The Impact of the Dodd-Frank Act on Financial Stability and Economic Growth

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This article assesses the benefits and costs of key provisions of the Dodd-Frank Act that strengthened regulation following the financial crisis. The provisions are placed into five groupings: clear wins, clear losses, costly tradeoffs, unfinished business, and too soon to tell. Clear wins include higher prudential standards, including for capital; the single-point-of-entry resolution authority; creation of the Consumer Financial Protection Bureau; and greater transparency and oversight of derivatives. Clear losses are restrictions on Federal Reserve emergency lending authority and forcing the Federal Deposit Insurance Corporation to obtain permission from Congress before providing temporary liquidity guarantees. Costly tradeoffs are the Volcker Rule and the Lincoln Amendment. Unfinished business includes regulatory consolidation and more independence for the Financial Stability Oversight Council and the Office of Financial Research. Too soon to tell are requirements and standards for leverage ratios, capital buffers, stress testing, and liquidity requirements.

Keywords: Dodd-Frank Act, financial regulation, benefits and costs

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 was designed to increase financial stability and prevent future devastation from financial crises. Dodd-Frank established the Consumer Financial Protection Bureau (CFPB), increased capital and other prudential requirements, augmented oversight of financial institutions, and created new resolution procedures to safely wind down institutions when they fail. Through these and other reforms, the financial sector is much safer today than before the crisis. A full accounting of Dodd-Frank, however, must assess how the new law has balanced improved financial stability against economic growth and other factors. Dodd-Frank has achieved much, but as with any sweeping set of reforms, there are lessons to learn from its implementation and there are corrections and adjustments that could improve its outcomes.

This article attempts to assess the benefits and costs of several key provisions of Dodd-Frank. To be clear, when discussing both economic growth and financial stability we are concerned with long-run sustainable growth and stability. Short-term boosts to economic

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growth that are unsustainable and require subsequent corrections are, by definition, illusory. Likewise, policies that create short-term financial stability by papering over problems promote long-term instability when those problem are eventually exposed and lead to a financial crisis or panic. Our assessments are focused on sustainable, long-run, desirable outcomes. Based on that analysis, we divide the provisions of Dodd-Frank into five categories:[1]

1. Clear wins. These are areas where Dodd-Frank has either increased both economic growth and financial stability or enhanced one of them at a minimal cost to the other. We argue that Dodd-Frank's most valuable contributions have included higher prudential standards, including for capital; the new resolution authority that has manifested in the single-point-of-entry (SPOE) strategy; creating the CFPB; and subjecting derivatives transactions to greater transparency and oversight. Higher capital requirements make institutions more resilient to financial stress events and crises. The Federal Deposit Insurance Corporation's (FDIC) SPOE approach establishes standard procedures for safely winding down a failed institution, improving financial stability and addressing the "too big to fail" issue. The CFPB consolidates oversight responsibilities, minimizes risky gaps in the regulatory infrastructure, and has improved protections for consumers. Derivatives exchange and clearing brings greater transparency to a major source of financial transactions that used to be largely unregulated. Even though these are all "clear wins" in our assessment, there is still room for improvement in all four areas.

2. Clear losses. These are areas where Dodd-Frank has either harmed both financial stability and economic growth or was detrimental to one with limited gain to the other. Two new restrictions fall into this category: requiring the Federal Reserve to make emergency loans available to an entire category of institutions rather than a single firm, and forcing the FDIC to seek and obtain a joint resolution from Congress before providing temporary liquidity guarantees on certain kinds of debt. These provisions can be expected to reduce financial stability during periods of stress with no corresponding effect of enhancing economic growth.

3. Costly trade-offs. Other provisions are harder to assess, and seem to achieve some benefits but with significant costs to efficiency and economic growth. In particular, the Volcker Rule, which bans commercial banks from engaging in proprietary trading, and the Lincoln Amendment, which prohibits entities engaged in swaps from receiving federal assistance, create costly trade-offs. Critics have complained that the Volcker Rule is complex, ambiguous, and expensive, making it difficult for banks to adhere to its requirements and for regulators to implement and oversee it. Others suggest that the Lincoln Amendment's goals can be achieved by the Volcker Rule, making the Lincoln Amendment redundant and its cost and regulatory burdens unnecessary.

4. Unfinished business. In other areas, Dodd-Frank has made some progress, but didn't go far enough. Important improvements could still be made through greater regulatory consolidation, heightened authority for the Financial Stability Oversight Council (FSOC), and more independence for the Office of Financial Research (OFR).

5. Too soon to tell: Finally, other provisions have created uncertain trade-offs between stability and economic growth, and it's too soon to accurately gauge their impact on the economy and financial system. New requirements and standards for leverage ratios, capital buffers, stress testing, liquidity, and long-term debt holdings all fall into this category.

In the coming pages we assess these provisions and their effects in more detail. We con-

1. Our assessment only covers areas that were addressed within the Dodd-Frank Act and not issues that it did not attempt to address, such as housing finance reform.

sider the extent to which Dodd-Frank has made the financial sector safer while we also identify weak areas that may jeopardize economic growth.

CLEAR WINS

The financial crisis revealed glaring weaknesses in the U.S. financial regulatory structure for financial reform legislation to fix. Dodd-Frank's most notable successes fall into the category of "clear wins"—measures that increased financial stability and enhanced economic growth or had a relatively low cost for one and a substantial benefit for the other. Among these successes are higher capital requirements, especially for systemically important banks and nonbanks; new authority and mechanisms to wind down failed financial institutions; the creation of the CFPB; and greater transparency for swaps and derivatives trades.

Higher Capital Requirements

Even the best regulatory regime is incapable of preventing all financial stress events and crises, and that is why financial institutions need to have enough capital to stay solvent if and when such events occur.[2] There were several reasons that levels of loss-absorbing capital proved to be too low at many such institutions going into the most recent financial crisis. Many of the assets held against regulatory standards turned out to be much riskier than commonly understood at the time, leading them to be overvalued and subject to a rapid drop in value. Starting in the 1990s, regulators added risk sensitivity and complexity to the international Basel capital standards, including allowing financial institutions to rely on their own value-at-risk models. These models relied on limited historical data, leading to assumptions that often significantly underestimated the risk to which these firms were exposed. As the Bank of England's Andrew Haldane (2012, 8) said, "The regulatory backstop had been lifted, replaced by a complex, commercial judgment. The Basel regime became, if not self-regulating, then self-calibrating." Other regulatory measures set up what have been called perverse incentives, such as the 1996 Market Risk Amendment, which provided better capital treatment for assets held in trading accounts versus as long-term investments (Financial Crisis Inquiry Commission 2011, 196).

The financial crisis led to greater regulatory scrutiny on capital levels. Figure 1 shows the significant increase in Tier 1 capital—a bank's core capital, consisting largely of its equity capital and disclosed cash reserves—of the six largest U.S. bank holding companies since the crisis. During the 2000s leading up to 2008, this measure fluctuated between 8 and 9 percent of risk-weighted assets before dropping below 8 percent late in 2007. Since 2010, it has generally been between 12 and 14 percent.[3]

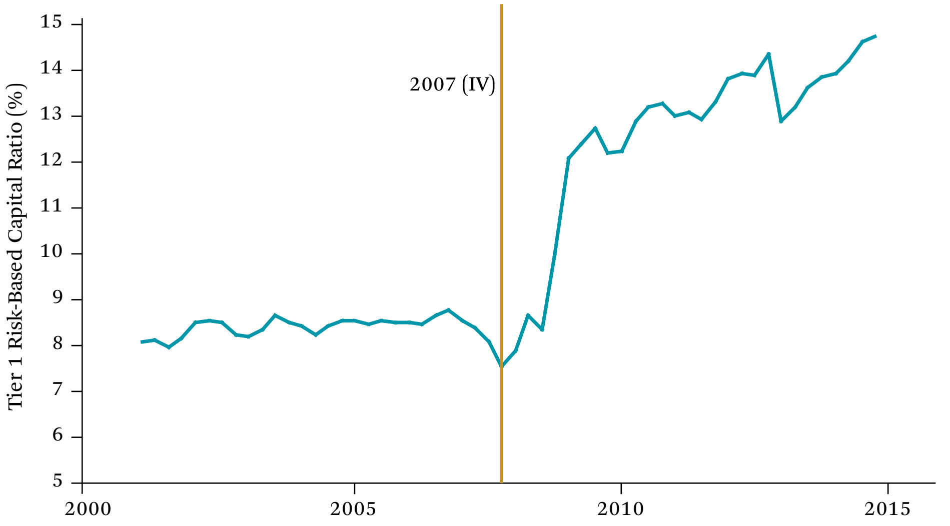
Dodd-Frank attempted to find long-term solutions to these pre-crisis problems by instituting higher prudential standards, including for capital, for all bank holding companies with more than $50 billion in assets. The Federal Reserve has based its requirements for these entities, which it oversees, on the global Basel III capital standards. Basel III tries as well to solve several pre-crisis problems in part by increasing required capital levels, especially for the largest global banks; defining more strictly what counts toward fulfilling regulatory capital requirements; and mandating additional capital buffers. Basel III's requirements will be phased in gradually until they are fully implemented by January 1, 2019 (Bank for International Settlements 2014). Figure 2 shows the phase-in schedule.

U.S. regulators have in some cases mandated standards that go beyond Basel III, including measures like bank stress testing and additional capital for the largest U.S. bank holding companies. In addition, global regulators have agreed on a minimum level of unsecured long-term debt that can be converted to equity in case of the failure of one of the large bank holding companies that must hold it. (This will be discussed in greater detail in the following section, about failure resolution.)

