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ECONOMIC EFFECTS OF THE VOLCKER RULE  
Restrictions on Banking Activity and Their Consequences  
for Economic Growth and Stability

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The opinions expressed in this Graduate Policy Essay are the author's and do not represent official positions of the Mercatus Center or George Mason University.

**Abstract:**

The Volcker Rule—a section of the Dodd-Frank Wall Street Reform and Consumer Protection Act—restricts commercial banks from trading securities for their own accounts and limits their ability to affiliate with hedge funds and private-equity firms. The rule is intended to limit risk in the financial system by restricting institutions that are supported by public institutions from taking on risk that may ultimately be borne by taxpayers. This essay uses economic theory to examine the justification for such a rule, whether the rule is likely to be effective, and the additional economic effects that may arise from having the rule in place. The research in this essay suggests that the rule is unlikely to limit risk in the way that its supporters hope, because it attempts to work around, rather than address, a fundamental source of risk in the financial system: the moral hazard that results from public institutions providing support to banks and their creditors, which creates incentives for banks to assume more risk than they would otherwise.

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## Introduction

The recession between December 2007 and June 2009 is officially considered the longest<sup>i</sup> and most severe<sup>ii</sup> economic contraction since the Great Depression. The economic contraction unsurprisingly resulted in financial regulatory reform on a scale not seen since the Depression era.<sup>iii</sup> While some economic theorists consider financial crises a natural aspect of a market economy,<sup>iv</sup> such crises are considered failures of public policy by many economists and public officials, and, consequently, new regulation has arisen to prevent further financial crises in the future and to restore confidence in the banking system.

The Volcker Rule, which is the informal name given to section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank),<sup>v</sup> is one of many financial regulatory reforms put in place by the law. This section of the law amends the Bank Holding Company Act of 1956 to prohibit banking entities—financial institutions that benefit from federal deposit insurance, control insured depository institutions, or are subsidiaries or affiliates of insured depository institutions<sup>vi</sup>—from trading in most securities for their own accounts or affiliating with hedge funds or private-equity firms.<sup>vii</sup> Under the rule, the ownership interests of banking entities cannot represent more than 3% of the total ownership interest of any hedge fund or private-equity firm after the fund has been established for a year, and ownership interests in such firms cannot represent more than 3% of any banking entity's tier 1 capital.<sup>viii</sup>

The following essay examines the justifications that economic theory provides for such a rule, and also examines the drawbacks of having such a rule in place. Ideas from microeconomics, macroeconomics, and public choice all provide useful insights for evaluating the likely impact of this rule. The analysis put forth in this essay suggests that the rule will likely prove ineffective at limiting excessive risk taking in the financial sector. Importantly, even if it does successfully limit excessive risk taking it will likely do so in a way that reduces economic efficiency and benefits certain financial institutions at the expense of others.

The Volcker Rule addresses a legitimate problem in the financial sector, which is that commercial banks have incentives to take excessive risk, because their creditors are covered by deposit insurance, and because commercial banks have access to the Federal Reserve's discount window, meaning that they can obtain short-term loans from the Federal Reserve if they are unable to obtain funding elsewhere. However, a more effective way to deal with that concern is to incentivize the creditors and shareholders of financial institutions to take a more active role in monitoring the risks that financial institutions take, rather than altogether restricting commercial banks from certain types of activities. Repealing the Volcker Rule and instead implementing reforms that place the banks' creditors in charge of monitoring financial institutions would help achieve a desirable balance of risk and return in the financial system more effectively than the Volcker Rule.

## **Chapter I—What Does Economics Say about Financial Regulation?**

This chapter examines the discourse surrounding the need for financial regulatory reform. Policymakers and economists have provided numerous and varied explanations for the causes of financial instability. They have offered ideas for how to mitigate risks to the financial system, and consequently the economy in general. This chapter provides a discussion of those ideas and examines their strengths and weaknesses. A discussion of the causes of financial instability will establish a framework for explaining exactly what policymakers hope to achieve by implementing the Volcker Rule.

Financial regulation falls essentially into three broad categories: protection against systemic risk, prudential regulation, and consumer protection.<sup>ix</sup> While economists generally consider free trade and market competition as the most effective methods for allocating resources and ensuring economic growth, many economists support government regulation of private transactions that create externalities, meaning either positive or negative effects on people other than the buyer or seller. When a transaction creates externalities, the parties to the transaction do not incur its full costs and benefits. The market consequently underprovides products that create external benefits for society and overprovides products that create external costs.<sup>x</sup> Each of the three types of financial regulation mentioned above addresses some form of perceived market failure, meaning situations in which markets allocate resources at a level that is substantially different from their socially optimal level, such as externalities.

### **Mitigation of systemic risk**

Economists offer many different definitions of systemic risk, and, as many have pointed out, there is no unified definition on which all economists agree.<sup>xi</sup> In a broad sense, systemic risk is the risk of a collapse in financial market activity, which is a risk that financial institutions cannot effectively control or hedge.<sup>xii</sup> Systemic risk falls into two categories: domino effects resulting from firms that are “too big to fail,” and contagion.

### *Domino effects*

Domino effects result from the fact that large financial institutions have many creditors and counterparties, and their failure can consequently impose large, widespread losses on other firms. Since many large financial institutions fund, and are funded by, numerous other financial institutions, the failure of a large institution can have devastating effects on the industry, because the ability of other institutions to borrow and earn returns will be curtailed significantly. Also, since businesses in general depend on the financial sector to conduct their daily activities, a collapse in lending that results from losses to financial institutions threatens the economy in general, not just the financial sector.<sup>xiii</sup>

The collapse of one institution could conceivably cause other institutions to fail, which could set off a chain reaction.<sup>xiv</sup> Because the failure of one firm can impose costs on individuals besides the firm and its business partners, it is plausible from the standpoint of economic theory to argue that regulation is necessary to limit the likelihood that large firms will fail. This argument justifies the policy of “too big to fail,” which is the name colloquially given to the practice of preventing large firms from failing.<sup>xv</sup>

Not everyone agrees that the potential for a domino effect is a serious public-policy concern. In a recent paper, Harvard law professor Hal Scott argues that too-big-to-fail institutions played little role in creating the recent financial crisis and that the reforms in Dodd-Frank that address the interconnectedness of large financial institutions are largely misguided.<sup>xvi</sup> Furthermore, precisely measuring systemic risk is extremely challenging, so even if regulation is justified it is not clear that federal regulators will be able to mitigate systemic risk effectively.<sup>xvii</sup>

### *Contagion*

Contagion is a form of systemic risk that spreads in a less direct way than with domino effects. Contagion can occur when a few firms must sell their assets to raise capital, which lowers the price of those assets and therefore reduces the net worth of other firms, who then must themselves sell assets to raise capital,

which depresses prices further.<sup>xviii</sup> Fear and rumors can also cause contagion, which can create problems even for financial institutions that are not exposed—either directly or indirectly through exposure to other firms—to an event that causes a shock to financial markets. Because creditors of financial institutions do not typically have full knowledge of the activities of the firms to whom they entrust their savings, a problem in one sector of the financial industry can lead depositors to withdraw their savings even if they do not know with certainty whether their financial institution itself faces trouble. They withdraw their money out of fear that their financial institution is exposed to the same risks that are causing problems for institutions elsewhere in the economy.

Widespread bank failures can ensue when depositors withdraw their money en masse, because banks' ability to borrow and lend will be severely reduced as they divert funds toward paying depositors.

Economists characterize bank runs as an example of coordination failure. If depositors and other creditors could coordinate among themselves to withdraw their savings at later times when the bank has sufficient liquidity to meet their demands, then bank runs would not be a concern. However, the fact that such coordination is costly means that creditors are more likely to simply race to withdraw their funds from the bank, which results in financial instability.<sup>xix</sup>

The same phenomenon can affect financial institutions besides commercial banks, since all financial institutions rely on borrowing in order to finance their operations. When people and institutions become fearful that financial institutions in general face trouble they may demand their money back and withhold additional funding, which can force financial institutions to raise more capital by selling their assets in order to remain solvent. Under these circumstances many financial institutions may fail simply because funding is scarce and the value of their assets declines substantially due to the fact that many institutions must also sell their assets at the same time.<sup>xx</sup> These types of events can also be characterized as self-fulfilling prophecies,<sup>xxi</sup> since healthy banks can go bankrupt simply by the mere speculation that they might be facing trouble. Furthermore, even people who know that their bank or financial institution is

healthy may still withdraw their savings simply out of a concern that a large number of other depositors may do so, in which case their institution *would* be in real danger of bankruptcy.<sup>xxii</sup>

### *Policies to address systemic risk*

The external costs from the failure of large firms and contagion provide economic justification for regulations and policies that mitigate systemic risk. Examples include lender-of-last-resort functions, in which central banks provide liquidity to banks that are technically solvent but suffering from temporary liquidity constraints that prevent them from meeting their short-term obligations,<sup>xxiii</sup> and deposit insurance, which guarantees that depositors at commercial banks can get their money back and thereby reduces the likelihood of bank runs.<sup>xxiv</sup>

Both of these functions carry substantial costs, however, since they reduce the likelihood that depositors will monitor their banks' practices to ensure that they do not take excessive risks. Many economists have offered ideas for mitigating systemic risk while maintaining some degree of private monitoring. Such recommendations include scaling back deposit insurance, making banks' shareholders liable for losses even after they lose the full value of their initial investment, and improving the transparency of financial institutions.<sup>xxv</sup> Such policies would reduce the danger of contagion from bank failures, because depositors would have a better idea of their institution's exposure to various segments of the market. Depositors would also have incentives to obtain more knowledge of the extent of their financial institution's reliance on other institutions for funding, which would reduce the problem of domino effects, since depositors would be more likely to seek out highly diversified institutions. Chapter 4 discusses these proposals in greater detail.

Opponents of regulation to reduce systemic risk argue that in historical bank runs, the fearful environment that causes panics results in a flight to quality, in which investors refuse to put their money in anything but the safest assets.<sup>xxvi</sup> In the recent financial crisis, the price of U.S. Treasury securities increased substantially as investors sought what have historically been safe and stable assets. Supporters of free

banking<sup>xxvii</sup> argue that under an alternative system with fewer regulations and less government support for creditors, banks would compete to distinguish themselves as comparatively safe. Competitive banks would thereby presumably attract more funds, especially in the event that investors flee relatively risky investments.<sup>xxviii</sup> Free-banking supporters and others who argue for a less-regulated financial sector also argue that banks would advertise their conservative practices—such as making prudent loans and holding substantial capital—in the absence of government protection, but in its presence they do not have an incentive to do so, since creditors have guarantees of getting repaid regardless of the risks that banks take.

### **Prudential regulation**

Prudential regulation involves government agencies overseeing the activity of financial institutions to ensure that they do not take excessive risks. Through prudential regulation, regulators monitor risk to specific institutions rather than risk to the financial system overall. Justifications for prudential regulation include protecting the value of the Federal Deposit Insurance Corporation (FDIC) Deposit Insurance Fund (because the existence of deposit insurance encourages excessive risk taking), and reducing adverse selection.

Supporters of free banking argue that prudential regulation is unnecessary since the large losses that creditors stand to incur from the failure of financial institutions provide them with strong incentives to ensure that institutions behave prudently.<sup>xxix</sup> Economics provides two possible counterarguments. First, if every creditor monitors her financial institution to ensure that her money is being managed prudently, then many people would be gathering the same information, which would entail a substantial duplication of efforts. That outcome is economically inefficient, because a potentially more cost-effective method is to have one or a few institutions monitor the financial system on behalf of all depositors. Regulators can potentially serve that role.<sup>xxx</sup> Collective monitoring allows the market to take advantage of economies of scale, since the marginal cost—that is, the cost of monitoring an additional firm—is much lower for

institutions that have already incurred the large overhead costs of monitoring firms than for individuals.<sup>xxxix</sup>

Secondly, monitoring by individuals creates external benefits, so individual monitoring might occur to an extent that is less than socially optimal in the absence of prudential monitoring by regulators. If some people monitor the behavior of firms, which is costly to do, then depositors may reasonably assume that others will monitor their firms and then attempt to free-ride off of their monitoring.<sup>xxxix</sup> If depositors do not know who monitors the institutions and assume that others who have their money at stake are doing so, then a risk arises that very few people, or possibly no one, will actually invest the resources to ensure that financial institutions are taking appropriate risks with their creditors' money.

Another justification for prudential regulation is that institutions established by the government to mitigate systemic risk create a moral hazard. Deposit insurance significantly reduces the costs to depositors of bank failures, since the full value of deposits is guaranteed regardless of how their bank performs. Financial institutions whose depositors have access to government-provided deposit insurance do not have an incentive to compete by behaving prudently because, when the government guarantees the value of deposits, depositors do not take the risk level of banks into consideration when deciding where to place their money.

The lender-of-last-resort function creates moral hazard as well. Federal law<sup>xxxix</sup> only permits the Federal Reserve to make funding available to solvent banks facing liquidity constraints,<sup>xxxix</sup> but the Federal Reserve cannot perfectly distinguish between solvent banks and insolvent banks.<sup>xxxv</sup> Therefore, the existence of a lender-of-last-resort function raises the likelihood that banks that take excessive risks will have access to public funds in the event that those risks lead to substantial losses.

Because the institutions that policymakers deem necessary to prevent systemic risk also have destabilizing effects, plausible justification exists for regulating financial institutions to ensure that their risk-taking behavior does not place excessive strain on the Deposit Insurance Fund or taxpayers.<sup>xxxvi</sup>

A final justification for prudential regulation is that adverse selection can occur in the absence of such regulation. Financial products are generally not transparent, so those who invest in them cannot really know what type of product they are getting without incurring a large expense. The interconnected nature of the financial industry means that the risk associated with any particular financial product depends on the positions and solvency of so many other institutions that knowing the exact quality of a product is expensive for investors and savers.<sup>xxxvii</sup> As a result, their valuation of financial products will reflect their expectation of the average quality of all similar products, rather than the value of the particular product they are purchasing. That leads to an example of adverse selection, in which the market price punishes high-quality producers, who incur high costs to produce a high-quality product but can only receive a price that reflects average quality, while rewarding low-quality producers, who receive an average-quality price despite only incurring the costs required to produce low-quality products.<sup>xxxviii</sup> As a result, high-quality producers leave the market and low-quality producers enter the market, and the quality of financial products overall could deteriorate.

