REFORMING FINANCIAL REGULATION

AFTER DODD-FRANK

CHARLES W. CALOMIRIS

MANHATTAN INSTITUTE

REFORMING FINANCIAL REGULATION

AFTER DODD-FRANK

CHARLES W. CALOMIRIS

"*Reforming Financial Regulation After Dodd-Frank* is the very best analysis of the general problem of financial regulation and the 2008 financial collapse that has been written. Calomiris shows that much of the increased regulation will have little effect on failure risk. He also shows that more effective rules were available but not adopted."

—Allan H. Meltzer, Allan H. Meltzer Professor of Political Economy, Carnegie Mellon University, and author of *A History of the Federal Reserve*

"In this compact and timely monograph, Charles Calomiris identifies weaknesses in the post-2008 financial regulatory reforms, develops a core set of principles that should guide the design of the financial regulatory architecture, and makes detailed proposals about how to improve the current regulatory system and make it consistent with these principles. His characteristically lucid prose and trenchant analysis enable the reader to follow his logic every step of the way, to a set of carefully designed proposals that would enhance the effectiveness and reduce the compliance costs of financial regulation."

—Richard J. Herring, Jacob Safra Professor of International Banking, and codirector, Wharton Financial Institutions Center, the Wharton School, University of Pennsylvania

"Charles Calomiris's new book is an important set of ideas for reforming financial regulation. He rightly emphasizes three points about the regulatory wave since the crisis: it is ineffective to prevent another crisis, carries high cost to financial institutions and the economy, and departs from the rule of law. I urge policymakers to consider seriously his recommendations for remedying this situation."

—Hal S. Scott, Nomura Professor, Harvard Law School, director of the Committee on Capital Markets Regulation, and author of *Connectedness and Contagion*

"Calomiris is a thought leader on the relationship between governments and banking systems. With a sword in one hand and a scalpel in the other, he slices up the 2010 Dodd-Frank Act. Then he takes up hammer and chisel to inscribe ten new commandments of regulation as the basis for productive government–banking system interactions. This is a handbook for all of us working on the reform of Dodd-Frank's bureaucratic efflorescence."

—Alex J. Pollock, Distinguished Senior Fellow, R Street Institute, and former president and CEO, Federal Home Loan Bank of Chicago

"There were books about the Dodd-Frank Act when it was signed into law and innumerable academic articles about one or another provision, but it took Professor Charles Calomiris to sum up why Dodd-Frank has been a failure as a reform measure. *Reforming Financial Regulation After Dodd-Frank* should be on every desk in Congress and read carefully by anyone who is puzzled by the U.S. economy's failure to recover its customary vigor after the 2008 financial crisis."

—Peter J. Wallison, Arthur F. Burns Fellow in Financial Policy Studies, American Enterprise Institute, and author of *Hidden in Plain Sight*

"Charles Calomiris is an astute and experienced observer of financial markets and regulations. He has thought carefully and creatively about how to rethink our approach to regulating financial institutions. In this book, he offers a number of fundamental changes to existing legislation to make regulation more effective and more efficient."

—Charles Plosser, former president, Federal Reserve Bank of Philadelphia

CONTENTS

ABOUT THE MANHATTAN INSTITUTE

The Manhattan Institute for Policy Research develops and disseminates new ideas that foster greater economic choice and individual responsibility. Since 1977, the institute has helped change the United States and its cities for the better: welfare reform, tort reform, proactive policing, and supply-side tax policies are at the heart of MI's legacy. Today, the institute continues to develop new ways to advance its message in the battle of ideas.

The Manhattan Institute is a 501(c)(3) nonprofit organization. Contributions are tax-deductible to the fullest extent of the law.

ABOUT THE AUTHOR

Charles W. Calomiris is the Henry Kaufman Professor of Financial Institutions and Director of the Program for Financial Studies, Columbia Business School. He is also a research associate at the National Bureau of Economic Research, a book fellow at the Manhattan Institute, the principal investigator for the Manhattan Institute Project on the Costs and Benefits of Bank Regulation Since 2008, and codirector of the Hoover Institution Program on Regulation and the Rule of Law.

PREFACE

Post-2008 financial regulatory changes largely have been a failure. They have produced high compliance costs, while constructing regulatory mechanisms that are unlikely to achieve their intended objectives. Furthermore, financial regulation increasingly has adopted processes that are inconsistent with adherence to the rule of law, which not only threaten the fundamental norms on which our democracy is founded but also undermine the effectiveness of regulation. The combination of high costs, ineffective mechanisms, and inappropriate processes reflects a neglect of the core principles that underlie successful financial regulation. This study reviews the shortcomings of current regulatory practice, identifies the principles that should guide our regulatory architecture, and suggests reforms that are consistent with those principles.

I am grateful to Alex Pollock, Hal Scott, Peter Wallison, Jennifer Arlen, Howard Husock, Diana Furchtgott-Roth, and Nicole Gelinas for helpful comments. Bernadette Serton made many helpful editorial suggestions. I gratefully acknowledge the Manhattan Institute and the Smith Richardson Foundation's support for the Manhattan Institute Project on the Costs and Benefits of Bank Regulation Since 2008.

CHAPTER 1

INTRODUCTION

The financial crisis of 2007–2008 ushered in the most sweeping changes in financial regulations since the Great Depression. Unlike the changes wrought in 1932–1935, however—which remained in place for decades with little alteration—much of the post-2008 legislation is already a likely target for repeal or at least significant modification. Congressional Republicans, led by Chairman Jeb Hensarling of the House Financial Services Committee, drafted the Financial CHOICE Act in June 2016, a concrete set of specific proposals to eliminate or curtail many of the regulatory changes that were produced in the wake of the recent crisis. It is part of a broader platform of Republican reforms that Speaker Paul Ryan has dubbed "A Better Way." The sponsors of the 2016 Financial CHOICE Act write that "there has been a growing recognition that financial regulation has become far too complex and too intrusive and places too much faith in the discretion and wisdom of bank regulators."[1]

Republicans argue that regulatory policy changes have benefited large Wall Street banks by codifying their status as "too big to fail" while punishing small banks with a morass of new rules and compliance burdens. Small banks cannot absorb the fixed costs of regulatory compliance as easily and so suffer a disproportionate competitive burden with respect to those fixed costs. Critics point to practically no entry into the banking industry in recent years, the closing down of many small banks, persistently low market values of bank shares, and slow loan growth. A Harvard Kennedy School study published in 2015 finds that the "increasingly complex and uncoordinated regulatory system has created an uneven regulatory playing field that is accelerating consolidation for the wrong reasons," producing a declining market share for community banks.[2]

That study and other studies cited by the architects of the Financial CHOICE Act also show that regulatory changes are affecting banking consumers. Many Americans—especially low-income Americans—are finding it increasingly difficult to access banking services. For example, the share of banks offering free checking accounts fell from 75% prior to Dodd-Frank to 37% in 2015. Monthly service fees charged by banks have grown 111% over the same time, while the number of "unbanked" Americans has grown. Credit card interest rates are 2% higher, and the number of credit card accounts has fallen by 15%. A 2015 Goldman Sachs study on the consequences of financial regulation for small businesses also found major costs: "The tax from increased bank regulation falls disproportionately on the smaller businesses that have few alternative sources of finance. We see this in the muted recovery in bank lending to small businesses: outstanding commercial and industrial (C&I) loans for less than $1 million are still well below the peak 2008 level and are only 10% above the trough seen in 2012."[3]

Consolidation by small banks does not necessarily lessen their regulatory burden. Not only are large institutions subject to special rules (additional capital requirements and stress tests, to name only two), but even moderate-size ones incur increasing regulatory burdens. Bouwman and Johnson (2017a, 2017b) investigate the implied costs triggered by a bank's assets exceeding the $10 billion mark, and then $50 billion.[4] These thresholds invite substantial increases in regulatory oversight. Bouwman and Johnson find that banks go out of their way to avoid profitability growth and acquisition opportunities that would push them above those thresholds, implying significant costs from increased regulatory oversight for these midsize banks.

In this study, I consider the case for reform from two perspectives: (1) evidence of the shortcomings of important parts of the regulatory structure created after 2008; and (2) deeper problems in the thinking underlying postcrisis regulatory changes that made them unlikely to succeed. I aim not only to show how and why postcrisis regulations have largely been a flop but also to point to changes in regulatory philosophy that are needed to make future reforms a success. The overview provided here is far from a complete analysis of regulatory reform. It highlights some of the most important changes in the postcrisis regulatory framework. Chapter 2 reviews specific undesirable

or ineffectual aspects of post-2008 policies. Chapter 3 identifies the deeper problems in the philosophy of regulation that underlie those failures and derives several principles that should guide future reform. Chapter 4 lists and describes proposed reforms that adhere to those principles. Chapter 5 concludes.

CHAPTER 2

POST-2008 FINANCIAL REGULATORY CHANGES ARE LARGELY A FLOP

Successful financial regulation is directed primarily toward two sets of goals: prudence and consumer protection.[5] Prudential standards seek to ensure that the financial system is stable and resilient, and they should pursue those objectives without imposing unnecessary costs on financial institutions or market participants, which make the financial system less able to achieve its core missions (executing transactions, connecting sources of funding with users of funding, structuring portfolios to achieve efficient combinations of risk and return for consumers, and advising and assisting consumers and firms to manage their risks). The U.S. banking system remains an extremely important part of the financial sector, and regulatory design failures that hamper or destabilize banks have far-reaching consequences for employment and output fluctuations (Ajello 2016).

Prudential regulatory standards are needed because, in the absence of prudential requirements, the existence of government safety net protection incentivizes the protected to undertake excessive risks. Furthermore, the social losses from adverse outcomes that result from taking on high risk may be greater than the private losses incurred by the party choosing a high level of risk. For example, if the simultaneous failures of many banks that choose to bear correlated real estate lending risk reduce the supply of credit available to non–real estate borrowers throughout the financial system, then one can argue that limits on banks' exposures to real estate risk may be warranted to prevent sharp contractions in the aggregate supply of credit available to non–real estate borrowers.

Because financial products and services can be complicated and difficult to understand, some participants in the financial system may lack the information and training to be able to protect themselves against dishonest practices. Proper disclosure and suitability standards, licensing, and limits placed on the marketing of certain products and services help consumers make informed choices. Educating consumers about finance can make a world of difference for the benefits that consumers reap from their financial choices (Skimmyhorn 2016).

In the wake of the financial crisis of 2007–2008, there was clear evidence of the need to improve both prudential and consumer protection regulations. With respect to prudential regulation's inadequacy, the lax capital regulation of banks and the housing Government Sponsored Enterprises (GSEs), Fannie Mae and Freddie Mac, in particular, had encouraged high and correlated risk taking throughout the financial system. This was not an accident; rather, it was the outcome of political bargains that protected banks while favoring risky real estate lending. Weak prudential standards (very low minimum capital ratio and minimum cash ratio requirements, the absence of limits on the use of short-term debt to fund real estate investments, and the absence of limits on the proportion of banks' lending to real estate) were used, in combination with GSE mandates and Community Reinvestment Act requirements, as an invisible, off-budget means for the government to subsidize housing finance risk (Calomiris and Haber 2014, Chapters 7 and 8; Wallison 2015).

With respect to consumer protection prior to 2007, debased underwriting standards and changes in the design of mortgages encouraged borrowers to make promises that they could not keep. Mortgages with near-zero down payments became the norm during the 2000s. These mortgages also increasingly avoided documenting borrowers' income. Many low- and moderate-income people were encouraged by those debased mortgage underwriting standards to purchase homes that they could not afford. Mortgage products also became increasingly complex during the housing boom, involving exotic features that postponed or back-loaded interest payments, which may have further encouraged unsophisticated borrowers to buy homes that were beyond their reach, although research suggests that low down payments and lack of documentation were more serious than exotic contracting structures for explaining mortgage distress (Mayer

et al. 2009, Rajanet et al. 2015, Ambrose et al. 2016). Although the debasement of mortgage underwriting standards was justified at the time as a means of improving housing affordability for low-income and minority homeowners, those borrowers suffered the most from the housing bust that those debased standards produced (Bayer et al. 2016).

It would be impossible to summarize the thousands of pages of laws—and the thousands of regulatory changes required by those laws—in this study. Some changes focused on prudential concerns, some focused on consumer protection, and some addressed a combination of the two. Still others had no clear link to either prudential or consumer protection motives (e.g., the imposition of hiring quotas for women and minorities under Section 342 of the Dodd-Frank Act). In my analysis, I will discuss several of the most important aspects of the Dodd-Frank Act of 2010, the Credit Card Accountability, Responsibility, and Disclosure (CARD) Act of 2009, and other postcrisis regulatory policies. My focus, while selective, encompasses the major issues that have prompted academic and congressional criticisms of postcrisis policies.

QM and QRM Standards and GSE and FHA Regulation

Some new standards established in the Dodd-Frank Act arguably were designed both as consumer protection and prudential measures. For example, the Dodd-Frank Act required the development of new regulatory standards for mortgages. Lenders issuing "qualified mortgages" (QM) would be given a safe harbor from liability under the Truth-in-Lending Act as amended by Dodd-Frank. This was meant to discourage the origination of risky mortgages, as well as to inform consumers about low-risk mortgages (clearly defined by regulators). The QM standard would be set by the congressionally delegated Consumer Financial Protection Bureau (CFPB).

The "qualified residential mortgage" (QRM) was created as part of a broader rule on credit risk retention (also known as "skin in the game"). Dodd-Frank assigned the setting of this standard to six mortgage finance regulatory agencies.[6] Credit risk retention was intended to discourage mortgage securitizers from tricking investors by including opaquely risky mortgages in the asset pools that back securities issues. It requires the parties packaging asset-backed securities to retain "skin in the game"—that is, a sufficient, unhedged interest in the credit risk related to the securities'

underlying assets. Arguably, that could also benefit unsophisticated consumers by reducing the incentives for mortgage originators to offer excessively risky mortgages. Specifically, Section 941 of the Dodd-Frank Act required a 5% credit risk retention requirement, but delegated to the regulators the task of defining what constituted compliance. Furthermore, mortgages that fit the definition of a QRM were exempted from the 5% credit risk retention requirement.

Additionally, any mortgages bought by the Federal Housing Administration (FHA) or the housing GSEs were automatically considered QM- and QRM-compliant, no matter what their characteristics. The QM and QRM standards therefore created a huge opportunity for the FHA and the housing GSEs to dominate the mortgage market because only they could avoid the legal barriers and economic risks associated with purchasing mortgages that would not otherwise meet the QM or QRM standards.

As if the FHA/GSE exemption were not enough to neutralize any effect from the QM and QRM standards, the agencies tasked with setting these standards caved in to heavy lobbying pressures by the Coalition for Sensible Housing Policy, which consisted of housing industry, mortgage brokerage, and urban activist groups opposed to limiting mortgage risk. Gordon and Rosenthal (2016) document the process through which the debasement of the QM and QRM standards occurred:

> As rulemaking proceeded, the central policy issues boiled down to whether a down payment requirement would be included in the QRM standard and, to a lesser degree, the maximum debt-to-income ratios for borrowers. In the end, the regulators caved and aligned QRM with the more relaxed standards CFPB had crafted for QM—eliminating the down payment requirement altogether and raising the debt-to-income ratio maximum to 43 percent.

Dodd-Frank's U.S. House sponsor, Congressman Barney Frank, lamented the undoing of mortgage credit risk retention and quality standards through these exemptions, which he has described as "the loophole that ate the standard."[7]

Not only did Dodd-Frank fail to limit risky mortgage lending by the FHA or the GSEs; around the same time that the Coalition for Sensible Housing Policy was undermining the QM and QRM standards, President Obama was replacing the prudent and courageous outgoing head of the Federal Housing Finance Agency (FHFA), Edward DeMarco, with former Congressman Mel Watt. Immediately upon assuming authority, Watt reduced the down payment limit on GSE-eligible mortgages from 5% to 3%. The GSEs remain in conservatorship, and the combination of QM and QRM rules and exemptions, lax FHFA standards, and the government's funding of the GSEs and the FHA and VA ensures that government subsidization of housing finance risk—the central problem highlighted by the 2007–2008 crisis—will continue.

The continuation of the government's push for risky housing finance already has resulted in an escalation of mortgage risk.[8] For first-time buyers, combined loan-to-value ratios rose from 90.7% in February 2013 to 91.9% in January 2017, and the average debt-to-income ratios rose over that period from an average of 36.4% to 37.7%. As of the end of January 2017, 28% of first-time buyers had debt service-to-income ratios in excess of the QM limit of 43%, which is four percentage points higher than it was two years earlier. Fannie Mae, Freddie Mac, the FHA, and the VA hold riskier mortgage portfolios than banks, and they account for about 96% of purchased mortgage volume.

