the past four years, with more work ongoing. It seems fair to say that an important goal of the new law is to strengthen and expand the scope of regulatory powers so that regulators are better able to intervene in a timely manner when troublesome situations arise. If successful, Dodd-Frank will serve as a remedy to the regulatory failures in the build-up to the full-blown financial crisis in 2007–2009.

The purpose of this paper is to put Dodd-Frank into a historical perspective, identify its key features, discuss the implementation progress, and assess whether the law will accomplish its objectives. In Section 2, we provide a perspective in which to better understand how this particular law fits into earlier major laws also enacted to promote a safer and sounder banking system. Section 3 contains a summary of the main features of Dodd-Frank, and progress to date on its implementation. In the fourth section, we provide an assessment of the major parts of the new law, including whether it is likely to fully accomplish what Congress and the president intended when it was enacted. We examine whether the new law can be expected to improve the efficiency and stability of the financial system by (1) reducing the likelihood of regulatory failures, (2) improving market discipline on risk-taking by financial institutions, and (3) reducing the regulatory burden on financial institutions. We offer conclusions and a summary in Section 5.

2. A Historical Perspective on Dodd-Frank

The enactment of Dodd-Frank follows an all-too-familiar pattern of major banking laws: the United States suffers a banking crisis, and government's response is to enact legislation. Figure 1 provides a timeline that links the enactment of major banking laws to specific episodes of serious troubles in the banking sector. Clearly, whenever serious banking problems arise, the response is to enact a new law so that "never again" will such problems disrupt the financial markets and economic activity. Yet as the timeline clearly shows, history is repeated with one new law after another, with no real success in preventing the next crisis. Indeed, over time it appears that the frequency and severity of crises have worsened. This is a sad commentary on all the reform efforts to date.

Figure 1. Timeline of U.S. major banking laws



Source: Milken Institute.

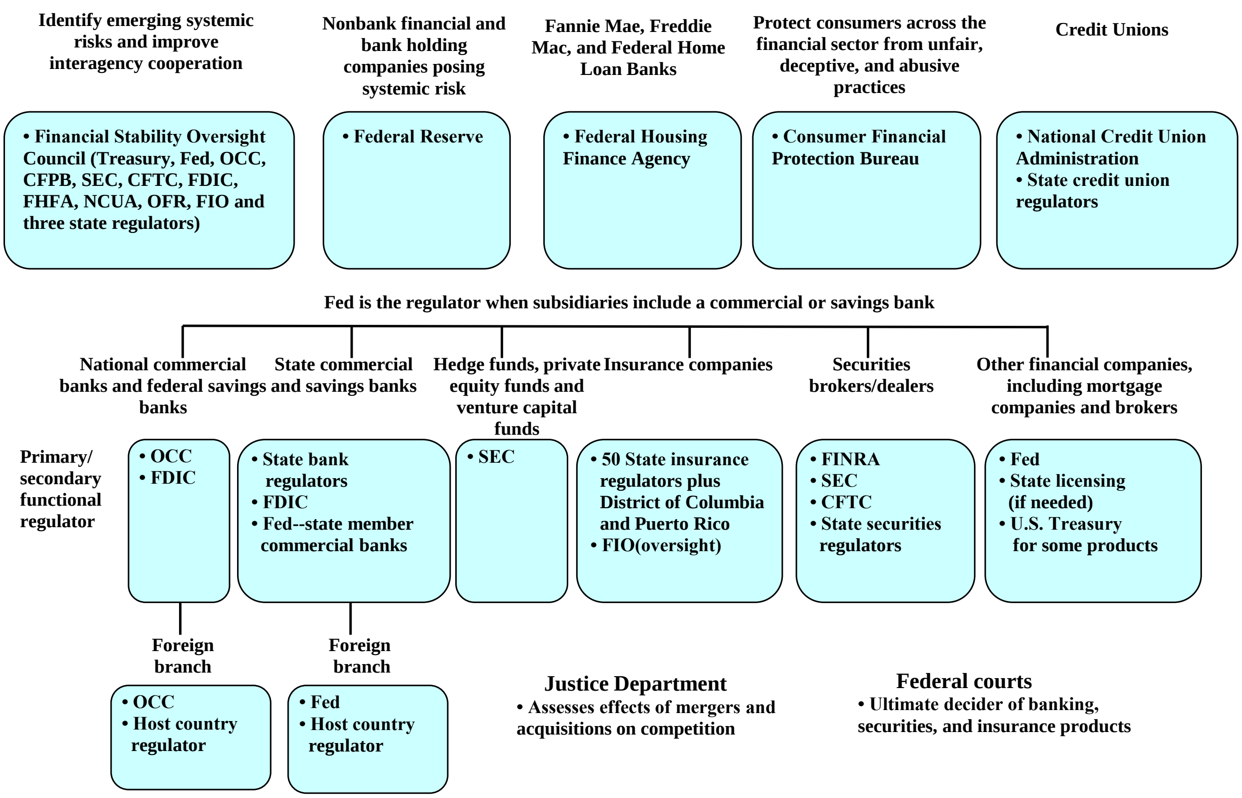
Figure 1 refers to laws with direct impacts on regulators and their relationships with banks. Excluded are various laws affecting bank organization. The Glass-Steagall Act of 1933, for example, separated commercial banking from investment banking. The act, however, was repealed by the Gramm-Leach-Bliley Act of 1999. Other related laws are the Bank Holding Company Act of 1956 and the Riegle-Neal Interstate Branching and Banking Efficiency Act of 1994. The latter restricted bank holding companies from owning nonbank financial institutions, and prohibited out-of-state acquisition of banks. The former removed restrictions on interstate branching by banks. There are aspects of Dodd-Frank that relate to these laws, with respect to the organization of banking.

It is not just that we have had ever more banking laws; we have also seen the concurrent establishment of ever more regulatory agencies. A lack of regulators then does not seem to account for the failure of the accumulated laws to have prevented the most recent crisis. Indeed, as Figure 2 shows, we surely have enough regulatory agencies overseeing the financial marketplace.

The figure also shows that the current regulatory structure operates largely with a silo-based approach, in which each agency oversees a particular group of financial institutions. Dodd-Frank did create a new regulator, in the form of the Consumer Financial Protection Bureau, but at the same time merged the Office of Thrift Supervision into the Office of the Comptroller of Currency. A new position, the vice chairman for supervision, is established within the Federal Reserve, with responsibility to develop policy recommendations for the supervision and regulation of banks and other financial firms supervised by the Federal Reserve, and to oversee the supervision and regulation of such firms.

Notably absent in the new law are any specified actions to be taken with respect to Fannie Mae and Freddie Mac.[1] Dodd-Frank only requires that the secretary of the Treasury conduct a study of, and develop recommendations for, ending the conservatorship of the two big mortgage giants, while minimizing the cost to taxpayers.

Figure 2: New U.S. regulatory structure



Source: Milken Institute.

In addition to expanding the number of regulatory authorities, Dodd-Frank expands their supervisory and enforcement powers. And their authority to take corrective action to curtail signs of perceived risk has expanded beyond banks to most, if not all, parts of the financial marketplace. It is possible that this

[1] Several scholars note that the U.S. financial crisis in 2007–2009 was caused mainly by government housing policies. According to Wallison (2013, pp. 6–7), these policies "forced the dominant factors in the trillion dollar housing market—Fannie Mae and Freddie Mac—to reduce their underwriting standards." He continues, "Given these facts, further regulation of the financial system through the Dodd-Frank Act was a disastrously wrong response."

expansion of authority lessens the degree of market discipline that would otherwise exist in the marketplace. We will return to this issue in Section 4.

3. Dodd-Frank: Key Features and Implementation Progress

Dodd-Frank is the lengthiest piece of banking legislation in U.S. history, far longer than even the legislation establishing the Federal Reserve in 1913. It is therefore not possible here to cover all aspects of the new law. However, there are several features of Dodd-Frank that deserve special mention, given their importance, as viewed by many, in better ensuring a safer and sounder banking system. It is to these key features of the new law that we now turn. The section concludes with a discussion of progress—the extent to which the appropriate regulatory authorities have finalized the implementing regulations corresponding to those parts of the law.

3.1 Regulatory Capital Standards

The regulatory authorities are to establish both minimum leverage ratios and risk-based capital requirements for banks, which are to be not quantitatively lower than those that were in effect as of the date of enactment of Dodd-Frank. These requirements are more of a shift in placing more emphasis on the leverage ratio than establishing a new regulation, since current “prompt corrective action” (PCA) procedures and closure rules already incorporate a leverage ratio.