That situation may be avoided by having regulators set minimum standards of quality. Those minimum standards will benefit high-quality producers, who will be able to sell their products at prices that more closely reflect their quality. Savers and investors benefit as well, because they will be able to obtain higher-quality products.<sup>xxxix</sup>

Importantly, empirical research suggests that private institutions have strong incentives to profit by overcoming the problem of adverse selection. In other industries that are subject to adverse selection, private institutions such as warranties have arisen to mitigate that effect.<sup>xl</sup> No reason exists to expect that firms could not similarly mitigate adverse selection in the financial sector. As with the case of regulating to reduce systemic risk, the fact that adverse selection potentially exists does not by itself imply that regulation is practical, or that it is even capable of correcting the problem.

A more effective approach to mitigating the moral-hazard and adverse-selection concerns created by the federal safety net may be to reform the safety net so that more responsibility for ensuring prudent behavior falls on private individuals rather than on the government. Some economists have argued that deposit insurance and the lender-of-last-resort functions fulfilled by central banks result in homogeneity of banking practices and lead banks to adopt more risky practices than they would otherwise.<sup>xli</sup> When banks' creditors have guarantees from the federal government for the value of their deposits, less risky banks are placed at a competitive disadvantage, because the market does not punish their competitors for imprudent behavior. Therefore, less risky banks either go out of business or adopt riskier practices.

Furthermore, private monitoring institutions could overcome the duplication-of-efforts problem and gain the pricing advantages from economies of scale, since having a small number of institutions carrying out prudential monitoring could conceivably be achieved by having large private firms that depend on their reputation for effectively monitoring financial firms.<sup>xlii</sup> Also, attempts by the government to provide prudential monitoring preclude private solutions by limiting the need for transparency and private arrangements to reduce risk.<sup>xliii</sup>

### **Consumer protection**

Consumer protection is the third and final major economic justification for financial regulation. While issues of consumer protection were partially addressed in the section discussing prudential regulation, consumer protection falls into a separate category, since financial institutions may face incentives to deceive and mislead their customers.

Entrusting one's savings to a financial institution is a classic example of a principal-agent problem. Economists are well aware that when a principal hires an agent to act on her behalf, the agent has a strong incentive to shirk her duties, since monitoring the agent is very costly for the principal.<sup>xliv</sup> Financial institutions are agents acting on behalf of their creditors and shareholders, and the principal-agent problem suggests that they perform their job of managing money less carefully than they would if they

knew their creditors and shareholders were monitoring their every move. Financial institutions are also likely to know more about the quality of their products than their customers. Although very wealthy and sophisticated investors and savers often have as much financial knowledge as financial institutions, less-sophisticated savers and investors generally do not.

Furthermore, banks' interests can conflict with those of the investors and savers to whom they provide financial advice. For instance, banks may be able to sell securities to customers through their financial-advisory institutions and then take positions that will profit from a decline in value of those same securities. Goldman Sachs was recently accused of such behavior.<sup>xlv</sup> Interestingly, the former co-head of Goldman Sachs, John Whitehead, expressed reservations about the firm's increasing involvement in trading securities for its own account by saying, "The minute you exchange the role of agent for one as principal, you change the traditions of your business. If you're out looking for deals for yourself, you can't do the best for your client."<sup>xlvi</sup>

The dangers of deceptive and misleading practices are not unique to the financial industry. Any firm in an industry in which distinguishing between high-quality and low-quality products is difficult and costly for consumers faces incentives to cheat its customers, but that incentive is generally offset by the incentive of the firm to preserve its reputation and remain profitable by providing quality service.<sup>xlvii</sup> Federal law prohibits outright fraud, such as Ponzi schemes,<sup>xlviii</sup> but "false and deceptive practices" in commerce constitute legal violations in every industry,<sup>xlix</sup> so policing deceptive practices in the financial industry specifically may be redundant. Financial institutions that lie or knowingly mislead their customers face legal recourse as they would in any other industry.

Also, the fact that firms' interests conflict with the interests of their clients does not by itself indicate a need for regulation. Any time a security changes hands, the buyer is betting that the security is undervalued and that the price will rise, while the seller is betting that the security is overvalued and that its price will fall. Both parties benefit from the transaction, because they are limiting their exposure to a

price change that they perceive as likely, even though only one of the parties will turn out to be correct.<sup>i</sup> Since buyers and sellers of securities cannot have perfect knowledge of the future, it is difficult to state with certainty that the one who makes more money deceived the other, since they both willingly take part in the transaction.

Regulation to protect consumers may also end up having the opposite effect by making financial services more expensive and giving consumers fewer choices about where and how to obtain them. For example, regulation can have the effect of simply changing the composition or structure of the market in a way that benefits larger firms in the industry by sheltering them from competition.<sup>ii</sup> A consequence of regulation can be that only large companies, which can distribute the costs of compliance over many units, remain competitive, since smaller firms will need to raise prices substantially in order to cover the costs of compliance. A major effect of not just the Volcker Rule but many other aspects of Dodd-Frank may simply be that large incumbent banks will become more profitable at the expense of smaller banks.<sup>iii</sup> To the extent that regulation creates a barrier to entry and generates competitive advantages for larger firms by keeping smaller firms out of business, heavily regulated industries not only become less competitive but also become less innovative and dynamic, since smaller companies usually enter the market by offering a new product or a new style of service.<sup>iiii</sup> Because larger firms have an interest in maintaining the status quo rather than adopting new technologies or practices in order to avoid having their market share captured by new banks, they frequently favor complicated and strict regulation that reduces competition.<sup>liv</sup>

Additionally, financial regulators are frequently influenced by the financial industry itself.<sup>lv</sup> Most of the nation's financial regulators, including the Office of Thrift Supervision (OTS),<sup>lvi</sup> Office of the Comptroller of the Currency (OCC), Securities and Exchange Commission (SEC), and the Federal Reserve have come under scrutiny at one time or another for allegedly having permitted financial institutions to evade regulatory requirements. Given the complicated nature of financial products, it is hardly surprising that expertise from within the industry would be required in order to help regulators

carry out their tasks effectively.<sup>lvii</sup> Nonetheless, the participation of financial institutions in developing regulations makes it likely that regulation will be used as a tool to stifle competition.

## Chapter II—How Might the Volcker Rule Improve Economic Welfare?

During a hearing on the proposed Volcker Rule in February 2010, Hal Scott described the objective of the Volcker Rule as, “restrict[ing] banks that are ‘too big to fail’ from participating in nontraditional risky investment activity, thus minimizing the chance they might fail and have to be rescued to avoid endangering uninsured depositors or the FDIC insurance fund.”<sup>lviii</sup> In the same hearing, speakers also discussed the possibility that eliminating proprietary trading at banks could eliminate conflicts of interest between banks and their clients.<sup>lix</sup> By implementing the Volcker Rule, regulators primarily intend to achieve that objective by reducing risk, restricting speculative trading activity to financial entities that do not have access to the federal safety net—including the FDIC’s Deposit Insurance Fund and the Federal Reserve’s discount window—and aligning the interests of banking entities and their customers.<sup>lx</sup> The rule may also improve economic well-being by limiting the political power of financial institutions. This chapter addresses each of those objectives in turn.

### **Reduce risk**

The Volcker Rule can potentially limit risk in the financial system by eliminating proprietary trading by banks and limiting their affiliation with hedge funds and private-equity firms. The rule will ideally reduce the likelihood that commercial banks will incur large losses that threaten their ability to repay their depositors. This issue came into the public spotlight in May 2012 when the investment banking arm at JPMorgan Chase reported that it had incurred substantial losses in its trading account.<sup>lxi</sup> Although those losses, while substantial and currently estimated at over \$6 billion,<sup>lxii</sup> did not threaten the solvency of JPMorgan Chase, they did raise questions about whether such losses would have occurred had the Volcker Rule been in place and sufficiently enforced.<sup>lxiii</sup>

The financial condition of particular firms is not typically a public-policy concern. However, given the fact that banks have access to public funds through deposit insurance and the Federal Reserve’s discount

window, taxpayers can incur losses when depository institutions fail. Furthermore, since banks' losses may be incurred by taxpayers rather than by the banks themselves, banks have incentives to take excessive risks. These features of the banking system create risks of economic instability, which could potentially be reduced with an effective Volcker Rule.

### **Separate federal support for the banking system from speculative trading activity**

A key purpose of the Volcker Rule is to ensure that commercial banks, which have access to federal safety nets intended to reduce systemic risk, cannot engage in speculative trading activity that increases the likelihood of an eventual need for public funds. This purpose arises from the concern about moral hazard discussed in the first chapter.

Federal Reserve Governor Sarah Bloom Raskin, who views the Volcker Rule in its current form as too lenient, argues that, because of its risks, no proprietary trading of any kind should not be carried out by entities with access to a federal safety net. The rule allows for market making, in which financial firms serve as intermediaries between buyers and sellers of securities, and underwriting, in which banks purchase the securities issued in a new public offering in order to distribute them to investors. It also permits risk-mitigating hedging,<sup>lxiv</sup> in which banks take certain positions in order to offset risks that they incur in other aspects of business that are not prohibited by the law.<sup>lxv</sup> Raskin argues that all forms of proprietary trading, including activities permitted under the Volcker Rule, could easily be carried out by investment banks, hedge funds, and other institutions that do not have access to the federal safety net. She argues that even if bans on proprietary trading end up reducing market liquidity overall, this effect will not necessarily be undesirable, since high amounts of liquidity can result in deviations of a financial instrument's price from its true value just as easily as it can result in price discovery.<sup>lxvi</sup> (The next chapter discusses in greater detail the reasons why the Volcker Rule in its current form poses significant challenges, due to the need for regulators to correctly identify what constitutes acceptable activity and what constitutes proprietary trading.)

This goal of the Volcker Rule is similar to a provision of the Banking Act of 1933—commonly called “Glass-Steagall” after the last names of its Congressional sponsors<sup>lxxvii</sup>—which required complete separation of securities firms and commercial banks.<sup>lxxviii</sup> Congress lifted this restriction in 1999 with the passage of the Gramm-Leach-Bliley Act.<sup>lxxix</sup> For about 20 years before finally repealing this aspect of the law,<sup>lxxx</sup> Congress also eased the stringency of the separation of commercial and investment banks by allowing banks to obtain a greater portion of their revenue from securities services.<sup>lxxxi</sup> Gramm-Leach Bliley was therefore part of an already-occurring trend toward greater integration of commercial and investment banking.

While the overall effect of the repeal of Glass-Steagall on the financial system is the subject of much debate,<sup>lxxxii</sup> the integration of commercial and investment banking is considered by some as a plausible explanation of the recent financial debacle.<sup>lxxxiii</sup> Affiliation between commercial banks and securities firms is viewed as problematic, because the deposits of commercial banks are backed by deposit insurance while investment banks are not, so commercial banks that deal in securities will have disproportionate incentives to take excessive risks.

### **Reduce potential conflicts of interest**

By trading for their own accounts, banks can take positions in the market that are not necessarily the same as the positions of their clients, and may even be the opposite of what they sell to their customers. As an example, Goldman Sachs was recently accused of selling securities to its customers and then betting that those securities would decline in value,<sup>lxxxiv</sup> meaning that it took short positions in those securities through its proprietary trading unit.<sup>lxxxv</sup> Some expect that the Volcker Rule will align the interests of banks with their customers, so as to create a banking system that is safer for consumers.<sup>lxxxvi</sup>

On the other hand, such a strategy of taking opposite positions may be rational and profitable for a financial institution, because holding exactly the same position as its customers would expose a bank to the risk of that position directly as well as reduce income from the bank’s clients if the position loses

money. Banks can diversify their risks by taking a position opposite to that of their clients, which generally adds to the stability of financial institutions and, consequently, the stability of the economy overall. Some argue that the Goldman Sachs case in particular underscores the fact that the interests of buyers and sellers of securities generally are not aligned simply by the nature of financial products, and that buyers—particularly large, sophisticated buyers such as the party to whom Goldman Sachs allegedly sold products that were “designed to fail”—therefore have a responsibility not to rely exclusively on the advice of sellers when making investment decisions.<sup>lxxvii</sup>

### **Reduce the political power of the financial industry**

University of Chicago finance professor Luigi Zingales argues that banking regulation can benefit society by limiting the political power of financial institutions. He particularly argues that while Glass-Steagall was in place and adequately enforced, insurance companies, investment banks, and commercial banks all had sufficiently different political interests that the financial industry could not successfully direct the nation’s political agenda in its favor.<sup>lxxviii</sup> In Zingales’s view the dismantling of Glass-Steagall changed that, and the industry condensed into a single lobbying entity with enough political influence to change national policy to promote its interests. Furthermore, the dismantling of Glass-Steagall led to an increase in the size of the largest financial institutions, because banks could expand the scope of their financial activities.<sup>lxxix</sup> Zingales argues that the growth of financial institutions not only increased their political power but also increased systemic risk, because the financial system depended more on the success of comparatively few firms, many of which were arguably too big to fail.

Zingales argues that while Glass-Steagall was economically inefficient—since the law prevented the financial industry from taking full advantage of economies of scope<sup>lxxx</sup> and scale—it was nonetheless socially beneficial. Glass-Steagall certainly made the provision of financial services more expensive than would have been the case in its absence, but it also prevented financial institutions from gaining the type of political influence that they gained after the repeal of the law. He argues that Glass-Steagall was

effective because it explicitly and concisely defined what financial institutions could and could not do, thereby giving them little flexibility for circumventing the law.<sup>lxxxix</sup>

Importantly, Zingales contrasts what he views as the beneficial effect of Glass-Steagall with the Volcker Rule. He argues that the Volcker Rule simply appeases those who seek to resurrect Glass-Steagall, and that the rule will prove ineffective, because its complexity and numerous exceptions will make it nearly impossible to enforce. Therefore, in Zingales's view, the Volcker Rule satisfies simultaneously those who want to see the power of banks restricted and the banks themselves, since the law will technically prohibit presumably destructive activity but will not be adequately enforced in practice.<sup>lxxxii</sup>

To the extent that the Volcker Rule effectively limits the scope of activities of commercial banks, it will also likely lead to less alignment of the political interests of commercial banks with the rest of the financial industry. Restricting the scope of activities in which any financial institution can engage will likewise decrease the size of the largest financial institutions. Therefore, the potentially beneficial effects of the Volcker Rule may be effects that are not explicit objectives of the rule, such as limiting the political power of banks and decreasing the market power of firms in the financial industry.