Capital Regulation: Doubling Down on Internal Models and Book Value Ratios

Sometimes "regulatory arbitrage" is so easy that bankers don't even have to lobby for dilution of the rules. Risk-based capital standards are the most obvious case in point. Bankers construct models of the riskiness of their loans and other assets. If the models say that risk is lower, then the bank is able to obtain a lower "risk-weight" and thereby reduce the amount of equity capital that it must maintain relative to its risky assets.

In principle, risk-weighting is not a bad idea; banks need to maintain a buffer of loss-absorbing equity capital that should be commensurate with the riskiness of their assets. But considering their obvious conflict of interest, banks should not play a significant role in the determination of risk-weights, as they continue to do under the

post-Dodd-Frank regulatory regime. Risk-weights should be derived from sources other than banks' own models of risk.

Many studies show that banks' self-defined risk-weights are not a good measure of true risk (Haldane 2012, 2013, Acharya et al. 2014, Herring 2016) because banks take advantage of their role as modelers of risk to understate it and thereby reduce their required levels of equity capital (Plosser and Santos 2016, Behn et al. 2016). Herring (2016, p. 19) shows that, as the sixteen largest global European and American banks expanded their asset-to-capital ratios from an average of about twenty to about thirty-two from 1994 to 2008, the measured risk-weights on their assets declined dramatically (from 70% to less than 40%). That drop permitted them to increase risk without having to expand their capital cushions commensurately. Risk-weight arbitrage produces capital inadequacy and makes the banking system vulnerable to loan losses.

There is another major problem with the current reliance on minimum capital ratios. Capital is expressed in terms of book values of equity relative to risk-weighted assets. But for two reasons, book values of equity are not reliable gauges of the true economic value of equity. First, bankers and regulators do not reliably recognize losses to loans that would cause book equity ratios to decline. This is known as "forbearance," which sounds noble but isn't. Politicians, regulators, and bankers generally can agree during recessions that pretending that losses have not happened is a useful lie: it allows banks to avoid having to shrink their risky assets, including loans, which at least temporarily props up credit.[9] But that is not a prudent risk-management strategy, and it generally results in a deeper and more lasting credit crunch—and, when the avoidance of loss recognition is no longer tenable, a recession.

Second, book equity omits influences that have important consequences for true equity value other than loan losses. The earnings of twenty-first-century banks are not driven mainly by interest earned on their tangible assets. Just as important for generating profit are fees of various kinds (such as fees for servicing securitizations, or for managing assets, or for underwriting securities) and interest savings related to intangible deposit relationships (which permit banks to pay depositors less than the cost they pay in wholesale debt markets). When holding deposits or earning fees from certain lines of business becomes

unprofitable, banks cannot immediately eliminate the drag on earnings associated with those branches or lines of business. Calomiris and Nissim (2014) show that the persistently low market-to-book equity ratios of U.S. banks since the crisis mainly reflect these intangible contributors to negative value at U.S. bank holding companies.

In other words, book equity values have been substantially overstating the true economic value of many banks in recent years. This, in combination with understated measures of risk, has made risk-based capital ratios a poor guide to the ratio of true capital relative to true risk. Consider Citicorp's path during the crisis. In December 2008, when Citi was effectively insolvent, the market's valuation of its equity correctly reflected its problems, resulting in a mere 2% ratio of the market value of equity to the market value of assets. But the bank's accounts showed a risk-based capital ratio of 11.8% and a risk-based Tier 1 capital ratio of about 7% (meant to include only high-quality, equity-like capital) (Calomiris and Herring 2013).

Dodd-Frank called for higher capital, but it did nothing specific to set meaningful capital standards or ensure sufficient capital amounts. While Dodd-Frank has led to a variety of measures that have significantly raised bank capital requirements postcrisis, the economic value of that capital is likely to disappear during the next crisis and won't be recognized as gone until it is too late. Note that the current required capital ratios are not higher than Citi's capital ratios in December 2008. In other words, postcrisis capital standards seem designed to make banks just as sound as Citi was in December 2008.

Recall what happened from 2006 to 2008. Supervisors of U.S. and European banks stood idly by while many of the largest banks in the world saw their market equity-to-asset ratios decline. This was not a precipitous change; it happened over a period of two and half years (see Figure 1 on p. 60, which traces the equity-to-asset ratios of U.S. bank holding companies that became distressed in 2008). For example, Citigroup's equity-to-assets ratio, measured in market value—the best single comprehensive measure of a bank's financial strength—fell fairly steadily, from about 13% in April 2006 to about 2% by the end of 2008. That low value likely reflected a zero or negative value of fundamental net worth because the 2% market value included the value of an expected bailout subsidy from taxpayers (Calomiris and Khan 2015).

The 2006–2008 value decline shown in Figure 1 could have been stopped if regulators had insisted that Citi, and other similarly situated bank holding companies, raise more equity in the market in 2006, 2007, and early 2008, in reaction to declines in bank stock prices. But because regulators were wedded to book values, they did not act. Ultimately, the decline in capital ratios produced a liquidity crisis, as increasingly bad news (with adverse implications for mortgage values and servicing income) led the market to continually discount the value of existing bank shares. The collapse of interbank credit and repo finance in September 2008, which defined the systemic crisis, was not an automatic consequence of Lehman Brothers' failure. Lehman's collapse was the match in a tinder box: Rising counterparty risk in the money markets reflected *regulatory tolerance of observable declines in market equity-to-asset ratios* of Citigroup and others.

Not only is the new regime of prudential capital standards unlikely to work as intended after the next major financial shock. The internal capital budgeting process of large banks is disrupted by many new minimum capital ratio concepts. Banks often do not know in advance which of the many capital ratio requirements will bind them. It may be the simple leverage requirement, as supplemented in 2013, binding them this quarter, or it may be the stress test's implicit and hard-to-observe requirement, or it may be one of the risk-based requirements. This uncertainty means that banks cannot be confident of how much activity their equity capital can support, which sometimes forces banks suddenly to shrink productive activities in order to comply with a newly binding requirement.

Macroprudential Regulation

Dodd-Frank created a new macroprudential mandate for the newly established Financial Stability Oversight Council (FSOC) and Office of Financial Research (OFR). The OFR is supposed to identify potential systemic risks, using its unprecedented access to the proprietary data of financial regulators and financial institutions, and inform the FSOC of emerging risks. The FSOC, chaired by the secretary of the Treasury, has a statutory duty to facilitate information sharing and regulatory coordination by the various financial regulators. It is also charged with responding to systemic risks—in particular, by recommending appropriate

strengthening in regulatory standards, and by designating, as appropriate, certain financial market utilities and nonbank financial institutions (or other firms) as systemically important (and therefore subject to new regulations). It is also empowered to break up any firms in the United States that it deems to be a "grave threat" to systemic stability.

Critics of the FSOC and the OFR have pointed to two primary problems in their structure and operation: procedural shortcomings and politicization. With respect to procedural shortcomings, at least one Securities and Exchange Commission (SEC) commissioner—Michael Piwowar—has complained publicly about being shut out of FSOC deliberations.[10] Commissioner Piwowar identified an important problem. The FSOC comprises the heads of the various financial regulatory agencies, all of whom are appointed by the administration and are members of the same political party. Unlike the SEC, the Commodity Futures Trading Commission (CFTC), the Federal Reserve Board (FRB), the Federal Deposit Insurance Corporation (FDIC), and others, the FSOC does not reflect the diversity that is required by statute in the other cases or is a function of staggered appointments over time. Furthermore, its deliberations remain largely secret.

Even worse, the FSOC has not established standards with which to designate firms as systemically risky or a "grave threat." An authority that can regulate anyone in the U.S. economy, as well as shut down any business, is worrying enough, but when that authority is exercised by members of one political party, acting in secret without any specified standards to guide them, its actions are outside the realm of what should occur in a democracy governed by the rule of law.

On December 18, 2014, MetLife was notified by the FSOC that it had been designated a nonbank Systemically Important Financial Institution (SIFI), which implied new regulatory burdens and risks. MetLife challenged the FSOC's decision in federal court, and on March 30, 2016, U.S. District Court Judge Rosemary Collyer ruled in MetLife's favor and rescinded its SIFI designation. The judge's opinion is interesting because central to the case are the shortcomings of the FSOC's procedures, thus opening a broader debate about the abuse of "guidance" by regulators.

In recent years, regulators—including financial regulators—have made increased use of such guidance in lieu of formal rule making.

Formal rule making must adhere to procedural standards for the consideration of comments and to the clear standards laid out in the Administrative Procedures Act. Guidance, in contrast, affords regulators much more flexibility. Regulatory guidance is not the result of comments and can be extremely vague, effectively allowing regulators to determine what violates compliance standards after the fact. This invites abuse of regulatory power (as I will discuss further below).

Judge Collyer's noteworthy opinion was one of the first attempts by a federal court to disallow the unlimited use of discretion in the administration of regulatory guidance. She did not disallow guidance, per se, but she rejected unlimited and inconsistent discretion as a regulatory tool, "[having found fundamental violations of established administrative law":

> During the designation process, two of FSOC's definitions were ignored or, at least, abandoned. Although an agency can change its statutory interpretation when it explains why, FSOC insists that it changed nothing. But clearly it did so. FSOC reversed itself on whether MetLife's vulnerability to financial distress would be considered and on what it means to threaten the financial stability of the United States. FSOC also focused exclusively on the presumed benefits of its designation and ignored the attendant costs, which is itself unreasonable under the teachings of Michigan v. Environmental Protection Agency, 135 S. Ct. 2699 (2015). While MetLife advances many other arguments against its designation, FSOC's unacknowledged departure from its guidance and express refusal to consider cost require the Court to rescind the Final Determination.[11]

In addition to the potential for abusive actions, there is also reason to be concerned about the FSOC's inaction. It may seem strange that the FSOC and the OFR have been largely silent about the mounting systemic risks in U.S. real estate, which many observers believe may be substantially overpriced. Indeed, it is not an exaggeration to say that the FSOC seems to be uninterested in the only legitimate systemic risk facing the U.S. economy today.

The unprecedented pandemic of financial system collapses over the last four decades around the world is largely a story of real estate booms and busts (Jordà et al. 2015, Calomiris 2017a). Real estate is central to systemic risk in many countries because of four facts: First, exposures to real estate risk inherently are highly correlated with one another and with the business cycle, which means that downturns in real estate markets can have large and sudden adverse implications for massive amounts of loans and securities backed by real estate.

Second, real estate assets are unique and generally cannot be liquidated quickly at their full long-term value, which can produce large losses to holders who are forced to sell real estate quickly. Those losses can further exacerbate financial losses and magnify systemic risk.

Third, over the past forty years, real estate—worldwide and especially in the United States—is increasingly funded by government-protected and government-regulated entities. That protection encourages the politicization of real estate funding (given the strong short-term political incentives to subsidize mortgage risk).

Fourth, throughout the world, a large amount of commercial and/or residential real estate investment is being funded increasingly within banks, which rely primarily on short-term debt for their funding. As we witnessed during the subprime crisis in the United States, real estate losses produced substantial liquidity risk (beginning in August 2007 in the asset-backed commercial paper market, and continuing through September 2008 in the repo and interbank deposits markets), which deepened the losses during the crisis and magnified the general contraction in credit that ensued. But this is not just a problem of large banks. The loan portfolios of small banks in the U.S. are also highly exposed to residential and commercial real estate risk, which, over the past two decades, averaged about three-quarters of total lending by small banks.

Many observers see large banks as the only source of systemic risk, but that mistaken view forgets that the U.S. has been the most financially unstable developed economy in the world for two centuries, despite the fact that large banks are a recent development (Calomiris and Haber 2014, Chapters 6 and 7). The 1980s banking crises were all about real estate losses incurred by small banks—not just in housing but also in commercial real estate, especially in the Southwest and the Northeast, and in agricultural real estate throughout the country.

It is not hard to see why the FSOC has been silent about the excessive exposure to real estate in the banking system, the increased risk taking by the GSEs and the FHA, the failure to reform the GSEs, and the increasing riskiness of mortgages over the past three years. Any discussion about these important systemic risks would be politically inconvenient.

Did anyone expect Jacob Lew, the Treasury secretary in the same administration that appointed Mel Watt, to criticize Watt's decisions to increase mortgage risk after his appointment as head of the FHFA? Given the political push for providing subsidies in the form of government-sponsored encouragement of systemic mortgage risk, the FSOC prefers to focus on "interconnectedness" in its modeling of systemic risk, rather than recognize the central importance of real estate finance in producing systemic shocks (Scott 2016, Calomiris 2017a).

And how would it look to identify small banks as sources of systemic risk? They are politically popular in Congress (where there is justified concern that regulatory burdens are putting many of them out of business). Builders and real estate agents also are popular with both political parties (Calomiris and Haber 2014, Chapters 7 and 8, Gordon and Rosenthal 2016), so no one is going to point toward them or small banks' real estate exposures as a problem. When I did so in congressional testimony (Calomiris 2015), I was attacked from both sides of the aisle for opposing the American dream. Of course, mortgage subsidies have little effect on housing affordability (currently at a long-term low in the U.S.) because they not only expand credit but prop up home prices. But honesty about housing markets is in short supply in Washington.

When I talk to economists at the OFR about the need for the FSOC to focus on real estate risks, it seems that people start looking at their shoes. I have found the economists at the OFR to be skilled and diligent, and I find much of the OFR's research output quite useful, but it has a bit of a blind spot when it comes to the risk-creating policies of the administration.

The originator of the idea of the OFR, Allan Mendelowitz, told me once that he had recommended locating it within the Department of Commerce (the home of the U.S. Census Bureau), to make it less susceptible to political influence than it would be from the Treasury Department. He was overruled by Dodd-Frank's architects. In my view,

the deeper problem is the FSOC. Even if the OFR were able to perform impartial analysis of systemic risk, the FSOC can decide to ignore or reinterpret politically inconvenient facts.

One example of fairly aggressive postcrisis macroprudential policy action is the imposition of "leveraged lending" limits on banks by the Fed, the OCC, and the FDIC in 2013. Leveraged loans often are originated by banks and sold to other institutional investors. They often have floating interest costs, and they face increasing default risk in a rising interest-rate environment. In its *2011 Annual Report*, the FSOC highlighted the risks from leveraged loans: "There have been some indicators that credit underwriting standards might have overly eased in certain products, such as leveraged loans, reflecting the dynamics of competition among arranging bankers."[12]

The same report noted that "little evidence exists that leverage is being employed on any significant scale in the funding of loans through repos or total-return swaps, suggesting that the potential for a rapid and disorderly deleveraging of this market is limited." Nevertheless, the regulators decided to limit bank involvement in leveraged loans as a systemic precaution.

In March 2013, the OCC, the Fed, and the FDIC issued guidance (not formal rules) on appropriate origination of leveraged lending, and subsequently issued further guidance in the form of "responses to frequently asked questions." Guidance "outlined minimum expectations on a wide range of topics," including "underwriting and valuation standards, pipeline management, risk ratings and problem credit management."

The "stated goal of the interagency was macroprudential: to ensure that federally regulated financial institutions conduct leveraged lending activities in a safe and sound manner so that these activities do not heighten risk in the banking system or the broader financial system through the origination and distribution of poorly underwritten and low-quality loans." (All quotations are from Kim et al. 2017.) In other words, the goal of this policy was to limit the *total financial system exposure* to leveraged loans, not to address risks adhering to particular leveraged loan originators.

The Kim et al. study describes the initial guidance as "lack[ing] specificity in some critical areas," including the definitions of leveraged

loans. As a result, leveraged lending by banks was little affected. But after guidance was clarified, large banks (which are supervised most closely) cut their leveraged lending substantially, but other banks didn't. Furthermore, in response to the contraction of leveraged loans by large banks, nonbanks increased their leverage loans, *entirely offsetting* the effect of reduced underwriting by large banks. In other words, the policy was an utter failure as a macroprudential initiative.

This finding illustrates a broader theme: Regulating banks and their affiliates can have a major unintended side effect, namely, boosting the relatively unregulated shadow banking sector. In the case of leveraged lending regulation, the regulations had no short-term effect and likely had a counterproductive long-run effect: reducing the market share of regulated institutions will complicate any future attempts at macroprudential regulation because the importance of regulatory institutions has been lessened.