In addition, Dodd-Frank establishes more stringent prudential standards for nonbank financial companies and banks with assets equal to or greater than $50 billion. In this regard, the law states that such firms are to maintain a debt-to-equity ratio of no more than 15 to 1. The Federal Reserve is also to conduct an annual stress test to evaluate whether these firms have the capital necessary to absorb losses as a result of adverse economic conditions. The firms themselves are required to conduct semiannual stress tests, while all other banks with assets of more than $10 billion are required to conduct annual stress tests. The regulatory authorities, moreover, are to prescribe stricter regulations than what is currently in place to provide for the early remediation of financial distress at a bank, or take action based on PCA standards.

Of course, PCA standards for banks existed before the crisis as part of the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991. But the financial crisis demonstrated that these standards were not strong enough, and that corrective action based on the law was not triggered before the crisis became a fact.

The PCA standards, as well as new Recovery and Resolution Plan requirements, are two aspects of resolution procedures. Dodd-Frank states that banks with $50 billion or more in assets and nonbank financial companies supervised by the Federal Reserve are to report periodically on their plans for rapid and orderly resolution in the event of material financial distress or failure (living wills). We return to resolution procedures in Section 3.4.

3.2. Consumer Protections

A Bureau of Consumer Financial Protection (BCFP) is established to regulate the offering and provision of consumer financial products and services, with a director appointed for a term of five years. Formally, the BCFP is to ensure that (1) consumers are provided with timely and understandable information to make responsible decisions about financial transactions; (2) consumers are protected from unfair, deceptive, or abusive acts and practices, and from discrimination; (3) outdated, unnecessary, or unduly burdensome regulations are regularly identified and addressed in order to reduce unwarranted regulatory burdens; (4) federal consumer financial law is enforced consistently, without regard to the status of a depository institution as a person in order to promote fair competition; and (5) markets for consumer financial products and services operate transparently and efficiently to facilitate access and innovation.

The BCFP has enforcement authority over all banks with assets of more than $10 billion. Dodd-Frank imposes minimum standards for residential mortgage loans that are to be implemented by the BCFP. In particular, creditors are required to make a reasonable and good faith determination that a consumer has a reasonable ability to repay a loan based on verified and documented information. In prescribing rules, the BCFP is to consider the potential benefits and costs to consumers, including the potential reduction of access by consumers to consumer financial products or services resulting from such rules. Dodd-Frank does allow states to impose even stricter consumer protection laws on national banks. It might also be noted that the level of federal deposit insurance per depositor per insured bank for each account ownership category is permanently increased to $250,000.

3.3 Financial Stability Oversight Council (FSOC)

A new entity is established with the Treasury Department, known as the Financial Stability Oversight Council (FSOC). The FSOC consists of ten voting members, including the heads of all the federal financial regulatory authorities, and five nonvoting members, with the secretary of the Treasury serving as the chairperson. The chairperson, whose affirmative vote is required for most important decisions, is the key member. The stated purpose of FSOC is to identify risks to U.S. financial stability that could arise from the material financial distress or failure of large, interconnected banks or nonbank financial companies, and to promote market discipline by eliminating expectations on the part of shareholders and creditors of such firms that the federal government will shield them from losses in the event of failure. The FSOC is to identify nonbanks posing such risks; they then become subject to supervision by the Federal Reserve and to bank-like prudential standards. The FSOC may also make recommendations to the Federal Reserve concerning more stringent prudential standards to be imposed on these same large, interconnected banks or nonbank financial firms. Dodd-Frank recommends an asset threshold that is higher than $50 billion for the application of these standards.

A new office, the Office of Financial Research (OFR), is established within the Treasury Department. Its purpose is to support the FSOC in fulfilling its duties. This is done within two centers that are also established, the Data Center and the Research and Analysis Center. The OFR is funded with assessments levied on banks with assets of $50 billion or greater and nonbank financial firms supervised by the Federal Reserve.

3.4 Resolution Procedures

Dodd-Frank expands regulatory authority with respect to the liquidation of distressed firms by creating an Orderly Liquidation Authority (OLA) to liquidate failing banks and nonbank financial companies that are likely to be considered too big to fail under FDICIA. This earlier law covers only banks.[2] It had been used to resolve and liquidate hundreds of small and medium-sized banks during the financial crisis, but it has not been used to resolve any very large, systemically important banks.

Three characteristics of the FDICIA framework stand out. The first is “promptness” of all actions by the FDIC as receiver. The second is the specification of triggers for action to be taken prior to insolvency (PCA). The third is that certain actions by the FDIC are legally mandated, although exceptions became important during the subprime housing crisis. These characteristics contribute to early intervention, predictability for stakeholders, and reduced incentives for “runs” on a bank in distress.

An escape clause exists in FDICIA for banks of systemic importance. This “systemic risk exception” leaves room for unequal treatment of creditors of banks considered too big to fail by the Treasury Department, the Federal Reserve, and the FDIC relative to creditors of small and mid-sized banks.

During the crisis, the systemic risk exception was triggered, and the government focused on the recapitalization of very large international banks like CitiGroup and Bank of America. As a result, the FDICIA procedures have not been tested on a very large bank, most likely out of fear that such banks are too large, too complex, and too systemically important to resolve under the procedures at a time when the capacity of the system is already strained.

Under Dodd-Frank, the orderly liquidation authority is assigned to the FDIC for financial institutions that pose a risk to systemic stability. Through this authority, nonbank financial institutions can be placed under FDIC receivership rather than being subject to general bankruptcy law under some circumstances (Fitzpatrick IV and Thomson, 2011). Dodd-Frank has the stated objective to prevent the use of taxpayer funds to ensure the survival of systemically important bank and nonbank financial institutions.

[2] Insolvency procedures for banks became separate from general bankruptcy law with the Banking Act of 1864.

Two-thirds of the members of the Board of Governors of the Federal Reserve System and two-thirds of the board of the FDIC must recommend receivership to the secretary of the Treasury, who in consultation with the president must decide whether criteria are met with respect to benefits of receivership. The alternative for nonbank financial institutions is general bankruptcy law. The FDIC is to be appointed receiver of, and make available funds for, the orderly liquidation of such firms. To cover the costs of any orderly liquidation, a separate fund, known as the Orderly Liquidation Fund, is established in the Treasury Department.

The FDIC can borrow temporarily from the Treasury to cover costs during receivership, but the funds must be repaid from sales of unencumbered assets. The FDIC may not, in connection with the orderly liquidation of any financial firm, issue or incur any obligation if, after issuing or incurring the obligation, the aggregate amount of such obligations outstanding for each financial company would exceed: (1) an immediate amount that is equal to 10 percent of the assets of the financial company, and (2) over the longer term, an amount that is equal to 90 percent of the fair value of the assets of each financial company available for repayment.

To build up the Orderly Liquidation Fund, the FDIC may charge risk-based assessments on banks with assets equal to or greater than $50 billion and nonbank financial firms, if such assessments are necessary to cover liquidation cost.

Dodd-Frank also introduces a requirement for recovery and resolution plans (living wills) for bank holding companies and for nonbank financial companies with assets greater than $50 billion. These companies are required to submit periodic reports on their plans for rapid and orderly resolution under the bankruptcy code in the event of distress or failure. The living will requirement is intended to help regulators develop a comprehensive and coordinated resolution strategy for complex financial institutions.

3.5 Prohibition of Proprietary Trading

Dodd-Frank prohibits banks from engaging in proprietary trading or acquiring or retaining any equity, partnership, or other ownership interest in or sponsoring a hedge fund or a private equity fund. This is known as the Volcker Rule. Nonbank financial firms supervised by the Federal Reserve are to be treated as if they are banks, but instead of an outright prohibition, additional capital and quantitative requirements may be imposed. The prohibition does not apply to certain securities, such as U.S. Treasury securities, securities in connection with underwriting or market-making-related activities, and risk-mitigating hedging activities. However, a bank may make and retain a de minimis investment (i.e., 3 percent or less of a bank’s Tier 1 capital, and 3 percent of a single fund’s capital) in a hedge fund or private equity fund that the banking entity organizes and offers.

The Volcker Rule is a partial re-imposition of restrictions on banks' activities in securities markets, as under Glass-Steagall. The restrictions under the Volcker Rule are more limited, but a more complete return to Glass-Steagall is often proposed in policy debates. The Vickers report in the United Kingdom calls for a separation between traditional commercial banking and investment banking (Independent Commission on Banking, 2011).

One motivation for the Volcker Rule is that an insured funding source should not be allowed to fund risky activities that benefit only shareholders. A second motivation for both the Volcker Rule and the Vickers proposal is that market discipline on risk-taking related to nonbank activities should be strengthened if these activities are conducted in a separate entity that does not benefit from explicit or implicit protection of its creditors.