2. In essence, capital is the percentage of a bank's assets it can lose and still be solvent.

3. The figure is based on the definition of Tier 1 capital specified in Basel II. This is not the same definition that is used in Basel III. The figure likely overstates the level of Tier 1 capital with the new definition.

Figure 1. "Big Six" Average Tier 1 Capital Ratio



Source: Federal Reserve Board, n.d.
Note: Unweighted average of the Tier 1 risk-based capital ratios of JPMorgan, Citi, Bank of America, Wells Fargo, Goldman Sachs, and Morgan Stanley; Goldman Sachs and Morgan Stanley only began reporting in 2009.

Figure 2. Schedule of the Basel III Capital Phase-In

	2014	2015	2016	2017	2018	2019
CET1/RWA						
Minimum	4.0	**4.5**	**4.5**	**4.5**	**4.5**	**4.5**
Plus buffers:						
Capital conservation			0.625	1.25	1.875	**2.5**
G-SIBs[a]			0.625	1.25	1.875	**2.5**
Tier 1						
Minimum (ratio to RWA)	5.5	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**
Leverage ratio (to exposure measure)	Observation	Disclosure			Migration to Pillar 1	

Source: Bank for International Settlements 2014.
Note: Entries in bold denote full strength of each Basel III standard (in terms of the capital ratio). The corresponding definitions of eligible capital become fully effective in 2022.
[a]Refers to the maximum buffer, as applicable.

Gauging the impacts of any single factor on economic growth is difficult. There is some evidence, however, that the improved stability from increased capital requirements has not had a significant negative impact on the economy. Recent research by Stephen G. Cecchetti and Kermit L. Schoenholtz, for example, found that most banks were able to increase their capital levels by accepting a smaller return on assets, cutting their net interest margins, and reducing their operating costs. Further, they argue that "predictions that higher capital requirements would drive up interest margins and reduce credit volumes are at odds with the evidence of smaller spreads and increased lending. Insofar as there was any aggregate macroeconomic impact, it appears to have been limited or inconsequential" (Cecchetti and Schoenholtz 2014).

There is no settled economic consensus on the point at which increasing capital requirements will be outweighed by the economic costs of doing so. As we have said, we think that so far the increases in required capital have been justified by the increased safety they have brought. There are anecdotal reports that financial activities have been moving out of banks and into the nonbank sector, but the large and regional banks are now profitable and doing well (Kroszner 2015; Financial Stability Board 2015b).[4] At some point that dynamic would change if capital levels are pushed up more and more, and defections of people and activities from the regulated banking sector in the United States take off. In a later section we explore whether or not the combination of multiple different capital requirements now being proposed would create problems of this kind.

New Failure Resolution for Large Systemically Important Institutions: The Problem Created by Troubled Large Institutions

During the financial crisis, many large financial institutions faced losses that threatened their viability.[5] Because of the interconnections among institutions and the market climate associated with a financial panic, the failure of one or more such institutions might cause the failure of others. The revelation that several institutions held portfolios of troubled assets increased the probability in the minds of market participants that many more institutions might also hold such troubled assets and their viability might be threatened. As a result the interbank funding market shut down, putting the whole U.S. financial system in danger, a danger that spread globally. U.S. policymakers were faced with an extraordinary dilemma: bail out the troubled institutions, thereby giving taxpayer support to private companies, or let the troubled institutions fail, potentially resulting in systemic collapse and depression.

A determination to avoid the same dilemma in a future crisis has spurred innovation in financial regulatory policy. Dodd-Frank instituted a new failure-resolution regime that seeks to ensure that the losses resulting from bad decisions by managers will be borne by equity and debt holders of that company, while at the same time greatly reducing the risk of financial collapse.

Overview of Single Point of Entry

Prior to the passage of Title II of the Dodd-Frank Act, the FDIC's resolution powers were limited to federally insured banks and thrifts. The lack of authority to place the holding company of an insured depository institution or any other nonbank financial entity into FDIC receivership served as a major source of instability during the crisis. Regulators lacked an important tool to resolve these entities in an orderly manner and help stem contagious panics and runs that can result from such failures. As the U.S. Bankruptcy Code proved inadequate for containing the distinct risks generated by the failure of systemically important financial institutions (SIFIs) and lacking the authority to place those firms under FDIC receivership, the government was left with the unfortunate choice of either extending taxpayer-funded bailouts or allowing the institutions to undergo disorderly bankruptcies, potentially at the risk of broader financial instability.

Dodd-Frank took several steps to address

4. Randall S. Kroszner (2015) showed data indicating that the liabilities of the shadow banking sector had fallen, whereas the liabilities of the banking sector had increased. The Financial Stability Board issued a report on global shadow banking that showed strong growth in this sector globally, but in line with Kroszner's data this report showed a decline in shadow sector assets as a percent of total financial assets in the United States (Financial Stability Board 2015b, 59).

5. This section was drafted by William Bekker of the Brookings Institution.

the need for a formal procedure to deal with the failure of systemically important financial institutions in the future.[6] Title I of the act requires all SIFIs to prepare resolution plans that formally demonstrate how, in the event of a business failure, they could be resolved under the Bankruptcy Code in an orderly manner. However, to deal with the possibility that a SIFI may not be resolvable under the Bankruptcy Code without threatening financial stability, Title II of Dodd-Frank set forth an Orderly Liquidation Authority (OLA) for the FDIC to resolve systemically important institutions (Federal Deposit Insurance Corporation 2013b).

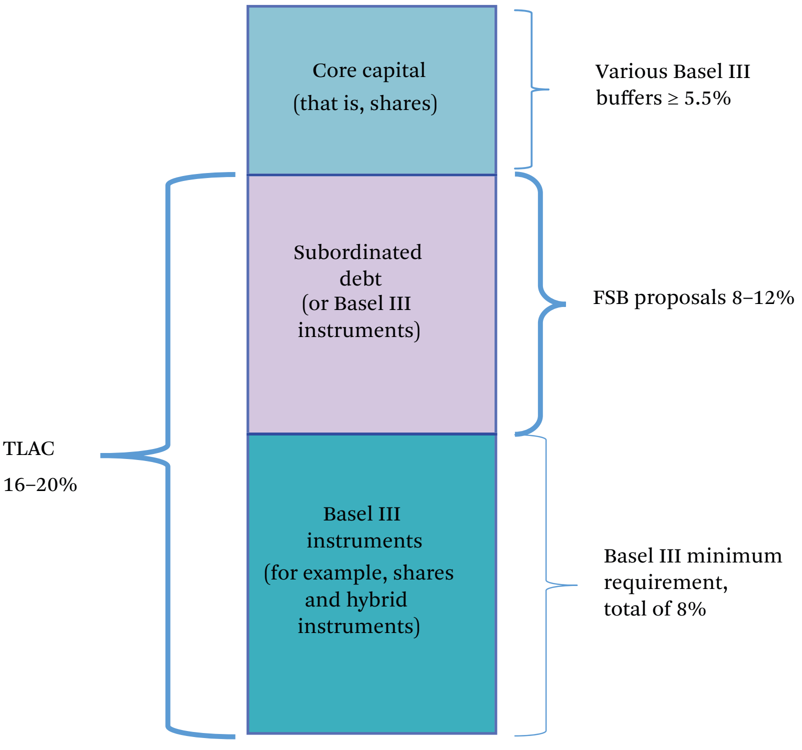
In order to implement its new authorities under Title II, the FDIC has been developing SPOE, which aims to resolve large and complex financial institutions that are insolvent by placing the top-tier holding company of the organization under FDIC receivership: the FDIC enters the company at the holding company level, the "single point." SIFIs are generally organized under a holding company structure with a top-tier parent managing hundreds, if not thousands, of legal entities spanning a wide swath of regulatory and legal jurisdictions. Since these entities are highly interconnected, often providing support services to one another and sharing funding as needs arise, it can be difficult to conduct an orderly resolution of one part of the company without jeopardizing other entities in the structure. SPOE seeks to address this issue by providing a mechanism where the failing holding company is removed but the subsidiaries are placed under the control of a newly created bridge holding company whose managers and directors are appointed by the FDIC. The equity and long-term unsecured debt that had been issued by the old holding company are removed and are no longer considered liabilities of the bridge company or the subsidiaries it has taken over. Because these liabilities have been removed, the new bridge holding company is solvent and it has been effectively recapitalized without requiring taxpayer funds.

Dodd-Frank created the OLA and an Orderly Liquidation Fund (OLF) as a backup source of temporary liquidity (but not capital) for the bridge holding company if other sources of liquidity cannot be secured in the interim. The new well-capitalized parent, the bridge company, would be able to smooth over funding frictions that arise for subsidiaries as a result of a financial distress occurring in other parts of the organization. In such a way, SPOE enables the company as a whole to remain operational and capable of serving markets during resolution proceedings. This preserves the franchise value of the institution and avoids the systemic risk effects of an organizationwide collapse. (For a more detailed discussion of how the bridge company is capitalized, see Jackson and Massman, this volume). In developing SPOE, the FDIC strove to create an insolvency regime that would promote market discipline by ensuring that the costs of the failed or failing SIFI fell exclusively on the shareholders and the unsecured creditors of the top-tier holding company. To achieve this end while preserving financial stability, SPOE is designed so that the assets from the receivership, primarily consisting of investments in and loans to subsidiaries, would be transferred to a bridge financial holding company organized by the FDIC. Certain liabilities would be transferred to the bridge company as well. These include claims of secured creditors, which would be transferred to prevent the spillover effects of creditors liquidating collateral en masse, and liabilities that are vital to facilitating company operations, such as obligations to vendors that provide essential services. All claims of equity holders and unsecured creditors, however, would remain in the receivership with losses being apportioned according to the statutory order of priority.