It is also noteworthy that macroprudential concerns about leveraged lending, which gave rise to regulatory limits on banks' involvement in leveraged loans, probably were unwarranted. After all, systemic risks did not materialize despite the fact that the policy was ineffectual.

The Fed's Mortgage-Backed Securities (MBS) and Repo Conflicts of Interest

One of the most remarkable aspects of Dodd-Frank was the confidence it evinced in the Fed. The Office of Thrift Supervision (OTS) was abolished after the 2007–2008 crisis in response to its perceived incompetence.[13] But Dodd-Frank enhanced the supervisory and regulatory powers of the Fed (which was a primary regulator of several of the most deeply troubled banks, including Citi and Wachovia).

This was all the more remarkable when one considers that in March 2008, the U.S. Treasury circulated a "blueprint" explaining why it would be desirable to redesign the U.S. financial regulatory structure along functional lines. That change also would have reduced the conflicts of interest inherent in the exercising of monetary policy and regulatory authority by removing many supervisory and regulatory powers from the Fed (Calomiris 2006, 2013).[14] Under the blueprint, the Fed would continue playing a key role in examinations, with full access to information that might be useful to it in its capacity as lender of last

resort, but it would not play a central role in the rule setting or supervision of banks. The blueprint was put aside after the crisis, which largely reflected the skill of Fed advocates (especially Chairman Bernanke) in convincing Congress that the Fed was the most able and trustworthy party in which to vest many of the new regulatory powers created by Dodd-Frank.

Since the crisis, as the Fed's powers have grown, so have its conflicts of interest. In particular, monetary policy experimentation has involved the Fed as a direct participant in financial markets in unprecedented ways. As of February 22, 2017, the Fed holds $1.8 trillion in mortgage-backed securities on its balance sheet (which amounts to roughly one-sixth of the U.S. mortgage market), reflecting the Fed's new role in spurring the economy by subsidizing mortgage finance costs. It is noteworthy that this was not primarily the result of crisis support, but rather, of Fed purchases of mortgage-backed securities as part of its quantitative easing experiments. Many critics regard this as an inappropriate incursion into fiscal policy by the Fed. It also creates numerous conflicts of interest with respect to the Fed's role as a regulator of banks. As a holder of mortgage-backed securities, the Fed has an incentive to avoid actions that might increase mortgage interest rates, even if that would be desirable as a matter of monetary policy. This is true for two reasons. First, any accounting losses on its MBS portfolio would increase the Fed's contribution to the measured deficit, with obvious adverse political ramifications. Second, housing finance is a magnet for political interests, implying severe continuing pressures on the Fed not to sell its mortgage portfolio, even if failing to do so serves to prop up a destabilizing housing bubble.

Furthermore, the Fed now acts as a repo counterparty, and will do so increasingly over time. This new activity provides the Fed a means for avoiding the politically embarrassing recognition of capital losses that it would otherwise incur if it sold long-duration securities into the market as interest rates rise. Rather than sell securities from its portfolio to contract its balance sheet, the Fed engages in reverse repos, repeatedly lending those securities into the market until they mature and thus avoiding sale while effectively reducing its balance sheet size. The Fed's conflicts that arise from its role as a repo counterparty are severe and worrying.

Over the past several decades, repo has been an important alternative source of funding for lending in the U.S. economy, by both regulated banks and nonbank lenders. As Gorton and Muir (2016) emphasize, the massive expansion of the Fed's balance sheet over the past decade has withdrawn a large amount of low-risk collateral from the market, thereby making repo funding of loans and other financial transactions harder to arrange.

Furthermore, the Fed's imposition of the Supplementary Leverage Ratio (SLR) requirement has also reduced the supply of repo funding. This policy was announced in late 2012 and became effective in 2013. It includes the quantity of repos (and other items) in the regulatory measure of leverage. In effect, including repo in the SLR means that repo funding is more costly to banks that use it as a source of funding. Allahrakha et al. (2016) find that this new requirement significantly increased the cost of repo finance by regulated U.S. institutions.

As a repo counterparty, the Fed benefits financially from imposing the Supplementary Leverage Ratio, which reduces competitors' abilities to transact in repo. Might the Fed have taken into account its own financial benefits from being able to engage in reverse repo on more favorable terms when setting regulations for its competitors?

When the Fed began contemplating its reverse repo tool (as a means to avoid sales of securities), it was already cognizant that it might want to engage in a large amount of such transactions to avoid the political consequences of suffering losses on securities sales and thereby to avoid being perceived as contributing to government deficits. I do not claim to know whether the Fed's new SLR rule was motivated in part by a desire to improve its own competitive position in the repo market, but the coincidence in timing between the SLR rule and the Fed's entry into the repo market is disturbing, and there is no question that the Fed suffers a conflict of interest from being both a repo counterparty and a repo regulator.

Stress Tests

In 2009, the Federal Reserve conducted a stress test of U.S. banks, as part of the resolution of the financial crisis (the Supervisory Capital Assessment Program). Especially because Congress was prepared to inject government funds into any identified capital gaps that banks might

have been unable to fill on their own, that initial stress test was regarded as credible by the market (in sharp contrast to the analogous exercise undertaken later by the European Central Bank—see Acharya and Steffen 2014, Acharya and Seru 2015, and Goldstein 2015). Beginning in 2011, stress tests became a regular feature of the regulatory apparatus, and beginning in 2014, stress tests were a Dodd-Frank requirement for all banks with more than $10 billion in assets.

How much discipline do stress tests impose on risk management by large banks, and how much information do the outcomes of stress tests create about banks for the market? Stress tests have observable impacts on banks' risks. Specifically, being subjected to a stress test reduces the supply of lending (Acharya et al. 2016). Flannery et al. (2016) show that stress tests create significant information for the market about individual stress-tested bank holding companies and also about the overall state of the banking industry. Stress-test outcomes provide especially useful information about banks with greater leverage and higher risk.

In concert with reformed capital ratios, stress tests could be a promising means of encouraging bankers to think ahead—leading them to consider prospective risks that could cause sudden losses of value and prodding them to increase, as necessary, their capital buffers and improve their risk-management practices. As they are currently structured, however, stress tests violate basic principles of the rule of law to which all regulations should adhere.

Banks that fail stress tests are punished for falling short of standards that are never stated (either in advance or after the fact). This makes stress tests a source of uncertainty rather than a helpful guide against unanticipated risks. Fed officials have justified the lack of transparency and accountability in stress-testing because of the need to ensure that banks do not game the test, but this is not a reasonable argument. Changing economic circumstances imply that every year the scenarios that are relevant for stress-testing should change; therefore, scenario modeling should not be highly predictable on the basis of past years' tests.

Ex post disclosure of the tests combined with learning over time, changes in scenarios that track changing market circumstances, the use of multiple models designed by multiple teams of experts, and rotation of the people designing scenarios should provide adequate unpredictability about tests to prevent gaming of the test by bankers. There is

no legitimate justification for keeping the details of the methodology of stress-testing a secret after test results are released. That practice has some very undesirable features: it makes it impossible for market participants to learn what regulators regard as appropriate modeling techniques and assumptions, while insulating the regulators from any accountability for poor test design.

Regulators not only impose unstated quantitative standards for meeting stressed scenarios; they also retain the option of simply deciding that a bank should fail on the basis of a qualitative judgment unrelated even to their own secret model's criteria. It is hard to believe that the current structure of stress tests could occur in a country like the United States, which prizes the rule of law, the protection of property rights, and adherence to due process.

The penalties imposed as a consequence of failing a stress test are also objectionable. Failing a stress test does not just result in a bank's having to raise additional equity capital in the marketplace (which would be appropriate punishment for a bank's failing a well-designed stress test); regulators now control the dividend or repurchase decisions of stress-tested subjects and limit their dividend payments based on the outcomes of the stress test. These penalties have been extremely disruptive to the planning of banks that fail the tests.

Regulatory actions that limit dividends make sense for capital-impaired banks, but imposing such limits on a healthy institution in compliance with its regulatory requirements is an inappropriate incursion into the decision making of the board of directors and can endanger the economic value of the institution. Bankers must be able to operate their businesses flexibly and respond to market conditions in doing so. Dividend decisions are a fundamental aspect of corporate policy that should be left to the determination of the board of directors.

There is also reason to question whether stress tests are truly a state-of-the-art approach for measuring bank resiliency. The precise content of the Fed's stress-testing framework remains unknown (and thus unaccountable); but from what I have been able to gather, measurements of bank resilience seem prone to inaccuracy. A key shortcoming is that regulators suffer from "balance sheet fetishism"—scenarios' effects are measured primarily through their impact on the values of tangible assets, but the loss of value in banks tends often to

occur through lost intangibles, which the recent crisis showed are just as damaging to banks' health and their ability to continue to access markets (Calomiris and Nissim 2014).

Stress tests should model potential scenarios in which a bank would suffer a sudden, large loss of economic value, which might make it unable to roll over its short-term debts, thereby producing a steep decline in the supply of credit and other services to bank clients. But to model the potential *loss of economic value*, it's first necessary to model the *creation of value*. Value creation in contemporary, large banking institutions is largely related to lines of business that yield fee income and to the creation and maintenance of valuable customer relationships. To perform meaningful stress tests, one needs to begin, therefore, with reasonably accurate models of bank cash-flow generation by line of business.

But the Fed does not make use of managerial accounting information to analyze bank cash flows on a line-of-business basis. Nor does it use those cash flows to model how the values of different lines of business would respond to various shocks. Accomplishing this with reasonable accuracy would require the use of many years of managerial cash-flow data when constructing simulations of responses to shocks. For the Fed to rely, as it does, only on highly aggregated Y-9 or Y-14 financial accounts to model bank cash flows for such a consequential purpose as a stress test is tantamount to a doctor diagnosing medical conditions without the use of laboratory tests. Stress-testing could have a bright future but not until the regulators get much more serious about the quality of their data and the accountability of their analysis.

Liquidity Regulation

Liquidity requirements are another poorly implemented good idea. After the recent crisis, the Fed and other countries' bank regulators constituting the Basel Committee concluded that it would be useful to establish liquidity standards alongside capital standards in order to mitigate bank liquidity risk. It is noteworthy that these new Basel III liquidity requirements have not been explained by an economic framework that would justify them. The likely reason the Fed and other countries' regulators have avoided doing so is that the requirements are indefensible, either on the basis of logic or empirical evidence.

The regulations that have been imposed (specifically, the two distinct liquidity requirements) are improperly designed in three fundamental respects (Calomiris et al. 2016).

First, the standards implicitly assume that liquidity risk is independent of insolvency risk because the structure of liquidity requirements is independent of capital requirements or actual capital ratios. In fact, in the history of banking crises, there has almost never been a liquidity risk problem (the possibility of becoming unable to roll over one's debts) that did not result from an increase in insolvency risk. Second, the standards assume that liquidity regulation should focus on a complex measure of net liquidity risk (one that attaches weights to different assets and liabilities and that equates a dollar less of short-term debt with a dollar more of cash). That equivalence assumption has been discredited both in theory and in practice (Acharya et al. 2007, Calomiris 2012, Calomiris et al. 2016); contrary to the Basel and Fed focus on net liquidity risk, banks that hold more cash and more uninsured debt in equal amounts generally will suffer less liquidity risk than other banks. Third, the standards assume that the appropriate definition of liquid assets should be much broader than cash.

Because the Basel/Fed approach to liquidity regulation is not grounded in economic reasoning, it also runs afoul of liquidity-requirement theories that emphasize the special role of bank reserve holdings at the central bank. Reserve holdings are unique because of: (a) their riskless character, (b) the fact that their riskiness cannot be increased by the bank, and (c) the fact that they are observably held on a *continuous basis* (unlike liquid asset holdings not held at the central bank, which are subject to window dressing through the purchase and sale of those securities around balance sheet reporting dates). Because reserves also credibly boost the lower bound of the value of bank assets, they also can have important positive effects on bankers' incentives to manage risk (Calomiris et al. 2016). These attributes permit reserves to play a unique role in reducing insolvency and liquidity risks and maintaining market confidence. Of course, these are not new insights; they have been the basis for the special role of cash-reserve requirements for centuries in many countries.

I am not saying that there is only one correct theory of liquidity requirements. Rather, the liquidity requirements imposed today are

theoretically incoherent and inconsistent with the history of liquidity requirements and with relevant economic theory and empirical evidence.

Orderly Liquidation and Living Wills

During the 2007–2008 crisis, nonbanks such as Lehman Brothers, Bear Stearns, AIG, and Merrill Lynch faced significant risks of failure or actually failed. Because these institutions were not banks, they were not subject to FDIC seizure and liquidation procedures. Regulators lacked a means to resolve them speedily and cost-effectively. Furthermore, large, complex financial institutions often have thousands of affiliates and subsidiaries, operating around the world. The complexity and global reach of these various internal entities complicates the disposition of assets and liabilities in the event that a conservatorship or receivership is necessary.

To address those problems, Dodd-Frank created a new authority to seize and resolve troubled nonbank financial institutions that are SIFIs. Dodd-Frank also established so-called living wills for SIFIs to facilitate their winding down if they are in need of resolution. Living wills are intended to force large, complex SIFIs to construct realistic plans for their own disposition. The plans can be rejected by regulators as inadequate (and some plans have been rejected), which can serve as an incentive for financial institutions to simplify their structures to make their liquidation planning more credible.

These new tools were created to facilitate orderly resolution, thereby making taxpayer bailouts of too-big-to-fail nonbanks less likely. So far, it remains unclear whether living wills or Dodd-Frank's Title II provisions addressing the resolution of distressed nonbank institutions will succeed in facilitating orderly resolution and avoiding taxpayer bailouts, but there are many reasons to doubt that these measures will deliver. The FDIC has no experience winding down nonbanks, or large, complex bank holding companies, and its experience as a small-bank liquidator has not prepared it for liquidating SIFIs. Indeed, critics see Dodd-Frank's new resolution authority as making bailouts more likely by establishing a new process that specifies how bailouts of too-big-to-fail bank holding companies, as well as other SIFIs, would occur in lieu of an orderly winding down by the FDIC.

Clearly, there are many reasons to be skeptical of the new approach to orderly liquidation. First, even if the FDIC were sufficiently skilled in liquidating SIFIs, its ability to perform an orderly liquidation of an institution that is in severe violation of its prudential capital requirements depends upon the institution's losses not exceeding the total loss-absorbing capital (TLAC) that it maintains in its holding company. However, as discussed above, book capital can be a misleading gauge of true capital, and TLAC remains small compared to the potential risk of loss (Kupiec 2015). The FDIC may find that the liabilities of a troubled institution that are subject to "haircuts" in a liquidation far exceed the value of the distressed institution.

Furthermore, Kupiec and Wallison (2015) point to legal hurdles to the use of TLAC to recapitalize insolvent bank subsidiaries of bank holding companies. Under U.S. law, the Orderly Liquidation Authority (OLA) created by Dodd-Frank would not permit the FDIC to use bank holding company resources to recapitalize subsidiaries unless the failure of the subsidiary would put the parent in danger of default. The FDIC would have to adopt an alternative approach, including possibly separating the bank from its holding company so that it could be wound down alone. How this would be accomplished is highly uncertain, to say the least. As Kupiec and Wallison (2015, p. 184) write: "unless the Dodd-Frank Act is amended, OLA could well magnify and not reduce market instability in the next financial crisis."

Finally, even if the institution entering distress has economic value in excess of its liabilities, the FDIC will face a race against time to preserve that value and avoid the uncertainties of resolution. The distressed institution will have to be resolved very quickly or face immediate operational problems, owing to its likely inability to roll over existing short-term contracts in highly risk-intolerant markets for interbank debt, commercial paper, and repo. And talented personnel, who are the source of much of the intangible value of the institution, will not wait to look for another job until a protracted resolution can be arranged. If a large financial institution faces financial distress due to an inability to roll over its debts and if a mass exit of its staff threatens to destroy its economic value, government officials may see a bailout as the only means of avoiding extreme losses from liquidation and a risky disruption to the financial system.

Bliss and Edwards (2016), among many others cited therein, review the numerous challenges of orderly resolution and show why it is far from clear that the FDIC will be able to perform an orderly liquidation. For example, if the past is a guide to what to expect, it is quite possible that many SIFI failures will occur at the same time, crowding the courts with complex cases and complicating the task of finding healthy buyers to purchase liquidated assets, much less liquidating the whole firm. International legal jurisdictional complications are likely to arise, making it difficult for the FDIC to exert speedy control over all the assets. The process of liquidating assets may disrupt credit relationships and lead to worries by politicians about short-term impacts on economic activity.

