Statement for the United States House of Representatives, Committee on Financial Services:

"Assessing the Impact of the Dodd-Frank Act Four Years Later"

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July 23, 2014

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What Makes a Bank Systemically Important?

Chairman Hensarling, Ranking Member Waters, and distinguished members of the Committee, thank you for convening today's hearing, "Assessing the Impact of the Dodd-Frank Act Four Years Later" and thank you for inviting me to testify. I am a resident scholar at the American Enterprise Institute, but this testimony represents my personal views. My research is focused on banking, regulation, and financial stability. I have years of experience working on banking and financial policy as a senior economist at the Federal Reserve Board, as a Deputy Director at the IMF and most recently, for almost ten years, as Director of the FDIC Center of Financial Research where I served a three-year term as chairman of the Research Task Force of the Basel Committee on Bank Supervision. It is an honor for me to be able to testify before the subcommittee today.

The theme of my testimony is that the Dodd-Frank Act has failed to achieve its stated goals of ending too-big-too-fail and reducing the fragility of the U.S. financial system. Instead, the balance of accumulating evidence suggests that Dodd-Frank has reinforced investor's perceptions that the largest financial institutions enjoy an extended government safety net. Rather than ending too-big-to-fail, Dodd-Frank's provisions create new uncertainties around the resolution process for large financial institutions.

Dodd-Frank's mandatory enhanced supervision and prudential standards for the largest institutions discourage investor due diligence and monitoring since government regulators are now intimately involved in the management of the largest designated financial institutions. Dodd-Frank's intrusive rules and supervision impose undue regulatory burdens that are constraining economic growth without providing any clear measureable stability benefits. Dodd-Frank's enhanced prudential supervision and regulation do not provide a guarantee against a large institution failure nor can they prevent a future financial crisis since the exercise of most of these new powers are based on regulatory judgment alone. There is no proven economic science to guide the identification of "systemic risk" let alone pin-point regulations that can mitigate it.

Ironically, Dodd-Frank's heightened expectations of a government's commitment to remove the possibility of a future financial crisis may increase the probability that such a crisis will occur and require government support for the largest financial institutions that have been identified as too-big-to-fail. The future under Dodd-Frank is foreshadowed by the famous words of the Irish philosopher Edmund Burke, who said, "Those who don't know history are destined to repeat it." Prior to the last financial crisis, many nations had in place institutions and practices similar to

Dodd-Frank's Financial Stability Oversight Council and macroeconomic stress tests that were designed to identify and prevent financial instability, and yet none did.

A guide to the remainder of my testimony follows. Section I provides empirical evidence based on large bank funding costs that Dodd-Frank did not end too-big-to-fail. Section II discusses how the Dodd-Frank combination of vague policy goals and unchecked grants of new regulatory powers creates a bias for over-regulation of the financial sector that reinforces investor perceptions that the largest institutions are too-big-to-fail. Section III discusses the trade-off between financial safety and soundness regulation and economic growth and how over-regulation of financial institutions reduces economic growth. Section IV discusses Title II Orderly Resolution Powers and the FDIC Single Point of Entry Resolution Strategy.

A high-level summary of my testimony follows:

- Four years after its passage, there is no evidence that the Dodd-Frank Act has ended too-big-to-fail, indeed Dodd-Frank has probably reinforced investor expectations that the largest financial institutions benefit from government safety net protections that are not available to smaller institutions.
- Dodd-Frank grants financial regulators, especially the Board of Governors, the Financial Stability Oversight Council and the FDIC, extensive new powers with few constraints while assigning them the duty to ensure financial stability, a concept that is never defined in the legislation. The absence of objective guidelines and restricted judicial and Congressional review allows regulators to exercise their new powers based on their judgment alone.
- In the current environment, the mix of ill-defined duty and unconstrained regulatory power is a recipe for over-regulation and slower economic growth.
- A Dodd-Frank Title II resolution using the FDIC's single point of entry (SPOE) strategy does not fix the too-big-to-fail problem.
    - In order to keep subsidiaries open and operating to avoid creating financial instability, the SPOE extends government guarantees to subsidiaries. In many cases, these guarantees will be far larger than those that would be provided under a bankruptcy proceeding and Federal Deposit Insurance bank resolution.
- The Title II and SPOE create new uncertainty regarding which investors will be forced to bear losses when a bank holding company fails. This increased uncertainty will undermine investor confidence and financial stability and could create a political crisis.