After the bridge financial company's assets have been valued, SPOE provides for the payment of creditors' claims in the receivership through the issuance of securities by the bridge financial company in a securities-for-claims exchange. This process involves the issuance and distribution of new debt and equity

6. A "SIFI" designation refers to both banks with over $50 billion in assets that are automatically subject to enhanced prudential standards as well as non-banks designated as SIFIs by FSOC.

Figure 3. Total Loss Absorbing Capacity Final Rule



Source: De Nederlandsche Bank 2014.

to be exchanged for claims in the receivership on a pro rata basis.[7]

In order for this to work, the holding company must have an adequate cushion of equity and unsecured debt in order to absorb the losses. To this end, U.S. regulators have made progress on assessing the appropriate levels of debt and equity required to successfully implement a SPOE resolution. At the international level the Financial Stability Board (FSB), a group of regulators currently headed by Mark Carney, governor of the Bank of England, has agreed on a framework for the "total loss absorbing capacity" (TLAC) that banks must hold (Financial Stability Board 2015a). This proposal was endorsed by the G-20 at its November 2015 meeting in Antalya, Turkey (see figure 3). Its provisions are consistent with the SPOE approach to failure resolution, although this does not mean all members of the G-20 are on board with SPOE.

Following the execution of the securities-for-claims exchange, the charter of the bridge financial company would be terminated and supplanted by the charter(s) of a new holding company or several holding companies. The newly created financial company would be required to meet or exceed all regulatory capital requirements. Before turning operations over to the private sector, however, the FDIC would require the board of directors and management of the bridge company to prepare a restructuring plan under which the new company could be resolved under the Bankruptcy Code without serious adverse effects on the U.S. financial system.

7. In addition to the issuance of debt and equity, contingent securities, such as warrants and options, in the new financial company that will succeed the bridge company may be issued. These contingent securities would enable claimants in lower-priority classes, namely, unsecured creditors and shareholders, to recoup value in the event that the final valuation of the bridge company was lower than its true market value.

Although the FDIC anticipates that the funding needs of a bridge company would be effectively fulfilled by private markets, particularly since the bridge company would have a strong balance sheet as well as public backing during the resolution process, Title II also provides for an OLF to serve as a backup source of liquidity support in case the new company cannot access private capital. The OLF would be available on a fully secured basis and is intended to function as a short-term source of liquidity to be repaid immediately once the bridge company could access customary sources of private market funding. In the event that the bridge company was unable to fully repay its OLF funds, the FDIC would impose risk-based assessments on other SIFIs to ensure against taxpayer losses.

Benefits of SPOE

The lack of infrastructure for resolving SIFIs prior to Title II served as a major source of instability during the crisis. The uncertainty over which firms would be rescued by bailouts not only served to amplify market panic but also raised a host of political issues as government officials were left with the poor choice of either rescuing firms considered "too-big-to-fail" (TBTF) or risking a wholesale collapse of the financial system.[8] In setting forth a predictable and preannounced regime for resolving SIFIs in the future, the SPOE approach takes a major step toward ending a highly problematic source of risk in the financial system.

Beyond addressing the uncertainty surrounding TBTF, the SPOE approach offers a structured means of ensuring that losses are absorbed by shareholders and long-term creditors while still enabling the organization to remain operational as an ongoing concern. This strategy offers the benefit of allowing the holding company's operating subsidiaries to continue serving markets, thereby reducing the likelihood of contagion, and preserves the organization's franchise value. Further, by isolating the parent of the troubled institution along with its debt and equity liabilities and providing for a rapid recapitalization of the banking group as a whole, SPOE mitigates the risks of liquidity runs and fire sales as short-term creditors would no longer have an incentive to withdraw liquidity from subsidiaries. Furthermore, ensuring that losses are imposed on shareholders and creditors should promote market discipline, diminish the potential for SIFIs to receive funding advantages in markets, and reduce the moral hazard created by the prospect of government bailouts.

The SPOE recapitalization strategy also makes the issue of resolving a global bank with foreign subsidiaries more manageable. Many SIFIs operate on a global scale that makes orderly resolution in the absence of a coordinated international effort difficult. In particular, the possibility of host countries isolating the operations of a nondomestic bank by restricting the ability of that bank to transfer assets or funds to operations outside of the country, a practice known as ring fencing, is a major risk involved in resolving global SIFIs (Institute of International Bankers 2014). Although guidelines on how to resolve banks whose operations span territories with differing laws and regulatory practices have been issued by the Basel Committee on Banking Supervision, the risk remains that foreign regulators, in order to safeguard local interests, will engage in ring fencing when a SIFI exhibits signs of financial distress.

The FSB's TLAC proposal tried to address the concern about the ring-fencing problem by saying that adequate loss absorbing capacity must be held in each country where a multinational institution operates. Thus the proposal reassures countries that they do not need to mandate ring fencing because the operations of domestic subsidiaries are protected. One can question the FSB's proposal, since it could be said to require ring fencing as a way of avoiding ring fencing, but the rationale is to provide a predictable level of protection for national markets while still preserving adequate flexibility for a bridge holding company to restructure the troubled institution and keep all essential subsidiaries open. And so, although SPOE does not fully resolve this issue, by set-

8. The term "TBTF" refers to all firms that pose systemic risks. Size is only one of a number of factors, such as complexity or interconnectedness, that may make a firm systemically important.

ting forth a strategy for recapitalizing the holding company while keeping subsidiaries and branches operational, it should reduce foreign regulators' incentives to disrupt the resolution process because depositors can be assured that their funds are safe and markets will be able to continue conducting operations with the company. Finding methods to resolve large global institutions remains a work in progress; in its latest consultation on SPOE the FDIC welcomed comments on this issue.

Concerns and Outstanding Issues

Some believe the standard for determining when the OLA may be used, namely when private bankruptcy threatens financial stability, is too subjective. The government is given broad discretion for determining when to apply SPOE, although application requires a high hurdle with agreement by super majorities of the FDIC and the Federal Reserve Board, combined with approval by the administration.[9] In addition to the criticism of potentially serving as a source of instability in the critical early moments when a systemically important institution exhibits signs of material financial distress, the subjectivity of the determination process has been criticized for being inconsistent with the general approach for bankruptcy. This concern, however, does not necessarily undermine the SPOE approach and can be addressed with further public guidance. For instance, Randall Guynn (2014, 288) suggests that a policy statement or a statutory mandate expressing a commitment to resolving all complex and global SIFIs under SPOE would substantially reduce the uncertainty of the determination process.

There is a lack of alignment between Titles I and II of the Dodd-Frank Act. Title II outlines a plan to resolve large institutions under FDIC direction, while Title I requires all covered institutions to submit resolution plans, or living wills, to the Federal Reserve and the FDIC, outlining a strategy for resolution under the Bankruptcy Code. Devising a resolution strategy can be a costly undertaking for banks, particularly for large and complex institutions (Herring 2010). Yet while complying with the living will requirement, these institutions also must prepare for the very different resolution contingency via SPOE set forth in Title II. These dual and conflicting rules for how large and complex institutions must prepare for failure place an unnecessary and costly regulatory burden on the institutions (Baily and Elliott 2014, 190). This is not to argue that living wills are unnecessary—there is at least some anecdotal evidence that the process of developing living wills helps financial institutions and regulators better understand their operations and prepare for potential future stress events—but rather that a convergence between Title I and Title II, for example, by requiring institutions to create living wills that describe resolution plans under SPOE, would create a more realistic planning scenario. This convergence is possible because the essential elements of the SPOE approach could be applied in a bankruptcy proceeding provided that there are adjustments to the Bankruptcy Code. David Skeel has discussed the potential for using SPOE with a revised bankruptcy code (Skeel 2014). There is some progress on this front, as the public portions of the 2015 living wills of most of the largest bank holding companies assume the use of SPOE for resolution, something that was not true in earlier versions of the living wills.

Finally, some concerns have been raised

9. As summarized in the FDIC's December 2013 Notice on SPOE, the determination process is as follows: In order for a SIFI to be resolved under Title II, two-thirds of the Federal Reserve Board and the Board of Directors of the FDIC must make a determination as to whether private bankruptcy for a failed institution poses a threat to financial stability, and then must draw up recommendations for resolving the institution under SPOE for approval by the secretary of the treasury and the president. If the company or its largest subsidiary is a broker-dealer or insurance company, then the role of the FDIC would be replaced by the SEC and the Federal Insurance Office, respectively, with the FDIC still being consulted in the determination process. Following executive approval, a twenty-four-hour judicial review process is initiated, and only after review has been completed may the FDIC initiate the resolution process.

that the OLF provision in Title II is tantamount to a formal sanctioning of bailouts by the public sector. The OLF, however, exclusively serves as a source of fully secured liquidity and may not be used by the bridge company as a source of capital. That distinction—between fully secured liquidity and capital injections—is the distinction between acceptable, short-term, publicly funded liquidity solutions and the type of government bailouts that were part of the government's 2008 crisis response. Furthermore, Dodd-Frank expressly prohibits taxpayer losses from the use of the Title II authority, and provides for several mechanisms, such as the ex-post charges on SIFIs in the event that the bridge company cannot fully repay OLF funds, to ensure that this end is met.