If TLAC proves inadequate, or if speedy resolution is infeasible or considered undesirable by politicians, it is likely that government officials will find that the path of least resistance is to use the new authority codified by Title II of Dodd-Frank to bail out a failing SIFI. Dodd-Frank requires that, if this happens, surviving financial institutions will be assessed a special tax to pay the cost of the bailout. The ultimate costs of that tax incurred to fund the bailout, of course, will be borne by bank customers and stockholders.

The Volcker Rule

Dodd-Frank's Volcker Rule, prohibiting proprietary trading within banks or bank holding companies, has always been a solution in search of a problem. Even its sponsor, former Fed chairman Paul Volcker, could not point to proprietary trading as a cause of the 2007–2008 crisis. He advocated the rule simply because he had long believed that bank holding companies should avoid involvement in securities markets.

That is not a judgment shared by the academic literature or supported by evidence of which I am aware. Studies find substantial benefits of diversification and operational/information synergies from allowing bank holding companies to lend and underwrite securities (Hughes and Mester 2013, Calomiris and Pornrojnangkool 2009). They also enjoy unique abilities to act as intermediaries in over-the-counter (OTC) markets. Large global universal banks (including U.S. bank holding companies) operate at unparalleled scale and have client relationships all over the world. They are uniquely positioned to perform

OTC market making (largely a process of matching buyers and sellers based on detailed knowledge of the participants in the market) because of the economies of scale in managing securities inventories that result from the pooling of order flow and their private information about which clients are holding what securities.

As it was implemented by regulators, the Volcker Rule permits securities transacting in bank holding companies so long as they can show that it arises from their market-making function and not speculation. This requires banks to maintain detailed records of bank-client interactions to prove that they are acting on behalf of a client or serving their function as a market maker when engaging in a trade (for example, maintaining liquidity in OTC markets for debt, foreign exchange, or other instruments) rather than engaging in proprietary trading. It can be hard to prove the motives of a banker engaging in a transaction without showing supervisors a great deal of information about the trading's context. Consequentially, the Volcker Rule has led to the production and storage of a mountain of paperwork by bankers who wish to continue making OTC markets and serving clients' needs.

Non-Risk-Based Prudential Standards and OTC Debt Market Illiquidity

Recently, there has been a contraction in banks' OTC securities inventories. While the Volcker Rule is often blamed for reducing the profitability of market making and thereby decreasing the benefits of holding inventories, traders and senior bank managers with whom I have spoken generally blame capital ratio and liquidity requirements more than the Volcker Rule for the decline in their OTC debt inventories.

The reason is that simple (non-risk-weighted) capital ratio requirements and liquidity requirements affect the costs of holding all bank assets, regardless of their risk. Such requirements represent a particular burden for holding low-risk assets because for those assets, the costs of complying with non-risk-based minimum prudential requirements often are greater than the benefits to the bank from holding and trading them (which are generally low because of their low risk). Because non-risk-based capital and liquidity requirements often are binding on banks' capital budgeting decisions, increasing one's inventory of investment-grade bonds may require just as much equity capital and cash

holdings as investing in a very risky loan. It is economically costly for banks to raise equity capital or to hold cash (cash assets entail an opportunity cost; raising equity funding creates a variety of costs, as discussed in Aiyar et al. 2015), and so banks that are subject to non-risk-based cash and capital requirements face strong incentives to economize on inventories of low-risk debt.

The social cost of discouraging banks' involvement in OTC markets is not only the losses suffered by the banks that forgo this business. Because market makers ensure the orderly operation of the OTC markets, suboptimal levels of inventories translate into excessive market volatility and high trading costs. Although the recent market environment has exhibited limited volatility, many market participants believe that as Fed interest-rate increases raise volatility in corporate debt markets, the costs of reduced inventories will become apparent.

The Durbin Amendment

The Durbin Amendment to Dodd-Frank regulates interchange fees for debit card transactions and was one of Dodd-Frank's most hotly contested consumer protection regulations. In keeping with the Durbin Amendment, on October 1, 2011, regulations went into effect capping certain fees associated with debit card transactions for banks with over $10 billion in assets. Interchange fees are paid by a merchant's bank to the cardholder's bank for each debit card transaction. Reg II capped interchange fees for certain debit card issuers at 21 cents plus 0.05% of the transaction value, which was well below the average of 44 cents per transaction in 2009 (Kay et al. 2016).

The Durbin Amendment attempts to help merchants and consumers by reducing the amount that large banks earn on debit transactions, a fast-growing part of the payments system. Kay et al. (2016) find that the Durbin Amendment reduced interchange income for large banks by about 28% (a total dollar loss of about $4.1 billion). They find, however, that the banks subject to this loss of interchange income increased their deposit account fees by about $4 billion and display no other consequences in their operations or expenses. In other words, banks subject to the Durbin Amendment cap were able to completely offset its costs through other revenue sources. The findings of Kay et al. (2016) are consistent with a theoretical model in which banks compete for customers, and customers'

decisions on which banks to use depend on the total fees charged. It appears that the Durbin Amendment accomplishes nothing except perhaps to require some bank customers inefficiently to cross-subsidize the transactions of others (i.e., those who rely disproportionately on checks rather than debit cards to transfer funds suffer a new cost).

How the CARD Act Reduced Credit Card Lending

The CARD Act of 2009 restricted disclosure, pricing, and risk-management practices by issuers as a means of protecting consumers from practices that Congress deemed unfair. Prior to the 2007–2008 crisis, the credit card industry had been experiencing rapid growth, especially among individuals with risky credit scores. As of 2001, about seven out of ten individuals in the bottom quartile of credit scores held bank credit cards (Canner and Elliehausen 2013). That growth by bank card issuers reflected the development and adoption of risk-based pricing, which raised issuer revenue to compensate for expected loss and discouraged risk-increasing behavior by risky borrowers (Furletti 2003).

Among the requirements introduced by the CARD Act were restrictions on risk pricing and the imposition of fees for late payment and exceeding credit limits. "These restrictions prompted credit card companies to raise prices, reduce credit limits, and limit availability of credit card credit to riskier individuals" (Elliehausen and Hannon 2016). By 2010, after the CARD Act had become effective, the proportion of consumers in the bottom quartile of the credit bureau scores that held credit cards had fallen from 70% to 50% (Canner and Elliehausen 2013). "The CARD Act's restrictions . . . weakened tools that helped credit card companies extend credit to riskier customers" (Elliehausen and Hannon 2016).

In response to risk pricing restrictions, banks that were subject to the CARD Act became uncompetitive for high-risk credit card borrowers. Risky customers migrated from the credit card sector to finance companies that could serve their needs without facing the restrictions of the CARD Act. In other words, the main accomplishment of the CARD Act seems to have been growing the shadow banking system's share of consumer credit to high-risk consumers.[15]

Research by Elliehausen and Hannon (2016) supports that conclusion. They analyze changes in credit card and finance company

borrowers across different periods and across different states (with different state-level laws regarding interest limits on finance-company loans). The cross-state differences provide helpful identification of causal influences. In particular, the authors find that the CARD Act's effect in encouraging nonprime consumers to migrate from credit cards to finance-company loans is greater in states with higher rate ceilings on finance-company loans.

Operation Choke Point

Imagine that you are operating a legal business and you get a call from your banker explaining that she can no longer provide services to you. Your accounts at the bank must be closed immediately, despite the fact that your business is thriving and you have done nothing unlawful. When you call another banker to try to open an account, he turns you down, too. The bankers all tell you the same story: bank regulators have told them that they should not serve you, and they must obey or will face significant regulatory penalties. Welcome to the Obama administration's main post-Dodd-Frank contribution to financial regulation, known as "Operation Choke Point."

Alongside a Justice Department litigation initiative that began in 2011, the FDIC warned banks of heightened risks from doing business with certain merchants. Purveyors of "pornography" or "racist materials" enjoy First Amendment rights but not the right to a bank account. Gun and ammunition dealers were also targeted, despite Americans' Second Amendment rights to own and bear arms. Firms selling tobacco or lottery tickets were persona non grata, too. In 2012, the FDIC explained that having the wrong kinds of "risky" clients can produce "unsatisfactory Community Reinvestment Act ratings, compliance rating downgrades, restitution to consumers, and the pursuit of civil money penalties." A total of thirty undesirable merchant categories were deemed to be "high-risk" activities. Other regulatory guidelines pointed to difficulties that banks with high "reputation risk" could have in consummating acquisitions.[16]

Payday lenders were one of the targeted industries, based on the prejudice that they prey on the poor. A report by the House Committee on Oversight and Government Reform (2014) unearthed internal FDIC e-mails voicing intent to "take action against banks that facilitate

payday lending" and "find a way to stop our banks from facilitating payday lending," which highlighted the FDIC's use of memoranda of understanding with banks and consent orders to implement its campaign against payday lending. The report concluded that "senior policymakers in FDIC headquarters oppose payday lending on personal grounds" and that the FDIC's campaign against payday lenders reflected "emotional intensity" and "personal moral judgments" rather than legitimate safety and soundness concerns and was "entirely outside of FDIC's mandate."

The inspector general of the FDIC issued a report substantiating those judgments.[17] It found that FDIC staff had been working with the Department of Justice to identify banks' relationships with payday lenders. Contrary to the FDIC's financial interests and duties, this served to make litigation risk from the Department of Justice greater for banks with payday lending relationships.[18]

There is a comical aspect to regulators using invented risk measures to punish banks. Banks are in the business of gauging risk and have the ability and incentive to avoid customer relationships that truly expose them to high reputational risk. Regulators, in contrast, have shown themselves unskilled or unwilling to acknowledge risk—most obviously, housing finance risks leading up to the subprime crisis—and, as noted above, that problem persists. Obviously, regulators have little to teach banks about risk in general, or about reputational risk in particular. Operation Choke Point is not grounded in regulators' expertise—just their willingness to harass bank clients whose activities they dislike.

Some observers may agree with Obama's list of disfavored industries. But now that Trump has taken office, will they agree with his list? Do we want our regulatory system to be a tool for attacking those that the president dislikes? If not, it's worth asking why the political abuse of regulation has become easier than in the past, and what can be done to stop it.

There was never legislation defining the thirty industries as undesirable, nor did regulators establish rules to set clear standards for what constituted undesirable behavior by a bank's client, or announce penalties for banks serving undesirables. Such legislation or formal rule making likely would have been defeated, owing to the checks and balances inherent in congressional debate or formal rule making under the Administrative Procedures Act. Instead, regulators relied

on guidance—which requires no rule making, solicits no comments, entails no hearings, avoids defining violations, specifies no procedures for ascertaining violations, and defines no penalties that will be applied for failure to heed the guidance.

Communications between regulators and banks are private; banks often aren't permitted to share them with outsiders. Regulators avoid public statements explicitly requiring banks to terminate undesirables but privately threaten banks with an array of instruments of torture that would have made Galileo faint, using secrecy to avoid accountability.

As DeMuth (2014), Epstein (2014), Hamburger (2014), and Baude (2016) have documented, and as several examples discussed above illustrate (including SIFI designation by the FSOC, Fed stress testing, the Volcker Rule, and living will enforcement), there has been a dramatic increase in reliance on guidance and discretion by regulators in recent years. Financial regulators can find it particularly useful to rely on vaguely worded guidance and the veil of secrecy to maximize discretionary power, although doing so imposes unpredictable and discriminatory costs on banks and their customers.

The regulators' campaign against payday lenders produced a wave of bank relationship terminations since 2013, with dire consequences for the payday lending industry. Not only were payday lenders victimized; the reduced competition imposed significant costs on consumers. A large—and very one-sided—academic literature convincingly shows that payday lenders serve customers' interests and perform competitively (see Appendix A of Calomiris 2017b). Their presence reduces borrowing costs for customers. If the prejudiced views of bureaucrats about payday lending had been scrutinized through public hearings, their jaundiced portrayals of the industry would have been disproved. But employing guidance when setting standards protects one's prejudices from public airing. Once the government and its regulators decided to strip the payday lending industry of its ability to transact with banks, their view that payday lenders were "risky" became self-fulfilling.

Payday lenders are now suing bank regulators for the harm they have suffered (a lawsuit in which I have filed a report on plaintiffs' behalf—Calomiris 2017b). In that lawsuit, there is more at stake than the fate of payday lenders or their customers. Regulators' reliance on vague guidance and discretionary judgments about ill-defined violations

under a veil of secrecy constitute a major departure from the rule of law, with far-ranging adverse consequences for our economy, our political institutions, and our society.

CFPB Structure, Process, and Policies

Barney Frank has said that he regards the creation of the Consumer Financial Protection Bureau (CFPB) as the greatest achievement of the Dodd-Frank Act.[19] But the CFPB's policies, structure, and process have made it a lightning rod for controversy. With respect to its structure and process, the CFPB was given a unique position within the government. Its budget is derived from the Federal Reserve System's surplus before it is transferred to the Treasury, making it impervious to congressional limitation. Its mandate is extremely broad. And unlike other regulatory authorities (such as the Securities and Exchange Commission), it is run by an individual director rather than a bipartisan panel. In October 2016, a three-judge panel of the U.S. Court of Appeals for the District of Columbia found not only that the CFPB was incorrect in its interpretation of the law it used to justify the imposition of a $109 million penalty, but that the CFPB "violated bedrock due process principles." Its structure was unconstitutional, the court said, because the CFPB had "more unilateral authority than any other officer in any of the three branches of the U.S. government, other than the president" and that consequently, the CFPB "possesses enormous power over American business, American consumers and the overall U.S. economy." The court permitted the CFPB to continue operating but ordered its restructuring as part of the executive branch. Notably, if the court's ruling stands, its director will now be subject to dismissal by the president without cause. The CFPB's appeal is currently pending before the full circuit court.

With respect to its policies, the CFPB has aggressively promoted unprecedented interpretations of consumer protection regulation. Perhaps its most controversial decision was the use of "disparate impact" theory to gauge discrimination against minorities. According to this theory, if one group of people (identified on the basis of racial or ethnic identity) experiences different average *outcomes* (different approval/denial rates or different terms for lending), that disparate impact constitutes evidence of illegal discrimination—even in the absence of any evidence of differences in *treatment* by a lender on the basis of race or

ethnicity. Furthermore, the CFPB's (2014) race and ethnicity data were derived not from actual knowledge of individuals' race and ethnicity but rather from "a Bayesian Improved Surname Geocoding (BISG) proxy method, which combines geography- and surname-based information into a single proxy probability for race and ethnicity." In other words, penalty for discrimination is based on forecasted probabilistic racial or ethnic identities, not actual ones.

The report on the CFPB's practices by the U.S. House Committee on Financial Services (2015) found that it had knowingly failed to control for influences other than discrimination that cause differences in outcomes. Its actions, the report found, were inconsistent with congressional intent in creating the CFPB, with the law (which specifically exempted certain automobile financing from CFPB authority), and with Supreme Court definitions of what constitutes discrimination. It also found that its racial and ethnic forecasting method was unreliable. The executive summary of the report is a scathing indictment of CFPB practices:

> Since at least February 2012, the Bureau of Consumer Financial Protection (Bureau), and in particular its Office of Fair Lending and Equal Opportunity, has engaged in an aggressive effort to enforce the Equal Credit Opportunity Act (ECOA) against vehicle finance companies using a controversial theory of liability known as disparate impact. In doing so, it has attempted to implement a "global solution" that enlists these companies in an effort to alter the compensation of automobile dealers, over which the Bureau has no legal authority. As internal documents obtained by the Financial Services Committee and accompanying this report reveal, the Bureau's ECOA enforcement actions have been misguided and deceptive. The Bureau ignores, for instance, the lack of congressional intent to provide for disparate impact liability under ECOA, just as it ignores the fact that indirect auto finance companies are not always subject to ECOA and have a strong business justification defense. In addition, memoranda reveal that

> senior Bureau officials understood and advised Director Richard Cordray on the weakness of their legal theory, including: (1) that the practice the Bureau publicly maintained caused discrimination—allowing auto dealers to charge retail interest rates to customers—may not even be recognized as actionable by the Supreme Court; (2) that it knew that the controversial statistical method the Bureau employed to measure racial disparities is less accurate than other available methods and prone to significant error, including that for every 100 African-American applicants in a data set for which race was known, the Bureau's proxy method could only identify roughly 19 of them as African-Americans; and (3) that the Bureau knew that factors other than discrimination were causing the racial disparities it observed, but refused to control for such factors in its statistical analysis. Notwithstanding the weakness of its case, the Bureau pursued its radical enforcement strategy using "unfair, abusive, and deceptive" tactics of its own, including by making an example of a company over which it had significant political leverage and concealing other aspects of its efforts from public scrutiny. The purpose of this report is to provide the public with a better understanding of the Bureau's activities.