## Chapter III—Could the Volcker Rule Miss the Mark?

While the intent of the Volcker Rule is to foster economic stability and reduce risk, the actual effects of the rule are open to question. Government agencies have reported that the rule may prove difficult to enforce.<sup>lxxxiii</sup> Furthermore, even if financial regulators manage to find ways to effectively enforce the rule, the economic effects may not be what supporters of the law had in mind. The law could, in practice, end up having the opposite of its intended effect. This chapter discusses the main concerns with the effectiveness of the rule and its potential economic consequences.

### Increased volatility

Critics of the Volcker Rule argue that it will restrict the activity of market-making—serving as a ready buyer and seller of securities—even though the law explicitly permits commercial banks to practice market making. Firms that engage in market making must hold a large inventory of securities in order to readily buy and sell them, and their decisions as to which securities to hold are influenced by the expected changes in the prices of those securities. Since firms will be more likely to hold securities that they expect to appreciate in value, some have argued that market making is effectively proprietary trading by definition.<sup>lxxxiv</sup> Therefore, it is entirely possible that restrictions against trading in securities for banks' own accounts will reduce market-making activity among commercial. A likely consequence of banks ceasing to conduct market making will be reduced liquidity due to the diminished ability of institutions that issue securities to find buyers for those instruments.<sup>lxxxv</sup> Having less liquidity will limit firms' ability to raise capital, which will make them more susceptible to negative economic shocks.

The Volcker Rule may also increase economic volatility for other reasons. For instance, to the extent that hedge funds and private-equity firms experience more difficulty attracting investors as a result of limitations placed on commercial banks' affiliations with them, they will have fewer funds to invest in constrained businesses that experience trouble meeting temporary liquidity constraints, which will result

in more business failures. Hedge funds and private-equity firms typically assume far greater risk than most conventional financial institutions in the hope of securing high returns.<sup>lxxxvi</sup> Businesses that face severe liquidity constraints in conventional markets typically have the option to secure investments from such firms, but only by paying a substantial premium over market rates.<sup>lxxxvii</sup> To the extent that the Volcker Rule limits the funding available to hedge funds and private-equity firms, thereby forcing them to be more discriminating in deciding where to invest their funds, the likelihood of bankruptcies due to temporary liquidity constraints will increase. The frequency and intensity of disruptions in the financial system, and consequently the economy overall, may increase as a result.

Furthermore, proprietary trading is a lucrative source of profit for commercial banks. If the Volcker Rule succeeds in eliminating proprietary trading as a source of profits, banks will have the choice to pass the higher costs of remaining in business onto their customers, absorb the losses themselves, or replace proprietary trading with another profitable activity. Restrictions against proprietary trading could, according to some, incentivize banks to rely on real-estate lending for a greater portion of their profits, which is historically a volatile and risky market.<sup>lxxxviii</sup> This effect is exacerbated by the fact that the Volcker Rule restricts proprietary trading even at the level of bank-holding companies, which traditionally remained exempt from such regulation because they are not covered by deposit insurance.<sup>lxxxix</sup>

Additionally, Douglas Elliott of the Brookings Institution argues that speculative trading necessarily requires institutions to assume a certain level of risk, and that the trades that brought about the collapse of the subprime mortgage market and led to the recent crisis resulted from banks holding very highly rated mortgage-backed-securities (MBS) that were widely considered to carry little to no risk. He therefore believes that had the Volcker Rule been in place before the crisis, it is likely that regulators would not have considered large holdings of MBS to constitute proprietary trading. To the extent that regulators permit activity that appears safe but only turns out to be risky after a major crisis, as tends to be the case

in major market disruptions, the frequency of disruptions may not change at all or may even increase, depending on how effectively regulators identify speculative trading.<sup>xc</sup>

Finally, Douglas Elliott also argues that a fundamental weakness of the Volcker Rule is that it focuses on the intent behind trades rather than the trades themselves, and that confusion over the definitions of restrictions and exemptions made by the Volcker Rule could lead to greater volatility.<sup>xcii</sup> Peter Wallison of the American Enterprise Institute acknowledges this concern as well. He notes that, since banks will not know at what point permitted risk-mitigating hedging crosses the line into becoming proprietary trading in the view of regulators, banks may hedge less and will therefore exhibit more procyclicality and volatility in their returns.<sup>xciii</sup> The rule seeks to eliminate situations in which banks hold securities for the exclusive purpose of benefiting from short-term price movements, and regulators will essentially have to guess as to whether or not banks are holding securities for that purpose.

### **Difficulty of enforcement**

Another concern with the Volcker Rule is that enforcement will prove difficult and costly. The specific prohibitions in the law against proprietary trading and affiliations with hedge funds and private-equity firms require interpretation on the part of the regulatory agencies that are responsible for enforcing them. Some have pointed out that the many exceptions that the rule makes have properties that make them inseparable from proprietary trading, and that firms will therefore be able to use legally permitted activities to trade for their own accounts.<sup>xciii</sup> Although banks have been shutting down their segments that were specifically devoted to proprietary trading<sup>xciv</sup> and will continue to do so as regulators implement the Volcker Rule, banks may continue to engage in proprietary trading but do so secretly rather than openly. Depositors, other creditors, and investors will then have more difficulty comparing options of where to put their money, because risky activity may be deliberately hidden in response to the law. Even if the law did not make exceptions for certain types of activity and simply banned proprietary activity altogether, distinguishing proprietary trading from trading on behalf of a firm's clients could still prove difficult for

regulators, because the same traders typically undertake trades that are made on behalf of clients and on behalf of the firm.<sup>xcv</sup>

Douglas Elliott has criticized the Volcker Rule and concluded that the rule in its current form will prove ineffective and counterproductive. Part of his reasoning is that the ability of the rule to effectively deter proprietary trading depends on the ability of regulators to distinguish between permitted and prohibited activities in situations where the difference between the two will be an arbitrary distinction at best. He argues that regulators whose job it will be to enforce the rule would recognize that market making can become proprietary trading if banks hold securities for the purpose of benefiting from short-term price movements rather than simply holding securities in order to facilitate buying and selling securities. Since the point at which market making becomes speculative trading depends on the size of the inventory and the types of securities in the inventory, the point at which permitted activity becomes prohibited activity will depend on an ex post judgment by regulators. In Elliott's view, the correct judgment will likely only be clear in retrospect, so the Volcker Rule will not effectively limit risk in the financial system.<sup>xcvi</sup>

Due to the expense and complexity of limiting the scope of banking activity through regulation like the Volcker Rule, some have argued that a far simpler, cheaper, and more enforceable method of achieving financial stability would be to simply limit the size of banks, rather than their scope. Arnold Kling is a well-known advocate of this policy.<sup>xcvii</sup> He argues that systemic risk in the financial system can be addressed by simply breaking up the banks that would create systemic risk if they failed.<sup>xcviii</sup>

### **Reduced economic growth**

Concerns over proprietary trading focus on the fact that speculative trading could cause financial institutions to incur substantial losses that may ultimately be borne by other institutions, by the Deposit Insurance Fund, or by taxpayers. It is important to note also that banning proprietary trading will prevent institutions from earning potentially high returns from such activity, which creates costs not only for banks but also for the overall economy. If financial institutions earn returns on investments that exceed

the return of the overall market, then the high returns signal that they have generated economic value by allocating savings more effectively than their competitors.<sup>xcix</sup> Firms that engage in speculative trading serve that purpose by profiting from situations in which the market has priced financial instruments incorrectly. When many different institutions engage in this activity, the prices of financial instruments are more likely to reflect their true economic value.<sup>c</sup>

If the Volcker Rule restricts the ability of banks to trade securities for their own accounts or invest in private-equity firms and hedge funds (which also profit by identifying price discrepancies) overall economic efficiency may decline. Another concern is that uncertainty over how regulators will enforce the law could reduce activity in financial markets.<sup>ci</sup> The rule permits the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) to expand the list of financial instruments and transactions that the Volcker Rule covers at any time,<sup>cii</sup> which could create uncertainty and confusion. Furthermore, the rule gives regulators the authority to subject banks to a “prudential backstop,” through which they may restrict activity that the rule explicitly allows if they determine that the activity is excessively risky or creates a conflict of interest between the bank and its customers in that instance.<sup>ciii</sup> Uncertainty over how agencies will enforce the rule could lower the availability of financial services, because financial institutions may cease to offer products that they fear could potentially be perceived by regulators as violating the Volcker Rule. The costs of complying with the rule will also likely be passed on to customers. Those in the market for financial products will consequently have fewer options for allocating their savings, and financial products will become more expensive.

### **Influence by private rather than public concerns**

As is the case with many types of regulation,<sup>civ</sup> it is nearly certain that, while supporters of the Volcker Rule argue that the rule is necessary to protect the public, private interests have also attempted to leverage the rule in order to seek rents—that is, to profit at the expense of others through obtaining favors from the government.<sup>cv</sup> Financial institutions outside of the commercial-banking sector may stand to profit from

the Volcker Rule, as pointed out recently in an article about efforts to support the rule.<sup>cv</sup> The rule explicitly seeks to move speculation in securities outside of commercial banking, which will reduce the competition that investment banks, hedge funds, and similar financial institutions face from traders at commercial banks.

As mentioned in the first chapter, large financial institutions also have an interest in seeking rents by pushing for complex regulatory structures in order to limit competition. The Volcker Rule will necessitate that commercial banks create complicated infrastructures in order to monitor their activities and comply with the rule,<sup>cvii</sup> which may create an expensive barrier to entry in commercial banking.<sup>cviii</sup> The number of new competitors entering the market would consequently decrease, thereby making the profitability of larger banks more secure. One consequence of this outcome is that large incumbent financial institutions will earn greater profits than their value to society justifies. Still another consequence is that large institutions will expend resources on lobbying rather than on creating products that consumers value, which represents a loss to society. Most importantly, the reduced competition raises the prices of financial products and provides consumers with fewer options, because large firms do not need to innovate in order to maintain their market share.

Smaller firms generally gain market share by offering new products. If regulation impedes such innovation, the process of creative destruction, whereby new products displace old products, either will not take place or will take place more slowly than would otherwise be the case.<sup>cix</sup> This means that consumers have fewer choices than they would if the financial industry were more competitive. As the fourth chapter of this essay discusses, in 1933 policymakers restricted entry into banking by requiring new banks to receive licensure from the Office of the Comptroller of the Currency or the Federal Reserve Board.<sup>cx</sup> Because the Banking Act of 1933 also created deposit insurance, Congress required the agencies in charge of licensing new banks to ensure that banks met certain criteria so as to avoid adverse selection. Empirical studies show that these new licensing requirements significantly slowed new entries into banking, which limited competition and thus made incumbent firms more profitable.<sup>cx</sup>

It is not clear whether the influence of lobbyists will lead to stronger or weaker enforcement of the Volcker Rule over time. It is certain, however, that the language and effects of the rule will be of substantial interest to lobbyists for special interests and that the enforcement of the law will be determined, at least in part, by private rather than public interests.

## Chapter IV—Analysis

While the Volcker Rule addresses legitimate concerns about risk and stability in the financial system, it does not address those concerns in a way that is conducive to long-term stability and economic growth. Rather, it essentially attempts to mitigate problems that have been created by past regulation. In doing so, the Volcker Rule may succeed at suppressing unwarranted and undesirable risk taking that threatens financial stability, but it will also inevitably suppress innovation and the healthy risk taking that drives economic growth. This chapter identifies ways in which the rule may fail to achieve its objectives and recommends alternative methods for achieving them.

The main purpose of the Volcker Rule is to prevent commercial banks from taking risks with public funds. Under the current system, the main incentive of those who deposit money in insured depository institutions is to deposit their money where they earn the highest rate of return, because nearly all deposits are insured by the federal government.<sup>cxii</sup> Higher rates of return are usually only feasible if investors assume more risk, but through deposit insurance the government relieves depositors of the need to take risk into account when deciding where to place their money. In the absence of deposit insurance, depositors would need to carefully weigh the tradeoff between risk and return on their deposits. The result would be that excessively risky banks could lose some of their depositors to other, more prudent banks. The fact that deposit insurance distorts incentives and leads to greater recklessness among financial institutions is well known among academics and policymakers.<sup>cxiii</sup> In fact, when deposit insurance was first implemented in 1933, President Franklin D. Roosevelt expressed reservations about the new system by saying that deposit insurance put “a premium on unsound banking in the future.”<sup>cxiv</sup> Commercial banks thus have incentives to take excessive risks. Partly to address those concerns, Congress enacted new banking regulations at the same time that deposit insurance was first introduced. The Banking Act of 1933 separated commercial and investment banks,<sup>cxv</sup> required banks to hold minimum amounts of capital,<sup>cxvi</sup> and restricted banks from paying interest rates on checking accounts.<sup>cxvii</sup> These policies were

put in place in order to limit risk taking and decrease the likelihood that financial institutions would fail, both of which helped to offset the risks created by a system of government-provided deposit insurance.