    - Title II creates a conflict of interest between contributors to the deposit insurance fund and contributors to the orderly liquidation fund.
    - Title II and SPOE alter investor property rights without prior notice, compensation, or due process and with little scope for judicial protection.
- Dodd-Frank does not amend deposit insurance laws to require the FDIC to break-up large banks in a resolution and prohibit whole bank purchase resolutions. Such a change is needed to stop the FDIC resolution process from creating new too-big-to-fail institutions.

I. Dodd-Frank has Not Fixed Too-Big-To-Fail: Evidence from Large Bank Funding Costs

One of the primary goals of the Dodd-Frank Act was to end investor's perceptions that the largest financial institutions are too-big-to-fail (TBTF). The recent financial crisis confirmed investor perceptions that the largest financial institutions will benefit from government support in a financial crisis while smaller institutions will be allowed to fail and impose losses on their investors. Large institutions were extended extraordinary government support that shielded many of their investors from loss while hundreds of small financial institutions were allowed to fail. A primary goal of Dodd-Frank is to reduce if not completely remove investor expectations of TBTF.

TBTF benefits are reflected in the largest institutions' funding costs. Institutions that are perceived to be TBTF will have lower funding costs compared to smaller institutions, holding constant other important factors such as the risk of an institution's assets, its leverage, and the intensity of regulatory monitoring.

Following the financial crisis, there has been a lot of economic research focused on estimating bank TBTF funding cost subsidies. Many studies find that the largest institutions enjoy a funding cost advantage that was especially pronounced during the financial crisis. There is on-going debate about whether the funding costs advantages that have been identified reflect a subsidy conveyed by an implicit government guarantee, or whether other technical factors can explain its existence and magnitude.

Instead of reviewing technical details of studies that estimate too-big-to-fail funding cost subsidies, I will provide some new simple data analysis that clearly demonstrates that Dodd-Frank did not erase or even reduce large-banks' funding cost advantage. Indeed this statistical evidence shows that, on average, after Dodd-Frank, the largest banks enjoy a statistically significant funding cost advantage that they did not enjoy before the financial crisis. A large bank funding advantage is clearly evident in multiple years since the passage of Dodd-Frank, and this advantage was not apparent in the data during multiple years before the passage of Dodd-Frank. While this evidence does not prove that TBTF is the source of the funding advantage, it does show that post -Dodd-Frank, there is a pronounced funding cost advantage for the largest banks that was not there before Dodd-Frank.

I use FDIC public data (Statistics on Depository Institutions) and calculate the average interest rate on banks' liabilities through the end of June for multiple years before the crisis, and multiple years after the passage and partial implementation of the Dodd-Frank Act. The average interest cost is defined as banks' reported interest expense, divided by their reported liabilities (multiplied by 100). I exclude banks that report zero interest expense and a dozen or so banks in each year that report exceptionally large interest costs. In all cases, the "outlier" banks that are omitted from the sample are small banks and omitting these institutions has only a tiny effect on the sample size. It is important to recognize that banks' reported interest expense is the total year-to-date interest expense through the end of the reporting quarter. So the expense recorded for June is only half of the annual interest expense should a banks' contractual interest rates and outstanding liabilities remain approximately the same for the balance of the calendar year.

After calculating each bank's average interest rate, I separate banks into two groups: banks with total assets larger than $100 billion, and banks with total assets below $100 billion. I use $100 billion as the cut off for the large bank group because this threshold designates at least 11 banks as potentially "TBTF" banks in each year I examine. While 11 banks is not a large sample, if I set the threshold higher $100 billion, there are even fewer large bank observations that can be used to make statistical generalizations.

It is also important to recognize that I am using individual bank data, not consolidated data for bank holding companies. I use bank data because most of the liabilities issued by a consolidated bank holding company are issued by the insured depository and not the parent holding company.