3.6 Derivative Instruments

The new law states that acting as a swaps entity for credit default swaps (CDS) is not considered a bank-permissible activity unless the swaps are cleared by a clearinghouse. These swaps must be executed on an exchange or swap execution facility. Moreover, each derivatives clearing organization shall possess financial resources that, at a minimum, exceed the total amount that would enable the organization to meet its financial obligations to its members and participants, notwithstanding a default by the member or participant creating the largest financial exposure for that organization in extreme but plausible market conditions. Furthermore, all swap dealers and major swap participants, including both banks and nonbanks, must meet minimum capital requirements, and minimum initial and variation margin requirements. However, banks can retain swaps activities that are for hedging purposes or relate to traditional bank investment categories.

The objective of having derivatives cleared by a central clearinghouse is that the gross positions of banks in derivatives can be reduced relative to a situation whereby transactions are cleared bilaterally. Bilateral clearing increases the interconnectedness problem of financial institutions with large positions in derivatives, and thereby the systemic risk of these financial institutions increases.

3.7 Shareholders and Executive Compensation

Dodd-Frank provides shareholders with a nonbinding vote on executive compensation and "golden parachutes." It also gives the Securities and Exchange Commission (SEC) authority to grant shareholders the ability to nominate their own directors. Moreover, members of compensation committees are required to be members of the board of directors and independent.

3.8 Credit Ratings Agencies (CRAs)

The new law establishes an office, known as the Office of Credit Ratings, within SEC to examine and fine credit ratings agencies (CRAs). It also requires each nationally recognized statistical rating organization to disclose on the form developed under its credit ratings, the main assumptions and principles used in constructing procedures and methodologies, the potential limitations of the credit ratings, and information on the uncertainty of the credit ratings. Dodd-Frank, moreover, allows investors to sue CRAs for "knowing or reckless" failure with respect to their ratings. Furthermore, Dodd-Frank empowers the SEC to deregister a CRA that fails to provide accurate ratings over a period of time. Lastly, each federal financial regulatory agency is required to remove any reference to or requirement of reliance on credit ratings, and to substitute in such regulations an appropriate standard of creditworthiness.

The law is intended to reduce the reliance on a few rating agencies for regulatory intervention, the definition of permissible securities that can be used as collateral, and the calculation of capital requirements. The possibility that agencies have conflicts of interest relative to rated firms and securities is another motivation for stronger regulation in this area.

3.9 Securitization

Dodd-Frank requires federal banking agencies and the SEC to jointly prescribe regulations requiring any securitizer to retain an economic interest in a portion of the credit risk (not less than 5 percent) of securitized assets it issues. Banks that package loans are required to keep 5 percent of the credit risk on their balance sheets. However, regulators are to exempt low-risk mortgages, such as qualified residential mortgages that meet certain minimum standards.

This "skin in the game" regulation is intended to strengthen the incentive of the securitizer to conduct proper evaluation of the risk of the assets backing the securities it sells. Without skin in the game, it would be able to sell high-risk securities to risk-insensitive financial institutions and package securities without much concern for the underlying risk.

3.10 Federal Reserve Emergency Lending Authority

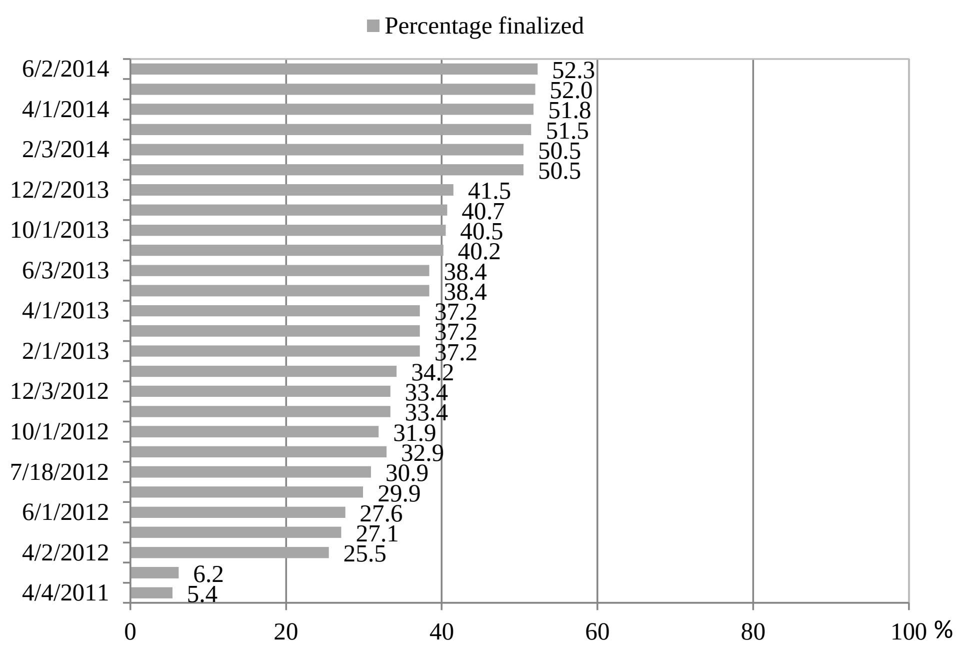
Dodd-Frank requires that the Federal Reserve in consultation with the Treasury Secretary establish policies and procedures to ensure that any emergency lending program or facility is for the purpose of providing liquidity to the financial system, and not to aid a failing financial company, and that the security for emergency loans is sufficient to protect taxpayers from losses and that any such program is terminated in a timely and orderly fashion.

This piece of the legislation should prevent the Federal Reserve from going beyond the original intention of a Lender of Last Resort, which was to provide liquidity to solvent banks facing temporary liquidity problems. The challenge facing the central bank in times of crisis is that it can be difficult to rapidly identify which banks face pure liquidity problems since these problems can arise as a result of uncertainty about solvency.

3.11 Implementation Progress

Of course, each of the different federal financial regulatory authorities must finalize implementing regulations consistent with the different parts of Dodd-Frank. It is therefore useful to describe the extent to which this has been done more than four years after the law's enactment. Figure 3 shows the percentage of the nearly 400 required rulemakings that have been finalized through early June 2014. As of early 2011, only 5 percent of all the required rulemakings had been finalized. The percentage has been steadily increasing since then but has only reached slightly more than 50 percent as of June 2014.

Figure 3. Implementing regulations: Percentage of the 398 total required rulemakings finalized (as of June 2014)

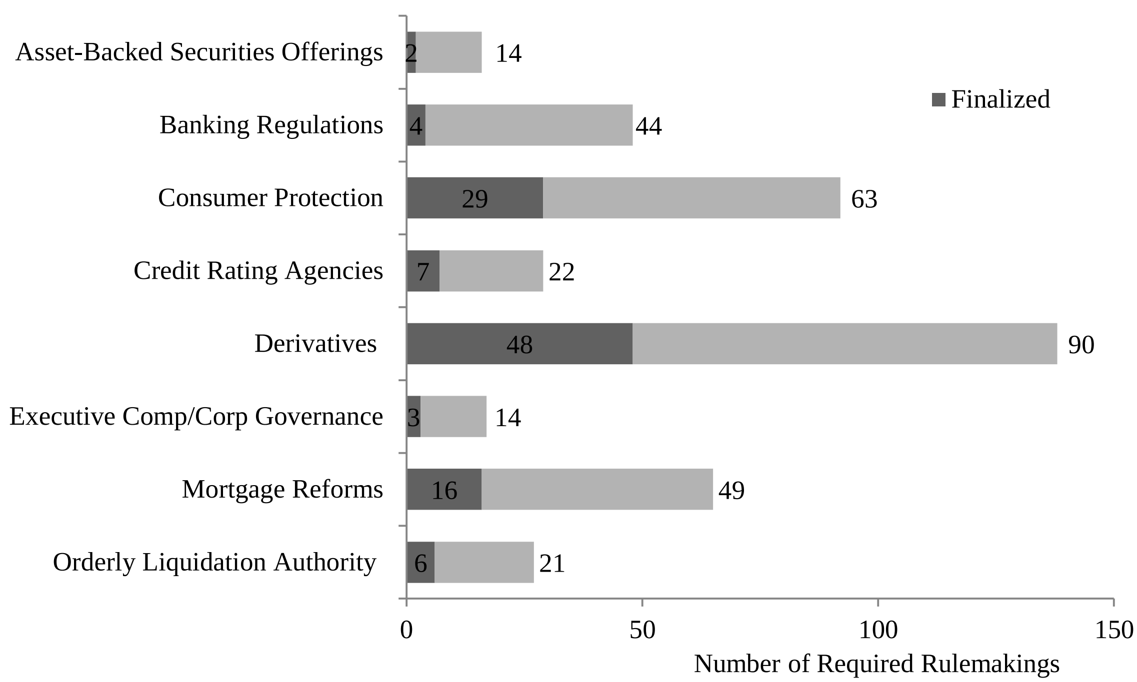


Source: Dodd-Frank Progress Reports, Davis Polk (www.davispolk.com/Dodd-Frank-Rulemaking-Progress-Report/).