The CFPB, in effect, attempted to create and enforce a new theory of discrimination, one that appears to be inconsistent with economic evidence about the causes of disparate impact and one that is contrary to statutory language and Supreme Court opinions about what constitutes illegal discrimination. There is probably a connection between the unconstitutional structure and process that created the CFPB, which insulated its imperious director from any budgetary or administrative discipline and its abuse of power. The broad lesson—which applies to the regulatory abuses of guidance in general—is that financial regulatory power is easily politicized and abused when it is not required to adhere to statutory authority, or at least to a formal rule-making process.

CHAPTER 3.

PRINCIPLES TO GUIDE REFORMS

As we consider ways to correct recent regulatory errors, we should begin by recognizing that good intentions, the creation of new powers, and the establishment of mandates directed at particular goals do not necessarily produce effective policy. The shortcomings of post-2008 policies reflect their failure to adhere to principles that should guide effective reform. Here I identify ten key principles (listed in Table 1 on p. 61) and show that adhering to them would have prevented the policy errors reviewed in Chapter 2. These ten principles provide the grounding for the specific reform proposals that follow in Chapter 4.

1. **Financial regulation should focus exclusively on bona fide objectives that relate to the performance of the financial sector, grounded in core economic concepts of externalities and information costs and supported by evidence that shows that the costs of regulations are justified by demonstrable benefits.** Regulation should not be used as a means of off-budget fiscal policy or a means to achieve political objectives in disguise. The willingness to abuse the regulatory process to achieve objectives unrelated to prudence or consumer protection underlies some of the worst errors in recent regulatory practice. Those include Project Choke Point, CFPB discrimination accusations, and the debasement of mortgage underwriting standards. Ironically, the subprime crisis, which provided the motivation for much recent regulation, was itself partly a consequence of a similar abuse of regulation: The key elements were the imposition of GSE affordable housing mandates, beginning in 1992, and Federal Reserve Board complicity in boosting the size of banks' CRA commitments to urban activist groups by linking

merger approvals to the size of a bank's CRA commitment during the 1990s and 2000s, as described in Calomiris and Haber (2014), Chapters 7–8, and Wallison (2015). Costly regulations should not be adopted based on ideological preferences without evidence, as was the case in the advocacy for the Volcker Rule and in Operation Choke Point's targeting of payday lending.

2. **We must restore the role of laws and formal rule making in financial regulation and end the reliance on guidance as well as the excessive delegation of discretionary authority to politicized actors, such as the FSOC and the CFPB.** Guidance or excessive delegation, combined with regulatory discretion and secrecy, empowers prejudiced thinking, produces abuse of regulators' and supervisors' power, decreases predictability and impartiality of regulation, and erodes the rule of law. Prominent examples include Fed stress-testing, the FSOC's SIFI designations, the use of regulatory discretion and guidance to enforce Operation Choke Point's jaundiced view of payday lending, and the CFPB's overreach.

3. **Regulatory standards and their enforcement must be transparent, so that regulators are accountable to the public.** Simple, *market-based* standards enforced through clear rules based on criteria that are readily observable—not hidden, unaccountable judgments—are most likely to achieve that objective. Those sorts of rules also reduce regulatory uncertainty and increase the credibility of enforcement by supervisors. FSOC deliberations, the measurement of risk for regulatory purposes, liquidity regulation, and stress-testing are all examples of opaque regulatory processes that are consequently unaccountable, unreliable, and confusing. A regulatory standard that is simple, credible, and reasonably accurate is far preferable to one that is perfectly correct in theory but is based on complex, publicly unobservable criteria.

4. **To be effective, regulation must recognize and address the incentives of market participants to avoid regulatory costs and the incentives of supervisors and regulators to enforce (or not enforce) regulation.** The ability of banks to game asset risk-weights by rigging their models, as well as the failure by regulators to enforce proper recognition of loss whenever hiding losses is politically expedient, must be taken seriously when designing prudential requirements. Anyone proposing regulatory

reforms should have to explain why proposed reforms would be relatively immune to circumvention by bankers and why supervisors and regulators would credibly enforce them. If the incentives of bankers and their customers had been considered, Congress would have been able to foresee the adverse effects of risk-pricing limits under the CARD Act, the Durbin Amendment, and the limits on leveraged loans. Taking bankers' incentives into account also would have resulted in different capital requirements for inventories of debt securities held for market making (because current requirements provide strong disincentives to engage in socially beneficial market making in low-risk debt markets).

5. **Consumer protection regulation should help consumers make informed choices, not attempt to dictate those choices with prohibitive rules.** In a country that prizes freedom, consumer protection is about informing consumers and preventing abusive practices (those that rely upon misinformation or consumer ignorance to trick consumers into engaging in transactions that harm them), not constraining informed behavior.

6. **Financial institutions should pay for the losses that result from the risks they take, and so long as they are clearly and fully bearing the risks of their actions, regulation should avoid micromanaging the business of banking.** Recent examples of misguided, costly micromanaging include the Volcker Rule and leveraged lending limits. Regulation should welcome bank success and profitability. Avoiding bailouts and credit crunches isn't everything: We need to encourage a competitive banking system that is able to adapt to changing market conditions to provide a broad range of services to its customers at low cost. U.S. banks are still struggling to recover their competitive capabilities, partly owing to the new regulatory burdens they are bearing.

7. **Real estate risk, especially when subsidized and promoted by the government, is a major threat to financial-system stability. Moreover, the subsidization of housing-finance risk is not an effective means of promoting access to affordable housing.** Attempting to subsidize access to housing through credit-risk subsidies to mortgage borrowers boosts house prices, making

housing less affordable, as well as increasing the leverage and default risk of housing finance and systemic risk in the financial system. Obvious examples include the regulations that create and favor risk absorption by the GSEs, FHA, and the FHLBs. A less obvious, but very important, example is the use of deposit insurance protection to subsidize real estate lending through the banking system. If not for that subsidy, history shows that small banks exposed to market discipline in short-term debt markets would not be willing or able to be heavily involved in funding risky real estate finance (Calomiris and Haber 2014, Chapter 6, Calomiris and Jaremski 2016, Calomiris 2017a).

8. **Conflicts of interest within regulatory agencies, especially the Fed, must be addressed.** The Fed is charged with multiple tasks and they give rise to conflicting objectives, which result in policy failure. In particular, its new roles as both a repo counterparty and a repo regulator, and as both a mortgage-backed security holder and a bank regulator, create obvious and unnecessary conflicts.

9. **Statutes and regulations governing the management of financial institutions that suffer financial distress need to be judged on the basis of politically and economically realistic scenarios for how those statutes and regulations will be used—not wishful thinking.** When one considers historical evidence and envisions realistic scenarios, Title II of Dodd-Frank more likely provides a road map for future bailouts rather than a blueprint for preventing them.

10. **Designing financial regulatory policy should *not* be viewed as striking a balance between economic growth and financial stability. The best ideas for regulatory reform can achieve the highest sustainable growth without increasing the risk of a financial crisis.** Many regulations (e.g., the pricing limits in the CARD Act, the Volcker Rule, and Operation Choke Point) have raised banking costs and reduced the economic value of banking enterprises without offering any offsetting improvement in financial stability. Conversely, effective and carefully designed capital requirements that ensure systemic stability also are necessary for sustainable medium-term growth. Both sorts of examples illustrate that it is wrong to see regulatory choices as a trade-off between

growth and stability. The right choices often promote both. Unsustainable lending booms that produce banking crises are also disastrous for economic growth (Laeven and Valencia 2013). It is wrongheaded to seek *any* regulatory reform (including imprudent reductions in capital requirements) that will boost lending in the short run, because doing so may significantly raise the probability of a crisis and reduce growth in the medium run.

CHAPTER 4

SPECIFIC REFORM PROPOSALS

I do not offer a comprehensive set of proposals, or consider all the potential areas where regulatory relief would be beneficial, but instead focus on a few important areas. I divide my discussion of specific proposals into eight parts: (1) existing regulations that simply should be repealed, (2) process reform to ensure adherence to the rule of law, (3) reforms of bank capital and liquidity standards and SIFI resolution regulation, (4) changes in capital and liquidity standards for bank trading in OTC markets, (5) reforms of Fed stress tests, (6) reforms of real estate finance within and outside of banks, (7) reform of the missions, methods, and structures of the FSOC and CFPB, and (8) changes in the structures of regulatory bodies to consolidate authority efficiently and avoid conflicts of interest. Table 2 (p. 62) lists the proposed reforms. I do not present these as definitive judgments but rather as starting points for discussion, which also illustrate how to build on the lessons of past failures by employing the principles enumerated in Chapter 3.

1. Some Regulations Simply Should Be Repealed

According to the principles listed in Chapter 3, and in light of the evidence presented in Chapter 2, the Durbin Amendment, the pricing and risk-management limits imposed by the CARD Act, Operation Choke Point, and the Volcker Rule should be repealed. The Durbin Amendment results in undesirable distortions and accomplishes no legitimate objective. The CARD Act does not protect consumers; it permits them fewer options by limiting competition and pushing high-risk consumer credit out of the credit card industry. Operation Choke Point abuses regulatory power and serves no legitimate regulatory purpose. The Volcker Rule imposes compliance costs and discourages

socially beneficial market making. A proposed reform of bank capital and liquidity standards for OTC trading is addressed separately under topic (4) below.

2. Restore the Rule of Law to Financial Regulation

Regulators should be forced to rely on formal rule making rather than guidance, based on clearly defined standards, debated in public, and enforced transparently. Over a short period of time, all existing guidance should be phased out entirely and replaced by formal rules. Some of the specific implications of this policy are discussed below in more detail under topics (3), (4), (5), and (7). This will be a massive undertaking, and I do not recommend it lightly. Despite the enormous effort that this will require, it is crucial for restoring the rule of law to our financial system. Eliminating the reliance on guidance will reduce regulatory risk substantially, with favorable consequences for both growth and stability.

3. Regulation of Bank Capital, Liquidity, SIFI Resolution, and Fed Lending

Calomiris (2011a, 2011b, 2012), and Calomiris and Herring (2013) present detailed proposals for redesigning capital and liquidity regulation. Here I offer only a summary. The goal is to find a reliable way to ensure that large, complex banks maintain sufficient capital and liquidity buffers so that the possibility of their failure is remote. Although I favor repealing Title II of Dodd-Frank and replacing it with a bankruptcy code along the lines suggested by the proposals in Jackson et al. (2015)—as a means of reducing the likelihood of too-big-to-fail bailouts—I would not rely on that reform alone to ensure that large, complex banks are forced to bear market discipline. I would rely instead on dynamic, market-based prudential requirements to ensure that large U.S. banks avoid the risk of financial distress.

My proposed reforms have three parts: a new contingent convertible debt capital (CoCos) requirement, improvements in the methods for measuring risk when computing asset risk-weights, and a simple cash reserve requirement in lieu of the complex Basel liquidity standards.

Let's begin by replacing the morass of complex regulatory capital requirements with just two: a minimum tangible equity-to-assets ratio

of 10%; and a minimum tangible equity-to-risk-weighted assets ratio of 15%.[20] Raising capital ratio requirements even higher would not be a cost-effective solution to the problems of delayed loss recognition or the potential nonrecognition of changes in the value of intangibles. Higher book equity requirements would not address those fundamental problems reliably, and mandating higher equity requirements would raise the cost of lending and other bank services to noncompetitive levels, encouraging substitution into shadow banking.

The right way to ensure the *dynamic sustained adequacy* of bank equity capital is not by imposing extremely high book equity requirements but by accurately measuring on a continuing basis the *economic value* of equity rather than its book value. This requires reliable regulations that ensure that banks *will maintain* an adequate amount of meaningfully measured equity capital. For publicly traded banks (which include all SIFIs), the measure of the economic value of bank equity is its market value. Market value is the right measure to use to capture economic value not only because it has proved to be accurate over reasonable time horizons (which it has) but also because it is the measure that captures the opinions of the marketplace and thus provides a uniquely valuable measure of market perceptions of banks' counterparty risks. Those perceptions are crucial for systemic risk. When banks lose market confidence in the sufficiency of their equity's economic value, they also lose access to markets for their uninsured short-term debt. For this reason, it is essential to employ market values to gauge economic value: even if the market is occasionally quite mistaken in its measurement of economic value, as we saw in September 2008, market opinions are the ones that matter when a financial crisis spreads because of counterparties' unwillingness to roll over short-term debts.

One should not, however, rely on very short-term market information as a guide to bank valuation, because high-frequency market change contains noise and because it can be susceptible to market manipulation. A 90-day or 120-day moving average, however, is an accurate and reliable measure of value. As Figure 1 (p. 60) shows, a 90-day moving average measure would have been very informative of the growing problems in many U.S. bank holding companies in 2006–2008, if only regulators had been willing to pay attention to it.

How can we best connect regulatory equity requirements to market information about the value of bank equity? One way to do so would be simply to require that banks maintain a minimum "market equity ratio," defined by using a moving average of the market value of equity relative to the market value of assets (where the market value of assets equals the face value of debt plus the market value of equity). I am not in favor of that approach because, in a recession, there would be a temptation for regulators to "forbear" and relax those regulations to spur lending and to protect banks from having to raise new capital in an unfriendly environment. We have to be realistic and recognize that the enforcement of regulations cannot be taken for granted; democracies often act predictably and myopically to forbear from enforcing regulations at the time when their enforcement is most needed.

A better approach for ensuring that banks maintain adequate equity ratios—one that Richard Herring and I have been advocating for some time (Calomiris and Herring 2013)—is to require, alongside a standard minimum book equity requirement, that SIFIs maintain another similar proportion of assets in contingent convertible debt (CoCos), which converts to equity on a dilutive basis when the (say, 120-day) moving average of the *market* value of equity relative to the market value of assets falls below some threshold. SIFI bank holding companies could be required to maintain a 10% book equity-to-asset ratio, and another 10% of assets financed by CoCos that convert to equity when the moving average of the market value of equity relative to the market value of assets falls below 10%. By a "dilutive basis," I mean that CoCos would convert into equity worth more (say, 5%) than their face value at the moment of conversion. Crucially, dilution ensures that bank managers face strong incentives to replace lost equity in a timely manner, to avoid a dilutive conversion of a massive amount of CoCos.

This CoCos requirement would give bank CEOs a strong incentive to maintain the economic value of their equity capital ratio at a high level. If they did, that would virtually preclude bank bailouts: bailouts cannot occur if banks remain distant from insolvency.[21] Maintaining a high ratio of market equity to assets also would virtually eliminate the risk of a systemic liquidity crisis (well-capitalized banks don't lose access to the short-term debt market). SIFI CEOs would have an incentive to maintain a significant buffer of equity value in excess of the 10%

trigger ratio. They would also have an incentive to increase that buffer voluntarily as the riskiness of the bank holding company's assets rises, resulting in a new *self-enforcing risk-based equity requirement* based on credible self-measurement of risk for the holding company.[22]

This proposed CoCos requirement for SIFIs would forestall counterproductive regulatory "forbearance" (attempts to dilute the regulatory standard for political reasons in the wake of increased losses) because it would be unlawful for government regulators or legislators to prevent CoCos conversions at the expense of CoCos holders.

With respect to proposals that would improve regulatory risk measurement, note that it is useful to retain both a simple leverage requirement and a risk-based regulatory capital requirement. Simple leverage limits impose a minimum capital ratio for risky assets, which is a useful lower-bound equity standard. But having that minimum also serve as the only required minimum ratio could incentivize banks to search for the riskiest loans in the economy. Although the aforementioned CoCos requirement's incentives would counter that potential problem, it would be wise to retain the belt and suspenders of both a leverage limit and a risk-based capital requirement, especially if risk measurement can be dramatically simplified, as described below.