Conclusion on SPOE

There is no way to be certain how the new failure resolution provisions in Dodd-Frank would have impacted the unfolding of the financial crisis. It is hard to imagine, however, that the failure of Lehman Brothers, for example, would not have been easier to manage if regulators had been able to use orderly liquidation authority under SPOE and had had a backup source of temporary liquidity available to them, holding aside the benefits of having a living will for the company in place.

The SPOE strategy has received extensive support from a wide range of financial industry groups, think tanks, rating agencies, foreign regulators, and other stakeholders (Guynn 2014, 281–86). Since first being announced, SPOE has gained acceptance as a viable strategy for resolving systemically important institutions. By taking steps to end the TBTF issue, the SPOE strategy addresses a profound source of instability in the previous regulatory regime. Although there are still obstacles that will need to be overcome and areas in which improvements can be achieved, as the FDIC continues to implement its authorities under Title II, SPOE represents progress toward a safer financial system.

Creation of the CFPB

Housing was at the heart of the 2008 financial crisis. Poorly underwritten mortgages, predatory and misleading lending practices, and overly complex mortgage products served to inflate the asset bubble that ultimately created the financial crisis. Such products and practices were allowed to proliferate in part because oversight was fragmented among several regulatory agencies, leading to "significant gaps and weaknesses" in supervision (U.S. Department of the Treasury 2009, 7). In some cases, these agencies did not have the authority to regulate nonbank consumer products, which effectively prevented them from protecting consumers who had been subjected to predatory lending practices by nonbank mortgage providers. In other cases, financial regulators did not have the will to act on the authority granted by Congress. For example, the Federal Reserve waited fourteen years to adopt new rules under the Home Ownership and Equity Protection Act of 1994, by which time that law's ability to limit abuses of consumers was too late to help prevent or mitigate the impacts of the crisis (Financial Crisis Inquiry Commission 2011, 22).

The idea for a freestanding agency to correct these problems is generally credited to then professor Elizabeth Warren, now a senator from Massachusetts, who first proposed such an agency in 2007 (Warren 2007). This idea gained bipartisan support when the Treasury Department under Secretary Henry Paulson offered a similar proposal for a business conduct regulator in its "Blueprint for a Modernized Financial Regulatory Structure" released in 2008 (U.S. Department of the Treasury 2008). The blueprint stated that business conduct "is fundamentally linked to consumer protection" (170) and that centralizing such regulation in a single body "leads to greater consistency in the treatment of products, eliminates disputes among regulatory agencies, and reduces gaps in regulation and supervision" (14).

By consolidating the oversight responsibilities of seven different agencies under a single roof with a unified focus, the creation of the CFPB was a significant achievement for consumer protection (Bianco 2013, 1, 4). Dodd-Frank provided the bureau with the jurisdictional scope to cover most major consumer financial products, thereby leaving fewer gaps in the regulatory infrastructure.[10] Since it was created, the CFPB has engaged with both bank and nonbank lenders, industry participants, consumer groups, and policymakers, and has been active in making substantive policy decisions almost from its inception. It has taken actions to remove misleading financial products from the marketplace and has promulgated rules on qualified mortgages and money transfers. It has shown flexibility in responding to comments on initial drafts of its rules. It is difficult to think of another new regulatory agency that has established itself as quickly and has had as much impact in its first few years.

Of course, even if gaps are filled, quality regulations and a will by regulatory agencies to implement them is also essential. Agencies sometimes have the necessary authority to address a problem but either choose not to use it or simply fail to identify or understand the problem. In addition, agencies with multiple mandates, such as ensuring both safety and soundness and consumer protection, can have a difficult time prioritizing among them. Dodd-Frank addressed these issues as well by creating a CFPB with a single priority of protecting consumers. That does not guarantee the CFPB's success, but it does give the agency a better chance to achieve its goals.

Like any agency (particularly a new agency) the CFPB is not perfect and can be improved. The Government Accountability Office (GAO) found a number of areas where the bureau can improve its supervisory process, and the Bipartisan Policy Center (BPC) found that the quality of the new agency's decisionmaking has been better when it has used an open process for rule making and other activities (Fischer and Rodriguez 2013, 19). In addition, the CFPB and the federal prudential regulatory agencies are still working to coordinate their efforts, with prudential regulators at times struggling to integrate the bureau's findings and examination timelines into their own existing examination processes. Some tension between the bureau and prudential agencies is healthy since different criteria should be used to judge whether financial institutions are achieving safety-and-soundness goals as opposed to whether their products, activities, and practices are within appropriate boundaries from the perspective of consumers. Cooperation is, however, essential, to avoid regulatory gaps.

Despite prominent early support from both sides of the aisle, the CFPB has turned out to be perhaps the most controversial provision of Dodd-Frank.[11] Critics have charged that the bureau is an unaccountable bureaucracy that adds a regulatory burden on firms while harming those it is supposed to protect by raising prices for, and limiting choice in, financial products (Katz 2013; Winkler, Gitis, and Batkins 2014). Our judgment, however, is that the CFPB has done a remarkable job in a short time in providing much-needed protection to consumers. This enhanced protection will lead to greater financial stability by reducing the likelihood that dangerous products, activities, and practices will proliferate and threaten financial stability. In the long run, to the extent that the bureau is able to efficiently root out illegal financial practices that harm consumers, and that Congress adopts sensible legal measures, it may potentially increase economic growth.

Derivatives and Transparency

The derivatives market, particularly for those traded over the counter (that is, privately ne-

10. Some exemptions from the CFPB's authority were granted, such as oversight over the extension of credit provided through auto dealers.

11. Several of the more controversial elements of the CFPB's creation include its existence as an independent agency within another independent agency (the Federal Reserve), its being headed by a single director as opposed to a board or a commission, and its reliance on funding from the Federal Reserve as opposed to from the congressional appropriations process. It is worth noting that the two newest financial regulatory agencies Congress created, the CFPB during President Barack Obama's tenure and the Federal Housing Finance Agency (FHFA) during President George W. Bush's tenure, were structured as single-headed agencies. However, Congress has had difficulty confirming directors to lead both agencies.

gotiated), amplified risks to the financial system that built up during the crisis. Derivatives are not inherently dangerous and are a useful tool for managing risk. According to the International Swaps and Derivatives Association (ISDA), of the total notional outstanding value of over-the-counter (OTC) derivatives as of June 30, 2013, about 95 percent were either interest rate or foreign exchange derivatives (International Swaps and Derivatives Association 2014a, 4), which generally performed well during the crisis. An oft-cited example of using another kind of derivative, a commodity derivative, is when airlines buy financial instruments to lock in a price for fuel oil, a major cost of doing business for them. This protects these airlines from sudden spikes in oil prices, but also removes the ability for them to profit from drops in prices such as the ones seen in the latter half of 2014. A derivative of this type transfers the risk of future price changes from airlines to investors, who will realize the related profits or losses. In the right circumstances, derivatives are a tool to transfer risk from those who want to be rid of it to those best able to assume it.

Unfortunately, risk is sometimes instead transferred to those who least understand it rather than to those most able to bear it. The market for OTC derivatives exists in large part because companies often demand instruments tailored to their specific risks and circumstances, which makes it difficult to standardize products. OTC derivatives, however, were largely unregulated before the crisis. Little information was disclosed about them and over time they became more complex and difficult to understand, both as individual instruments and in the way they affected markets in aggregate. Credit default swaps (CDS) were used as insurance against the default of debt securities,[12] which grew increasingly complex themselves, leading to sellers of CDS—notably AIG—to drastically underprice these instruments because they, similarly, underestimated the true risk of default. As if by magic, debt securities with marginal credit ratings were broken apart and repackaged into new securities with a large tranche rated as very safe. The complicated nature of many of these products and the lack of transparency surrounding them made such sleight of hand appear more plausible at the time.

While some aspects of its implementation have been controversial, Title VII of Dodd-Frank made real progress by subjecting swap dealers to greater oversight and requiring most derivatives to trade on open exchanges and be centrally cleared. The ISDA estimates that eventually 70 percent or more of even OTC derivatives trades will be cleared (International Swaps and Derivatives Association 2013, 3). Adding much-needed oversight and transparency to such a large and consequential market is another clear win for Dodd-Frank.

CLEAR LOSSES

As we emphasized in the beginning of this article, we believe that the financial system is much safer because of changes made as a result of Dodd-Frank. However, we judge a few provisions of the act as clear losses, providing little or no increase in stability. The first example actually reduces stability.

Restrictions on Federal Reserve and FDIC Crisis Authority

The U.S. government's actions to contain the financial crisis were unpopular from the beginning and remain so. Public polls have consistently shown that Americans opposed providing money to financial firms that were in danger during that time. As the BPC's report on systemic risk explained, the public believes that government policy mostly helped large banks and companies and the wealthy; that emergency assistance amounted to giveaways to bail out otherwise insolvent institutions; and that the government's actions have not made the economy more secure (Dugan, Fisher, and Muckenfuss 2014, 31). According to Gallup, confidence in the Federal Reserve is

12. A swap is a derivative in which two or more parties agree to exchange the cash flows resulting from two or more different financial instruments. In the case of a CDS, the buyer owes one or more payments to the seller as with an insurance premium, while the buyer receives a payment if the underlying security being insured defaults.

now lower than it was before the crisis (Kohn 2014, 3).