In theory, the dangers of deposit insurance—namely moral hazard and adverse selection—apply to all types of insurance.<sup>cxviii</sup> In practice, however, the problems created by deposit insurance are unique, because the FDIC does not require deductibles from the banks that receive coverage, nor does it refuse coverage to banks that pose an unacceptably high level of risk to the Deposit Insurance Fund.<sup>cxix</sup> Prior to 1991, the FDIC also charged uniform premiums to banks regardless of their risk level, which effectively subsidized risky banks at the expense of prudent banks.<sup>cxx</sup> After 1991, the FDIC began charging risk-based premiums, but many economists have questioned its ability to effectively alleviate adverse selection by assessing higher premiums to riskier institutions.<sup>cxxi</sup> For example, as of 2003 nearly 95% of all insured institutions paid no premiums at all for deposit insurance,<sup>cxxii</sup> which strongly suggests that risk-based premiums were not being appropriately levied. Furthermore, even after the administration of deposit insurance underwent substantial reform in 1991, assessments continued to be levied based on the amount of reserves in the fund at the time. Consequently, premiums were low when the fund had substantial reserves, and premiums rose as reserves decreased.<sup>cxxiii</sup> Premiums therefore decreased in times of strong economic growth, when the fund is flush with cash, and premiums increased in times of economic turmoil. Thus, deposit insurance creates additional financial burdens for banks when they are least capable of handling them.<sup>cxxiv</sup>

Furthermore, government-provided insurance tends to be underpriced,<sup>cxxv</sup> presumably both because regulators face political pressure to keep premiums low regardless of the economic rationale for providing the insurance in the first place<sup>cxxvi</sup> and because regulators have weak incentives to price the insurance properly, because they do not stand to profit from assessing premiums correctly, nor do they suffer losses if they assess the premiums incorrectly.<sup>cxxvii</sup> Therefore, while reforms to the methods of assessing risk may improve the functioning of deposit insurance, the moral-hazard and adverse-selection problems that characterize the current system are likely to persist.

The Volcker Rule may prove socially valuable by restricting the ability of banks to engage in risky behavior. However, the practices of trading and selling securities, speculating on future changes in prices, and affiliating with private-equity firms and hedge funds do not inherently constitute “excessive” risk. It is entirely possible that commercial banks can benefit from economies of scope by engaging in those activities and that commercial banking and investment banking should, in many instances, be conducted by the same firms in order to provide financial services at minimal cost and leave scarce resources available for other economic uses.<sup>cxviii</sup> Therefore, a more effective and socially desirable option is not to eliminate all proprietary trading by commercial banks, but rather to implement reforms that will incentivize shareholders and creditors of financial institutions to appropriately assess and price the risk of proprietary trading.

Admittedly, such reforms could have the effect of limiting economic growth and raising the cost of financial services (which are also reasons that some have given for opposing the Volcker Rule). Reforms that make shareholders and creditors responsible for potential losses would lead investors and savers to demand a higher rate of return in order to lend to financial institutions or become shareholders, and those costs would likely be incurred at least partially by people who use financial services and would also make financial institutions exercise more caution in lending, which could potentially reduce economic growth. However, in the absence of such reforms the relatively low price of financial services results from the fact that taxpayers and the Deposit Insurance Fund bear a portion of the risk, so the increase in the price of financial services would result from the fact that the individuals taking the risks would have more responsibility for bearing their cost. In contrast, the reductions in economic growth and the higher cost of financial services that would likely result from the Volcker Rule would be a consequence of investors and savers being banned from specific activities regardless of the economic value of those activities. The increase in social welfare from the Volcker Rule is therefore much less certain than the increase in social welfare that would result from reforms that reduce the level of explicit or implicit government support for financial institutions. Reducing government guarantees for financial institutions would help to eliminate

any proprietary trading that unnecessarily jeopardizes banks' depositors and other counterparties while maintaining proprietary trading that, in the view of the shareholders and creditors whose money is at stake, appropriately balances risk and return.

The next section provides critiques of a number of arguments that economists have offered in support of the Volcker Rule, and the section that follows offers suggestions for policies that could more effectively achieve the goals of the Volcker Rule.

### **Critiques of arguments in favor of the Volcker Rule**

#### *Separating risky activity from the federal safety net*

Proponents of the Volcker Rule argue that the existence of deposit insurance requires that commercial banks be restricted from engaging in risky speculation.<sup>cxix</sup> The implication is that, because the creditors of investment banks and other alternative financial institutions such as private equity firms and hedge funds do not have federal insurance and lack access to the Federal Reserve's discount window, their investors will have incentives to appropriately monitor their activities. However, the history of how financial crises have been addressed in the United States gives counterparties of investment banks and other financial institutions that aren't commercial banks reason to expect that their funds will be safe even if their institution fails.

In 1984, the government set a precedent for bailing out large institutions by rescuing Continental Illinois National Bank and Trust Company out of concern that its failure might have resulted in unacceptably high levels of disruption in the financial markets.<sup>cxix</sup> Continental Illinois was a commercial bank, but the bailout set a precedent for bailing out institutions that were sufficiently large and interconnected that their failure could create systemic risk, which could just as easily apply to financial institutions other than commercial banks. Likewise, in 1998 the Federal Reserve Bank of New York actively arranged for a private rescue of the hedge fund Long Term Capital Management for the same reason, although no public

funds were directly used to carry out the rescue.<sup>cxxxix</sup> The government also rescued many firms during the financial crisis of 2007–2009, the failure of which they feared would cause unpredictable and devastating consequences for the financial system.<sup>cxxxix</sup> These firms included non-commercial-bank financial institutions such as Bear Stearns, Merrill Lynch, Citigroup<sup>cxxxix</sup> and American International Group.<sup>cxxxix</sup>

Further, Dodd-Frank requires the newly created Financial Stability Oversight Council to identify “systemically-important financial institutions,”<sup>cxxxix</sup> meaning institutions whose failure would presumably endanger the stability of the financial system. These firms will include bank-holding companies with \$50 billion of more in assets, as well as any other firms that the council designates as systemically important.<sup>cxxxix</sup> Firms whose size, scope, or interconnectedness would, according to the council, potentially create financial distress if they were to fail will be subject to additional regulation.<sup>cxxxix</sup> This regulation includes stricter capital requirements, liquidity requirements, limitations on concentration and leverage, and requirements to form plans for their resolution in the event that they fail.<sup>cxxxix</sup> While this regulation could reduce the chance that taxpayer-funded bailouts of large companies will be needed in the future,<sup>cxxxix</sup> critics of the rule argue that it will worsen the moral hazard associated with the too-big-to-fail problem. Since the government will be explicitly listing which institutions it will not allow to fail, critics argue that it will give those firms an advantage in the market: their creditors will have an implicit guarantee that their investments will be safe.<sup>cxl</sup> Importantly, that guarantee will apply to all financial institutions that are designated as systemically important, including institutions that do not have access to deposit insurance and are therefore not subject to the Volcker Rule.

The failure of large firms can generate systemic risk, as discussed earlier in this essay, and the government frequently steps in to assist large firms when it suspects that their failure could threaten the stability of the financial system. Since investment banks and other alternative financial institutions have historically been beneficiaries of the too-big-to-fail policy, creditors of investment banks can reasonably expect that their investments have a strong chance of remaining safe even if their institution fails. It’s true that creditors of investment banks do not have the same level of security as depositors at commercial

banks, because investment banks are typically only bailed out when their failure occurs at a time of financial instability.<sup>cxli</sup> Nonetheless, simply creating a firewall between commercial banking and securities trading does not effectively address the problem (of separating risky activity from the federal safety net) that theoretically justifies the existence of such a policy.

### *Reducing moral hazard*

Some economists and policymakers argue that permitting the affiliation of commercial banks with investment banks led to the financial crisis of 2007–2009, because that allowed commercial banks to write mortgages that they then sold off to other firms. Because commercial banks did not incur costs if borrowers to whom they issued mortgages defaulted,<sup>cxlii</sup> this practice could represent a market failure, because all parties to the transaction did not incur the full costs and benefits of their actions.<sup>cxliii</sup> Critics of the repeal of Glass–Steagall therefore argue that restricting the activities of commercial banks would help to mitigate the risk of a similar crisis in the future.<sup>cxliv</sup> While nobody can determine precisely what effect the Volcker Rule will have on the risk of future crises, the claim that the integration of commercial and investment banking led to the most recent financial crisis is highly questionable.

The originate-to-distribute model—in which commercial banks write mortgages, securitize them, and sell them to other financial institutions—has been cited as a consequence of deregulation that permitted the affiliation of commercial banks with investment banks.<sup>cxlv</sup> In an originate-to-distribute model, the companies and institutions that make loans will not be the same companies and institutions that incur costs if the borrowers default. This model has been criticized as providing incentives to engage in excessive and dangerous risk taking by creating moral hazard.<sup>cxlvi</sup> However, the originate-to-distribute model did not result from the repeal of restrictions against affiliations between commercial and investment banks. Indeed, such practices occurred while restrictions against affiliations between commercial and investment banks were in place. The government-sponsored enterprises Fannie Mae and Freddie Mac, which were established in 1938 and 1970 respectively in order to facilitate expansion of

homeownership, were instrumental in purchasing loans from originators for most of their existence.<sup>cxlvii</sup>

The practice of securitizing mortgages, in which the cash flows from mortgages are pooled together and sold to investors, dates back to 1970 as well. The practice therefore predates the loosening of Glass-Steagall restrictions in the 1980s.<sup>cxlviii</sup>

The claim, explained in chapter 2 of this essay, that moral hazard created by the Gramm-Leach-Bliley Act led to the financial crisis is also questionable because the first firms to fail during the recent financial crisis, Bear Stearns and Lehman Brothers, were pure investment banks and not commercial banks with investment-banking arms.<sup>cxlix</sup> Those firms would have been permitted to engage in the activities that led to their demise even if the restrictions on affiliations between commercial and investment banks had remained in effect. Furthermore, commercial banks with investment-banking arms remained healthy during the crisis and were able to absorb faltering institutions. When the crisis unfolded, regulators responded by organizing private firms to buy failed institutions in order to mitigate the damage to the financial system. When Bear Stearns failed, the Federal Reserve Bank of New York provided \$30 billion to assist JPMorgan Chase, a commercial bank, with purchasing the company.<sup>cl</sup> Bank of America, also a commercial bank, acquired the investment bank and wealth-management company Merrill Lynch after uncertainty about the future of Merrill Lynch arose due to the company's holdings of real-estate investments.<sup>cli</sup> Although Bank of America's acquisition of Merrill Lynch took place without financial support from the government, Bank of America received \$20 billion in funding through the Treasury's Troubled Asset Relief Program<sup>clii</sup> months later in January 2009—which added to the \$20 billion it previously received through the program in October 2008—specifically to help it deal with losses from Merrill Lynch.<sup>cliii</sup> Regulators and Congress facilitated the mergers of failing investment banks with commercial banks in order to limit the severity of the financial crisis. Gramm-Leach-Bliley may therefore have contributed to greater financial stability during the crisis.<sup>cliv</sup>

The separation of commercial banking and securities operations also presumably reduces the incentives that commercial banks have to deceive their customers. However, the Volcker Rule permits banks to

engage in risk-mitigating hedging, so commercial banks may be able to legally continue taking short positions in securities that they have sold to their clients. Only by placing significant restrictions on hedging could regulators ensure that banks cannot legally hedge the positions that they sell to their clients, but that could also lead to more economic instability, because restrictions against hedging would also make banks more vulnerable to negative shocks.

### *Limiting the political power of banks*

Another possible beneficial, although unintended, consequence of the Volcker Rule is that it could limit the political power of banks. Luigi Zingales, who claims that Glass-Steagall effectively limited the political power of the financial-services industry by creating very different political objectives for commercial banks and other financial institutions,<sup>clv</sup> acknowledged that the Volcker Rule will almost certainly not have the same effect, since its numerous exemptions will allow commercial banks to retain their proprietary trading operations,<sup>clvi</sup> even if they have to alter them slightly.

It is important to note, however, that preventing the financial-services industry from consolidating into an influential lobbying organization can lead to increased costs. When the political interests of all financial institutions are aligned, they certainly become more effective at advancing their political agenda.

However, it also requires these institutions to expend fewer resources in their lobbying efforts since they are not competing with one another for the government's favor. In situations where their political interests are not aligned, it is likely that financial services will be more expensive, not only because financial firms cannot take advantage of economies of scope and scale, but also because lobbying efforts will consume a greater amount of the scarce time, energy, and resources that financial institutions have available.<sup>clvii</sup>

Generally, the best option for preventing special interests from controlling the government is not to focus on disarming the special interests themselves but rather to focus on limiting the extent to which the political system allows special interests to receive privileges from the government.<sup>clviii</sup> When special interests determine to lobby the government to advance their agenda, they are making a rational economic

calculation that they have a better chance of becoming wealthier by investing resources in lobbying rather than in invention, innovation, or production. The problem is not that special interests view lobbying as profitable, but that lobbying *is* profitable.<sup>clix</sup> The focus of public policy should therefore not be to pass legislation that directly or indirectly makes lobbyists less powerful—the focus should be on constraining the political system to make it less susceptible to being gamed by special interests.<sup>clx</sup>

### *Reducing negative externalities*

Economists generally justify regulation in the event that an externality can be identified—that is, when there is a situation in which a transaction either benefits or harms individuals who are not parties to the transaction. The Nobel laureate Ronald Coase pointed out that private arrangements can often mitigate the effects of externalities without government interference. He recognized, however, that occasionally the costs of organizing and designing an arrangement can be prohibitively high, in which case state intervention may be an acceptable option, provided, of course, that the social benefits of intervention outweigh the social costs.<sup>clxi</sup> The Volcker Rule would have to address an externality for most economists to find it justifiable, and economists who follow the insight of Coase may go further and demand evidence that private arrangements could not have addressed the externality in a satisfactory and cost-effective manner. Unfortunately, the Volcker Rule fails to meet even the first criterion. The externality that the Volcker Rule addresses is the fact that market participants have little incentive to monitor the risk taking of their financial institutions when the government insures the full value of their deposits. That is not a failure of the market, but rather a consequence of prior government-imposed regulations. Therefore, in this instance the most effective option might be to simply address the source of the externality, which is the presence of public-safety nets such as deposit insurance and the Federal Reserve’s discount window.

Many economists view deposit insurance and the lender-of-last-resort function as essential to the stability of the financial system, because they prevent destabilizing bank runs.<sup>clxii</sup> Even if we assume that the benefits of these institutions justify their costs, it is far from clear that regulation to correct the distorted

incentives that they create would stabilize the financial system. Regulators are prone to failure as well, and their ability to identify “excessive” risk taking before a crisis is highly open to question. In fact, regulators frequently get caught up in frenzied investment environments just as market participants do, and they frequently relax regulatory activity and encourage the excessive lending that fuels bubbles.<sup>clxiii</sup> Furthermore, income and employment expand in such environments, and regulators are reluctant to upset the public by regulating more intensely. In short, no reason exists to expect regulators to be any less oblivious to unsustainable euphoria than bankers.