With respect to the progress of some specific categories of Dodd-Frank, Figure 4 shows there is substantial variation in terms of those that have been finalized as a percentage of those required. The percentages range from a high of 53 percent to a low of 9 percent for the eight categories. Clearly, progress in implementing all the regulations required by Dodd-Frank has been relatively slow. However, FSOC reports that several important parts of Dodd-Frank have been finalized, including the Volcker Rule, strengthened bank capital rules, a supplementary leverage ratio for the largest banks, enhanced prudential standards for the U.S. operations of large foreign banks, and the advent of clearing, trading, and registration requirements for swaps markets.

As to other parts of the law, proposed rulemakings are continuing on money market fund (MMF) reform, risk retention for securitizations, and requirements for short-term liquidity coverage for large banking organizations. Also, FSOC reports that there have been significant reductions in intraday credit exposures in the tri-party repurchase agreement (repo) market and significant progress on the strategy for resolution under the orderly liquidation authority. In addition, the FSOC designated three nonbank financial companies for enhanced prudential standards and supervision by the Federal Reserve.

Figure 4. Dodd-Frank rulemaking progress in select categories, as of June 2014



Source: Dodd-Frank Progress Reports, Davis Polk (www.davispolk.com/Dodd-Frank-Rulemaking-Progress-Report/).

4. An Assessment of Dodd-Frank

In this section, we provide an assessment of the major parts of Dodd-Frank, including whether the law is likely to fully accomplish what Congress and the president intended when it was enacted. As is by now well understood based upon history, new financial laws, no matter how well intended, do not always fulfil the promises of those who enact them.

Our assessment is based on criticism levied at the financial system as a result of the crisis. This criticism has several dimensions. One is that the crisis was caused by excessive deregulation in combination with strong implicit insurance of bank creditors as a result of “too big to fail” and “too complex to fail,” in particular, which extended the protection of creditors far beyond the explicit deposit insurance coverage in a large segment of the banking system (Prabha and Wihlborg, 2014). This protection had the consequence of subsidizing deposit and debt financing from creditors with little concern for the default risk of the banks. Thus, market discipline on bank risk-taking was insufficient, making our first criterion for assessment the *impact* Dodd-Frank can be expected to have on this kind of market discipline.

The second dimension of the criticism was that regulatory failure contributed to the crisis. This argument states that the regulatory and supervisory instruments for intervention against excessive risk-taking were in place, but that regulators failed to use them, even when it was apparent or should have been apparent that banks and other financial institutions were taking on too much risk, for example, by issuing mortgages covering 100 percent or more of the value of real estate, issuing mortgages to subprime borrowers who would never be able to manage to service their mortgage debt, and leveraging excessively by investment banks in particular. Barth *et al.* (2012a) provide evidence that the regulatory failure was caused by “regulatory bias,” in the sense that regulators and supervisors frequently seemed all too willing to adopt the concerns of the financial industry as their own after working closely with the industry for a long time. The information advantage of financial institutions may have worsened the regulatory failure under conditions of regulatory bias.

The third dimension of our assessment is the regulatory burden of regulation and supervision. This burden can be defined as the outright cost of compliance with regulation, in terms of employee hours and costs to taxpayers of regulators and supervisors. Haldane (2012) provides evidence of the rapid increase of these costs as a result of the Basel capital adequacy regulation. He notes that the number of parameters a large bank must report to U.S. regulatory agencies increased from 1,208 in 1999 to 2,271 in 2011. Each parameter refers in this case to one column of information in a bank’s report. Haldane also reports that the compliance costs of Basel III for a midsized European bank have been estimated to be 200 full-time jobs.

We limit the concept of regulatory burden to direct costs incurred by financial institutions and regulatory agencies. These costs must be assessed in light of the benefits and the costs of regulation in terms of economic efficiency and financial stability. We specify the regulatory burden in a particular area with the following formula:

$$\text{Regulatory burden over n parameters} = \sum_{j=1}^{j=n} K_j(\text{Required parameter value}_j - \text{desired value}_j)$$

This formulation implies that the costs of compliance to achieve n parameters, which can be actions or positions, depend on the differences between required actions or positions, and desired actions or positions arising in the market place multiplied by K-coefficients. The coefficient K_j represents the required effort to formally comply with a specific requirement with respect to action or position j. This coefficient depends, for example, on the transparency of the requirement as well as type of requirement. Furthermore, the costs of complying with a specific requirement depend on the degree to which a financial institution can “fudge” the parameter by manipulating the reported parameter relative to its true value. For example, banks have incentives to undervalue reported risk-weights for assets when calculating capital requirements. These incentives are stronger the greater the difference between a required parameter and the desired value as dictated by market-based incentives.

Haldane (2012) reports that estimates of the compliance costs for Dodd-Frank at the time when 10 percent of the act had been implemented to be 1,000 full-time jobs.[3]

The final criterion for assessment of Dodd-Frank must be how it contributes to efficiency of the financial system as well as to financial stability. Any assessment of this kind is bound to be very crude and preliminary, but we can nonetheless assess whether some provisions increase financial stability at the expense of efficiency or vice versa. Of course, there is the possibility that the regulation enhances both efficiency and stability.

4.1 Regulatory Capital Standards

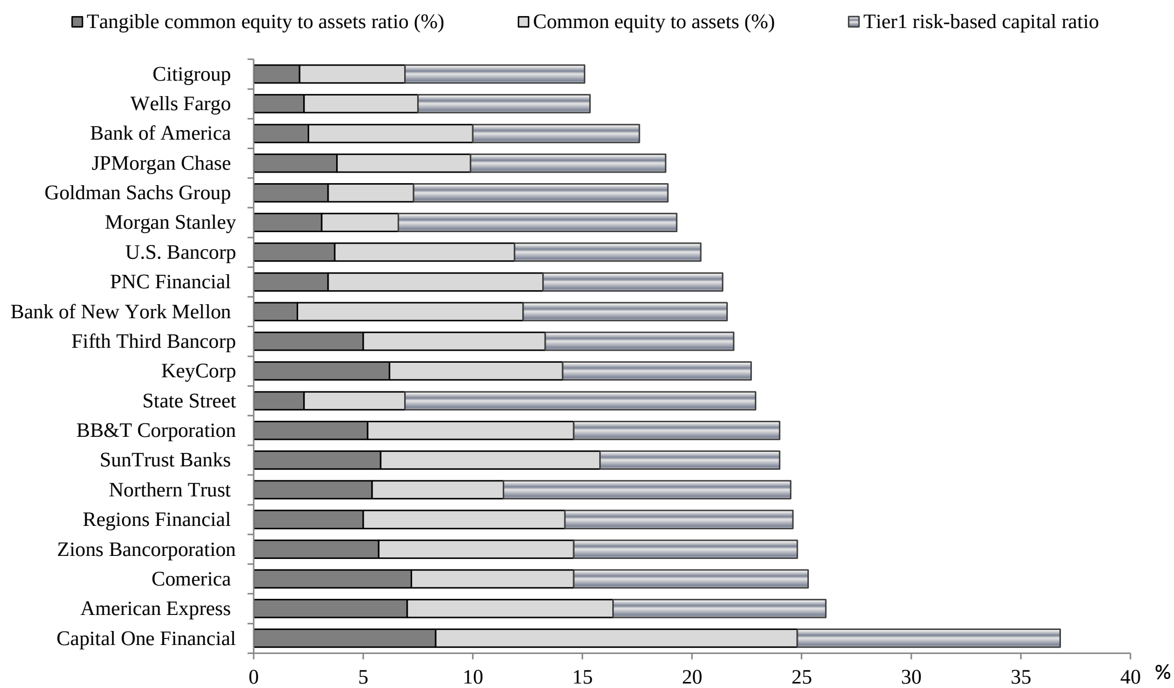
It is important that banks be subjected to minimum regulatory capital standards to better ensure that they operate in a safe and sound manner, especially since a large portion of their funding is covered by federal deposit insurance. Implicit insurance of banks creditors remains strong as well. The issue that arises, however, is the type of standards that are imposed on institutions. Before the crisis it seemed that relatively more emphasis was placed on risk-based capital requirements than on a simple leverage requirement. Yet there is a significant difference in the information that is provided by these alternative measurements of capital adequacy.[4] Figure 5 shows different capital ratios for the twenty banks that received the largest funds from the federal government under the Troubled Asset Relief Program (TARP) in the fall of 2008. The figure compares a risk-based capital ratio with two leverage ratios, one based on common equity and the other based on tangible common equity, in the quarter prior to receiving

[3] Haldane (2012) refers to survey results reported in Financial Services Committee (2010), *One Year Later: The Consequences of the Dodd-Frank Act*.
[4] See Barth *et al.* (2014, pp. 258–285) for additional discussion on this issue.

bailout funds. In the case of sixteen banks, the Tier 1 risk-based capital ratio is equal to or greater than the other two capital ratios. Indeed, in every case, the Tier 1 risk-based capital ratio exceeds the required minimum of 4 percent, and by at least 3.5 percentage points. In other words, based on this risk-based measure, every bank was well capitalized, according to the Prompt Corrective Action (PCA) categories. Despite this, all of the banks received capital injections from the federal government under TARP.