Anger at the Federal Reserve for not preventing the crisis and for its unpopular actions during the crisis influenced the debate on Dodd-Frank, which included a provision to ban the Fed from providing emergency loans to a single firm, as it did in 2008 with AIG and Bear Stearns. Instead, these loans must be offered through programs with "broad-based eligibility"—that is, they must be made available to a category of institutions rather than on a one-off basis to a single company. This provision is intended to prevent future bailouts of financial institutions and, by extension, to reduce the moral hazard created by industry expectations of future bailouts. These are laudable goals, but the new restriction in Dodd-Frank on the Fed's lending authority is potentially a threat to financial stability and could, perversely, exacerbate moral hazard issues.

To understand why, it is necessary to differentiate between providing temporary liquidity to an otherwise solvent institution in a crisis and providing capital to save an insolvent institution. The latter constitutes a bailout. The former has been one of the primary responsibilities of central banks for many years: to be the lender of last resort. When a financial crisis starts, creditors have an incentive to run, or quickly withdraw their funding by refusing to roll over existing debt. Account holders have an incentive to quickly withdraw funds from institutions that market participants fear are or may soon be insolvent. Such runs can lead to panics and crises, which can greatly damage the real economy.

It is far less expensive to prevent runs before they occur. For many years, the Federal Reserve, through its discount window, has provided loans to firms experiencing temporary liquidity problems. During the crisis, the agency set up a number of programmatic facilities to inject temporary liquidity into other major segments of the financial system, such as broker-dealers and money market mutual funds. Taken together, these actions by the Federal Reserve involved committing huge government resources to prevent much greater potential damage to the economy. Prohibiting the Federal Reserve from making emergency loans until it can justify making them to an entire class of institutions forces the agency either to wait to lend until a financial stress event has gotten worse or to evade the spirit of the law by effectively lending, as before, to a single firm under cover of a tortured definition of "broad-based" class of firms. The Federal Reserve should not be forced to make such a decision.

This is not to imply that there should be no restrictions on the Federal Reserve's emergency lending authority. Appropriate thresholds should be in place to ensure that loans are made only when truly necessary, and only to otherwise solvent firms at a penalty rate and with high-quality collateral. The Federal Reserve's emergency lending also should be made transparent after a reasonable time period. In fact, Dodd-Frank and the Emergency Economic Stabilization Act of 2008 (EESA, more popularly known for establishing TARP, the Troubled Asset Relief Program) amended the Federal Reserve Act to address these issues with a series of new requirements (Federal Reserve Act, 12 U.S.C. Section 343 [3] [B–D]), which augmented restrictions already in place prior to the crisis and codified additional transparency mechanisms. The additional transparency regarding emergency lending by the Fed imposed in EESA do not appear to have limited the Federal Reserve's ability to do what it thought was necessary while providing greater public accountability.

Further, contrary to post-crisis conventional wisdom, prohibiting the Federal Reserve from making emergency loans to single institutions can make moral hazard worse. The BPC's paper on systemic risk explains how:

> Take, for example, a hypothetical case in which two major companies originate most of the auto loans in the United States. Company A has made high-risk investments in assets that have gone bad, causing Company A to become insolvent and threatening to put the entire financial system at risk. Company B is well managed and solvent but faces short-term liquidity problems because the market is nervous about lending to any auto

> loan originators due to the actions of Company A. Under Dodd-Frank's new provisions, the Federal Reserve is unable to extend credit to Company B while letting Company A fail, because such lending must be conducted through programs with "broad-based eligibility"—that is, be offered to both companies A and B. In so doing, the new provisions make it more difficult to punish Company A's shareholders and management, who have not done their jobs well, without also punishing the stakeholders in Company B. In this way, the new lending provisions can actually create moral hazard.

We recognize that these views are controversial. One of the referees for this essay argued that there was no additional moral hazard with a broad-based lending program as long as the Federal Reserve follows the Bagehot dictum and only lends to solvent institutions at a penalty rate with appropriate collateral. This point is well taken, but we recall that in the last financial crisis serious problems occurred in AIG, an insurance company that no one thought ahead of time would have needed emergency intervention from the Federal Reserve. It would have been hard to create a broad facility available to all insurance companies in the time frame needed to deal with the crisis. We do not know what the next crisis will look like and what institutions may be in trouble, and so we judge that the Federal Reserve needs the discretion to lend to individual institutions when necessary.

In a post on his blog at the Brookings Institution website, Ben Bernanke, the former Federal Reserve Board chairman, also took a different view from the one given here (Bernanke 2015). He said that the new restrictions were ones the Federal Reserve could live with and they represented a workable compromise between Congress, which wants more control over Federal Reserve actions, and the need for quick and decisive actions in a crisis. He did, however, express concern over disclosure requirements. He argues that institutions will postpone going to the Federal Reserve for help because of the stigma attached to such borrowing—specifically, a fear that other lenders will quickly take their money out of the institution, creating a run. Under current law, Federal Reserve emergency lending must be disclosed immediately to Congress but may be kept secret from the public for two years at the request of the chair of the Federal Reserve Board. However, financial institutions may not believe Congress will abide by the two-year rule and the information will leak out. Hence, some institutions that should be borrowing might not do so. (Senators David Vitter (R-La.) and Elizabeth Warren (D-Mass.) have proposed making Federal Reserve emergency lending public immediately).[13]

These points, too, are well taken, and the three authors of this article are not in complete agreement on the disclosure issue. There are situations where transparency can be harmful, but there have also been situations where the Federal Reserve needed to be more transparent in its actions and at least keep Congress informed.

On balance, our judgment is that, although the Federal Reserve made mistakes before and during the financial crisis, its use of its lender-of-last-resort authority to provide temporary liquidity to financial institutions was perhaps its greatest success. It is important that the Federal Reserve retains the ability to fight a future crisis with the same success.

Dodd-Frank also made changes to the FDIC's crisis authority, with mixed results. The law recognized the value of actions taken during the crisis by the FDIC—such as through the Temporary Liquidity Guarantee Program (TLGP)—to guarantee debt issued by healthy insured depository institutions. One study found that the TLGP reduced yields on bank-issued debt, promoted liquidity in fixed income markets, and made it cheaper for banks to borrow at a time when that ability was more important (Ambrose, Cheng, and King 2013). In addition, the program achieved these results while also realizing a $9.3 billion gain for the Deposit Insurance Fund (Federal Deposit Insurance Corporation 2013a). In response,

13. See Bailout Prevention Act of 2015, S. 1320, 114th Cong., 2015.

Congress laid out an explicit process whereby the FDIC can use such authority in the future, subject to several reasonable limitations (Dodd-Frank Wall Street Reform and Consumer Protection Act).[14]

Unfortunately, Congress required that the FDIC seek and obtain a joint resolution from Congress before it can issue such guarantees. Naturally Congress should thoroughly review actions taken by regulators, but time is compressed in a crisis. Destabilizing runs can begin and spread, threatening the entire financial system, within days or even hours. The longer responses are delayed, the greater the potential damage to the financial system and the economy. Having to wait for Congress to pass a resolution that may be unpopular, though necessary, would subject crisis response to an unnecessary and potentially costly delay or, in extreme circumstances, block debt guarantee authority entirely. Recall that despite pleas from the president, the treasury secretary, the chairman of the Federal Reserve, the Speaker of the House and the minority leader of the House, the full House of Representatives voted down the first TARP proposal. That vote precipitated the largest single-day point drop in the history of the Dow Jones Industrial Average. It is not always easy to get Congress to act quickly during a crisis.

It was inevitable that government intervention on a massive scale to save the financial sector would prove unpopular, but that unpopularity is not based on an accurate perception of what the direct costs were to taxpayers. The big "bailout" fund was the TARP, which was used primarily to inject capital into banks. Other government assistance took the form of loans to and investments in financial institutions. In aggregate these actions returned a significant profit to taxpayers.[15] When bailouts occur, it is because they are thought by regulators and other government officials to be the least-bad option available. Financial crises are inherently unexpected to most relevant decision-makers, who would otherwise have acted to prevent them. Thus, we do not know what the source of the next crisis will be, nor what specific form it will take. Because of the massive damage that financial crises can cause to the real economy, it is vital that regulators have the necessary flexibility to respond quickly to unexpected circumstances to mitigate and prevent damage. The actions taken during the crisis by the Federal Reserve and the FDIC were paradoxically both unpopular and, on the whole, highly successful. Further, the Federal Reserve had had this extraordinary authority available to it since the 1930s but had not used it to any significant degree for more than seventy years, until the financial crisis. In short, the authority was used judiciously as well as effectively. Dodd-Frank's restrictions on this authority are a clear loss for financial stability.

COSTLY TRADE-OFFS

Assessing Dodd-Frank beyond its clear wins and losses is more difficult. Certain provisions in the new law achieve some benefits, but likely at an even greater cost. Most prominent are the controversial Volcker Rule and the swaps push-out rule, otherwise known as the Lincoln Amendment.

The Volcker Rule

A popular narrative in recent years is that the repeal of key sections of the Banking Act of 1933, otherwise known as Glass-Steagall, contributed significantly to the crisis. The provisions in Glass-Steagall that separated commercial banking and securities activities were repealed in pieces during the 1980s and 1990s as part of an effort to modernize financial regulation, which resulted in the creation of large financial holding companies that included banks and other financial activities such as insurance companies and broker-dealers under a single roof. This allowed newly diversified banks to engage in proprietary trading. Opponents of these changes have argued that they

14. See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 111th Cong. Available at: www.gpo.gov/fdsys/pkg/PLAW-111publ203/html/PLAW-111publ203.htm; accessed July 11, 2016.