Moreover, if small banks face higher costs of funds, the use of holding company data will bias the results since a large number of small bank holding companies must be omitted from the analysis because small bank holding companies are not required to file bank holding company regulatory reports. In contrast, all banks regardless of size must file quarterly regulatory reports that include their total liabilities and interest expenses.

Using $100 billion asset size as the sample partition, I statistically test to see whether the average interest cost of bank liabilities is lower for the large bank group in 2005, 2006, 2007, years before the crisis and Dodd-Frank, and again in 2012, 2013, and 2014, years following the crisis and the passage of Dodd-Frank. Independent estimates are made for each year, and the results of the statistical test are reported in Table 1. The dotted line in Table 1 separates estimates of the funding costs difference between the largest banks and smaller banks pre-Dodd-Frank, and post Dodd-Frank.

Table 1: Funding Advantage for Large Banks Before and After Dodd-Frank

Date of Sample	Number of banks with >$100 billion in assets	Estimated difference between average interest rate (large banks-small banks)	Level of statistical significance*
June 2005	11	+5.59	NSS
June 2006	11	+15.68	NSS
June 2007	16	+6.88	NSS
June 2012	19	-16.28	0.001
June 2013	20	-11.68	0.001
March 2014	22	-5.68	0.001

* NSS indicates not statitically significant at convention levels of the test. The March estimate is for 3 months of interest expense; it must be multiplied by 2 to make it comparable to June estimates. June 2014 data are not yet publically avalable.
Source: author's calcualtions using data from FDIC Statistics on Depository Institutions http://www2.fdic.gov/sdi/index.asp

The results in Table 1 show that in every pre-crisis pre-Dodd-Frank year, the largest banks paid more for their liabilities on average, but the difference in the average interest rates paid by large banks relative to small banks is not statistically significant. Post Dodd-Frank, the situation is very different. After Dodd-Frank, the largest banks pay a lower average interest rate on their

liabilities, and the difference between the average rate paid by the largest banks and small banks is highly statistically significant.

Whatever Dodd-Frank accomplished, it clearly did not erase any funding cost advantage that was enjoyed by the largest banks prior to the crisis. Instead, the evidence suggests that after Dodd-Frank, the largest banks have a consistent funding advantage of more than 20 basis points on an annual basis.[1]

Why post Dodd-Frank do the largest banks enjoy a statistically significant and stable funding cost advantage? In the following sections I will argue that the provisions of Dodd-Frank creates a rational perception among investors that the largest institutions are TBTF, and should these institutions become distressed, the government will likely provide guarantees that will shield investors from loss.

Political rhetoric aside, it is completely rational for investors to conjecture TBTF status on the largest institutions for two important reasons. First, the Dodd-Frank Act explicitly designates the largest financial institutions as "systemically important," and imposes on them much higher prudential standards and intrusive government monitoring and supervision. For these institutions, government regulators are supposed to closely monitor the risks that are being taken by these institutions. Regulators have a duty and powers to mitigate any risks these institutions might take that, in their judgment, would endanger these institutions' liquidity and solvency. Second, should these institutions become distressed, Dodd-Frank Title II creates a resolution mechanism that is designed to guarantee most of the liabilities issued by the largest financial institutions while the resolution mechanism for small banks historically has imposed large losses on uninsured bank liabilities. Rather than fix too-big-to-fail, Dodd-Frank institutionalizes it.

II. Dodd-Frank's Emphasis on Heighted Supervision and Regulation Increases Investor Expectations that Designated Firms Have a TBTF Guarantee

The Dodd-Frank Act requires financial regulations to undertake extensive supervision and regulation of the largest financial firms. Most of the new regulatory powers are based on the

[1] Because interest expense is reported as the cumulative expense in a calendar year, June estimates are doubled to estimate annual benefits; the March estimate must be multiplied by 4.

premise that financial regulators can identify and stop the largest institutions from engaging in risky activities that might increase the risk that they will fail and the risk that their failure could have spillover effects on the financial system and economy more generally.