A key problem with current regulatory arrangements for measuring asset risk-weights is that banks model their own risks for regulatory purposes. Therefore, banks have strong incentives to construct models that underestimate their risks. A better approach would use market information to gauge risks and do so in a way that does not create perverse incentives for bank risk management. Calomiris (2011a, 2011b) suggests using the contractual interest rates (all-in cost) of loans for measuring loan risk (possibly with some adjustments for time variation) and reforming the debt ratings provided by NRSROs so that ratings agencies' measures would be connected to market outcomes. Doing so provides strong incentives for ratings to reflect true assessments of risk, thereby making ratings more reliable as gauges of risk.[23]

With respect to liquidity regulation, a better and much simpler approach than the current Basel III concepts—and one that is consistent with economic theory (Calomiris et al. 2016) and with centuries of successful regulatory practice around the world—would require banks (especially SIFIs) to maintain cash reserves at the Fed as a proportion

of their total debt (say, 20%). Deposits held at the central bank provide protection against default risk similar to equity capital, but cash reserves have the advantage of being observable and incapable of fudging with esoteric risk-modeling. Calomiris et al. (2016) also show that because cash requirements put a floor on the downside risk of bank asset loss, they create powerful incentives for improving bank risk management. In their model, the point of cash requirements is not so much to serve as a stockpile of cash to deal with liquidity risk but rather as a means of stabilizing banks by improving bankers' incentives.[24]

To avoid turning the prudential cash requirement into a tax, required cash reserves should bear interest at something like the Fed funds rate, less ten basis points. In essence, this would require banks to hold a significant proportion of their assets in riskless debt. Interest-bearing deposits at the Fed are much like bank holdings of Treasury securities, but they enjoy another advantage: Treasury holdings can be purchased just before quarterly accounting disclosures, and sold immediately afterward. In contrast, deposits at the central bank are guaranteed to be more than window dressing because they are all held continuously. Given that U.S. banks historically held cash assets (cash, reserves, and Treasury securities) far in excess of 20%, this requirement would not be onerous as a long-term measure. Furthermore, it would be easy to implement because it would have little effect on banks' balance sheets today, given the huge excess reserve holdings maintained by large banks at the present time.

Although such a requirement would not be binding on large U.S. banks today, it would have been very binding on those banks, and other banks, in the years leading up to the recent crisis. Large weekly reporting U.S. banks held 25.8% of their assets in cash plus Treasuries plus government agency securities in January 1994. That percentage fell to 17.2% in 2001, and to 13.5% in 2008. The insolvency risk of the banking system would have been substantially mitigated if banks had been forced to maintain a minimum of 20% of assets in remunerative cash reserves at the Fed in the years leading up to the crisis.

Together, these reforms to capital requirements, risk measurement, and liquidity requirements would ensure banking-system resiliency. Furthermore, because they would offer a reliable alternative to the current panoply of regulatory limits and methods that regulators employ

for micromanaging bank risk, this new approach would free banks to flexibly manage their risks in the way they see fit, resulting in substantial reductions in regulatory costs.[25]

Would these levels of prudential regulation distort competition in favor of shadow banks? Judging from the competitive banking systems of the past and those of other countries today, these levels of required capital and liquidity are roughly consistent with what the market would require banks to maintain in the absence of distorting government protections that have led banks to reduce their cash holdings and their capital ratios. If robust capital and cash requirements are combined with other reforms that streamline existing regulatory burdens on banks, banks should be able to compete effectively with shadow banks.

Establishing rules that credibly limit government assistance via Fed lender-of-last-resort interventions or other fiscal means to support distressed banks is an important part of any framework for prudential regulation and resolution. Such assistance has important consequences for incentives toward risk. Calomiris et al. (2017) discuss the need for a rule-based framework to clarify how such assistance will be provided during systemic crises and to prevent its misuse for nonsystemic purposes, which creates attendant moral-hazard costs. They show that the current framework governing emergency lending—including reforms to Federal Reserve lending enacted after the recent crisis—is inadequate and not credible. They propose reforms that would establish a credible framework of rules to constrain and guide emergency lending by the Federal Reserve and by fiscal authorities during a financial crisis. Adequate assistance to financial institutions would be provided in systemic crises but would be limited in its form and by the process that would govern its provision. This framework would serve as a basis for establishing effective rules that would be credible and that would properly balance the moral-hazard costs of emergency lending against the gains from avoiding systemic collapse of the financial system.

4. A Limited Carve-Out for OTC Securities Inventory

The strengthening of capital and liquidity standards is desirable, even though it may raise the cost of banking activities (Aiyar et al. 2015). In the case of OTC debt market making, however, the strict prudential standards proposed above are too onerous, especially considering the low

risk of corporate debts and the unique role that banks play in connecting buyers and sellers in OTC debt markets as a consequence of their large scale and the wide range of their customer relationships. If strict leverage limits and liquidity requirements cause banks to withdraw from OTC debt markets or substantially curtail their inventories, greater market volatility may result. One way to address that problem would be to encourage OTC debt market making by banks through a limited carve-out from simple leverage and liquidity requirements. Specifically, simple leverage and liquidity requirements against OTC debt inventories held for trading could be waived so long as the total amount of securities inventories remains at a level below some fraction of bank equity capital. Against that limited inventory of corporate debt, banks could be required to maintain only risk-based capital against those securities, and risk could be measured by a simple value-at-risk model, based on transparently calculated market-volatility measures.

5. Reforming Fed Stress Tests

Stress tests are a promising area for improving prudential regulation of large banks. Ideally, they would allow regulators to detect risks of potentially large, sudden losses of value, and thereby ensure that prudential standards properly reflect forward-looking cash-flow risks relating to both tangible and intangible assets.[26] But three important sets of reforms are needed to address the current deficiencies of stress tests.

First, the criteria for stress-testing must be clarified, and the stress-tester (the Fed) must be made accountable for its approach to measuring compliance. The Fed does not need to pre-disclose the specific models it will use, but it does need to explain, and demonstrate that it is adhering to, a reasonable and transparent process to build the models that will be used to measure compliance. And the Fed must disclose the models it employs with a lag, to ensure accountability. Each year, the Fed should disclose the models that were used previously, which would ensure accountability by permitting detailed criticisms by academic and industry observers.

Criticism will help improve Fed modeling, but additionally, the Fed should invite independent teams to assist it in building models (perhaps using several models rather than one). The Fed also should rotate its model-building personnel and alter its scenarios in light of changing

economic circumstances. Those measures would ensure that its models conform to best practice while also remaining somewhat unpredictable (to avoid gaming by bankers).

Second, stress tests should measure adherence to clearly stated prudential standards (such as minimum equity capital ratios when stressed), and as long as a bank holding company remains in compliance with those prudential standards, its board of directors—not the regulator—should control dividend and capital-raising decisions.

Third, to realistically capture the effects of macroeconomic scenarios on bank condition, the data used in stress-testing must be improved dramatically. Stress tests should focus on simulating prospective losses of economic value under various forward-looking scenarios, based on defensible cash-flow forecasts, not just tangible asset-loss projections and broad financial-accounting measures. To accomplish that objective, bank cash flows must be analyzed properly. Managerial accounts of revenues and expenses should be separated by line of business, and cash-flow projections for each line of business under each scenario should be justified by reference to observable historical patterns. For example, under a scenario of severe housing-finance decline, mortgage-servicing income is likely to be more affected than asset-management fees.

These improvements should precede the continuing use of stress tests as a regulatory tool. For many large banks today, stress-test results are their most binding capital regulations. Many bankers have stated in public that stress tests, not internal analyses of value creation, are having large effects on bank strategy by determining which lines of business deserve growth or shrinkage. It is inappropriate for a tool of such dubious, uncertain, and unaccountable quality to be a binding influence on the growth of various lines of business for banks. Until stress tests are accurate and accountable tools for measuring value creation and potential value loss, and thereby demonstrably useful for improving prudential regulation, they should not be relied upon.

6. Real Estate Finance Reforms, Within and Outside of Banking

I propose a four-part plan for redesigning government housing-finance policies that simplifies affordable housing subsidies, stabilizes housing credit, simplifies market structure, and makes the costs to the public

a transparent part of the government's budget (as opposed to an invisible, off-budget credit guarantee whose cost is only visible during crises).

First, replace the current system of subsidies, which consists of various types of mortgage-leverage subsidies, with means-tested down-payment assistance. This would be introduced alongside stricter limits on loan-to-value ratios (LTVs). Second, offer means-tested assistance to mortgage borrowers for mitigating interest-rate risk. Third, offer tax-favored savings accounts for would-be homeowners to accumulate down payments. Fourth, limit each bank's overall exposures to real estate risk.

An obvious alternative to subsidizing mortgage risk is subsidizing down payments. This is the approach of Australia's (non-means-tested) housing policy, which gives assistance to first-time home buyers. An improved variant would offer means-tested subsidies for first-time home buyers, while also phasing in increases in minimum down payments. For example, first-time home buyers with houses worth less than a (regionally adjusted) maximum, who earn less than a (regionally adjusted) maximum family income, would be eligible for a lump sum housing grant equal to the smaller of, say, $10,000 or 30% of the down payment required to purchase their home.

Alongside that subsidy, minimum down-payment ratios on all mortgages would be required to increase by 1 percentage point a year over seven years, rising from the current 3% to a new minimum of 10%. Phasing in the rising down-payment requirement would avoid disruptive declines in housing prices that might result from a sudden change.

Given the potential for government bailouts of mortgages even when they were not explicitly part of any government program, the 10% minimum down-payment ratio should apply to all mortgages, not just those of buyers receiving government assistance. Recipients of down-payment assistance would pay no interest on their grants. The assistance would take the form of a junior equity lien on their homes (senior to their own equity investments but junior to mortgages). I suggest requiring the government down-payment assistance to be repaid to the Treasury in full, upon sale or refinancing of the house within the first several years of homeownership, to avoid abuse of the assistance. After a sufficient passage of time, homeowners would retain a full claim to any proceeds from sale or refinancing.

Reducing the cost of locking in a long-term fixed rate—which is of particular importance to low-income households—should be the second part of supporting affordable housing. Rather than providing invisible interest-rate subsidies through FHA, Fannie Mae, and Freddie Mac, the government should subsidize low-income buyers of privately supplied mortgage interest-rate swaps (limiting the subsidy to, say, the lower of $5,000 or 30% of the cost of the swap).

Tax-favored treatment of savings accounts that could be used by low- and moderate-income families to accumulate adequate down payments would further encourage skin in the game. For example, individuals could be permitted to use 401(k) accounts to invest in homes.

These new programs would replace existing implicit mortgage risk subsidies that are currently provided through FHA, Fannie Mae, and Freddie Mac. FHA mortgage guarantees also would end; Fannie Mae's and Freddie Mac's assets would be sold into the market; Federal Home Loan Banks also would be phased out.

There is another undesirable source of real estate risk in the financial system: the concentration of real estate risk in banks and thrifts. The most important source of systemic risk related to banks, including small banks—one that was visible both in the 1980s and in the 2000s—is excessive exposure to commercial and residential real estate lending.

The large exposure of depository institutions to real estate risk is not inevitable or desirable as a matter of economics. It does not reflect any natural link between real estate finance and depository funding but rather government policies that chose to use bank regulation to subsidize risky real estate lending. Banks focusing on real estate lending receive subsidies either by working with the GSEs, FHA, and the FHLBs, or by relying on deposit insurance to remove the market discipline that otherwise would discourage such imprudent risk management.

Prior to the 1930s, it was considered unwise to fund real estate assets with short-term depository debt.[27] Building-and-loan associations and insurance companies were the primary funding sources for mortgages prior to the 1930s, and they relied on long-term debt and equity to fund mortgage investments (Fleitas et al. 2015). National banks historically were prohibited from any real estate lending because of systemic risk concerns (Calomiris and Carlson 2017). It was generally understood that real estate and short-term debt funding did not mix well,

owing to the pressures on loan liquidation that short-term debt can entail and the high costs of liquidating real estate loans. Beginning in the 1930s, the federal government changed course and began to subsidize mortgage risks funded by short-term debt through deposit insurance and subsidized lending from the FHLBs.

It is well known that the recent subprime banking crisis reflected the deep exposures of large depository institutions and GSEs to mortgage-backed securities. But the concentration of risk in real estate lending in the 2000s was not just a big-bank problem. As the crisis wore on, real estate loan exposures by all banks became an additional source of strain, and hundreds of small banks failed. That is no surprise when one considers that, as of January 2008, roughly three-quarters of the loan portfolios of small banks (defined as the non-weekly reporting banks) were real estate loans of one kind or another. Even the large, weekly reporting banks held real estate loans on their balance sheets equal to 32.6% of their total assets. That figure includes none of their MBS exposures, on and off their balance sheets.

The obvious answer to the systemic risk created by real estate exposures is to limit the percentage of a bank's lending to real estate. I suggest phasing in limits over time, to avoid short-term disruption. To be concrete, I suggest limiting the share of commercial and residential real estate lending by banks to no more than 25% of their total lending. If we did so, much of real estate financing would migrate to real estate investment trusts (REITs), insurance companies, and other sources that are more natural providers of stable, long-term funds for real estate investments. Banks would become more focused on lending to small and medium-size enterprises and to consumers for non-real estate-related borrowing.

7. The Missions, Methods, Powers, and Structures of the FSOC and the CFPB

Dramatic reform is needed to improve the missions, methods, and structures of the FSOC and the CFPB. The FSOC should be made as politically independent as possible, while it (and the OFR that advises it) should retain access to privileged data. The FSOC's mission should be identifying problems related to systemic risk, especially potential shortcomings in the enforcement of regulatory standards.

Barth et al.'s (2012) proposal for a "Sentinel" is a potential model. This body would be administered independently. It would not have regulatory authority but would have access to privileged data, including information about the actions of regulators and supervisors. To accomplish that mission, the FSOC would have to be removed from the Treasury and established on other, independent footings. It may still make sense to have the FSOC meet with regulators (such as Fed governors, SEC commissioners, and FDIC officials), but to be able to oversee the actions of those parties effectively, it must be separate from them.

Wherever the designation of SIFI status is housed, it should follow from clear rules, not opaque discretionary judgments that invite the abuse of power. For example, in addition to size thresholds (which measure an institution's systemic importance), the degree of a nonbank institution's reliance on short-term debt and the degree to which it uses short-term debt to fund illiquid investments, such as commercial real estate loans, could be taken into account explicitly (and quantitatively) when formulating a rule for what constitutes systemic importance.

The CFPB could play a constructive role in monitoring compliance with consumer protection laws, such as disclosure requirements, mortgage brokerage standards, fair lending requirements, and antidiscrimination statutes. It should focus on monitoring and enforcing compliance of the laws that exist (e.g., by using testers to root out discriminatory treatment of consumers), advising Congress on the creation of new laws, and engaging in formal rule making that is consistent with the specific powers delegated to it by Congress. These functions are analogous in the banking sphere to some of the activities of the SEC, and it seems natural for the CFPB to adopt a similar bipartisan commission structure, which would help to insulate it from counterproductive political pressures. In keeping with this new structure, the CFPB's activities should no longer be funded by the Federal Reserve's surplus.

With respect to mortgage market disclosures, the CFPB should consider ways to improve the information available to mortgage borrowers by streamlining the piles of paperwork that are shuffled around during the mortgage application and closing process. This is an example of how excessive disclosure mandates can actually reduce the amount of useful information available to borrowers. Pollock (2008) proposes a mortgage disclosure form titled "The Basic Facts About Your Mortgage

Loan," which contains essential facts, reported in a clear and concise manner. Replacing the large stack of never-read papers at mortgage closings with this form would restore a focus on essential disclosures that would improve informed decision making by households. This is the sort of approach to disclosure that the CFPB should explore.

8. Avoiding Regulatory Conflicts of Interest

Now that the postcrisis dust has settled, the 2008 Treasury blueprint deserves a second look. It provides a thoughtful long-term vision of how best to organize the administration of financial regulation. Avoiding duplication of effort by consolidating regulatory functions (not only in banking but also by creating a federal charter for insurance companies) seems long overdue. It also would be desirable to remove the Fed from the job of writing and enforcing regulations, which would free monetary policy from the conflicts that arise when it is combined with those tasks.

CHAPTER 5

CONCLUSION

Critics of the status quo in financial regulation can point to many shortcomings. First, there is the cost of regulation. Large banks face an unpredictable and complex regulatory environment, with a host of new costs and risks coming from constantly changing prudential standards, FSOC actions, and stress tests. Small banks face a morass of new rules and compliance burdens, and, given their limited scale of operation, the fixed costs of complying with new regulations often puts them at a severe disadvantage and produces consolidation for the wrong reasons. Efficient consolidation, in turn, is sometimes avoided as banks seek to avoid tripping size thresholds that result in new regulatory burdens. These various costs for banks of varying sizes and circumstances are being passed on to bank customers, who find it increasingly difficult to access banking services on favorable terms.