15. The Treasury has received more back than it disbursed to banks and to AIG. See the TARP Tracker, available at: https://www.treasury.gov/initiatives/financial-stability/reports/Pages/TARP-Tracker.aspx; accessed July 27, 2016.

set up potential conflicts of interest with banks' clients and increase moral hazard and reduce financial stability because these banks hold taxpayer-insured deposits and have the ability to access government liquidity through the Federal Reserve's discount window. Proponents have argued that diversified financial institutions are made safer by being able to rely on a wider range of revenue streams. There is merit in each of these arguments.

Whether or not repealing Glass-Steagall was good policy, there is little evidence that proprietary trading was a direct and major contributor to the most recent crisis. The problem was not trading per se, but the fact that financial institutions bought and held asset-backed securities for which the underlying risk was badly mispriced by the market as a whole. In effect, they purchased bad loans. Traditional banking involves taking deposits and using the funds to make loans to families or small and medium-sized businesses. This is something policymakers want banks to do in order to help people buy houses and companies create jobs, but such lending has always been risky. Individual loans are risky indeed and even a more diversified portfolio of loans can be risky in a local or a national downturn. For generations, bank failures have resulted from banks making bad loans and the recent crisis had much in common with this historical pattern, although the complex financial engineering made the problem bigger and more difficult to rectify than previous events. The Volcker Rule as written in Dodd-Frank bans proprietary trading by banks that is not done at the behest of their clients and it also limits banks' ownership of, and relationship to, "covered funds," which include hedge funds and private equity funds (Dodd-Frank Wall Street Reform and Consumer Protection Act, section 619). The rule's primary congressional sponsors, Senators Jeff Merkley (D-Ore.) and Carl Levin (D-Mich.) intended the rule to "put a strong firewall between banks and hedge fund–style high-risk trading" and thereby "change the culture and practices at our nation's largest financial firms, to prevent Wall Street and the big banks from making swing-for-the-fences bets that put depositors and taxpayers at risk" (Merkley and Levin 2013). The former Federal Reserve chairman Paul Volcker, for whom the rule is named, envisioned a simple, clear ban on proprietary trading (Stewart 2011). The rule that was finalized by five regulatory agencies is highly complex and includes exceptions for market-making and hedging activities. As BPC's report on the Volcker Rule and the Lincoln Amendment explained (Cox, Macey, and Nazareth 2013, 11):

> Judging the intent of a trade in real-world situations is not an easy task. For example, for the purposes of market-making, a financial institution may buy securities that it reasonably expects its clients will want to purchase. If market conditions change or the institution simply misjudges, those securities may go unsold for longer than expected, which could resemble proprietary trading. A trade that starts as a hedge may later look speculative as the result of other trades within a portfolio. Some trades are even made for more than one purpose at a time.

This is not to argue against nuanced oversight. Given that the Volcker Rule is the law, regulators should do what they can to get it right. That means taking an iterative, phased-in approach to gathering data, finding trading patterns, and identifying proprietary trading in a way that differentiates among different activities and asset classes. There are benefits to be achieved for financial stability if the Volcker regulations are properly implemented and regularly adjusted based on changing market conditions.

The question is how many of these benefits can be realized, and at what cost. A 2014 Office of the Comptroller of the Currency (OCC) study estimated that initial compliance would cost the banking industry $4.3 billion (Miedema 2014). If the cost and complexity of regulations end up limiting legitimate market-making and hedging activity, or force providers of such services from the market, it could raise prices and reduce liquidity to the extent of outweighing the benefits realized. The Volcker Rule only went into full effect in July 2015 and we do not know what its impact will be. When the Federal Reserve issued the draft version of the rule, some of the comment letters expressed concern that medium-sized enterprises would find it more costly or more difficult to issue new debt with the rule in place. The final Volcker regulations also require banks to divest themselves of existing assets such as collateralized loan obligations within a specified time period, as opposed to banning purchases of assets of this type and allowing ownership of existing assets to wind down over time, which creates the prospect of banks' being forced to sell at fire-sale prices. Perhaps acknowledging this problem, the Federal Reserve and other regulators have repeatedly granted one- and two-year extensions for these legacy assets, the most recent lasting until July 2017.

The Lincoln Amendment

Another provision in Dodd-Frank meant to separate securities and commercial banking activities was the swaps push-out rule, or Lincoln Amendment. Added by Senator Blanche Lincoln (D-Ariz.), the provision attempts to protect taxpayers from subsidizing trading activity, derivatives activity in particular, by prohibiting insured depository institutions with access to Federal Reserve liquidity facilities from engaging in certain derivatives trading activities.

However, prominent regulators such as Volcker and Sheila Bair, a former FDIC chairman, suggested that the goals of the push-out rule are already achieved by the Volcker Rule (Bair 2010; Volker 2010). In light of this, keeping the push-out rule in place adds additional cost for both regulators and industry without realizing additional benefits.

It is also unclear how implementation of the Lincoln Amendment would work in relation to the proposed SPOE resolution regime. If a holding company needs to recapitalize a troubled swaps dealer subsidiary that has been pushed out of the subsidiary bank, then the damage caused would appear to be the same whether the problems were inside or outside one specific subsidiary. Put another way, under an SPOE failure system, it is unclear what the benefit to taxpayers is of having separated the swaps dealer.

There were also concerns raised about how the implementation of this push-out would affect the unwinding of derivatives contracts in the event of failure. In October 2014, subsequent to passage of the Lincoln Amendment and as part of the financial regulators' work to improve the failure resolution regime, the ISDA announced that eighteen major global banks had agreed on a new "stay protocol" in which these banks waive their cross-default and early termination rights "to give regulators time to facilitate an orderly resolution" if one of the eighteen enters failure resolution (International Swaps and Derivatives Association 2014b). Whether these changes fully address the earlier concerns is not clear, but the changes were a step in the right direction.

Finally, it is important to note that for the Lincoln Amendment to achieve its goals, regulators would have to be willing to allow the pushed-out swaps dealer to fail, if it were in trouble, without any consequence to the insured depository institution. Early on in the last financial crisis, regulators faced a somewhat similar choice with regard to certain structured investment vehicles (SIVs). These SIVs were not swaps dealers, but were legally separate investment vehicles that some large financial institutions had created and sold investments in to some of their largest clients. When some of these SIVs got into early trouble, several financial firms took them onto their balance sheets or provided them with substantial financial support. These firms argued that doing so, with the approval of their regulator, was necessary to avoid reputational risk. The lesson is that even if something is considered "pushed-out" and "off the books" during good times, it may still be "pulled back in" during a crisis or panic.

The BPC proposed to indefinitely suspend implementation of the Lincoln Amendment pending implementation of the Volcker Rule. Since then, Congress has substantially changed the law, effectively rolling back large sections of the Lincoln Amendment as part of an omnibus spending bill. This legislation created considerable backlash, owing in part to substantive disagreements and in part to concerns about the process for adding the provision to this bill. However, Congress passed and the president signed the legislation, effectively ending the costly trade-off of the Lincoln Amendment.

Figure 4. Fragmented U.S. Regulatory Structure Prior to Dodd-Frank Act

Depository and Lending Activity	Federal Reserve	OCC	FDIC	OTS	State Banking Supervisors
Consumer Financial Products	Federal Reserve	OCC	FDIC	OTS	State Banking Supervisors
Securities and Bonds Products	SEC				
Derivatives Products Exchange Based	CFTC				
Derivatives Products Over-the-Counter Based					
Insurance Products	State Insurance Regulators				

Source: Neiman and Olson 2014, 49–50.

UNFINISHED BUSINESS

We put in a separate category areas where Dodd-Frank made progress but did not go far enough. Most prominent in this category of unfinished business is inadequate streamlining of the U.S. financial regulatory architecture and too little authority and independence for the new macro-prudential agencies that Dodd-Frank created.

Regulatory Consolidation

The high level of fragmentation and overlap found in the U.S. financial regulatory structure contributed to the financial crisis. A 2014 BPC report (Neiman and Olson 2014, 60–64) identified three prominent examples for which this was the case:

1. The lack of understanding of regulators of the risks associated with complex new financial products that undergirded the complicated system of mortgage originations and securitizations
2. The inability of regulators to exercise jurisdiction over derivatives markets due to congressional action
3. Ineffective oversight of thrift holding companies—such as AIG—that resulted from structural opportunities for regulatory arbitrage and capture, and ineffective coordination among federal regulatory agencies with overlapping jurisdictions

Since no single agency was responsible for taking an overall view of the financial system, in the years leading up to the crisis significant gaps developed and regulators did not see the broad risks that were building up in the system in the 2000s. A lack of common financial data standards was a related and substantial impediment to understanding market risk. Overlapping jurisdiction for both bank prudential and capital markets regulatory agencies created interagency friction, inefficient use of supervisory and regulatory resources, duplicative requests and compliance responsibilities for financial institutions, and opportunities for regulatory arbitrage as institutions had incentives to play off one agency against another under the threat of "charter shopping." The regulatory system as it was prior to Dodd-Frank is shown in figure 4, by activity and product.