A different picture emerges when one examines the other two measures of capital, neither of which is risk-based. In the case of the common equity-to-asset ratio, the ratio exceeds 4 percent for all of the banks except two, Morgan Stanley and Goldman Sachs. Both of these firms indicated their intention to convert to bank holding companies in September 2008 and would therefore be eligible to receive funds under TARP. This particular capital measure also seemed to indicate that the biggest banks were adequately capitalized, albeit in the majority of cases to a lesser degree than the risk-based measure. A quite striking and substantially different picture emerges, however, when one examines the tangible common equity-to-asset ratio. This measure shows that several of the banks have relatively little capital to cover losses. Excluding State Street and Bank of New York Mellon, due to their unique business models, eight of the banks have capital ratios below 4 percent, and three of these have ratios below 3 percent. Citigroup had a ratio of only 2.1 percent and received $50 billion under TARP, more than any of the other banks. Yet its Tier 1 risk-based capital ratio was more than twice the required ratio. Clearly, investors were paying attention to this tangible common equity capital ratio during the crisis and certainly not the risk-based capital ratio. It is for this reason that a sufficiently high and simple leverage ratio should be preferred by the regulatory authorities. After all, investors considered such a ratio to be far more informative than a risk-based ratio about the financial condition of banks during the financial crisis. It is less susceptible to gaming by banks and far easier to monitor by investors and regulators.

Figure 5. Capital ratios in the quarter prior to first receiving bailout funds



Note: Under TARP's Capital Purchase Program, 707 financial institutions received capital injections from the government.

Sources: Bloomberg, Milken Institute.

Other studies also show that variation in banks' default risk[5] over time and across banks is better explained by a simple leverage ratio than by risk-weighted ratios based on the Basel capital adequacy framework. Blundell-Wignall and Roulet (2013) found that a risk-weighted capital ratio does not explain variation in default risk during the period 2004–2012, while a simple leverage ratio does. These authors also argue that the risk-weighted capital ratios are easily manipulated by banks and do not constrain banks' risk-taking substantially.

The economic effects of Dodd-Frank's proposal with respect to the use of the leverage ratio depend on whether it substitutes for the Basel framework's risk-weighted measures or just increases the emphasis on the leverage ratio. In the latter case, the substantial regulatory burden of the Basel framework increases only to the extent that the required leverage ratio becomes stricter since this would imply a greater difference between banks' required ratios and their desired ratios based on market forces. On the positive side, increased emphasis on the leverage ratios is likely to improve financial stability. Higher capital requirements are also likely to increase both stability and efficiency as long as the implicit

[5] Default risk is measured as "distance to default," based on market data for volatility of equity return and leverage.

protection of banks' creditors remains strong and stricter regulation can be enforced without too high a cost.

On the downside, the substantial efforts going into complying with Basel capital requirements and a stricter leverage ratio are likely to reduce market discipline, since banks' efforts to satisfy and possibly manipulate these requirements may come at the expense of efforts to properly evaluate risk.

If the leverage ratio substitutes for the Basel ratios a substantial reduction in the regulatory burden can be expected. However, the leverage ratio has problems as well, as long as markets do not discipline banks for risk-taking. To the extent that the leverage ratio is based on accounting values for assets rather than market values, it can be manipulated. A large part of a bank's assets is not traded in reasonably liquid markets. More arbitrary "fair values" must be used for these assets. Thus, the leverage ratio also requires examination by supervisors and possibly other supervisory instruments to prevent excessive risk-taking.

In Dodd-Frank, stress tests are expected to complement capital requirements as instruments to evaluate default risk. Stress tests can be very effective instruments for evaluating the sufficiency of a bank's capital buffer, but they are no better than the relevance of the assumptions about sources of stress and the expertise of the persons conducting the tests. Accordingly, there are opportunities to manipulate the tests in large and complex financial institutions. The latter have the information advantage relative to regulatory supervisors.

From an economic efficiency, as well as stability point of view, there are also expected benefits from expanding capital requirements in the form of a leverage ratio to large nonbank financial institutions if these institutions are covered by implicit protection of being too big to fail.

Although there are benefits of increased strictness of capital requirements, the substitution of a leverage ratio for Basel risk-weighted ratios and the expansion to large nonbank financial institutions, the benefits of these policy instruments are second best and associated with costs in the form of regulatory burden and risk of regulatory failure. They substitute for weak market discipline on risk-taking, which is generated by implicit protection of creditors of the financial institutions and lack of transparency of risk-taking. Policy measures that directly improve market discipline and transparency would be "first best" policy instruments. Even alongside capital requirements, market discipline would help reduce the regulatory burden since the difference between regulatory requirements and desired positions would decline. Without stronger market discipline, there are limits to how far strictness and complexity of capital requirements can be pushed without reaching unacceptably high costs of the regulatory burden and risks of regulatory failure.

4.2 Consumer Protections

The perceived need for stronger consumer protection in the financial sector stems partly from abuses by some originators and brokers that "lured" home buyers to accept contracts they could not afford, and the weak lending standards many mortgage originators applied in the years leading up to the financial crisis (Wei *et al.,* 2009). There is also the perception that the market power of large banks weakens their responsiveness to consumers' needs and preferences, and that other agencies responsible for consumer protection have not emphasized the financial sector sufficiently.

The Bureau of Consumer Financial Protection (BCFP) essentially takes over from the other financial regulatory authorities the responsibility for issuing and enforcing regulations designed to protect consumers from abusive practices by financial institutions. All the objectives given to the BCFP are laudable. It is supposed to identify and address outdated, unnecessary, or unduly burdensome regulations in order to reduce unwarranted regulatory burdens; promote fair competition; and facilitate access to and innovation in markets. These are objectives that coincide with those competitive markets are expected to achieve. The question is how regulators with a specific agenda can be expected to achieve them. It is rare that we see regulators that specifically focus on reducing the regulatory burden by strengthening competition. Similarly, innovation is rarely promoted by regulators since they tend to favor standardized solutions to consumer protection rather than trial and error with a multitude of possible solutions as in a competitive market setting.

Unlike other regulatory agencies, the BCFP is headed by a single person who is appointed by the president. This person is granted substantial discretionary power, without any of the direct checks and balances that would exist with other co-directors. Moreover, a potential political bias is introduced given the nature of the appointment of the head of the agency. Thus, the contribution to efficiency of the regulator is likely to depend on the preferences and outlook of the administration. If the regulator believes strongly in the market power of financial institutions, its actions may be biased toward excessive, detailed regulation of relationships between banks and consumers, while the regulator believing strongly in the market mechanism may overestimate the power of competition to deter abusive practices.

There is little doubt that the banking market is not a model for a competitive market. Banking has been increasingly concentrated, with financial institutions merging to achieve scale and scope. Efforts to strengthen competition and pluralism in the market place could certainly be beneficial from a consumer point of view, but we doubt that the BCFP is the best way to achieve this. Its main function is likely to be to identify and address abusive monopolistic practices.

One specific concern with respect to real estate financing is based on Dodd-Frank's mandate that creditors are required to make a reasonable and good faith determination based on verified and documented information that a consumer has a reasonable ability to repay a loan. It is not clear how the BCFP can implement and enforce a regulation that accomplishes this requirement in a consistent and fair manner. The same can be said with respect to the requirement that in prescribing rules, the BCFP is to consider the potential benefits and costs to consumers, including the potential reduction of access by consumers to consumer financial products or services resulting from such rules.

4.3 Financial Stability Oversight Council (FSOC)

The objectives stated for the FSOC make it a potentially extremely powerful actor in the financial system. It has very broad responsibilities and the ability to intervene in other agencies' regulation and supervision of large financial institutions in particular. Its macro-prudential responsibilities to identify macroeconomic threats to financial stability goes beyond analysis of macroeconomic factors and include identification as well as policy responses to threats posed by the potential distress of specific large financial institutions. It can make recommendations to the Federal Reserve concerning more stringent prudential standards to be imposed on large, inter-connected banks or nonbank financial firms. Nonbank financial companies become subject to bank-like prudential standards and regulation by the Federal Reserve after being identified by the FSOC as systemically risky. Dodd-Frank recommends a, clearly arbitrary, $50 billion asset threshold at a minimum for nonbanks to be subject to bank-like-standards.

The FSOC also has been given the objective to promote market discipline by eliminating expectations on the part of shareholders and creditors of large financial institutions that the federal government will shield them from losses in the event of failure. How this will be done is hard to understand unless it has direct influence on the resolution process (see next section). It seems that the FSOC on the one hand is expected to contribute to the survival of large financial institutions by imposing stricter standards and, on the other hand, has the task to convince market participants that such financial institutions will not be bailed out. Its responsibility for prudential standards for individual firms also implies that large bank failures to some extent can be blamed on the FSOC.