Furthermore, regulators are subject to influence by the industry that they regulate. Particularly in a complex industry like finance, regulators require input from people within the industry to design and enforce effective regulation. Often the interaction between the industry and regulators results in regulation being designed in order to benefit the industry itself rather than to benefit the public.<sup>clxiv</sup>

Finally, even if we accept the assumptions that regulation only occurs when a market failure is present and the costs to private actors of mitigating the externality are prohibitively high; that regulators will become aware of and recognize the externality; and that regulators act purely in the public interest and not in their own interest or in the interest of the industry they regulate, the question of how much regulation is necessary still remains. Regulators must balance the damage from the activity that they regulate against the fact that the damage results from socially valuable production. For instance, environmental regulators seek to reduce the damage from pollution, not eliminate it, since pollution is a product of businesses producing goods that people value. For the same reason, safety regulations seek to limit, rather than eliminate, accidents and deaths due to workplace conditions and defective products. Financial regulators also have a task of reducing the damage from excessive risk taking, but they do not seek to eliminate risk taking altogether. Risk is a necessary feature of finance, and since finance drives economic dynamism and growth, it is reasonable to accept and tolerate occasional negative externalities that result from risk taking.<sup>clxv</sup> Regulators cannot know the optimal level of risk taking, nor can they perfectly identify which types of risks are beneficial and which are harmful.

Deciding how to regulate and how much to regulate is immensely challenging, and regulators who make educated guesses about the ideal methods and amount of regulation have strong incentives to “guess” incorrectly. Safety regulators have strong incentives to regulate more than is necessary, because regulating too little will affect their reputation, whereas regulating too much will not. For instance, if the Food and Drug Administration (FDA) approves a drug that ends up causing deaths, people’s outrage will be directed at the FDA. However, if the FDA withholds a drug from the market longer than necessary and deaths result, public outrage at the FDA generally does not ensue.<sup>clxvi</sup> Likewise, if financial regulators regulate too little, the regulators face public scorn when a financial crisis occurs. If they regulate excessively and interfere with innovation and economic growth then they will not be blamed, since people cannot know what would have happened in the absence of regulation.<sup>clxvii</sup> Therefore, the type and level of regulation may very well reflect the regulators’ best interest rather than the public’s best interest. Given the difficulties associated with using regulation to address the incentives that depository institutions face to take excessive risks, we must now consider alternative approaches that rely on the knowledge of creditors rather than the knowledge of regulators.

### **Alternatives to the Volcker Rule**<sup>clxviii</sup>

#### *Reform deposit insurance*

The Volcker Rule seeks to reduce risk taking with the publicly insured deposits of commercial banks by restricting the types of assets that commercial banks can legally own, so the rule focuses the attention of regulators on the asset side of a bank’s balance sheet. A potentially more effective set of reforms, however, would focus on the liability side of the balance sheet. The Deposit Insurance Fund guarantees the deposits of commercial banks. Consequently, depositors have little incentive to evaluate the risk level of insured institutions.

In the absence of deposit insurance, large depositors would be better incentivized and equipped to monitor the financial system than regulators.<sup>clxix</sup> They would have stronger incentives to monitor institutions

because, unlike regulators, they would actually stand to incur losses if the firm failed. Large depositors also have better information than regulators, because they are more numerous and widespread, which makes them more likely to possess specific knowledge of the risks associated with certain institutions and assets that centralized regulators operating at the federal level will not be able to obtain.<sup>clxx</sup> Reforms to deposit insurance therefore have a great deal of promise for achieving the objective of the Volcker Rule more effectively and at a lower cost.

#### Reducing the scope of deposit-insurance coverage

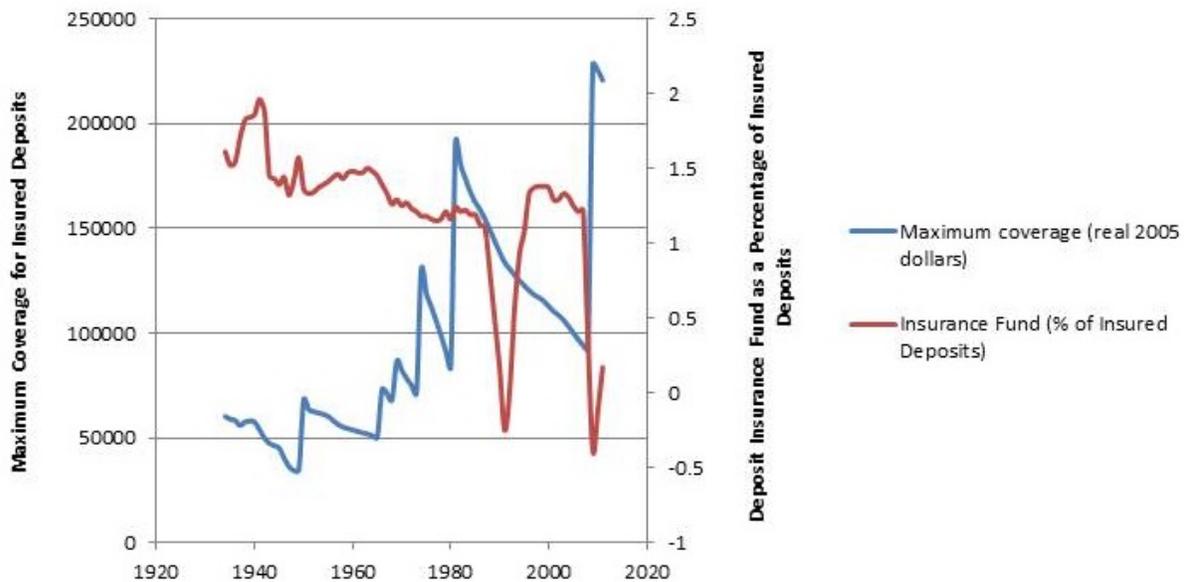
When deposit insurance was first implemented in 1934, deposits of up to \$5,000 were guaranteed by the FDIC, which is just over \$68,000 in 2011 dollars.<sup>clxxi</sup> FDIC coverage extended to just over 45% of funds deposited in banks in the United States. By contrast, the FDIC currently insures all deposits up to \$250,000, which in 2011 covered nearly 80% of all deposited funds in the United States.<sup>clxxii</sup> Scaling back deposit insurance could still ensure protection for the deposits of less-wealthy depositors, who may not possess the resources or knowledge to effectively monitor the risks that banks take. However, removing coverage for larger deposits by reducing the maximum coverage amount would require wealthy and institutional investors to take the time to gather information about the practices of banks and monitor them for safety. Doing so would force banks to compete to offer an attractive balance of risk and return to most of their clients, whereas they currently face strong incentives to prioritize return over stability.

Additionally, the risk of bank runs would remain low with scaled-back deposit insurance, because many deposits would still be insured, and because wealthier depositors would have a strong incentive to continually monitor the risk that their bank will become insolvent. Well-informed depositors would not be likely to withdraw their funds in a frenzied panic, because if the bank genuinely faced insolvency they would likely withdraw their funds before a panic occurred.<sup>clxxiii</sup>

Lastly, reducing the scope of deposit insurance would help ensure that the Deposit Insurance Fund remains solvent and does not rely on public funds to credibly insure deposits, which has been a concern in

the past.<sup>clxxiv</sup> During the first 20 years that deposit insurance was in place, the value of the insurance fund averaged 1.55% of the value of all insured deposits. During the 20 years prior to the financial crisis, the value of the insurance fund was 0.91% of the value of all insured deposits. Its value plummeted to an average of .005% of the value of all insured deposits during the years 2008–2011.<sup>clxxv</sup>

As the level of funds in insured deposits has increased over time due to inflation, rising income, and increases in the maximum value of insured deposits, the ability of the fund to credibly insure deposits, as represented by the value of the Deposit Insurance Fund as a percentage of the value of all insured deposits, has declined. The following graph demonstrates that trend.



Source: *FDIC Annual Report 2011*. Pages 130–131. Maximum coverage adjusted for inflation using annual gross-domestic-product (implicit price deflator) figures from the Bureau of Economic Analysis

Scaling back deposit insurance would increase the likelihood that the Deposit Insurance Fund will have sufficient funding to carry out its responsibilities, which would consequently reduce the chance that taxpayers would need to lend money to the fund. Commercial banks would also have stronger incentives to pursue economically valuable trading while reducing inefficient or excessively risky trading. Scaling

back deposit insurance would therefore simultaneously increase the credibility of deposit insurance and reduce moral hazard among financial institutions.

#### Issue permits for emergency borrowing

Bruce Tuckman of the Center for Financial Stability recommends that the government create and auction off Federal Liquidity Options, which entitle the holder to borrow a fixed amount from the Federal Reserve in the event that they encounter temporary liquidity constraints. Through this mechanism a market price for the credits would emerge that would direct the credits to where people most value them. Tuckman argues that doing so would reduce moral hazard, because only those institutions that purchase the option to borrow from the Federal Reserve could do so.<sup>clxxvi</sup> Institutions would therefore either need to limit risk, incur the cost of purchasing permits in order to offset their risk, or accept the possibility of failing. Institutions would have to base their decision between those three options on the risk tolerance of their shareholders and creditors. Tuckman argues that by issuing such permits the government could limit systemic risk while also limiting moral hazard, since institutions with higher risk levels could still borrow from the government during a crisis.<sup>clxxvii</sup>

Under this policy, creditors of financial institutions would have strong incentives to assess the risk level of institutions as well as their ability to borrow from the federal government, so the use of Federal Liquidity Options would increase the amount of private monitoring of financial institutions. That would reduce the moral hazard associated with deposit insurance, and it would reduce adverse selection as well, because higher-risk banks would have to incur higher costs to be insured. More importantly, the increase in private monitoring would be achieved in a cost-effective manner, because the market price of these options would reflect the value of a firm having the option to borrow from the government if it needs emergency liquidity.

### Require deductibles for deposit insurance

Private insurance companies require deductibles from their policyholders, meaning that the insured party must pay a portion of her claim. For instance, a car insurance company may require a \$1,000 deductible, meaning that if the insured party incurs \$2,000 in damages, she must pay \$1,000, and the insurance company will pay the additional \$1,000. Deductibles incentivize insured parties to exercise caution.

Requiring deductibles for deposit insurance would likewise incentivize depositors to monitor the activities of their banks, because they would still incur losses if their bank fails, which partially mitigates both the adverse-selection and moral-hazard concerns associated with deposit insurance.<sup>clxxviii</sup>

Some countries have implemented such policies for deposit insurance, which are known as coinsurance programs. According to empirical literature, such measures have successfully mitigated the risk of systemic crises.<sup>clxxix</sup> Coinsurance programs would require depositors to assess the probability that an individual bank will fail, and would increase the strength of the Deposit Insurance Fund, because the fund would only be liable for a portion of the liabilities of depositors of failed banks rather than the full amount.

### Base deposit insurance premiums on systemic risk

This paper has discussed the fact that financial institutions can borrow at more favorable rates as a result of the market's perception that they are too big to fail, and that banks therefore seek to achieve too-big-to-fail status.<sup>clxxx</sup> Empirical estimates suggest that economies of scale exist in banking primarily because of the perception that some will not be allowed to fail, and that in the absence of such a perception banks with assets above \$100 billion would be too inefficient to be competitive.<sup>clxxxi</sup> Too-big-to-fail firms create a public-policy concern, since their failures impose costs on taxpayers, and some have suggested that this concern should be incorporated into risk-based premiums levied on depository institutions. The FDIC could require large, interconnected, or complex banks (whose failure would create more systemic risk) to pay a higher premium than smaller, simpler institutions.<sup>clxxxii</sup> Doing so would increase the value of the

Deposit Insurance Fund and thereby lower the probability of the need for a taxpayer bailout. More importantly, such a policy would penalize institutions for growing large at the expense of taxpayers, which would limit the growth of banks and consequently limit the chance of a systemic crisis resulting from the failure of a major institution.

Others have suggested that the government could use taxes to achieve the same goal. Instead of having the FDIC collect higher premiums for large, complex, or interconnected financial institutions that pose systemic risk, the government could tax such institutions to keep their growth in check.<sup>clxxxiii</sup> Such a policy would allow the government to tax financial institutions outside of commercial banking, whereas the FDIC could only charge higher premiums to the depository institutions that it insures.

#### Eliminate deposit insurance

Some economists have suggested that the financial system could function effectively in the absence of government-provided deposit insurance.<sup>clxxxiv</sup> Private insurers could likely insure deposits just as effectively as the government, in which case competition would determine an appropriate market price for such insurance, and companies would assess premiums according to risk. The risk of runs on banks would increase, but the moral hazard of deposit insurance would decrease. Heterogeneity among financial institutions would also increase, and that trade-off could prove beneficial for overall social welfare. Banks currently have little incentive to distinguish themselves from other banks, since deposit insurance makes the risk level of depositing with any one bank identical to the risk of depositing with any other bank. Without deposit insurance, more risk-averse depositors would choose extremely safe banks that hold large amounts of capital, and would consequently receive lower rates of return.<sup>clxxxv</sup> Depositors with more tolerance for risk would bank with institutions that hold less capital and make riskier loans, and in return they would demand higher interest rates. Such a situation would reduce the likelihood that panics would affect the entire financial system, since depositors would only withdraw their funds en masse from banks with similar practices. A diverse array of practices would keep banking panics in check.



### *Authorize debt-to-equity conversions*

The Volcker Rule partially addresses the concern that excessively risky commercial banks will put taxpayer dollars at risk, as many have in the past 30 years. The Volcker Rule restricts the ability of commercial banks to engage in activity that increases the possibility of systemic crises and losses to taxpayers.