Dodd-Frank made some progress in addressing the problem of overlapping jurisdictions. It created a new supercouncil of regulators, the FSOC, to keep an eye on risk in the financial system as a whole and to better coordinate among agencies. It also created the OFR to support the FSOC, develop common finan-

Figure 5. Somewhat Improved U.S. Regulatory Structure After Dodd-Frank Act

Depository and Lending Activity	Federal Reserve	OCC	FDIC	State Banking Supervisors
Consumer Financial Products	CFPB	State Banking Supervisors		
Securities and Bonds Products	SEC			
Derivatives Products Exchange Based	CFTC			
Derivatives Products Over-the-Counter Based	SEC	CFTC		
Insurance Products	State Insurance Regulators			

Source: Neiman and Olson 2014, 49–50.

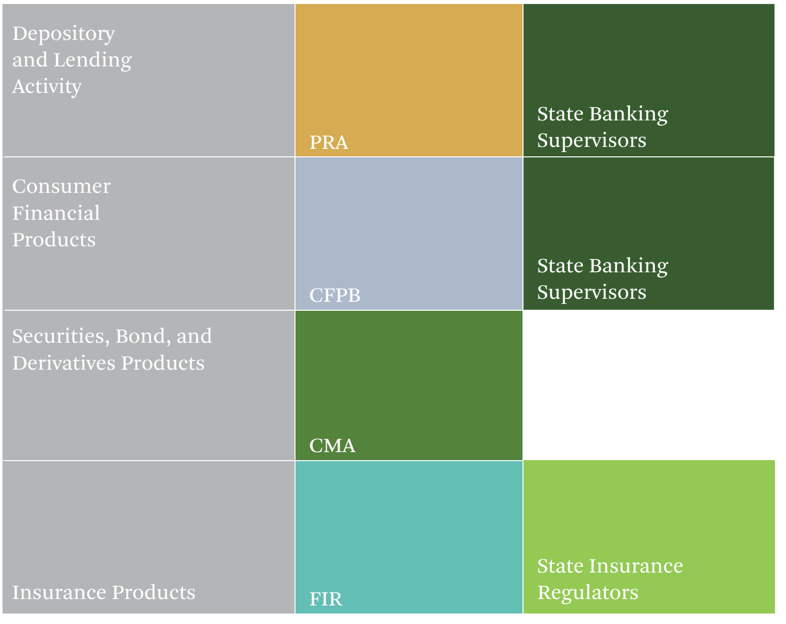
cial data standards, and analyze threats to financial stability. As detailed earlier, Dodd-Frank created the CFPB to consolidate federal oversight of consumer financial products in a single agency, and it closed a major gap by bringing derivatives products under the jurisdiction of the Commodity Futures Trading Commission (CFTC) and the SEC. The act also eliminated the Office of Thrift Supervision (OTS), which had been responsible for overseeing many of the financial institutions engaged in the riskiest practices prior to the crisis, and moved its previous responsibilities to several other agencies, particularly the OCC. These were all positive steps.

As after previous crises, however, Congress found it much easier to create new agencies than to consolidate existing ones. Figure 5 shows the progress that was made and also the overlap and fragmentation that remains. Jurisdictional issues in Congress prevented a merger of the CFTC and the SEC, something that has been recommended numerous times over the years. Prudential bank regulation is still divided among three federal agencies. And since there is no federal insurance charter or regulatory agency, insurance companies that are designated by the FSOC as systemically important are regulated by the Federal Reserve. To date three of the four companies designated by the FSOC have been insurance companies and it is not yet clear whether the Federal Reserve has the expertise and the proper framework to effectively regulate these institutions. Further, Dodd-Frank's attempt to improve coordination by assigning multiple agencies to jointly write rules and regulations has seen mixed results at best: many congressionally mandated deadlines have been missed and there has been friction between and among agencies.

There is no single "best" approach to financial regulatory architecture, but the current U.S. system remains more fragmented and less efficient than it should be. The BPC's 2014 report, "Dodd-Frank's Missed Opportunity: A Road Map for a More Effective Regulatory Architecture," made a series of recommendations to build on what Dodd-Frank began, including the following recommendations (Neiman and Olson 2014, 5–10):

- Create a consolidated examination force that would leverage resources, expertise, and knowledge from each of the prudential bank regulators and result in a single set of

Figure 6. Proposed Bipartisan Solution: Streamlining Regulation



Source: Neiman and Olson 2014, 49–50.

supervisory questions and a single examination report.

- Build on this exam force by eventually eliminating the OCC and vesting all bank and bank holding company supervision and regulation within a single Prudential Regulatory Authority (PRA).
- Merge the CFTC and the SEC into a single capital markets authority.
- Create a new federal insurance charter and Federal Insurance Regulator (FIR) to ensure that insurance companies, products, and practices are overseen by an entity that is expert in the business of insurance.
- Phase out the federal thrift charter in favor of a single, modern federal banking charter.
- Ensure that all independent financial regulatory agencies can rely on funding independent of congressional appropriations.

The BPC plan would result in a more streamlined structure, as shown in figure 6.

There will always be significant hurdles to such major changes, but policymakers should not wait until the next financial crisis proves once again that they are necessary.

The Financial Stability Oversight Council

As previously stated, Dodd-Frank took a positive step forward by creating the FSOC and the OFR as macro-prudential regulators. Such systemic oversight was a major gap in pre-crisis regulation, and the agencies were also assigned the jobs of plugging gaps in financial data and improving coordination among FSOC member agencies.

Congress, however, left the FSOC without the necessary authority to carry out all of its duties. The FSOC's major power is to designate nonbanks as SIFIs, thereby subjecting them to oversight by the Federal Reserve Board. This, though, is a binary power that does not allow federal regulators to exercise much oversight of nonbanks unless they are designated as SIFIs. In addition, the process is controversial, with particular friction around the FSOC's track record of assigning the SIFI designation to large insurance companies.

The lack of authority held by the FSOC is most evident in its inability to force cooperation among member agencies or to force an agency to change its behavior. The FSOC may make recommendations to its member agencies to address threats to financial stability, but it cannot compel them to act even if there is a supermajority vote of the full membership. Similarly, although it provides a valuable forum for member agencies to meet and discuss issues, the council does not have the authority to force improved coordination on activities such as joint rule writing.

BPC's Responding to Systematic Risk report recommended that the FSOC be given additional authority to address these issues (Dugan, Fisher, and Muckenfuss 2014, 48–52). The council would be able to issue regulations on its own when two or more agencies charged by Congress to jointly write such regulations fail to complete them within 180 days of the congressionally mandated deadline for doing so. In addition, the FSOC would have the authority to issue its own regulations when it finds them necessary to deal with a grave threat to financial stability.[16]

With power comes accountability. The FSOC has been criticized for its lack of openness despite having instituted a transparency policy in May 2014 (Financial Stability Oversight Council 2014). Bills have been introduced in Congress to allow members of boards and commissions represented on the council, members of Congress who sit on FSOC oversight committees, and FSOC member agency staff to be able to attend council meetings. Other legislation would subject the FSOC to the transparency and open-process provisions of the Government in the Sunshine Act, the Federal Advisory Committee Act, and the Administrative Procedures Act. Companies under review for possible SIFI designation believe that they should be better informed at all stages of that process and be given better and earlier opportunities to provide materials and feedback to the council, review the council's findings, and learn exactly what risks the council believes they pose to financial stability, which is a precursor to designation as a SIFI.

For the FSOC to be effective, it must have the trust of its stakeholders. A balance must be struck between public transparency and the council's ability to freely discuss sensitive issues and analyze proprietary information as part of the designation process and otherwise. The FSOC should augment its current transparency policy by releasing more detailed minutes of meetings, along the lines of the Federal Reserve's Federal Open Market Committee, which provides useful information and insights to the public through the release of its minutes subject to a three-week lag. The council would also be wise to improve its communication with companies under review for designation while continuing to protect confidential information. Notifying companies of their status in the designation process and allowing them to interact with council members at all stages would improve the process and lead to better outcomes. In February 2015, the FSOC addressed some of these suggestions in a series of amendments to its designation process (Financial Stability Oversight Council 2015).

The Office of Financial Research

Dodd-Frank created the OFR and charged it with supporting the FSOC, identifying potential sources of systemic risk, and improving the quality and standardization of financial data. An ideal OFR would be free enough of political constraints to "ring the alarm bell" about systemic threats it identifies, and would seize upon its data mission in order to close data gaps and improve the data used by all financial regulators. The new agency has contributed in several areas, but its progress overall has been disappointing. Although the OFR was set up as an office within the Treasury Department, it was given the ability to act much more independently than other Treasury offices, something the OCC has long done. The OFR has instead chosen to focus on supporting the

16. The recommendation in the PPC's report "Dodd-Frank's Missed Opportunity" would allow the FSOC to impose heightened standards and safeguards, while the recommendation in "Responding to Systemic Risk" would allow the council to issue its own regulations, but only when a member agency has failed to act.

FSOC and the Treasury, which limits its ability to be an independent voice, a tremendous missed opportunity. The agency would also gain short-term influence and long-term effectiveness by focusing a greater share of its energy on its data quality and standardization mission.

TOO SOON TO TELL

Earlier, we argued that increasing bank capital requirements is a clear win for Dodd-Frank and global financial reform. Increasing capital is not free, but it is worth the cost in the contribution it makes by improving the stability of individual institutions and the financial system as a whole. New prudential requirements, though, do not only affect the mandated level of Tier 1 capital at banks. Dodd-Frank, Basel, and work by the G-20 also specify requirements or standards for leverage ratios, additional capital buffers, stress testing, liquidity, and long-term debt holdings.