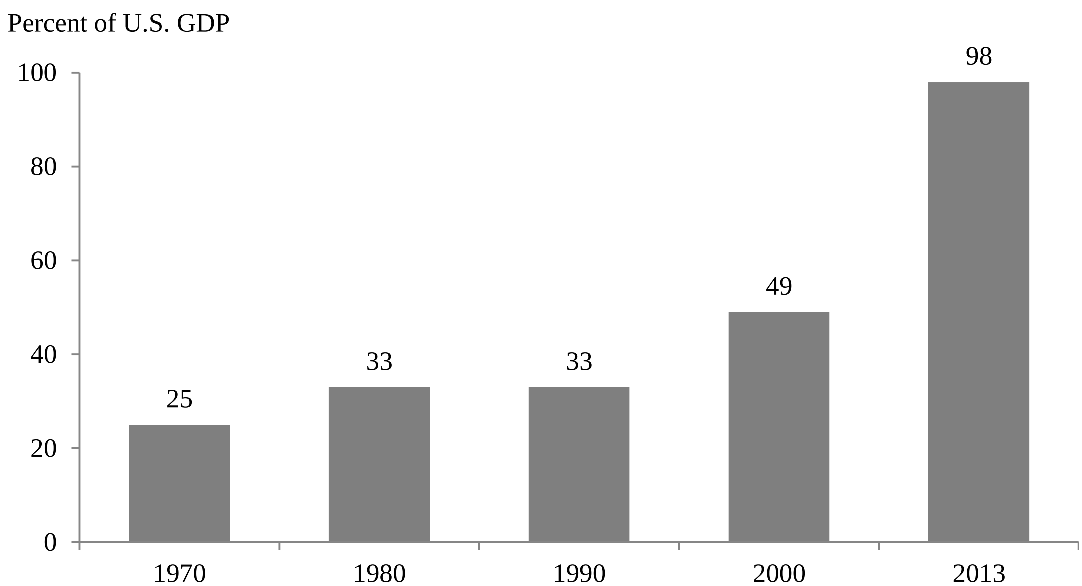
The FSOC was established in part to better facilitate communication among the various financial regulatory agencies. This seems a dubious rationale for creating a new council, given that other consultative groups existed and that modern means of communication were surely a good substitute for formal meetings of the various regulators. Apart from this issue, there is the fact that decisions made by the FSOC are being made mainly by individuals of the same political party as the president, with the secretary of the Treasury essentially having veto power over such decisions. This creates the potential for political factors to play a role in important decisions affecting banks and nonbank financial firms. We cannot see how this closeness to policymakers, who are often sensitive to interest groups, can reduce the likelihood of regulatory failures and increase market discipline (see also Kane, 2012).

There is also a tendency toward standardization of risk measurement through the macro-and micro-prudential powers of the FSOC. Such standardization can be detrimental to evaluation of a necessarily subjective variable. The best way the FSOC can contribute to information in the economy is probably to provide forecasts for relevant macroeconomic variables, leaving the risk interpretation to individuals with different complementary information and knowledge. A new office, the Office of Financial

Research (OFR), is established within the Treasury Department, whose purpose is to support the FSOC in fulfilling its duties, which, as noted, are much broader than macroeconomic analysis of factors affecting financial stability.[6]

The reference to “systemically important” banks or nonbank financial companies by the FSOC may simply be another way of referring to financial firms that are “too big to fail.” As Figure 6 shows, it is somewhat ironic that there is now so much concern about the threats to the financial system of the biggest banks when they got so big over time without any opposition by the regulatory authorities.[7] Regulatory agencies and increased complexity of financial regulation tend to favor and be relatively favorable for relatively large companies that authorities can communicate with and influence directly. In spite of its stated objective the FSOC’s organizational structure does not lend credence to its independence of strong interest groups, including large financial institutions.

Figure 6. Combined assets of the 50 biggest U.S. bank holding companies



Sources: The Banker, Federal Reserve, U.S. Bureau of Economic Analysis, Milken Institute.

[6] Two centers are established within the OFR: the Data Center and the Research and Analysis Center. The OFR is funded with assessments levied on banks with assets of $50 billion or greater and nonbank financial firms supervised by the Federal Reserve.

[7] For the detailed discussion on too-big-to-fail issues, see Barth *et al.* (2012b); Barth and Prabha (2013, pp. 377–400); Kaufman (2014); and Calomiris and Meltzer (2014).

4.4 A New Resolution Process and Living Wills

The Orderly Liquidation Authority (OLA) in Dodd-Frank is potentially the most important piece of the legislation. Its purpose is to remove the main source of implicit protection of creditors of large financial institutions and, thereby, to restore market discipline in the financial system. Removal of implicit protection would strengthen incentives to manage risk in order to compete for funding, and would reduce incentives to create large and complex financial institutions in order to benefit from being too large and complex to fail.

If the OLA achieves its objectives, the need for the other reforms in Dodd-Frank would be reduced or eliminated. Market discipline could induce banks and other financial institutions to increase their capital buffers based on the risks they take; strengthen incentives to be transparent with respect to risk-taking; enhance competition; and press financial organizations to organize themselves based on true economies of scale and scope. The main question with respect to the OLA is, therefore, is it likely to be effective?

An effective OLA means that even the very large financial institutions can be wound down, closed, and liquidated, with losses allocated to creditors in accordance with predictable contractual and legal procedures and without severe systemic consequences. The FDICIA law that existed with respect to the insolvency of financial institutions prior to and during the financial crisis specified how banks could be resolved and closed; but nonbanks were not covered by the law and there was an escape clause for systemically important banks, as mentioned in Section 3.4. The FDICIA procedures seem to have been effective and credible for small and medium-sized banks. The OLA needs to achieve the same level of effectiveness and credibility to achieve its objectives (see Barth and Prabha, 2014).

The credibility of Dodd-Frank has yet to be tested, but there are strong reasons to believe that implicit protection of large complex financial institutions will remain strong. One reason is that political influences on the determination of whether a financial institution qualifies for receivership by the FDIC under the act are likely to be strong. Two-thirds of the members of the Board of Governors of the Federal Reserve System and two-thirds of the board of the FDIC must recommend receivership to the secretary of the Treasury, who, in consultation with the president, must decide whether the criteria with respect to benefits of receivership are met. The alternative for an insolvent nonbank financial institution is general bankruptcy law.

Even if Dodd-Frank prohibits the use of taxpayer funds to bail out shareholders, the bailout of creditors remains possible. Bailout costs are to be covered by levies on other systemically important banks rather than taxpayers; but this does not change the fact that bailouts of creditors beyond those explicitly insured remain possible. Jackson *et al.* (2011) note that the treatment of creditors relies heavily on the agency's discretion and that there are no opportunities for judicial review and legal accountability. Jackson *et al.* (2011) also discuss specific provisions with respect to the treatment of so called Qualified Financial Contracts, including derivatives, which actually may weaken the failing bank and weaken incentives of counterparties to have collateral posted. Overall, the judgment of these authors is that the contractual predictability of treatment of creditors under the OLA is low.[8]

The identification of systemically important banks in Dodd-Frank can become a two-edged sword from the perspective of credibility that these banks will be subject to the OLA in case of distress. If the designation "systemically important" is interpreted as a signal that creditors will not be bailed out, then the designation has achieved its purpose. On the other hand, it can be interpreted as a signal that these banks will receive special treatment in distress with a high likelihood of bailouts for some creditors, although they will be subject to more stringent prudential standards, including higher capital requirements.[9]

Required recovery and resolution plans (living wills) for banks with assets greater than $50 billion is an element of Dodd-Frank intended to enhance the credibility of the liquidation procedures and therefore of the removal of implicit guarantees. Banks and large nonfinancial institutions are required to submit a plan for how to deal with distress, for instance, by winding down operations, selling parts of the operations, and selling assets. The plan should include measures for the stabilization of the group as a whole in case of distress, indicating also arrangements for intragroup financial support. The regulator should develop a comprehensive and coordinated resolution strategy for complex financial institutions. Parts of the living will must be made public, and the plans must be updated regularly.

One intention of the living will is to make it easier for the resolution authority to stand ready if the financial institution must be closed. Another intention is to either make a complex organization more transparent to the public as well, or to create incentives to increase transparency. If these intentions are met, the costs of living wills may be well worth it and contribute to the credibility of the OLA-procedures.

Can living wills live up the expectations that many have placed on them? A major problem for planning of recovery and resolution is that the sources of future losses that can lead to distress are unknown. The next crisis cannot be expected to be similar to the previous crisis. Possibly it can help the FDIC to prepare a resolution plan if the crisis develops slowly enough.