A potentially more effective way to address this concern is through debt-to-equity conversions, in which an institution's outstanding debt is converted to equity by government decree. As the assets of firms decline in value and their liabilities increase, their owners face stronger incentives to default on their debt or take on substantial risk, since losses will be incurred by the firm's creditors, or taxpayers, while any gains will accrue to the firm's shareholders.<sup>clxxxvi</sup> With debt-to-equity conversions, the government can "bail in" the creditors of a financial institution in order to keep the firm solvent, meaning they can require the bondholders of firms to become shareholders.<sup>clxxxvii</sup> The firm's liabilities will thereby shrink considerably, allowing the firm to remain solvent without the need for money from the Deposit Insurance Fund or taxpayers. Furthermore, bondholders of financial institutions would need to consider the possibility that they could be required to become shareholders in the firm in the event that its net worth falls substantially, in which case the price of the bonds of financial institutions would more closely reflect their probability of failure. Such an arrangement would incentivize financial institutions to behave more prudently in order to lower their borrowing costs, since lenders would have stronger incentives to require higher interest rates from firms that pose greater risk.<sup>clxxxviii</sup>

### *Increase the liability of shareholders*

Shareholders of financial institutions currently enjoy limited liability, meaning that they can only lose up to the value of their initial investment if the institution fails. If the institution succeeds, however, no limit exists to the amount of money that shareholders can earn by collecting dividends or selling shares of the company at a higher price. The government could potentially require them to assume greater liability.

Since the downside of purchasing shares in a company is limited while the upside is unlimited, investors have incentives to permit riskier practices than they would if they incurred greater costs in the event of the firm's failure.

In the past, shareholders of banks would voluntarily incur double, triple, and sometimes unlimited liability. Under these arrangements, shareholders stood to lose more than the value of their original investments. Under double liability, for instance, shareholders could lose up to double the amount of their initial investment, meaning an investor who bought \$100 worth of stock in a bank stood to lose the full value of her investment if the firm failed (because her shares would become worthless), and she would also be liable to pay \$100 worth of the bank's liabilities after it failed. Under unlimited liability, shareholders could lose their entire investment value plus all of their assets—no limit existed to the amount that shareholders had to pay in order to repay the bank's creditors in the event of failure.<sup>clxxxix</sup>

Such arrangements would incentivize shareholders of banks to ensure that they make prudent investments so that they avoid incurring substantial losses if the bank fails. Furthermore, while the Deposit Insurance Fund would still cover the losses to depositors that shareholders could not cover or were not liable to cover, the fund would face much less risk.<sup>cxv</sup> Under these circumstances, banks would have stronger incentives to behave prudently, which would increase financial stability. Taxpayers would also have more assurance that they would not need to extend additional funding to the Deposit Insurance Fund as they did during the savings and loan crisis and as they nearly did during the recent financial crisis.<sup>cxvi</sup>

### *Issue contingent capital*

The government could also require banks to issue contingent capital—that is, debt that converts to equity if the firm reaches a certain threshold that places it at risk of failing. Unlike with mandatory debt-to-equity conversions, owners of contingent capital would enter into a voluntary contract in which they know specifically under what circumstances they would become shareholders in the firm. If the firm reaches a critical level and holders of contingent capital become shareholders in the firm, then the initial

shareholders would incur financial losses in two ways. First, their shares would be diluted by the addition of new shareholders. Secondly, the market would recognize the event that triggers the conversion of contingent capital into equity as a sign that the firm faces serious trouble.<sup>cxcii</sup> Under these circumstances, shareholders in the firm would have strong incentives to ensure that the firm behaves prudently in order to avoid having their ownership shares diluted when the firm runs into trouble.<sup>cxci</sup> Also, when the firm approaches bankruptcy it would quickly be recapitalized when holders of debt become shareholders, which would lessen the likelihood of the need for a taxpayer-funded bailout.<sup>cxci</sup> Furthermore, contingent capital would be sold on the open market and the price would reflect the probability that the debt would convert to equity, so the price of contingent capital would serve as a useful signal of how likely specific firms were to fail.<sup>cxcv</sup>

Finally, under this arrangement the new shareholders would stand to earn substantial profits if the firm succeeds, so they would have strong incentives to implement practices that bring the company back from the brink of bankruptcy and increase the profitability of the firm. By contrast, in a taxpayer-funded bailout, the government assumes ownership of the company, and the government does not have financial incentives to ensure the profitability of the firm; it is therefore less likely than private shareholders to manage the firm effectively.

#### *Require issuance of subordinated debt*

The government could require banks to issue debt that explicitly has no government protection, called subordinated debt. Congress considered including mandatory issuance of subordinated debt as a provision of Gramm-Leach-Bliley but did not do so.<sup>cxvii</sup> Issuing subordinated debt would be more expensive for riskier financial institutions than for more prudent institutions since creditors would require higher interest rates in order to offset the risk, so the risk premium on subordinated debt would incentivize financial institutions to behave more prudently. The spread between the interest on subordinated debt and

other debt would also serve as a useful signal to the market and to regulators of the risk level of any financial institution.

Banks issue subordinated debt voluntarily, but empirical evidence indicates that risky institutions are less likely to issue it than safer institutions<sup>cxvii</sup> and that institutions issue less subordinated debt during times of financial turmoil.<sup>cxviii</sup> Empirical evidence also suggests that mandatory issuance of subordinated debt would improve transparency of financial institutions and cause them to disclose information about their risks.<sup>cxix</sup> This is partly because creditors would demand such information before buying any subordinated debt.

As with other public-policy reforms put forth in this paper, a subordinated debt requirement would make risk more costly for financial institutions and incentivize private actors to acquire more information about risks. Under those circumstances, banks would be less likely to take excessive risks, and they would be held more accountable for the risks they did take.

#### *Raise capital requirements*

Higher capital requirements would force banks to reduce leverage, meaning the percentage of their liabilities that comes from borrowed funds.<sup>cc</sup> Less leverage would decrease the susceptibility of banks to negative shocks, because their shareholders would be capable of covering a large portion of their liabilities.<sup>cci</sup> For instance, if a bank holds capital with a value equal to 5% of the value of its loans, then it will go bankrupt if 5% of its loans default (since it will not have sufficient funds to repay its creditors). If the bank holds capital equal to 20% of the value of its loan, however, the bank can withstand a much larger shock, since it can sell more assets in order to raise funds to repay its creditors.

Economists disagree over whether higher capital requirements are a cost-effective way to minimize risk to taxpayers. Some argue that capital requirements are excessively burdensome and expensive for banks, and consequently also to their shareholders and creditors, and therefore that other means of reducing risk

are preferable.<sup>ccii</sup> Others argue that holding more capital in the form of equity is not expensive for banks, because doing so does not reduce the total amount of lending in which a bank can engage—it simply means that its shareholders’ money accounts for a larger portion of its lending than its creditors’ money. Proponents of higher capital requirements argue that commercial banks would likely be more cautious if they held more capital, since their shareholders would be risking their own money and not their creditors’ money, which is covered by the Deposit Insurance Fund.<sup>cciii</sup>

Two outspoken advocates of higher capital requirements, Anat Admati and Martin Hellwig, argue that a primary reason why banks oppose higher capital requirements and prefer to raise money through borrowing is because their creditors have explicit and implicit guarantees from the government, which transfers the risk of default to parties other than the shareholders of banks. They argue that capital requirements are only expensive in the sense that they force banks’ shareholders, rather than taxpayers, to shoulder risk. This should be desirable from the standpoint of promoting a safer banking system.<sup>cciv</sup> While they do not view higher capital requirements as the only necessary public-policy change for creating a safer banking system,<sup>ccv</sup> they argue that more capital would go a long way toward making the banking system safer.<sup>ccvi</sup>

Although economists disagree about their cost, higher capital requirements would dramatically lessen the need for regulation like the Volcker Rule, because shareholders would face incentives to appropriately assess the risk and return associated with proprietary trading and affiliation with hedge funds and private-equity firms.

### *Summary*

The problems that the Volcker Rule addresses result primarily from policies that shelter owners and creditors of financial institutions from incurring the costs of a firm’s failure. Implementing any of the proposals listed in this section, or a combination of them, would achieve the objectives of the Volcker Rule more effectively and at a lower cost than the Volcker Rule will in its current form.

Shifting the burden of prudential monitoring of firms to the private sector would create numerous socially desirable outcomes. Large institutional investors and sophisticated creditors who stand to incur substantial losses if their bank fails would have incentives to monitor their banks to ensure that the risks they assume are manageable. Banks would face losing creditors, or incurring high costs to retain their creditors, if they did not offer a competitive balance of risk and return. Private businesses would likely arise to serve depositors by monitoring banks' risk taking. Monitoring would consequently occur in a cost-effective way in which the providers of such services would benefit from economies of scale. Monitoring by private institutions that specialize in such services would also circumvent the problem of duplication of efforts, as discussed in the first chapter. Furthermore, the industry itself could likely enforce payments to monitoring agencies from all of the parties that benefit, thereby eliminating the free-rider problem discussed in the first chapter.

Additionally, to the extent that private actors get absorbed in irrational exuberance, they are no more likely to do so than government regulators. Private actors are also arguably more likely to identify and correct unsustainable risks, because they stand to incur serious financial losses if they incorrectly assess the risk levels of financial institutions, and because they can earn high returns if they correctly identify situations in which the market has mispriced certain investments. Opponents of this line of reasoning argue that private actors do not fully take systemic risk into account—that is, they prefer a balance of risk and return that benefits them personally, but do not take into account the risk of contagion or a systemic crisis due to interconnectedness if their bank fails. However, the goal of public policy should not be to impose regulations in every situation where a market failure could conceivably occur. The government must weigh the costs of intervention against the benefits, and in the case of the Volcker Rule the costs include lower economic growth and more expensive financial services, while the benefits are open to question. The government must consider replacing the rule with policies that would solve the problems created by the public safety net while preserving the profitable and welfare-enhancing aspects of proprietary trading, rather than eliminating proprietary trading altogether. Those reforms might very well

entail the same costs as the Volcker Rule, but their benefits would be much more certain, because they would incentivize the buyers and sellers of financial services to take risk into greater consideration rather than transferring risk to government institutions or taxpayers. These proposals—while certainly imperfect—would prove much more effective than the Volcker Rule at bolstering financial stability.

## Conclusion

This paper addresses arguments both in favor of and against the Volcker Rule—a section of Dodd-Frank that prohibits financial institutions with access to deposit insurance and the Federal Reserve’s discount window from trading in most securities for their own accounts and restricts their ability to affiliate with hedge funds or private-equity firms. I argue in this essay that many preferable alternatives exist to the Volcker Rule.

The Volcker Rule addresses an important public-policy concern, which is that banks take excessive risks when their creditors are guaranteed to get their money back even if the bank fails. However, further government regulation may not be the best solution to this problem. The government lacks the necessary knowledge and the proper incentives to effectively limit risk in the financial system. Since politicians and regulators are not subject to the profit-and-loss system that incentivizes private firms to serve their customers as effectively as possible and at minimal cost, government solutions like the Volcker Rule are unlikely to be as effective as market solutions.

Furthermore, firms in the financial industry have strong incentives to lobby regulators to advance their interests rather than the public’s interests, so regulation like the Volcker Rule can actually end up being counterproductive. Regulators are unlikely to enforce even the most carefully crafted legislation if it curbs the ability of the financial industry to earn profits by putting taxpayers at risk.<sup>ccvii</sup> Financial regulation represents a classic example of a situation in which the government will likely fail to promote the public’s interests due to the incentives facing regulators. Since firms in the financial industry stand to gain substantially from regulation that advances their interests at the public’s expense, and since an effective lobbying coalition requires the support of fairly few firms, the industry can easily organize to advance its agenda. The taxpayers who assume the risk, on the other hand, are a large and dispersed group in which each individual bears little cost, even though the collective cost that taxpayers incur is substantial.<sup>ccviii</sup> Therefore, taxpayers are unlikely to organize to advance their interests, while the financial industry is

highly likely to do so. This results in regulation that prioritizes the interests of industry over the interests of taxpayers.

Rather than attempting to use regulation to reduce risk, the federal government could instead scale back regulation so as to provide creditors and shareholders of financial institutions with stronger incentives to monitor risk. By doing so, the government could foster a more robust financial system, because depositors and other creditors would insist that financial institutions offer a competitive balance of risk and return. Under those circumstances, it is unlikely that proprietary trading and affiliation between deposit-taking banks and hedge funds and private-equity firms would disappear altogether. Highly risk-averse creditors would likely refuse to lend to institutions that engage in such activities, while creditors with more tolerance for risk would allow such activities in exchange for higher rates of return. Savers with heterogeneous preferences would thereby manage to meet their needs without the government implementing a uniform policy like the Volcker Rule that inevitably bans beneficial risk taking and only potentially creates greater economic stability.

Since implementation of this rule is currently in its early stages, it is unclear whether the rule will achieve its objectives in a satisfactory way. This regulation and all other regulations are always imperfect, and the Volcker Rule itself may be altered, repealed, or strengthened over time depending on the perceptions of public officials, the general public, academics, journalists, and many others. While the financial system and regulation change constantly, human nature does not. I have argued in this essay that better outcomes will occur when those who regulate businesses are people whose material well-being depends on their behavior, rather than people like government regulators, whose success or failure at regulating will have little impact on them personally. This insight is not novel, and it will remain true regardless of the changes that occur in the business and regulatory environment over time.

## Footnotes

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- <sup>xlix</sup> 15 USC § 45 (a) (2). Available at <http://www.law.cornell.edu/uscode/text/15/45>
- <sup>l</sup> See Harris, Lawrence. “The Winners and Losers of the Zero-Sum Game: The Origins of Trading Profits, Price Efficiency and Market Liquidity.” University of Southern California Working Paper. May, 1993.
- <sup>li</sup> Dudley, Susan E., Jerry Brito. *Regulation: A Primer*. Second Edition. Mercatus Center at George Mason University and the George Washington University Regulatory Studies Center. August 2012. Page 19.
- <sup>lii</sup> Harper, Christine. “Too Big to Fail Rules Hurting Too Small to Compete Banks.” *Bloomberg*. February 28, 2013. Available at <http://www.bloomberg.com/news/2013-02-28/too-big-to-fail-rules-hurting-too-small-to-compete-banks.html>
- <sup>liii</sup> Dudley and Brito 2012, 69.
- <sup>liv</sup> Harper 2013.
- <sup>lv</sup> Baxter, Lawrence G. “‘Capture’ in Financial Regulation: Can We Channel It Toward the Common Good?” *Cornell Journal of Law and Public Policy*, vol. 21.175 (2011). Pages 181–182.
- <sup>lvi</sup> The Office of Thrift Supervision was merged with the Office of the Comptroller of the Currency under Dodd-Frank and no longer exists. See § 312 of the Dodd-Frank Act.
- <sup>lvii</sup> Baxter 2011, 189.