Regulation also suffers from poor design features that are likely to result in failures to achieve bona fide prudential objectives. The continued reliance by capital regulation on book values of tangible net worth as a measure of loss-absorbing capacity is one obvious weakness. That approach is not likely to work better in the future than it has in the past to prevent too-big-to-fail banks from failing because it does not reliably track the true economic value of bank equity. Risk measurement under the Basel approach employed in the U.S. and many other countries notoriously creates opportunities for circumvention through the understatement of risk. New bank liquidity requirements are extremely complex and lacking in any fundamental grounding in economic theory. Title II of Dodd-Frank is viewed by many academic critics as unworkable and unlikely to produce orderly resolution of nonbank institutions or large bank holding companies. Stress tests, under the current regime, in which they are unaccountable to the public and based on very crude financial accounting measures, are a source of risk to the system and are

unlikely to be a meaningful gauge of systemic risks that the banking system actually faces.

Even more troubling is our regulatory structure's increasingly frequent adoption of processes that are inconsistent with adherence to the rule of law. Process concerns are rarely voiced by academics, and that is a strange omission. Inappropriate regulatory processes not only threaten to undermine the fundamental norms on which our democracy is founded; they also undermine the effectiveness of regulation. The ability of regulation to succeed depends on transparent and accountable processes because those processes define the incentives of regulators and are crucial to ensure that regulators act diligently in pursuit of bona fide objectives. Reliance on regulatory processes that avoid transparency, accountability, and predictability increases regulatory risk and is likely to lead to poor execution of regulatory responsibilities, as well as to the creation of unnecessary regulatory costs and opportunities for politicized mischief. This is not merely a theoretical concern: Recent regulation has increased regulators' discretionary authority with little regard for predictability, transparency, or accountability. This has resulted in abuses that not only deform our democracy but also impose unwarranted costs on the financial system and distract from legitimate problems that should be the focus of prudential and consumer protection regulation.

Despite these shortcomings, it may be too harsh to characterize post-2008 financial-policy changes as a flop. Critics should recognize that, despite the long list of needed reforms discussed here, major progress has been made in strengthening capital and liquidity regulation and attending to a large range of issues that had been long neglected—for example, the need to recognize problems such as regulatory arbitrage in risk measurement, the moral-hazard problem of too-big-to-fail bailouts, regulatory forbearance, and the difficulties in coordinating resolution for complex nonbank intermediaries.

Some readers might regard the long list of reforms proposed here as quixotic. I recognize that my own vision of needed changes is unlikely to be flawless; but a proposal should not be torpedoed because someone can identify a reason that it might not work perfectly. The status quo, after all, is far from perfect. Combined, the proposed reforms offered here would go a long way toward correcting the most important errors of design in our current regulatory system.

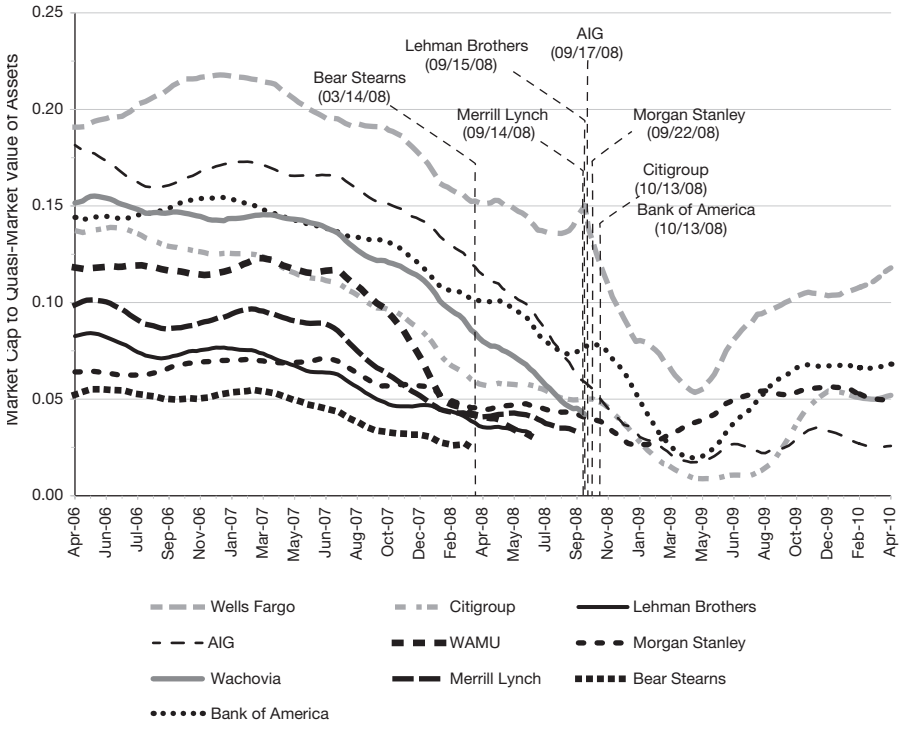
If anything, the list of serious shortcomings identified here is far too short. In particular, I have not enumerated the many costs that banks bear resulting from government mandates to assist in the prevention of terrorism, money laundering, and other crimes. While society clearly benefits from these actions by banks, it is not obvious that the benefits justify the costs, or that it is reasonable to impose all these burdens on small banks. It is high time for a thorough cost-benefit analysis of the cumulative effect of all these regulatory burdens, with a mind toward streamlining and rationalizing the complex regulatory landscape.

I recognize that politics, not just principled thinking, will guide regulation. Nevertheless, there is reason to believe that the principles and specific ideas contained here will be relevant for framing the conversation about reform that our political leaders will be having in the near future. After all, Trump has called for an overhaul of financial regulation, and congressional Republicans have enunciated principles of reform similar to those listed in Table 1 (p. 61). They have drafted many detailed proposals, including those contained in the Financial CHOICE Act, some of which coincide with those listed in Table 2 (p. 62). Furthermore, despite the partisan battles that have defined financial regulation throughout its history, it may be possible today for both parties to find common ground supporting a policy platform that depoliticizes financial regulation, strengthens the rule of law, reduces unnecessary systemic risk, limits too-big-to-fail bailouts, and ensures that consumers are protected from unfair or misleading practices.

Addressing these problems is as much good economics as it is good political strategy. If Republicans were to favor an unbalanced approach to reform—one that repeals recent regulation to spur a short-term lending boom, without constructing an effective prudential framework that addresses the problems that gave rise to those reforms—they would invite economic risks and eventually a counterproductive political backlash. That would make no sense as an economic plan or a political one. I see only a small risk that this sort of unbalanced approach could carry the day. Repealing legislation under the current rules of engagement in the Senate will require at least some bipartisan consensus. That consensus must be built on a reform narrative grounded in facts and logic, which is willing to learn from our history of regulatory errors and which proposes solutions that reflect our shared values and goals.

Figure 1. 90-Day Market Cap to Quasi-Market Value of Assets

U.S. SIFIs That Failed, Were Forced into Mergers, or Received Major SCAP Infusions



Source: Calomiris and Herring (2013), Figure 4. Note that because the plots represent 90-day moving averages, they provide a lagging picture of the timing of actual market declines.

Table 1. Ten Principles to Guide Financial Regulatory Reform

1. Financial regulation should focus exclusively on bona fide objectives that relate to the performance of the financial sector, grounded in core economic concepts of externalities and information costs and supported by evidence that shows that the costs of regulation are justified by demonstrable benefits.
2. We must restore the role of laws and formal rule making in financial regulation and end the reliance on guidance, as well as the excessive delegation of discretionary authority to politicized actors, such as the FSOC and the CFPB.
3. Regulatory standards and their enforcement must be transparent, so that regulators are accountable to the public.
4. To be effective, regulation must recognize and address the incentives of market participants to avoid regulatory costs and the incentives of supervisors and regulators to enforce (or not enforce) regulation.
5. Consumer protection regulation should help consumers make informed choices, not attempt to dictate those choices with prohibitive rules.
6. Financial institutions should pay for the losses that result from the risks they take, and so long as they are clearly and fully bearing the risks of their actions, regulation should avoid micromanaging the business of banking.
7. Real estate risk, especially when subsidized and promoted by the government, is a major threat to financial-system stability. Moreover, the subsidization of housing-finance risk is not an effective means of promoting access to affordable housing.
8. Conflicts of interest within regulatory agencies, especially the Fed, must be addressed.
9. Statutes and regulations governing the management of financial institutions that suffer financial distress need to be judged on the basis of politically and economically realistic scenarios for how those statutes and regulations will be used—not wishful thinking.
10. Designing financial regulatory policy should *not* be viewed as striking a balance between economic growth and financial stability. The best ideas for regulatory reform can achieve the highest sustainable growth without increasing the risk of a financial crisis.

Table 2. List of Proposed Reforms

1. Repeal the Durbin Amendment.
2. Repeal the risk-management and pricing limits of the CARD Act.
3. End Operation Choke Point.
4. Repeal the Volcker Rule.
5. Phase out use of guidance in financial regulation, and replace it with formal rule making.
6. Replace Title II resolution with a new bankruptcy chapter, following Jackson et al. (2015).
7. Replace the morass of capital ratio requirements on banks with a single 10% minimum tangible book equity-to-assets ratio and a single 15% minimum ratio of book equity to risk-based assets. For SIFIs, additionally require 10% of assets to be issued in CoCos with a market conversion trigger to incentivize banks to maintain sufficient economic value of equity.
8. When constructing risk-weights for bank assets, measure loan risk with interest rates on loans, and measure securities risks using objectified NRSRO ratings subject to market discipline.
9. Replace the two complex Basel liquidity requirements with a simple 20% remunerative cash-reserve ratio.
10. Spell out clearly and credibly the rules that guide lender-of-last-resort lending, limiting it to systemic risks, as discussed in Calomiris et al. 2017.
11. Provide a limited carve-out from leverage and liquidity regulations for OTC market making.
12. Reform stress tests to make them ex post transparent to ensure Fed accountability.
13. Reform stress tests by eliminating control of dividends by regulators for banks that are in compliance with all capital regulations.
14. Reform stress-test forecasting of cash flows using line-of-business managerial accounting data, and delay the further use of stress tests as a regulatory tool until these realistic scenario forecasts can be constructed.
15. Replace mortgage risk subsidies with means-tested down-payment matching subsidies, and wind down the FHA, GSEs, and FHLBs.

16. Offer means-tested subsidies for mortgage interest-rate swaps to lock in long-term rates.
17. Create tax-favored housing savings accounts to further promote affordability of housing.
18. Phase in limits constraining banks to less than 25% of loans on commercial or residential real estate.
19. Remove the FSOC and the OFR from the Treasury Department and establish them as an independent "Sentinel" to identify problems, monitor regulatory enforcement, and propose rules.
20. SIFI designations should be determined by clear rules, not opaque discretion.
21. Restructure and depoliticize the CFPB by structuring it as a bipartisan commission with a focus on enforcing consumer protection laws and by ending Federal Reserve funding of the CFPB.
22. Consolidate regulatory structures and avoid regulatory conflicts, following the suggestions in the 2008 Treasury blueprint.

REFERENCES

Acharya, Viral V., Heitor Almeida, and Murillo Campello. 2007. Is cash negative debt? A hedging perspective on corporate financial policies, *Journal of Financial Intermediation* 16, 515–54.

Acharya, Viral V., Allen N. Berger, and Raluca A. Roman. 2016. Lending implications of U.S. bank stress tests: Costs or benefits? Working paper, New York University, December.

Acharya, Viral V., Robert Engle, and Diane Pierret. 2014. Testing macroprudential stress tests: The risk of regulatory risk weights, *Journal of Monetary Economics* 65, 36–53.

Acharya, Viral V., and Amit Seru. 2015. What do macro-prudential stress tests resolve: Asymmetric information, debt overhang or regulatory uncertainty? Working paper, New York University, May.

Acharya, Viral V., and Sascha Steffen. 2014. Falling short of expectations? Stress testing the European banking system. CEPS Policy Brief No. 315, available at http://ssrn.com/abstract=2381911.

Agarwal, Sumit, Souphala Chomsisengphet, Neale Mahoney, and Johannes Stroebel. 2015. Regulating consumer financial products: Evidence from credit cards, *Quarterly Journal of Economics* 130, 111–64.

Aiyar, Shekhar, Charles W. Calomiris, and Tomasz Wieladek. 2015. Bank capital regulation: Theory, empirics, and policy, *IMF Economic Review* 63, 955–83.

Ajello, Andrea. 2016. Financial intermediation, investment dynamics, and business cycle fluctuations, *American Economic Review* 106, 2256–2303.

Akinci, Ozge, and Jane Olmstead-Rumsey. 2017. How effective are macroprudential policies? An empirical investigation. *Journal of Financial Intermediation*, forthcoming.

Allahrakha, Meraj, Jill Cetina, and Benjamin Munyan. 2016. Supplementary leverage ratio and repo supply. Working paper, Office of Financial Research, U.S. Treasury.

Ambrose, Brent W., James Conklin, and Jiro Yoshida. 2016. Credit rationing, income exaggeration, and adverse selection in the mortgage market, *Journal of Finance* 71, 2637–85.

Barth, James R., Gerard Caprio, Jr., and Ross Levine. 2012. *Guardians of Finance: Making Regulations Work for Us.* Cambridge, MA: MIT Press.

Baude, William. 2016. Congressional control over agencies: The problem of coercive guidance, Conference draft presented at the Hoover Institution Program on Regulation and the Rule of Law Conference, http://www.hoover.org/sites/default/files/baude2c_congress_and_guidance_2b.pdf.

Bayer, Patrick, Fernando Ferreira, and Stephen L. Ross. 2016. The vulnerability of minority homeowners in the housing boom and bust, *American Economic Journal: Economic Policy* 8, 1–27.

Behn, Markus, Rainer Haselman, and Vikrant Vig. 2016. The limits of model-based regulation. Working paper, London Business School.

Bliss, Robert, and Franklin Edwards. 2016. The new failure resolution regulation: The good, the bad, and the unknowable. In *Public Policy and Financial Economics*, edited by Robert Bliss and Douglas Evanoff, forthcoming.

Borio, Claudio, and Mathias Drehmann. 2008. Towards an operational framework for financial stability: "Fuzzy" measurement and its consequences. Working paper, Bank for International Settlements, November.

Bouwman, Christa H. S., and Shane A. Johnson. 2017a. How the Dodd-Frank Act affected bank acquisition behavior. Working paper, Texas A&M University, March.

Bouwman, Christa H. S., and Shane A. Johnson. 2017b. Differential bank behaviors around the Dodd-Frank Act size thresholds. Working paper, Texas A&M University, March.

Calomiris, Charles W. 2006. Alan Greenspan's legacy: An early look: The regulatory record of the Greenspan Fed, *American Economic Association Papers and Proceedings* 96, 170–73.

Calomiris, Charles W. 2010. Reassessing the Fed's regulatory role, *Cato Journal* 30, Spring, 311–22.

Calomiris, Charles W. 2011a. An incentive-robust programme for financial reform, *The Manchester School*, Supplement, 39–72.

Calomiris, Charles W. 2011b. Incentive-robust financial reform. *Cato Journal* 31, Fall, 561–89.

Calomiris, Charles W. 2012. Identifying the right mix of capital and cash requirements in prudential bank regulation, *Journal of Applied Corporate Finance* 24, Winter, 33–41.

Calomiris, Charles W. 2013. How to promote Fed independence: Perspectives from political economy and history. Working paper, Columbia University, March.

Calomiris, Charles W. 2015. What's wrong with prudential regulation and how to fix it. Testimony before the U.S. House Committee on Financial Services, July 23.

Calomiris, Charles W. 2017a. Taming the two 800-pound gorillas in the room. In *Public Policy and Financial Economics*, edited by Robert Bliss and Douglas Evanoff, forthcoming.

Calomiris, Charles W. 2017b. Expert report of Charles Calomiris, in Community Financial Services Association of America LTD et al., Plaintiffs, v. Federal Deposit Insurance Corporation et al., Defendants, U.S. District Court for the District of Columbia, Civil Action No. 14-953-GK, January 11.

Calomiris, Charles W. 2017c. Reforming the rules that govern the Fed: Testimony Before the U.S. House of Representatives Financial Services Committee, April 4.

Calomiris, Charles W., and Mark Carlson. 2017. Rediscovering macro-prudential regulation: The national banking era from the perspective of 2015. In *Financial Systems and Economic Growth: Credit, Crises, and Regulation from the 19th Century to the Present*, edited by Peter L. Rousseau and Paul Wachtel, Cambridge University Press, forthcoming.

Calomiris, Charles W., and Stephen H. Haber. 2014. *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit*. Princeton: Princeton University Press.