The problem with Dodd-Frank is that tries to accomplish an ill-defined goal without identifying any specific activities or establishing any specific thresholds for regulators to follow to achieve its ill-defined goal. Dodd-Frank grants regulators vast new powers that are at best only weakly constrained, and financial regulators are instructed to use their best judgment to exercise these wide-ranging authorizes in ways that that promote "financial stability," a goal with characteristics that are also set by the regulators' judgment. The regulators are given almost complete discretion to use their new powers to change the financial system in ways that the regulators themselves deem apprpriate, and the regulators decide when the changes they mandate have achieved "financial stability." In the post-crisis environment, this is a clear recipe for over-regulation.

For example, the Dodd-Frank Act uses the phrase "systemic risk" 39 times in directing the financial regulatory agencies to identify, mitigate, and minimize "systemic risk," but the Act never defines systemic risk. This is not an accident or oversight. The Act is vague because there is no widely-accepted definition of systemic risk.

Much of the post-crisis banking and finance literature is focused on theoretical models that try to explain aspects and potential origins of systemic risk or empirical approaches that purport to measure an institution's potential for creating systemic risk should it fail. However, this literature is at an early stage of development, and it has produced no practical guidelines that can be used to positively identify systemic risk or a systemically important institution. But the lack of a proper economic foundation has not constrained regulators from acting as if they can identify and control systemic risk.

Thus far, the academic literature has created many theoretical models that can explain why a failing institution might create financial instability. The potential channels identified are largely consistent with the designation factors identified in Section 113 of the DFA. These theoretical channels identify an institution's size, its over-use of collateralized borrowing, and financial network interconnections as possible sources of systemic risk. At the current stage of

development, few if any theoretical models focus on an institution's complexity as a separate source of systemic risk.

Most economists would probably agree that an institution's size is directly related to its potential to create financial instability should it fail. Many economists would likely also agree that the failure of a very large institution that makes heavy use of short-term collateralized lending could create liquidity stresses and systemic risk in the form of "asset fire sales" should it default on its secured funding. In contrast, financial network models have not yet provided much insight into systemic risk. Network models are less prone to generate failure contagion than many economists initially anticipated.

Because the term "systemic risk" is ambiguous, Dodd-Frank provides the regulatory agencies with wide discretion to interpret their new powers. The DFA directs agencies to draft and implement rules to control and minimize "systemic risk" without requiring the agencies to identify specifically what they are attempting to control or minimize. Instead of legislating appropriate measures to attain clear goals, the Dodd-Frank Act essentially defines financial stability as the absence of systemic risk and then assigns regulators the responsibility of ensuring U.S. financial stability.

The overall effect is to promote a naïve strategy for promoting financial stability: identify and restrict any financial intermediation that regulators perceive as a potential source of systemic risk. Dodd-Frank encourages regulators to separate "good" financial intermediation from "bad" financial intermediation and to impose rules to stop bad intermediation. The problem with this strategy is that it is unclear that any person or agency has the capacity to distinguish good intermediation from bad intermediation, and stopping financial intermediation has negative consequences for economic growth.

While this problem is inherent to some degree in any form of financial regulation, Dodd-Frank's extensive new regulatory powers can be exercised without any requirement that regulators recognize the cost on economic growth. The Dodd-Frank approach for ensuring financial stability sets up a clear bias for over-regulation.

Post Dodd-Frank, if we do not achieve "financial stability," the public and many in Congress may conclude that the financial regulators failed because they did not stop enough "bad"

intermediation. Facing the possibility of public disgrace if their heightened prudential supervision and regulation fails to prevent the next financial crisis, and no explicit cost for over-regulating the financial sector, regulators will favor over-regulation to protect their reputations. Under the incentive structure created by Dodd-Frank, regulators face no costs from over-regulation but are harmed should too little regulation lead to unanticipated financial instability. In the current environment, regulators will clearly prefer to over-regulate even if over-regulation imposes costs on society in the forms of lower economic growth.

A. Section 113: Regulators are Given the Power to determine their Own Jurisdiction

The bias in favor of over-regulation created by the Dodd-Frank mix of new unconstrained powers and vague policy goals is already apparent. In Section 113, Dodd-Frank empowers the FSOC to designate non-bank financial institutions for enhanced prudential supervision and regulation by the Board of Governors. Section 113 includes a laundry list of factors that the Council can consider in making the designation. The primary standard for designation is an FSOC judgment that the firm's bankruptcy would be a potential source of financial instability. Other factors can also be taken into consideration, but all of the standards rely entirely on regulator judgment; there are no objective quantitative thresholds to constrain the designation process.