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- <sup>lviii</sup> Scott, Hal S. Statements before the Senate Committee on Banking, Housing, and Urban Affairs. Hearing entitled “Implications of the ‘Volcker Rules’ for Financial Stability.” February 4, 2010. Available at <http://www.gpo.gov/fdsys/pkg/CHRG-111shrg61651/pdf/CHRG-111shrg61651.pdf>
- <sup>lix</sup> Comments from Hal S. Scott and from Senator Tim Johnson. “Implications of the ‘Volcker Rules’ for Financial Stability.” February 4, 2010.
- <sup>lx</sup> Financial Stability Oversight Council. *Study & Recommendations of Prohibitions on Proprietary Trading & Certain Relationships with Hedge Funds & Private Equity Firms*. January 2011. Page 15. Available at <http://www.treasury.gov/initiatives/documents/volcker%20sec%20%20619%20study%20final%201%2018%2011%20rg.pdf>
- <sup>lxi</sup> JPMorgan Chase & Co. Form 10-Q. May, 2012. Retrieved April 29, 2013 from EDGAR database: <http://www.sec.gov/Archives/edgar/data/19617/000001961712000213/jpm-2012033110q.htm>
- <sup>lxii</sup> Protes, Ben, and Jessica Silver-Greenberg. “Senate Report Said to Fault JPMorgan.” *New York Times*, March 4, 2013. Available at <http://dealbook.nytimes.com/2013/03/04/senate-report-said-to-fault-jpmorgan/>
- <sup>lxiii</sup> See, for example, the testimony of Gary Gensler, chairman of the Commodity Futures Trading Commission. Testimony before the U.S. House Committee on Financial Services. Hearing entitled “Examining Bank Supervision and Risk Management in Light of JPMorgan Chase’s Trading Loss.” June 19, 2012. Available at <http://financialservices.house.gov/uploadedfiles/hhrg-112-ba00-wstate-ggensler-20120619.pdf>
- <sup>lxiv</sup> Importantly, since risk-mitigating hedging allows companies to offset risks by taking opposite positions of exposures they have elsewhere, companies may be able to use proprietary trading to offset risks that products they sell to their clients will lose value.
- <sup>lxv</sup> See § 619 (d) of the Dodd-Frank Act.
- <sup>lxvi</sup> Bloom Raskin, Sarah. “How Well is Our Financial System Serving Us? Working Together to Find the High Road.” Event at the Graduate School of Banking at the University of Colorado, Boulder. July 23, 2012. Available at <http://www.federalreserve.gov/newsevents/speech/raskin20120723a.htm>
- <sup>lxvii</sup> Carpenter, David H., and M. Maureen Murphy. *Permissible Securities Activities of Commercial Banks Under the Glass-Steagall Act (GSA) and the Gramm-Leach-Bliley Act (GLBA)*. Congressional Research Service R41181. April 12, 2010. Available at [http://assets.opencrs.com/rpts/R41181\\_20100412.pdf](http://assets.opencrs.com/rpts/R41181_20100412.pdf)
- <sup>lxviii</sup> See § 21 (a) (1) of the Banking Act of 1933. Public Law 73-66 (June 16, 1933). Available at [http://archive.org/stream/FullTextTheGlass-steagallActA.k.a.TheBankingActOf1933/1933\\_01248\\_djvu.txt](http://archive.org/stream/FullTextTheGlass-steagallActA.k.a.TheBankingActOf1933/1933_01248_djvu.txt)
- <sup>lxix</sup> See § 101 (a) of the Gramm-Leach-Bliley Act. Public Law 106-102 (November 12, 1999). Available at <http://www.banking.senate.gov/conf/confprt.htm>
- <sup>lxx</sup> See Crawford, Corrine. “The Repeal of the Glass-Steagall Act and the Current Financial Crisis.” *Journal of Business & Economics Research*, vol. 9.1 (2011). Page 129.
- <sup>lxxi</sup> The limit increased to 5% and again to 10% in the 1980s, and in 1996 it was raised to 25%. See Crawford 2011, 129
- <sup>lxxii</sup> Pearlstein, Steven. “Let’s Shatter the Myth on Glass-Steagall.” *Washington Post*. July 28, 2012. Available at [http://www.washingtonpost.com/lets-shatter-the-myth-on-glass-steagall/2012/07/27/gJQASaOAGX\\_story.html](http://www.washingtonpost.com/lets-shatter-the-myth-on-glass-steagall/2012/07/27/gJQASaOAGX_story.html)
- <sup>lxxiii</sup> Jickling, Mark. *Causes of the Financial Crisis*. Congressional Research Service. April 9, 2010. Page 7. Available at <http://www.fas.org/sgp/crs/misc/R40173.pdf>
- See also the Financial Crisis Inquiry Commission. *The Financial Crisis Inquiry Report*. February 25, 2011. Pages 52–55. Available at <http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf>
- <sup>lxxiv</sup> U.S. Securities and Exchange Commission 2010.
- <sup>lxxv</sup> Mansafi, Julie A. D. “Systemic Risk and Dodd-Frank’s Volcker Rule.” *William & Mary Business Law Review*, vol. 4.1 (2013). Page 211.
- <sup>lxxvi</sup> Financial Stability Oversight Council 2011, 15.
- <sup>lxxvii</sup> Vardi, Nathan. “Greg Smith’s Goldman Sachs Story Just Doesn’t Add Up.” *Forbes*. October 21, 2012. Available at <http://www.forbes.com/sites/nathanvardi/2012/10/21/greg-smiths-goldman-sachs-story-just-doesnt-add-up/>
- <sup>lxxviii</sup> Zingales, Luigi. *A Capitalism for the People: Recapturing the Lost Genius of American Prosperity*. New York, NY: Basic Books, 2012. Pages 53–54.
- <sup>lxxix</sup> Zingales 2012, 51.
- <sup>lxxx</sup> According to standard microeconomics, economies of scope arise, “when a number of different products can be produced more efficiently together than apart.” From Samuelson, Paul, and William D. Nordhaus. *Microeconomics*. Boston, MA: McGraw-Hill/Irwin, 2005. 18th edition. Page 324.
- <sup>lxxxi</sup> Zingales 2012, 204–205.

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- <sup>lxxxii</sup> Zingales 2012, 205.
- <sup>lxxxiii</sup> See Government Accountability Office (GAO). *Proprietary Trading: Regulators Will Need More Comprehensive Information to Fully Monitor Compliance with New Restrictions When Implemented*. Government Accountability Office 11-529. July, 2011(a).
- <sup>lxxxiv</sup> Wallison, Peter J. “Peter Wallison: The Volcker Rule is Fatally Flawed.” *Wall Street Journal*, April 10, 2012. Available at <http://online.wsj.com/article/SB10001424052702303815404577333321275373582.html>
- <sup>lxxxv</sup> Wallison, Peter J. *Bad History, Worse Policy*. Washington, DC: AEI Press, 2013. Page 531.
- <sup>lxxxvi</sup> Ferran, Ellis. “The Regulation of Hedge Funds and Private Equity: A Case Study of the EU’s Regulatory Response to the Financial Crisis.” SSRN Working Paper 1762119. 2011. Page 3.
- <sup>lxxxvii</sup> Brophy, David J., Paige P. Ouiment, and Clemens Sialm. “Hedge Funds as Investors of Last Resort?” *Review of Financial Studies*, vol. 22.2 (2009). Page 570.
- <sup>lxxxviii</sup> Wallison 2013, 449.
- <sup>lxxxix</sup> Wallison 2013, 450.
- <sup>xc</sup> Elliott, Douglas J. Testimony before the House Committee on Financial Services. Joint hearing entitled “Examining the Impact of the Volcker Rule on Markets, Businesses, Investors and Job Creation.” January 18, 2012(a). Available at <http://financialservices.house.gov/uploadedfiles/hhrg-112-ba-wstate-delliott-20120118.pdf>
- <sup>xci</sup> Elliott, Douglas J. “Why the Volcker Rule is still a bad idea.” *CNN Money*. March 21, 2012(b). Available at <http://money.cnn.com/2012/03/21/markets/volcker-rule-banks/index.htm>
- <sup>xcii</sup> Wallison 2013, 531.
- <sup>xciii</sup> GAO 2011a, Page 12.
- <sup>xciv</sup> Wilkes, Tommy. “Banks Move High Risk Traders ahead of U.S. Rule.” Reuters. April 3, 2012. Available at <http://www.reuters.com/article/2012/04/03/us-volckerrule-trading-idUSBRE8320GS20120403>
- <sup>xcv</sup> Fleuriet, Michel. *Investment Banking Explained*. New York, NY: McGraw Hill, 2008. Page 124.
- <sup>xcvi</sup> Elliott, 2012a.
- <sup>xcvii</sup> Kling, Arnold. “Once Again, Break Up the Banks.” *National Review Online*. May 15, 2012. Available at <http://www.nationalreview.com/articles/299954/once-again-break-banks-arnold-kling>
- <sup>xcviii</sup> Predictably, some economists disagree with this assessment. Paul Krugman, for example, points out that breaking up banks addresses concern over “too big to fail” but does not address the risk of contagion. See Krugman, Paul. “Too Big to Fail?” *New York Times*. January 11, 2010. Available at <http://krugman.blogs.nytimes.com/2010/01/11/too-big-to-fail-fail-2/>
- <sup>xcix</sup> This statement assumes that the most profitable firms are the ones that create the most economic value. Importantly, as discussed in the first chapter, many large firms are perceived by the market to have implicit guarantees from the government; firms in those situations can earn profit without necessarily creating economic value.
- <sup>c</sup> Arestis, Philip, Panicos O. Demetriades, and Kul B. Luintel. “Financial Development and Economic Growth: The Role of Stock Markets.” *Journal of Money, Credit and Banking*, vol. 33.1 (February 2001). Page 18.
- <sup>ci</sup> Government Accountability Office (GAO). *Dodd-Frank Act Regulations: Implementation Could Benefit from Additional Analyses and Coordination*. Government Accountability Office 12-151. November 2011(b). Page 21.
- <sup>cii</sup> See § 619 (h) (4) of the Dodd-Frank Act.
- <sup>ciii</sup> See § 619 (d) (2) (A) of the Dodd-Frank Act.
- <sup>civ</sup> See Yandle, Bruce. “Bootleggers and Baptists—The Education of a Regulatory Economist.” *Regulation*, vol. 7.3 (1983).
- <sup>cv</sup> Tullock, Gordon. *Bureaucracy*. Liberty Fund: Indianapolis, 2005. Pages 375–386.
- <sup>cvi</sup> Lowrey, Annie. “Facing Down the Bankers.” *New York Times*. May 30, 2012. Available at [http://www.nytimes.com/2012/05/31/business/kelleher-leads-a-nonprofit-better-markets-in-fight-for-stricter-banking-rules.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2012/05/31/business/kelleher-leads-a-nonprofit-better-markets-in-fight-for-stricter-banking-rules.html?pagewanted=all&_r=0)
- <sup>cvi</sup> Deloitte. “The Volcker Rule’s Impact on Infrastructure.” 2011. Page 2. Available at [http://www.deloitte.com/view/en\\_US/us/Industries/Banking-Securities-Financial-Services/fb0813e6b3db2410VgnVCM1000003256f70aRCRD.htm](http://www.deloitte.com/view/en_US/us/Industries/Banking-Securities-Financial-Services/fb0813e6b3db2410VgnVCM1000003256f70aRCRD.htm)
- <sup>cvi</sup> Harper, 2013.
- <sup>cix</sup> See Klapper, Leora, Luc Laeven, and Raghuram Rajan. “Business Environment and Firm Entry: Evidence from International Data.” NBER Working Paper 10380. March 2004.
- <sup>cx</sup> State-chartered banks that were members of the Federal Reserve System were required to be licensed by the Federal Reserve Board and nationally chartered banks were required to be licensed by the Office of the Comptroller of the Currency. See § 12 (B) (e) of the Banking Act of 1933.