Calomiris, Charles W., Florian Heider, and Marie Hoerova, 2016. A theory of bank liquidity requirements. Working paper, Columbia Business School.

Calomiris, Charles W., and Richard Herring. 2013. How to design a contingent convertible debt requirement that helps solve our too-big-to-fail problem, *Journal of Applied Corporate Finance* 25, Spring, 66–89.

Calomiris, Charles W., Douglas Holtz-Eakin, R. Glenn Hubbard, Allan H. Meltzer, and Hal Scott. 2017. Establishing credible rules for Fed emergency lending, *Journal of Financial Economic Policy*, forthcoming.

Calomiris, Charles W., and Charles M. Kahn. 1991. The role of demandable debt in structuring optimal banking arrangements, *American Economic Review* 81, 497–513.

Calomiris, Charles W., and Urooj Khan. 2015. TARP assistance to financial institutions, *Journal of Economic Perspectives* 29, Spring, 53–80.

Calomiris, Charles W., and Doron Nissim. 2014. Crisis-related shifts in the market valuation of banking activities, *Journal of Financial Intermediation* 23, 400–435.

Calomiris, Charles W., and Thanavut Pornrojnangkool. 2009. Relationship banking and the pricing of financial services, *Journal of Financial Services Research* 35, 189–224.

Canner, Glenn B., and Gregory Elliehausen. 2013. Consumer experiences with credit cards. *Federal Reserve Bulletin* 99, December, 1–36.

Consumer Financial Protection Bureau. 2014. *Using Publicly Available Information to Proxy for Unidentified Race and Ethnicity*. Summer.

DeMuth, Christopher. 2014. Can the Administrative State Be Tamed? Hoover Institution Program on Regulation and the Rule of Law, December.

Drehmann, Mathias, Claudio Borio, and Kostas Tsatsaronis. 2012. Characterising the financial cycle: Don't lose sight of the medium term! Working Paper No. 380, Bank for International Settlements.

Durkin, Thomas, Gregory Elliehausen, and Todd Zywicki. 2014. An assessment of behavioral law and economics contentions and what we know empirically about credit card use by consumers, *Supreme Court Economic Review*.

Elliehausen, Gregory, and Simona M. Hannon. 2016. The Credit Card Act and consumer finance company lending. Working paper, Federal Reserve Board of Governors, November 28.

Epstein, Richard A. 2014. The role of guidances in modern administrative procedures, Hoover Institution Program on Regulation and the Rule of Law, December.

Federal Deposit Insurance Corporation, Office of the Inspector General (2015). *The FDIC's Role in Operation Choke Point and Supervisory Approach to Institutions That Conducted Business with Merchants Associated with High-Risk Activities*, Report No. AUD-15-008, September.

Flannery, Mark, Beverly Hirtle, and Anna Kovner. 2016. Evaluating the information in the Federal Reserve stress tests, Federal Reserve Bank of New York Staff Report No. 744, revised August 2016, *Journal of Financial Intermediation*, forthcoming.

Fleitas, Sebastian, Price Fishback, and Kenneth Snowden. 2015. Forbearance by contract: How building and loans mitigated the mortgage crisis of the 1930s. Working paper, University of Arizona.

Furletti, Mark. 2003. Credit card pricing developments and their disclosure. Discussion paper, Federal Reserve Bank of Philadelphia, Payment Cards Center, January.

Goldman Sachs Global Markets Institute. 2015. *The Two-Speed Economy*, available at http://www.goldmansachs.com/our-thinking/public-policy/regulatory-reform/2-speed-economy-report.pdf.

Goldstein, Morris. 2015. Bank stress tests and financial stability: Lessons from the 2009–2014 U.S. and E.U.-wide tests for Asian emerging economies, Peterson Institute, available at https://piie.com/publications/chapters_preview/6994/08iie6994.pdf.

Gordon, Sanford, and Howard Rosenthal. 2016. Political actions by private interests: Mortgage market regulation in the wake of Dodd-Frank. Working paper, New York University, May.

Gorton, Gary, and Tyler Muir, 2016. Mobile collateral versus immobile collateral. BIS Working Paper No. 561.

Haldane, Andrew G. 2012. The dog and the Frisbee. Speech at the Federal Reserve Bank of Kansas City's Economic Policy Symposium, Jackson Hole, Wyoming, August 31.

Haldane, Andrew G. 2013. Turning the red tape tide. Speech at International Financial Law Review dinner, April 10.

Hamburger, Philip. 2014. *Is Administrative Law Unlawful?* Chicago: University of Chicago Press.

Herring, Richard. 2016. The evolving complexity of capital regulation. Presentation at the International Atlantic Economic Association Meetings, Washington, D.C., October 15.

Hughes, Joseph P., and Loretta J. Mester. 2013. Who said large banks don't experience scale economies? Evidence from a risk-return-driven cost function, *Journal of Financial Intermediation* 22, 559–85.

Huntington, David S. 2010. Summary of Dodd-Frank financial regulation legislation, Harvard Law School Forum on Corporate Governance and Financial Regulation, available at https://corpgov.law.harvard.edu/2010/07/07/summary-of-dodd-frank-financial-regulation-legislation.

Jackson, Thomas H., Kenneth E. Scott, and John B. Taylor (eds.). 2015. *Making Failure Feasible: How Bankruptcy Reform Can End Too Big to Fail*. Stanford, CA: Hoover Institution Press.

Jordà, Òscar, Moritz Schularick, and Alan M. Taylor. 2015. The great mortgaging: Housing finance, crises, and business cycles. NBER Working Paper No. 20501.

Kay, Benjamin S., Mark D. Manuszak, and Cindy M. Vojtech. 2016. Bank income and adjustment to debit card interchange regulation. Working paper, Office of Financial Research, U.S. Treasury, July 22.

Kim, Sooji, Matthew C. Plosser, and Joao A. C. Santos. 2017. Macroprudential lessons from the leveraged lending guidance: The revolving door of risk. Working paper, Federal Reserve Bank of New York.

Kupiec, Paul H. 2015. Will TLAC regulations fix the G-SIB too-big-to-fail problem? AEI Economic Policy Working Paper 2015-08, November 25.

Kupiec, Paul H., and Peter J. Wallison. 2015. Can the single point of entry strategy be used to recapitalize a systemically important failing bank? *Journal of Financial Stability* 20, 184–97.

Laeven, Luc, and Fabian Valencia. 2013. Systemic banking crises database. *IMF Economic Review* 61, 225–70.

Lux, Marshall, and Robert Greene. 2015. *The State and Fate of Community Banking*, Harvard Kennedy School of Government, February, available at http://www.hks.harvard.edu/centers/mrcbg/publications/awp/awp37.

Mayer, Christopher, Karen Pence, and Shane M. Sherlund. 2009. The rise in mortgage defaults, *Journal of Economic Perspectives* 23, 27–50.

Pinto, Edward, and Tobias Peter. 2017. National mortgage risk index (NMRI) and other risk measures, AEI International Center on Housing Risk, January 30.

Piwowar, Michael S. 2014. Remarks at AEI conference on financial stability, July 15, available at https://www.sec.gov/News/Speech/Detail/Speech/1370542309109.

Plosser, Matthew C., and Joao A. C. Santos. 2016. Banks' incentives and the quality of internal risk models. Working paper, Federal Reserve Bank of New York.

Pollock, Alex J. 2008. The goal of mortgage disclosure: To underwrite yourself, speech at the Federal Trade Commission, May 29, available at http://www.aei.org/publication/the-goal-of-mortgage-disclosure-to-underwrite-yourself.

Rajan, Uday, Amit Seru, and Vikrant Vig. 2015. The failure of models that predict failure: Distance, incentives, and defaults, *Journal of Financial Economics* 115, 237–60.

Scott, Hal S. 2016. *Connectedness and Contagion: Protecting the Financial System from Panics*. Cambridge, MA: MIT Press.

Skimmyhorn, William. 2016. Assessing financial education: Evidence from boot camp, *American Economic Journal: Economic Policy* 8, 322–43.

Tucker, George. 1839. *The Theory of Money and Banks Investigated*. Boston: Charles Little and James Brown.

U.S. Department of the Treasury. 2008. *The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure*. March. Available at https://www.treasury.gov/press-center/press-releases/Documents/Blueprint.pdf.

U.S. House of Representatives Committee on Financial Services. 2015. *Unsafe at any bureaucracy: CFPB junk science and indirect auto lending*, November 24, available at http://financialservices.house.gov/uploadedfiles/11-24-15_cfpb_indirect_auto_staff_report.pdf.

U.S. House of Representatives Committee on Financial Services. 2016. *The Financial CHOICE Act: Creating Hope and Opportunity for Investors, Consumers, and Entrepreneurs: A Republican Proposal to Reform the Financial Regulatory System*, June 23, available at http://financialservices.house.gov/uploadedfiles/financial_choice_act_comprehensive_outline.pdf.

U.S. House of Representatives Committee on Oversight and Government Reform. 2014. FDIC involvement in "Operation Choke Point," December 8.

Wallison, Peter J. 2015. *Hidden in Plain Sight: What Really Causes the World's Worst Financial Crisis and Why It Could Happen Again*. New York: Encounter Books.

Zywicki, Todd. 2016. No, the Credit Card Act is not a free lunch. *Washington Post*, January 13.

ENDNOTES

1. U.S. House of Representatives Committee on Financial Services (2016).
2. Lux and Greene (2015).
3. Goldman Sachs Global Markets Institute (2015).
4. For a brief overview of the Dodd-Frank Act and its treatment of banks across different size categories, see Huntington (2010).
5. Prudence and consumer protection are the main goals of financial regulation, but there are other goals, as well. For example, other goals include preventing monopolistic practices, or coordination of market participants in pursuit of common objectives, such as enhancing national security or preventing crime. This last goal of regulation has been a major contributor to high overhead-cost burdens for small banks in recent years.
6. The six agencies are the Federal Reserve Board (Fed), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the Securities and Exchange Commission (SEC), the Federal Housing Finance Agency (FHFA), and the Department of Housing and Urban Development (HUD).
7. See "Dodd-Frank Five Years Later: Barney Frank's Greatest Victory, Regret," November 6, 2015, available at http://mitsloan.mit.edu/newsroom/articles/dodd-frank-five-years-later-barney-franks-greatest-victory-regret.
8. The facts noted in this paragraph are taken from Pinto and Peter's (2017) PowerPoint presentation.
9. One of the earliest examples was the willingness of U.S. bank regulators and politicians to pretend for nearly a decade that the so-called less developed country (LDC) loans carried by many U.S. money-center banks in the 1980s did not warrant major write-downs. Those write-downs were postponed until the Brady Plan created a means of converting those debts into Brady bonds, collateralized by U.S. Treasury securities in the late 1980s.
10. Piwowar (2014) notes many concerns about the FSOC, which he labels, among other things, the "Unaccountable Capital Markets Death Panel."
11. Opinion of Rosemary M. Collyer, U.S. District Judge, United States District Court for the District of Columbia, *MetLife* v. *FSOC*, March 30, 2016, available at: https://www.metlife.com/assets/cao/sifiupdate/MetLife_v_FSOC—Unsealed_Opinion.pdf.
12. FSOC 2011 *Annual Report*, available at https://www.treasury.gov/initiatives/fsoc/Documents/FSOCAR2011.pdf.
13. Given the 1989 abolition of its predecessor institution, the Federal Home Loan Bank Board, the abolition of the OTS arguably made it the only government construct to be abolished twice.
14. Monetary policy is an important influence on financial-system risk and is in need of significant reform today. See U.S. House of Representatives Committee on Financial Services (2016) and Calomiris (2017c).
15. An earlier study by Agarwal et al. (2015) reached different conclusions, apparently based on an incorrect understanding of the relevant time frames that should have been used for comparing the effects of the act. For further discussion of that apparent error, see Durkin, Elliehausen, and Zywicki (2014) and Zywicki (2016).

16. This discussion draws from the detailed account in Calomiris (2017b).
17. FDIC, Office of the Inspector General (2015).
18. The Obama administration's Justice Department also abused prosecutorial discretion by using litigation against large banks to elicit settlements in which the banks were pressured to transfer billions of dollars, not only to the government or to bank customers who allegedly suffered loss, but also to organizations that are allies of the Democratic Party, such as the National Community Reinvestment Coalition and the National Council of La Raza. Legislation is pending before Congress to prohibit this practice. See https://www.congress.gov/114/crpt/hrpt694/CRPT-114hrpt694.pdf, http://www.foxnews.com/politics/2017/03/01/gop-wants-to-eliminate-shadowy-doj-slush-fund-bank-rolling-leftist-groups.html, and http://origin-nyi.thehill.com/blogs/congress-blog/the-administration/318682-stop-settlement-slush-funds-act-helps-restore-checks?amp=1.
19. See "Dodd-Frank Five Years Later (n. 7 above).
20. This 10% requirement is similar to the requirement in the proposed Financial CHOICE Act, but my proposed CoCos requirement adds substantial additional loss-absorption capacity and also ensures against the possibility that book equity will overstate true economic capital, which implies greater loss-absorption reliability.
21. Setting a high market trigger (an equity-to-asset ratio of 10%) has several advantages. It ensures that the firm will be able to raise equity to prevent CoCo conversion (which may be impossible near the insolvency point). Also, the Kupiec and Wallison (2015) legal concern that regulators may not be able to transfer resources to an insolvent bank from its solvent bank holding company is not likely to be a relevant concern for high equity-to-asset ratio firms.
22. There is a legitimate case for varying requirements over time to achieve macroprudential goals. Increases in capital requirements can be useful responses to unsustainable lending booms that compress risk premiums and inflate asset-price bubbles (Borio and Drehmann 2008, Drehmann, Borio, and Tsatsaronis 2012). Recent research shows that macroprudential policies that seek to prevent excessive risks in housing finance can be particularly useful (Akinci and Olmstead-Rumsey 2017). In my view, however, if microprudential standards are well designed and if real estate finance risk subsidies are absent, such bubbles are unlikely to form. I remain open to the idea of adding a time-varying macroprudential response to capital requirements but would only favor such an approach if it were done on the basis of a clear rule, as described in Calomiris (2010).
23. One should use a several-year moving average of actual experience when gauging NRSRO performance and punishing large forecasting errors with "sit outs" from operating with NRSRO status (which would have major revenue consequences for rating agencies). Using a several-year (say, five-year) average preserves the "through the cycle" quality of ratings and ensures a sufficient sample size. The universe of rated products would be divided into several categories (MBS, credit cards, etc.). Each category would use identical definitions of BBB and A (2% and 1% probabilities of default over the five years from origination). If either the five-year backward-looking moving averages of the proportion of BBB-rated tranches or the proportion of A-rated tranches substantially exceeded their 2% and 1% respective benchmarks, the rating agency would lose NRSRO status for that class of debt instruments for several months. The threshold for substantially exceeding the 2% target could be 4%, and the threshold for substantially exceeding the 1% target could be 2%. The reason to focus

on BBB and A is that these are sufficiently risky that their default experience can be gauged over short periods of time. If A and BBB ratings are reasonably accurate, that will also constrain overrating of related AA and AAA tranches. This approach to ratings reform creates strong incentives for rating agencies to provide high-quality, non-inflated ratings. And because the record of ratings is observable to the public, no hidden forbearance could occur.

24. Liquidity risk is generally the result of an increased risk of insolvency. The best way to deal with liquidity risk, therefore, is to credibly limit insolvency risk. Liquidity needs that arise independently of insolvency risk can be addressed by borrowing from the central bank. For that reason, there is no reason to relax cash-reserve requirements (to permit the "use" of reserves held at the Fed) to address illiquidity problems.
25. The regulatory framework for capital and liquidity outlined here would be much simpler and more effective than the regulatory standards on these topics agreed to by the Basel Committee. It is not wise to regard adherence to the Basel Committee standards as a binding constraint on policy reform in the United States. In my view, the Basel Committee has not been a constructive force for improving regulation and U.S. regulatory reform, and necessary improvements should not await, or be constrained by, the Basel standards.
26. In the presence of the proposed CoCos requirement described, there would be less of a need for stress-testing because market values would perform much of this forward-looking forecasting of cash flows. Nevertheless, to the extent that stress tests could make effective use of private information, it is possible that they could add to the efficiency of prudential regulation.
27. See Tucker (1839) for an early statement of this view. The theoretical literature explaining why commercial banks would fund loans with short-term deposits (e.g., Calomiris and Kahn 1991) suggests that they would do so primarily for commercial and industrial loans, not mortgages or real estate development.