For example, under Section 113, the FSOC is not obliged to identify specific issues or features that mandate designation, nor must it demonstrate how the designation will mitigate risks. Title I of Dodd-Frank includes a requirement that, once designated, firms must file an annual orderly resolution plan that explains how they can be reorganized in a commercial bankruptcy without creating financial instability. However, Section 113 does not require the FSOC to request a so-called Orderly Resolution Plan as part of the designation process.

The ambiguity of the designation standards provides the FSOC with virtually unlimited discretion. For example, under what conditions should the consequences of failure be evaluated: when the firm fails in isolation, or when the firm fails in a recession during which many other financial institutions are also distressed? Two very different standards that may generate very different FSOC conclusions, and yet Dodd-Frank is silent on the issue.

One particularly egregious Dodd-Frank shortcoming is that it allows the FSOC to make designations without knowing what heighted prudential regulatory standards will apply to designated firms. Not only has the FSOC designated nonbank firms without knowing the consequences of designation, but the justifications it has issued are so broad that companies are not provided with any guidance on how they might avoid designation.

In practice, Section 113 guidelines merely restrict the FSOC's designation discussion and the case (if any) the FSOC makes to support its decision, but the designation outcome is completely governed by the Council vote. Moreover, since the directive lacks objective standards for designation, the criterion used to designate firms will almost certainly change over time with changes in administrations. Without objective minimum quantitative standards for designation, there is little scope for continuity over time or for a designated firm to use data, analysis, or case precedent to avoid or overturn an opinion rendered by the Council.

Given these clear defects in Dodd-Frank, it should not be a surprise that financial regulators are exercising their new powers without constraint. For example, all of the Council's designations to date have been made without any Council recommendations for specific heightened prudential standards and before the Federal Reserve has revealed how it will supervise designated non-bank financial institutions or what heightened prudential standards the designated firms must satisfy. Once the Council has taken an interest in designating an institution, there is little or no objective information the target institution can use to proactively modify its operations, capital, or organizational structure to reduce its "systemic risk" to acceptable levels.

In summary, the legislation that guides the designation process for non-bank financial institutions gives targeted financial firms little or no ability to protect themselves against an arbitrary designation by the Financial Stability Oversight Council. By a simple vote, the Council can decide which financial firms will be subjected to enhanced supervision and regulation by the Board of Governors. It is not necessary to objectively prove that a designation will improve "financial stability" or otherwise reduce financial sector risk. The Council has the sole power to judge whether designation is warranted.

B. The Federal Reserve Gets Unconstrained Power to Regulate Designated Firms

Section 165 directs the Board of Governors to establish heighted prudential standards that apply to bank holding companies with consolidated assets in excess of $50 billion and non-banks financial firms designated by the Council. The Board of Governors is required to set heightened prudential standards for risk-based capital requirements, liquidity requirements, concentration limits, risk management requirements, resolution plans and credit exposure reports. The Board of Governors is also empowered to set standards for short-term debt limits, contingent capital requirements, enhanced public disclosure, or other standards the Board of Governors deems appropriate to mitigate or prevent risks to financial stability that may arise from the distress of a designated company.

Section 165 also requires the Board of Governors to administer annual stress test to bank holding companies with consolidated assets in excess of $50 billion and designated non-bank financial institutions and to publically report on the results. The Board of Governors may use the results of the stress test to require designated institutions to modify their orderly resolution plans. In addition, Section 165 requires that all financial institutions or holding companies larger than $10 billion with a primary Federal regulator must conduct annual stress tests similar to the Board of Governors stress test and report the results to their primary Federal regulator.

Section 165 also provides the Board of Governors and FDIC with the powers to impose heighted prudential standards on designated firms that do not submit resolution plans that, in judgment of the Board of Governors and the FDIC, provide for a rapid and orderly resolution under Chapter 11 Bankruptcy in the event the designated firm suffers material financial distress or failure.