Leverage Ratio

Basel III includes a minimum leverage ratio—calculated as Tier 1 capital divided by total consolidated assets—of 3 percent. The ratio acts as a backstop to risk-weighted capital metrics by measuring assets without risk weighting. In September 2014, the Federal Reserve, the FDIC, and the OCC finalized a rule for an enhanced supplementary leverage ratio for banks with over $700 billion in assets (Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency 2014). The ratio is 5 percent for U.S.-based global systemically important bank holding companies and 6 percent for their insured banks. Below these levels, institutions will be subject to regulatory limitations on capital distributions and discretionary bonus payments.

Capital Buffers

Basel III includes provisions for a capital conservation buffer at 2.5 percent of risk-weighted assets. It is intended to augment Tier 1 capital by further building up capital buffers during healthy operating periods that can be drawn upon during stress events. A countercyclical capital buffer of between 0 and 2.5 percent of risk-weighted assets provides another buffer that is intended to vary, rising in periods when regulators are concerned that credit growth is excessive.

Stress Tests

Dodd-Frank requires annual stress tests for all bank SIFIs. Stress tests assess the ability of banks to weather extreme stress events and have become a central tool of Federal Reserve supervision since they were first used extensively in early 2009. They have proved valuable to both banks and regulators, but are also complex and costly. Further, flawed assumptions can cause stress tests to fail to predict important gaps and problems in the same way that flawed assumptions about risk can lead to inaccurate risk-weighting of assets.

Liquidity

Basel III instituted two new measures of liquidity: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). LCR dictates that banks must hold enough high-quality liquid assets (cash, excess reserves held at the Federal Reserve, and U.S. treasuries) to cover their cash needs for a scenario in which they would be unable to access capital markets for a thirty-day period. NSFR is intended to promote the use of more stable, longer-term sources of funding by requiring that a firm's stable funding (deposits, equity, and long-term wholesale funding) is greater than its weighted long-term assets.

Taken together, LCR and NSFR are intended to ensure that firms can meet their liquidity needs during stress events. There is some risk, though, in predicting future liquidity. U.S. treasuries are considered one of the safest and most liquid assets in the world and are included in LCR calculations for that reason. That assessment could change drastically if a future crisis were triggered by the U.S. government defaulting on its debt, something that was conceivable during the debt-ceiling crises of 2011 and 2013. Municipal debt provides another example. Because state and local governments rarely default, their debt is considered very safe. However, because much of their debt is held by retail investors and many municipalities have small issuances,

Figure 7. Basel III, Quantitative Impact

$$\uparrow \text{Capital ratio} = \frac{\text{Eligible capital} \downarrow}{\text{Risk-weighted assets} \uparrow}$$

$$\text{Leverage ratio} = \frac{\text{Tier 1 capital}}{\text{Total exposure}} \geq 3\%$$

$$\text{Liquidity coverage ratio} = \frac{\text{High-quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$$

$$\text{Net stable funding ratio} = \frac{\text{Available stable funding}}{\text{Required stable funding}} \geq 100\%$$

Source: Basel Committee on Banking Supervision 2012, slide 11.

they may not trade frequently. Often the securities that trade the most frequently, and hence are the most liquid, are those of the small number of troubled state or local governments. For example, three of the five and ten of the top seventeen most frequently traded municipal securities over a ninety-day period in late 2014 were issued by Puerto Rico, whose government continues to face serious potential default risk as of this writing.[17] If liquidity is not properly defined, it can skew demand for both safe and risky assets. Further, what is liquid one day can suddenly become illiquid in a crisis, such as happened with asset- and mortgage-backed securities during the most recent crisis.

Long-Term Unsecured Debt

In November 2015, the G-20 endorsed an FSB proposal for a framework for TLAC that goes beyond the minimum capital requirements in Basel III for the largest global banks (Klein and Ryan 2014). The FSB proposed a new global minimum standard of 16 to 20 percent of risk-weighted assets that each of these institutions would need to meet in TLAC, which would be a combination of equity and debt at the holding company level that can either be written down or converted to equity in the event of significant losses or failure.

It is not clear how these rules taken in combination (see figure 7) will affect financial stability, nor how they will affect the operations, lending decisions, and adjustments to asset holdings of banks. Getting the balance right will require proper weighting of risk, accurate prediction of liquidity, and global coordination, along with good judgment and flexibility on the part of regulators and market participants.

CONCLUSIONS

The analysis in this article leads us to a few overarching conclusions about the impact of financial reform and the state of the financial system today.

17. Date range October 20 to December 23, 2014; see Bondview.com, "Most Active Bonds," www.bondview.com/trends/most-active-bonds/sector/All%20Sectors/state/All%20States/min_yield/5/min_volume/0/start_date/10-20-2014/end_date/12-23-2014/taxable/all; accessed June 6, 2016.

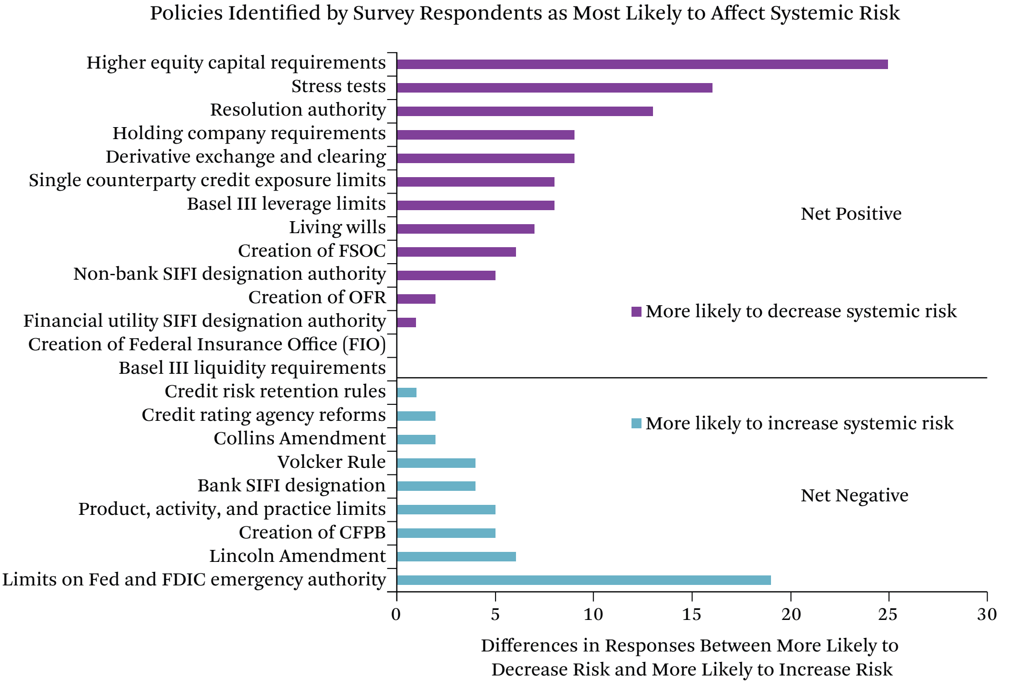
1. The financial sector is much safer today than before the crisis. Some provisions have been "clear wins" for Dodd-Frank. They have improved stability without seriously harming efficiency and economic growth. These provisions include higher capital requirements, the SPOE resolution approach, and the CFPB.
2. We are on the right path to ending "too-big-to-fail," thanks in large part to the SPOE strategy. The SPOE approach successfully minimizes uncertainty about which firms could expect to be rescued in case of financial distress. By offering clear procedures for resolving failed institutions, the SPOE strategy removes a major source of risk from the financial sector.
3. Consumers are better protected now. The CFPB has quickly increased the safeguards for consumers by taking steps to remove misleading financial products from the market place and crafting rules on qualified mortgages and money transfers. However, the agency can and should improve, particularly in the areas of supervision and interagency cooperation.
4. Financial stability must be balanced with economic growth. The system must be safe, but this should be achieved in a way that does not excessively constrain efficiency and economic growth. Policymakers must be careful to encourage financial stability without discouraging healthy economic activity.
5. Corrections and adjustments to Dodd-Frank would improve its performance. Although Dodd-Frank has been largely successful in stabilizing the financial sector, it still needs to be fine-tuned. Stronger efforts should be made in the areas of regulatory consolidation, FSOC authority, and OFR independence. The Volcker Rule requirements should be clarified for banks to make implementation easier and more efficient. The new limitations on Federal Reserve and FDIC crisis authority should be eliminated for the sake of financial stability. The subjectivity surrounding SPOE and firm expectations should be rectified and the tensions between living will requirements and the SPOE approach should be resolved. Finally, regulators should carefully monitor areas where it is "too soon to tell" what the effects of changes are, so they can react swiftly and appropriately to new developments.

APPENDIX

In 2013, the Bipartisan Policy Center conducted an informal survey of selected thought leaders with regulatory, industry, consumer advocacy, and academic backgrounds.[18] BPC asked them which provisions in Dodd-Frank were most likely to reduce or raise systemic risk. A summary of their responses is shown in figure A1.

18. Although the survey was sent to a broad range of respondents from varying backgrounds, it was not conducted using a random or scientific sample nor were its findings reweighted.

Figure A1. Results of BPC Survey Regarding Effectiveness of Dodd-Frank to Reduce Systemic Risk



Source: Dugan, Fisher, and Muckenfuss 2014.

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