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- <sup>cxvi</sup> See Abrams, Burton A., and Russell F. Settle. "What Can Regulators Regulate? The Case of Bank Entry." *Journal of Money, Credit and Banking*, vol. 24.4 (1992). Page 511.
- <sup>cxvii</sup> Only deposits up to a value of \$250,000 are explicitly insured. (See, as a reference, FDIC. "Deposit Insurance Summary." January 1, 2013. Available at <http://www.fdic.gov/deposit/deposits/dis/>). However, coverage was extended to uninsured depositors during the Savings and Loan Crisis (Lemieux, Catharine. *FDICIA: Where Did It Come from and Where Will It Take Us?* Federal Reserve Bank of Kansas City [2003]. Page 2). To help restore confidence in financial markets following the financial crisis of 2007–2009, coverage was extended retroactively to 2008 for accounts having up to \$250,000, even though the limit was \$100,000 until 2010. See § 335 (a) (2) of the Dodd-Frank Act. Further, between December 31, 2010, and December 31, 2012, all deposits, regardless of size, were covered. See FDIC. "Changes in FDIC Deposit Insurance Coverage." Accessed May 6, 2013. Available at <http://www.fdic.gov/deposit/deposits/changes.html>. Consequently, depositors with more than \$250,000 deposited with one institution do not have explicit coverage, but historical precedent suggests that they have implicit protection.
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- See also McCoy, Patricia A. *The Moral Hazard Implications of Deposit Insurance: Theory and Evidence*. International Monetary Fund Seminar on Current Developments in Monetary and Financial Law. 2007.
- See also Beck, Thorsten, and Luc Laeven. *Resolution of Failed Banks by Deposit Insurers*. World Bank Policy Research Paper. 2006.
- See also Vaughan, Mark D., and David C. Wheelock. "Deposit Insurance Reform: Is it Déjà Vu All Over Again?," *Regional Economist* (October 2002): 5-9.
- See also Antoine 2003.
- <sup>cxix</sup> Roosevelt, Franklin D. "9 - Press Conference," March 8, 1933. Online by Gerhard Peters and John T. Woolley, The American Presidency Project, University of California, Santa Barbara. Accessed March 1, 2012. Available at <http://www.presidency.ucsb.edu/ws/?pid=14672>
- <sup>cx</sup> See § 21 (a) (1) of the Banking Act of 1933.
- <sup>cxvi</sup> See § 17 (a) and § 17 (b) of the Banking Act of 1933.
- <sup>cxvii</sup> See § 11 (b) of the Banking Act of 1933.
- <sup>cxviii</sup> See Abbring, Jaap H., James J. Heckman, Pierre-André Chiappori, and Jean Pinquet. "Adverse Selection and Moral Hazard in Insurance: Can Dynamic Data Help to Distinguish?" *Journal of the European Economic Association*, vol. 1.(2–3) (2003).
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- <sup>cx</sup> Vaughan and Wheelock 2002.
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- <sup>cx</sup> Federal Deposit Insurance Corporation. "Continental Illinois and 'Too Big to Fail.'" In *An Examination of the Banking Crises of the 1980s and Early 1990s*. FDIC, 2000. Pages 243–244. Available at [http://www.fdic.gov/bank/historical/history/235\\_258.pdf](http://www.fdic.gov/bank/historical/history/235_258.pdf)
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- <sup>cxli</sup> See Schich, Sebastian. “Expanded Government Guarantees for Bank Liabilities: Selected Issues.” *OECD Financial Market Trends*, vol. 2009.1 (2009).
- <sup>cxlii</sup> Asymmetric information is a key assumption for making the assertion that an originate-to-distribute model creates moral hazard. It must be the case that the parties who purchase the loans have less knowledge about their quality than the parties who originate the loans. That assumption is questionable, because the parties purchasing the mortgages have incentives to learn as much as they can about their quality. The parties originating the loan also have incentives to provide the information in order to remain reputable.
- <sup>cxliii</sup> Jickling 2010, 5.
- <sup>cxliv</sup> Crawford 2011, 131; Jickling 2010, 6.
- See also Krugman, Paul. “The Gramm Connection.” *New York Times*. March 29, 2008. Available at <http://krugman.blogs.nytimes.com/2008/03/29/the-gramm-connection/>
- <sup>cxlv</sup> Anderson, Gary. “Fox News is Lying to the Tea Party About Housing Regulation.” *Business Insider*. November 12, 2010. Available at [http://articles.businessinsider.com/2010-11-12/news/30094801\\_1\\_glass-steagall-investment-banks-bad-loans](http://articles.businessinsider.com/2010-11-12/news/30094801_1_glass-steagall-investment-banks-bad-loans)
- <sup>cxlvi</sup> See Purnanandam, Amiyatosh. “Originate-to-Distribute Model and the Subprime Mortgage Crisis.” *Review of Financial Studies*, vol. 24.6 (2011).
- <sup>cxlvii</sup> Financial Crisis Inquiry Commission 2011, 89.
- <sup>cxlviii</sup> Cowan, Cameron L. Statement on behalf of the American Securitization Forum before the Subcommittee on Housing and Community Opportunity and the Subcommittee on Financial Institutions and Consumer Credit. Hearing entitled “Hearing on Protecting Homeowners: Preventing Abusive Lending While Preserving Access to Credit.” November 5, 2003. Available at <http://financialservices.house.gov/media/pdf/110503cc.pdf>
- <sup>cxlix</sup> Pearlstein, 2012.
- <sup>cl</sup> Sidel, Robin, Dennis K. Berman, and Kate Kelly. “J.P. Morgan Buys Bear in Fire Sale, As Fed Widens Credit to Avert Crisis.” *New York Times*. March 17, 2008. Available at <http://online.wsj.com/article/SB120569598608739825.html.html>
- <sup>cli</sup> Associated Press. “Bank of America to Purchase Merrill Lynch.” September 15, 2008. Available at [http://www.nbcnews.com/id/26708958/ns/business-us\\_business/t/bank-america-purchase-merrill-lynch/#.UYa1xLVJOAg](http://www.nbcnews.com/id/26708958/ns/business-us_business/t/bank-america-purchase-merrill-lynch/#.UYa1xLVJOAg)
- <sup>clii</sup> The Troubled Asset Relief Program, which Congress created in October 2008, authorized the U.S. Treasury to use up to \$700 billion to purchase “troubled assets.” See § 115 (a) (3) of the Emergency Economic Stabilization Act. Public Law 110-343 (October 3, 2008). Available at <http://www.govtrack.us/congress/bills/110/hr1424/text>
- <sup>cliii</sup> Associated Press 2008.
- <sup>cliv</sup> Pearlstein 2012.
- <sup>clv</sup> Zingales 2012, 53.
- <sup>clvi</sup> Zingales 2012, 205.
- <sup>clvii</sup> Mueller, Dennis C. *Public Choice III*. New York, NY: Cambridge University Press, 2003. Pages 335–336.

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- <sup>clviii</sup> See Baumol, William J. “Entrepreneurship: Productive, Unproductive, and Destructive.” *Journal of Political Economy*, vol. 98.5 (1990).
- <sup>clix</sup> Baumol 1990, 894.
- <sup>clx</sup> The field of constitutional economics explores ways to achieve this goal. For a discussion, see Buchanan, James. “The Constitution of Economic Policy.” Nobel Prize lecture, 1986. Available at [http://www.nobelprize.org/nobel\\_prizes/economic-sciences/laureates/1986/buchanan-lecture.html](http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1986/buchanan-lecture.html)
- <sup>clxi</sup> See Coase, Ronald H. “The Problem of Social Cost.” *Journal of Law and Economics*, vol. 3 (October 1960).
- <sup>clxii</sup> Diamond, Douglas W., and Philip H. Dybvig. “Bank Runs, Deposit Insurance, and Liquidity.” *Journal of Political Economy*, vol. 91 (1983).
- <sup>clxiii</sup> See Goodhart, Charles, Boris Hoffman, and Miguel Segoviano. “Bank Regulation and Macroeconomic Fluctuations.” *Oxford Review of Economic Policy*, vol. 20.4 (2004).
- <sup>clxiv</sup> Baxter 2011, 184.
- <sup>clxv</sup> Reinhart, Carmen M., and Kenneth S. Rogoff. “Banking Crises.” In *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, NJ: Princeton University Press, 2009. Page 153.
- <sup>clxvi</sup> Ruwart, Mary J. “Death by Regulation: The Price We Pay for the FDA.” International Society for Individual Liberty. Available at <http://isil.org/death-by-regulation-the-price-we-pay-for-the-fda/>
- <sup>clxvii</sup> Bastiat, Frederic. “That Which is Seen, and That Which is Not Seen.” Seymour Calin, trans., 1848. Available at <http://bastiat.org/en/twisatwins.html>
- <sup>clxviii</sup> Many of the following suggestions are based on Peirce and Greene, 2013.
- <sup>clxix</sup> De Caria, Riccardo. “What is Financial Regulation Trying to Achieve?” *Hayek Society Journal*, vol.9 (2011). Page 5.
- <sup>clxx</sup> See Hayek, Friedrich. “The Use of Knowledge in Society.” *American Economic Review*, vol. 35.4, 1945. The author explains that knowledge is dispersed among many individuals and that rarely can any one person have sufficient knowledge to make decisions on behalf of society. His analysis applies to regulation of the financial industry.
- <sup>clxxi</sup> Federal Deposit Insurance Corporation (FDIC). *FDIC 2011 Annual Report*. FDIC, 2011. Available at <http://www.fdic.gov/about/strategic/report/2011annualreport/AR11final.pdf>  
Prices adjusted using figures from Bureau of Economic Analysis. “Implicit Price Deflators for Gross Domestic Product.” Accessed April 26, 2013. Available at <http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1#reqid=9&step=3&isuri=1&910=X&911=0&903=13&904=1934&905=2011&906=A>
- <sup>clxxii</sup> FDIC 2011, 130.
- <sup>clxxiii</sup> Some people contest this claim, since deposit insurance has historically been extended during crises even to deposits that were not technically covered (see Blinder, Alan S., and R. Glenn Hubbard. “Blanket Deposit Insurance is a Bad Idea.” *Wall Street Journal*. October 15, 2008). If depositors do not take the FDIC seriously when it insists that it will not extend insurance to larger deposits, then scaling back deposit insurance will not have an effect.
- <sup>clxxiv</sup> Blinder and Hubbard, 2008.
- <sup>clxxv</sup> FDIC 2011, 130.
- <sup>clxxvi</sup> See Tuckman, Bruce. *Federal Liquidity Options: Containing Runs on Deposit-Like Assets without Bailouts and Moral Hazard*. Center for Financial Responsibility, Policy Paper. 2012. Available at <http://www.centerforfinancialstability.org/research/FLOs20120124.pdf>
- <sup>clxxvii</sup> Tuckman 2012, 22.
- <sup>clxxviii</sup> Vaughan and Wheelock 2002.
- <sup>clxxix</sup> Demirgüç-Kunt, Asli, and Enrica Detragiache, “Does Deposit Insurance Increase Banking System Stability?” World Bank Policy Research Working Paper No. 3628. June 2005. Pages 11–12.
- <sup>clxxx</sup> See Brewer, Elijah, and Julapa Jagtiani. *How Much Would Banks Be Willing to Pay to Become “Too-Big-to-Fail” and to Capture Other Benefits?* Federal Reserve Bank of Kansas City, Working Paper 1936-5330. 2007.
- <sup>clxxxi</sup> See Davies, Richard, and Belinda Tracey. “Too Big to Be Efficient? The Impact of Implicit Funding Subsidies on Scale Economies in Banking.” Bank of England, Working Paper. 2012.
- <sup>clxxxii</sup> See Acharya, Viral V., Joao A.C. Santos, and Tanju Yorulmazer. “Systemic Risk and Deposit Insurance Premiums.” *Federal Reserve Bank of New York Policy Review*, August 2010.
- <sup>clxxxiii</sup> See Doluca, Hassan, Ulrich Klüh, Marco Wagner, and Beatrice Weder di Mauro. “Reducing Systemic Relevance: A Proposal.” German Council of Economic Experts, Working Paper 04/2010. 2010.
- <sup>clxxxiv</sup> Raghuram, Rajan. “A Better Way to Reduce Financial Sector Risk.” *Financial Times*. January 25, 2010.
- <sup>clxxxv</sup> Dowd 1996, 683.

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- clxxxvi Admati and Hellwig 2013, 41–45.
- clxxxvii “Bank Bondholders: Burning Sensation.” *Economist*. July 21, 2012. Available at <http://www.economist.com/node/21559344>
- clxxxviii Jones, Garrett, Ben Klutsey, Katelyn Christ. “Speed Bankruptcy: A Firewall to Future Crises.” Mercatus Center at George Mason University, Working Paper 10-02. 2010. Available at [http://mercatus.org/sites/default/files/publication/WP1002\\_Speed%20Bankruptcy%20-%20A%20Firewall%20to%20Future%20Crises.pdf](http://mercatus.org/sites/default/files/publication/WP1002_Speed%20Bankruptcy%20-%20A%20Firewall%20to%20Future%20Crises.pdf)
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- clxxxix Vincens, John R. “On the Demise of Double Liability of Bank Shareholders.” *Business Lawyer*, vol. 12.3 (1957). Page 275.
- cx<sup>c</sup> Investors only assume more liability voluntarily if doing so allows them to borrow more cheaply (since creditors will have more assurance). With extensive deposit insurance, however, investors will be unlikely to assume more liability unless they are required to do so by law.
- cx<sup>ci</sup> Although the FDIC was authorized to borrow money from the Treasury during the financial crisis, it did not do so, because insured institutions prepaid their annual premiums, allowing the Deposit Insurance Fund to meet its obligations. See FDIC 2009 Annual Report. Page 6. See also “FDIC May Borrow Money from Treasury: Report.” Reuters. August 27, 2008. Available at <http://www.reuters.com/article/2008/08/27/us-fdic-treasury-idUSBNG28670420080827>
- cx<sup>cii</sup> Calomiris, Charles W., and Richard J. Herring. *Why and How to Design a Contingent Convertible Debt Requirement*. Wharton Working Paper. April 19, 2011. Pages 3–4.
- cx<sup>ciii</sup> Calomiris and Herring 2011, 3.
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- cx<sup>cv</sup> Calomiris and Herring 2011, 15.
- cx<sup>cv</sup> Fan, Rong, Joseph G. Haubrich, Peter H. Ritchken, and James B. Thomson. “Getting the Most Out of a Mandatory Subordinated Debt Requirement.” Federal Reserve Bank of Cleveland, Working Paper 02-14. 2002. Page 1.
- cx<sup>cvi</sup> Board of Governors of the Federal Reserve System (BOG-FRS), U.S. Department of Treasury. *The Feasibility and Desirability of Mandatory Subordinated Debt*. BOG-FRS, December 2000. Page xii.
- cx<sup>cvi</sup> BOG-FRS 2000, xiii.
- cx<sup>cix</sup> BOG-FRS 2000, xiii.
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- cc<sup>i</sup> Admati et al. 2010, 8.
- cc<sup>ii</sup> Calomiris and Herring 2011, 8.
- cc<sup>iii</sup> Admati et al. 2010, 8.
- cc<sup>iv</sup> Admati and Hellwig 2013, 8–9.
- cc<sup>v</sup> Admati and Hellwig 2013, 4, 10.
- cc<sup>vi</sup> Admati and Hellwig 2013, 4–6
- cc<sup>vii</sup> See Roberts, Russell. “How Little We Really Know: The Challenges of Financial Reform.” *Economist’s Voice*, November 2009. Available at [http://www.er.ethz.ch/inspire/crony\\_capitalism](http://www.er.ethz.ch/inspire/crony_capitalism)
- cc<sup>viii</sup> See Olson, Mancur. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press, 1965.