These new Section 165 powers raise a number of important issues. I will discuss some of these issues in the remainder of this Section.

1. When does a bank become systemic and require heighted prudential standards?

There is no science evidence that supports a threshold of $50 billion for subjecting bank holding companies to heightened prudential standards. While the factors that are mentioned in Section 165 as potential indications that an institution may be a source of systemic risk—size, leverage

riskiness, complexity, interconnectedness and the nature of the institutions financial activities—are reasonable features to consider, there is no economic research that supports the use of specific thresholds for any of these individual factors to indicate a need for heightened prudential regulation.

As of March 2014, the U.S. has 39 bank holding companies with consolidated assets in excess of $50 billion. Of these, 4 had consolidated assets greater than $1 trillion, 4 had assets between $500 billion and $1 trillion (and none of the 4 are primarily commercial banks), 8 had assets between $200 and 500 billion (5 of these are specialty banks), and 23 had assets less than $200 billion. Of the 23 banks with under $200 billion in consolidated assets, most are almost exclusively involved in commercial banking and many might be characterized as "regional" banks.

There are huge differences in the characteristics of the 39 bank holding companies that are subjected to enhanced prudential supervision by the $50 billion limit imposed under Section 165. Very few of these institutions can truly be considered systemically important. Moreover, for the vast majority of these institutions, their failure could be handled using an FDIC bank resolution if the appropriate planning were undertaken using Title I orderly resolution planning authority. There should be no need to invoke Title II. The DFA $50 billion threshold set for enhanced prudential standards is a clear example of over-regulation.

2. Enhanced capital and leverage requirements for designated companies

The enhanced capital and leverage requirements that have been implemented by the Board of Governors are associated with the US implementation of Basel III. These requirements have been designed for use by banks and bank holding companies. They are not appropriate for non-bank designated firms who are also subject to the heightened prudential requirements under Section 165.

Section 165 seems to give the Board of Governors the discretion to modify these enhanced prudential requirements and tailor them to more closely fit the businesses of non-bank designated firms. Thus far, the Board of Governors has not modified any of these enhanced prudential standards and argued that the Collins amendment imposes Basel I capital requirements as a minimum standard on all designated companies. Legislation clarifying that the DFA Collins

amendment does not apply to insurance companies has passed the Senate and been introduced in the House of Representatives.

The issue of the applicability of Section 165 enhanced prudential standards highlights fundamental weakness in the drafting and implementation of the Dodd-Frank Act. The Financial Stability Oversight Council has designated a number of non-bank financial institutions without either knowing what enhanced prudential standards will apply or assuming that non-banks will have to meet the same standards as bank holding companies. In either case, it is doubtful that the Council's deliberations considered how designation would improve U.S. financial sector stability.

3. A two-tiered system of bank regulations will stimulate the growth of large institutions

A second issue raised by the imposition of enhance prudential standards on the largest institutions in the banking system is that a two-tiered system of regulations officially recognizes two distinct types of banks: (1) those that are small and can be allowed to fail without social cost; (2) those that are very large and create large failure costs that must be avoided by stricter regulation. Under this system, the smaller banks may benefit from less burdensome regulation, but investors understand that these institutions will be allowed to fail and softer regulations seemingly makes their failure more likely. In contrast, large banks have added regulatory burden, but they also have been explicitly identified by the government as so important that they need additional regulation to ensure their continued existence.

The differences in capital and leverage regulations between small and large banks mandated by Section 165 and implemented as Basel III are mechanical and are exercised without imposing additional regulatory judgments about critical firm operations. However, the Board of Governors stress test and the resolution plans (joint with the FDIC) mandated by Section 165 include very intrusive correctional powers where the Fed or the FDIC can require extensive operational changes or additional capital at the largest institutions. For the largest institutions, post Dodd-Frank, it is not hyperbole to say the Board of Governors (and to a far lesser extent the FDIC) now have a direct and important role managing the largest banks and designated financial holding companies.

When the government is intimately involved in planning and approving large bank operations, investors will rationally conjecture that their investments are safer in the largest banks. The enhanced prudential standards imposed by Section 165 contribute to investor perceptions that the largest banks are too big to fail.