A preliminary evaluation of the public portions of living wills has been made by Carmassi and Herring (2013). They conclude: "Our examination ... indicates that most groups took full advantage of their discretion to maintain confidentiality of information that is crucial to understanding how easily they could be resolved without, in many cases, any plausible rationale for holding such details in confidence. Nonetheless, even if the groups had been more forthcoming with information, investors and creditors

[8] Jackson *et al.* (2011) present an alternative proposal for a Chapter 14 bankruptcy code for large financial institutions.
[9] The Basel Committee on Banking Supervision (BCBS) set forth an additional capital requirement for global systemically important banks (G-SIBs). The G-SIBs will be grouped into different categories of systemic importance to determine the minimum additional loss absorbency (common equity as a percentage of risk-weighted assets), with the recommended additional capital ranging from a low of 1 percentage point to a high of 3.5 percentage points (for additional information, see http://www.bis.org/publ/bcbs207.htm).

would still be unable to price claims efficiently because officials have not yet agreed on how to handle cross-border resolutions."

Table 1 provides a list of the banks with $50 billion or more in assets, as well as which of these banks have been identified as global systemically important banks (G-SIBs) by the Financial Stability Board (FSB). It is clear that there is a huge difference in asset size among the banks. Indeed, the largest bank has $2,416 billion in assets, whereas the smallest bank has $56 billion in assets. Such a large difference in asset size per se raises the issue as to whether all banks with $50 billion in assets represent the same degree of risk to the United States and therefore should be treated the same with respect to the new prudential standards implemented by the regulatory authorities as mandated by Dodd-Frank.

Table 1. U.S. bank holding companies with total consolidated assets > $50 billion and those identified as G-SIBs (as of year-end 2013)

	Bank	**Total assets (12/31/2013)**	**Participated in the 2014 Dodd-Frank Act stress test ***	**G-SIBs identified by FSB**
1	JPMorgan Chase & Co.	$2,416	√	√
2	Bank of America Corporation	$2,105	√	√
3	Citigroup Inc.	$1,880	√	√
4	Wells Fargo & Company	$1,527	√	√
5	Goldman Sachs Group Inc.	$912	√	√
6	Morgan Stanley	$833	√	√
7	American International Group Inc.	$541		
8	General Electric Capital Corporation	$524		
9	Bank of New York Mellon Corporation	$374	√	√
10	U.S. Bancorp	$364	√	
11	PNC Financial Services Group Inc.	$321	√	

12	Capital One Financial Corporation	$297	√	
13	HSBC North America Holdings Inc.	$290	√	
14	Teachers Insurance & Annuity Association of America	$250		
15	State Street Corporation	$243	√	√
16	TD Bank U.S. Holding Company	$235		
17	BB&T Corporation	$183	√	
18	SunTrust Banks Inc.	$175	√	
19	American Express Company	$153	√	
20	Ally Financial Inc.	$151	√	
21	Charles Schwab Corporation	$144		
22	Fifth Third Bancorp	$130	√	
23	State Farm Mutual Automobile Insurance Company	$129		
24	United Services Automobile Association	$122		
25	RBS Citizens Financial Group Inc.	$122	√	
26	Regions Financial Corporation	$118	√	
27	BMO Financial Corp.	$111	√	
28	UnionBanCal Corporation	$106	√	
29	Northern Trust Corporation	$103	√	
30	KeyCorp	$93	√	
31	M&T Bank Corporation	$85	√	
32	BancWest Corporation	$84		
33	Discover Financial Services	$79	√	

34	Santander Holdings U.S.A. Inc.	$77	√	
35	BBVA Compass Bancshares Inc.	$72	√	
36	Deutsche Bank Trust Corporation	$67		
37	Comerica Incorporated	$65	√	
38	Huntington Bancshares Incorporated	$59	√	
39	Zions Bancorporation	$56	√	

Note: TD Bank U.S. Holding Company and BancWest Corporation are not subject to Dodd-Frank Act stress testing until October 1, 2015, under the Federal Reserve's stress test rule. In addition, Deutsche Bank Trust Corporation has received an extension from compliance with the stress test rule until June 30, 2014. In 2013, the FSOC designated three nonbank financial companies for consolidated supervision by the Federal Reserve and enhanced prudential standards: American International Group Inc., General Electric Capital Corporation Inc., and Prudential Financial Inc. All nonbank covered companies designated by the FSOC will be required to conduct their first stress tests in the calendar year after the year in which the company becomes subject to the Federal Reserve's minimum regulatory capital requirements, unless the Federal Reserve accelerates or extends the compliance date.

www.federalreserve.gov/newsevents/press/bcreg/bcreg20140320a1.pdf

Sources: National Information Center, Federal Reserve Board and Financial Stability Board.

There are ongoing discussions at the international level within the framework of the FSB about coming to grips with the too-big-to-fail problem and, generally, with implicit insurance of bank creditors. If these discussions lead to a common approach to resolution of large banks without bailouts, the OLA's credibility may be enhanced substantially.

The European Union has recently accepted a new framework for "Common Resolution Procedures" within the European Monetary Union. This framework specifies a minimum level of losses that must be borne by creditors before Resolution Funds can be used to support a bank. The details are yet unclear, but aspects of the EU model may be adopted in other countries as well, including the United States. There are reports that ratings agencies have started to re-evaluate the prospects for government bailouts in both Europe and the United States.

If the OLA and European efforts to reduce implicit guarantees of large parts of banks' liabilities become reality, the impact on the financial system will be far-reaching.

4.5 Prohibition of Proprietary Trading

The financial crisis revived the debate about the separation of traditional commercial banking (deposit taking, conventional bank lending, and payment services) from other activities, such as those associated with “proprietary trading,” wherein a bank takes risky positions in securities markets for its own account. The Volcker Rule prohibits such trading by banks. The argument for this type of restriction is that proprietary trading is typically done by big banks that obtain funding at subsidized rates due both to federal deposit insurance and to the implicit protection of creditors of big banks in the event of serious financial difficulties. This type of subsidy, it is argued, should not extend to proprietary trading, which is not an essential activity for most banks and certainly not essential for the payment system. If proprietary trading is conducted by nonbank financial firms, the implicit subsidies can be counteracted by removal of the implicit protection—and the restoration of market discipline.

There is logic to the arguments behind the Volcker Rule, but it rests on several assumptions. First, the nonbank financial firms involved in proprietary trading must not enjoy implicit guarantees and have systemic importance. Second, the rule must be enforceable at a reasonable regulatory cost in the sense that proprietary trading can be identified relative to, for example, permissible hedging activities. Third, the economies of scope between proprietary trading and permissible activities should be negligible.

An ironic observation with respect to the Volcker Rule is that banks with relatively large trading positions fared relatively well during the financial crisis. Blundell-Wignall and Roulet (2013) present evidence for European and American banks between 2004 and 2012 that the size of the trading book plus available for sale securities relative to total assets is positively related to distance to default.

A second weakness of the Volcker Rule is that implicit protection after the financial crisis may extend beyond the traditional banking sector, since it has become clear that contagion within the financial system goes through securities markets as much as through the traditional bank channels. The securities market channel for contagion was a major lesson of the financial crisis, wherein investment banks were the first financial institutions to fail and be protected in the federal government.

Another issue is whether there are costs of the Volcker Rule in the form of reduced financial system efficiency. The importance of synergies within financial conglomerates is controversial. If the main motivation for the formation of financial conglomerates has been to extend the subsidies implied by the safety net to proprietary trading, efficiency losses of the reforms are likely to be small or none. On the other hand, if there are important information synergies between commercial banking activities and proprietary trading, efficiency losses may be substantial.

There is little doubt that information advantages of having many financial services under one roof have been exaggerated by bank executives building empires and complex institutions with a degree of implicit subsidization. Nevertheless, information synergies cannot be discounted entirely.

There are many areas where the service provided by a financial institution depends on the information it has available. In such cases proprietary trading enhances the incentive to acquire and analyze information. For example, a bank considering giving a loan to an export project may be better qualified with respect to future exchange rate developments and exchange rate risk if it has taken its own position in the relevant currency. The bank can of course develop exchange rate and risk forecasts without having to put money behind its forecasts, but the willingness to risk money certainly sharpens the mind of the forecaster.

To the extent banks have strong incentives to conduct proprietary trading activities, there will also be a regulatory burden from the Volcker Rule. Banks have strong incentives to hedge interest rate, exchange rate, and default risks associated with their regular activities. Economic exposures to such risks can be hard to identify and need not correspond to easily observable accounting positions. This means that banks may have substantial leeway in defining speculative positions as hedge positions. Alternatively, if they are restricted to hedging of easily observable accounting positions, they may not be able to hedge economic exposures. Under these circumstances, the regulator faces a trade-off between creating a regulatory burden or becoming the cause of reduced ability for banks to hedge.

In the final analysis of the Volcker Rule, the judgment of costs and benefits depends very much on the issue of implicit protection of the creditors of banks. Without implicit protection, it seems unnecessary to force separation between different types of more or less risky activities since the banks will be judged in the financial markets based on what activities in which they engage.

4.6 Derivative Instruments

Empirical evidence indicates that a bank's gross position in derivatives is strongly related to its distance to default. Blundell-Wignall and Roulet (2013) estimate that the amount of capital banks would have needed to maintain a healthy capital base against losses they suffered on derivatives during the crisis years was so large that no realistic capital requirement would have been sufficient. On these grounds they support an OECD (2009) proposal for separation of commercial banking from a financial institution when the default risk caused by a gross position in derivatives reaches a certain level.

Dodd-Frank states that a bank can act as a swaps entity for credit default swaps (CDS) only if the derivatives are executed on an exchange or swap execution facility. There is a substantial gain in transparency from such a shift to a central counterparty (CCP). At the same time, systemic risk shifts to these CCPs, which will be subject to their own regulation (Johnson, 2014).

A potential drawback from the CCP requirement is that it may reduce the supply of CDS contracts that are not traded in high volumes. Contracts based on underlying assets that are not broadly evaluated in the market place require OTC contracts, since liquid markets cannot exist if only few actors have the relevant information.

In this connection, it can be noted that Jackson *et al.* (2011) observed that contagion effects of the Lehman Brothers failure in 2008 did not cause additional failures, in spite of the very large and complex derivatives position of this firm. They note that the status of derivatives as "qualified financial contracts," along with, for example, repos, had the consequence that counterparties could cancel their contracts with Lehman Brothers after twenty-four hours and sell their collateral assets. Although the cancellation of contracts prevented serious contagion, it may also have contributed to a loss of value in Lehman's assets. The final valuation of claims by counterparties has not been completed, but the point here is that the ability of counterparties to cancel contracts rapidly is a two-edged sword that limits contagion but affects the incentives to require collateral as well as the value of assets available to other creditors. Jackson *et al.* argue that the twenty-four-hour rule, which remains in effect in Dodd-Frank as well as FDICIA, should be extended to three days in order to preserve the assets of the distressed financial institution without reducing incentives of counterparties to ask for collateral. These incentives are also strongly affected by the credibility of the OLA with respect to no bailouts.

4.7 Executive Compensation

Although compensation contracts have been pointed to as contributing to a risk-taking environment before the crisis, it is safe to say that an optimal contract with respect to risk-taking over the short and the long term is not easily designed and may vary with characteristics of the financial institution. The absence of specific rules for compensation contracts in Dodd-Frank is therefore positive from an efficiency as well as regulatory burden perspective.

Dodd-Frank provides shareholders with a nonbinding vote on executive compensation and "golden parachutes." It also gives the SEC authority to grant shareholders the ability to nominate their own directors. Moreover, members of compensation committees are required to be members of the board of directors and independent. These aspects of Dodd-Frank can contribute to shareholder influence on compensation contracts and reduce management's ability to design more or less self-serving compensation schemes.

It can be argued that the efficient contract from the shareholder point of view is not the efficient contract from a social point of view if there are strong implicit guarantees of the kinds discussed above. This discrepancy between the efficient contract from shareholders and other stakeholders' perspectives has been used as an argument for greater regulatory involvement in designing executive compensation schemes. In our view, this discrepancy is best remedied by removal of strong implicit guarantees rather than regulatory intervention as in Europe. The regulatory burden of such intervention is likely to be substantial or ineffective, given the ability of firms to compensate executives in a variety of indirect ways.

4.8. Credit Ratings Agencies (CRAs)

The treatment of CRAs in Dodd-Frank implies on the one hand that their ratings should not explicitly be used as regulatory indicators, but on the other hand, that they require regulation as if they were public utilities. A new office, known as the Office of Credit Ratings, within SEC will be created to examine and fine CRAs. It also requires each nationally recognized statistical rating organization to disclose on the form developed under its credit ratings, the main assumptions and principles used in constructing procedures and methodologies, the potential limitations of the credit ratings, and information on the uncertainty of the credit ratings. These requirements amount to a kind of licensing of CRAs. Dodd-Frank, moreover, allows investors to sue CRAs for “knowing or reckless” failure with respect to their ratings. Thus, the incentives for investors to form their own opinions are reduced.

The motivation for regulation of CRAs is that conflicts of interest may arise as a result of the fact that it is the rated firm that pays for ratings. An alternative way of dealing with this problem is to ensure that the market for ratings is competitive so that the most credible ratings are the ones firms are willing to pay the most for. The Dodd-Frank approach, on the other hand, increases the regulatory burden with questionable consequences from an economic efficiency point of view.

4.9. Securitization

The requirement that an originator of the assets that back securities must have some “skin in the game” should help discourage sales of risky securities to a highly protected risk-insensitive financial institution without sellers or buyers worrying about risk. If the originators are risk-insensitive as well, they may not be reluctant to hold the risky securities. In a well-functioning market with risk-sensitive financial institutions selling and buying securities, skin in the game can serve as a signal of the originator’s belief in the assets they sell. As in several other areas, the Dodd-Frank reforms address a problem that exists as a result of failure of the regulatory framework to produce appropriate incentives for risk-taking.

Evidence from the financial crisis does not substantiate that an absence of skin in the game contributed to the crisis. One of the large originators of subprime mortgages in California, New Century Financial Corporation, failed as a result of large losses on mortgages it originated and sold as backing for securities. Thus, if incentives of financial institutions are distorted to begin with, skin in the game will not correct them. On the contrary, requiring a certain amount of skin in the game reduces the information value of an originator’s choice of portfolios.

4.10 Federal Reserve Emergency Lending Authority

This piece of the legislation should prevent the Federal Reserve from going beyond the original intention of a Lender of Last Resort, which was to provide liquidity to solvent banks facing temporary liquidity problems. If the ability of the Federal Reserve to supply emergency funding to insolvent banks is restricted, the reform can reduce the implicit protection of distressed financial institutions and thereby contribute to stronger market discipline in combination with effective resolution procedures.

The challenge facing central banks in times of crisis is that it can be difficult to rapidly identify which banks face pure liquidity problems since these problems can arise as a result of uncertainty about solvency. During the financial crisis in 2008, the actions of the Federal Reserve were very much aimed at improving the liquidity situation for all banks independent of their solvency situation. Central banks often fear making emergency loans dependent on indicators of solvency since they do not want to contribute to the difficulties of already distressed banks.

The danger associated with restrictions on emergency funding is that this reform may become successful while the resolution procedures are not well functioning, in the sense that they do not limit contagion of banking failures. In this case, the inability of providing emergency funding may deepen a financial crisis. Thus, the limitations on emergency funding should be conditional of having effective resolution procedures in place.

5. Summary and Conclusions

The Dodd-Frank approach to financial regulatory reform can be described as a Band-Aid approach to financial regulation. Dodd-Frank addresses one way or another all the defects of the banking system that have been identified as possible causes of the financial crisis. It does not take a position on the relative importance of the possible causes, and there is no over-arching view of how the different aspects of the reform agenda may be interdependent.

If Haldane's (2012) observation that compliance with 10 percent of the Dodd-Frank reforms led to 1,000 new jobs having to be created in the banking industry is extrapolated, the full implementation would "create" 10,000 new jobs plus the new jobs for the regulatory authorities. The objective of financial regulation, however, is not to create such new jobs.

The regulatory burden from Dodd-Frank would not be a major concern if it enhances the efficiency and stability of the financial system. We have serious reservations on both counts. There are no reforms with respect to the organization of regulation and supervision so as to reduce the risk of regulatory failure. On the contrary, the influence of interest group politics on regulation is likely to increase as a consequence of the organization and powers of the Bureau of Consumer Financial Protection (BCFP), the Financial Stability Oversight Council (FSOC), and the orderly liquidation authority.

In our view, reforms that strengthen market discipline on bank risk-taking and enhance competition would reduce the regulatory burden and enhance the efficiency and stability of the financial system. Dodd-Frank pays lip service to this objective with the creation of the OLA and the FSOC, with the effectiveness of both these new bodies being very much in doubt. If the OLA does not remove or reduce the implicit protection of large groups of creditors of the large banks dominating the financial system, there is little hope of increasing the efficiency of the system; and increased financial stability will come only at great costs in terms of efficiency and a greater regulatory burden. In particular, the strictness and supervision of capital adequacy regulation and risk-taking must be made more intrusive, which further reduces market discipline. Under these conditions, some Dodd-Frank reforms like “skin in the game” regulation with securitization, restrictions on the Federal Reserve Bank’s emergency funding, and shareholder influence on executive compensation may even be counterproductive. On the other hand, if the reforms achieve their purpose with respect to market discipline, several Dodd-Frank reforms may be unnecessary or relatively easy to enforce.

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