Over time, the two-tiered approach to banking regulation will erode the ability of small banks to compete for uninsured deposits and reduce their ability to issue unsecured liabilities. Since Dodd-Frank also prohibits the use of trust preferred securities, small bank options to fund growth beyond their retail deposit bases are severely limited. As a consequence, Section 165 requirements are likely to encourage additional consolidation in the U.S. banking system. Deposits and assets will further migrate into the institutions that are required to meet enhanced prudential standards.

4. Limits on the use of short-term debt will raise the cost of borrowing

Section 165 gives the Board of Governors the power to require designated financial firms to extend the maturity of their funding debt (except for deposits, which are exempted from the rule) and restrict the use of short-term collateralized funding including the use of repurchase agreements. Curiously, the deposit exemption is not restricted to fully insured deposits. Banks may issue uninsured deposits without restrictions even though this source of funding is among the most volatile and the first to run.

Short-term debt restrictions limit one of the most visible symptoms of a financial crisis—the inability of financial firms to roll-over their maturating debt. Regulators are now empowered to alleviate this problem by requiring that firms have, on average, a longer time buffer before they face the inevitable maturing debt roll-over. But all going-concern debt eventually becomes short-term and must be refinanced.

The idea for short-term debt restrictions is popular in many post-crisis academic papers that argue that there is an underlying market failure that can be fixed by short-term debt limits. Banks gain private benefit from funding short term because they have a monopoly on issuing demandable deposits and an implicit guarantee advantage in issuing other short-term deposit-like liabilities. The bank benefit is that short-term funding is usually the cheapest source of finance.

The market failure arises when there is a liquidity shock and investors for some reason become unwilling to roll-over banks' short-term liabilities and banks are forced to sell assets to meet redemption requirements. Because many banks are using "excess" short-term funding because of the apparent interest cost savings, they must all shed assets, and this depresses the market price of assets, causing a so-called "fire-sale" decline is asset prices. The decline is asset prices must be recognized by all institutions, even ones that may not be funding with excess short term-debt. And so the lesson from these models is that "asset fire sales" are an externality attached to the over-use of short-term debt, and if regulators restrict bank's ability is fund short term, then the externality can be controlled.

While restrictions on the use of short term debt may reduce the probability of "asset fire sales," the restriction will also impose real economic costs that are not recognized in these models.

First, all debt eventually become short term, so limiting the amount of short-term credit banks and other financial firms issue does not remove the issue that all debt must eventually be rolled over regardless of maturity.

The economic models that demonstrate "fire sale" externalities are highly stylized and static. In these models, if banks fund long term (in the third and final model period) they do not have to refinance in the second period when the fire sale occurs. By forcing banks to issue claims in the "last" period of the model, the claims magically never have to be refunded in the horizon examined. While this solves the fire sale problem in these simple economic models, it does not fix the real life problem that seemingly far-off future periods have a habit if turning into tomorrow, and debt that was once long-term, becomes short term and must be rolled over.

The "fire sale" models of short-term debt also ignore a large literature in corporate finance that argues that short-term debt is cheaper because it is a mechanism for controlling the risk that the managers of a financial institution (or any corporation for that matter) take. If the manager of a corporation is faced with the discipline of continuously rolling over a significant share of the corporation's funding, then the manager must ensure that the corporations finances are always sound and its debt holders are never surprised by the firm's is investments.

Short-term debt is a bonding device. The need to roll over debt helps to keep the manager from investing in longer-term risky investments with uncertain payoffs unless debt holders are fully

aware and approve (i.e. are already compensated) for such investments. If the manager conveys that the firm investments are short term and relatively safe activities, should debt holders learn otherwise, they may refuse to roll over the debt at existing rates and the manager will be forced to abandon longer term investments before they can (possibly) produce the desired high payoff.

When short-term debt controls the risks the manager takes, investors can charge lower interest rates. Thus, short-term debt provides cheaper funding in part because it limits borrower risk-taking. Indeed many academic papers argue that, before deposit insurance, banks funded themselves with demandable deposits because depositors required the demandable feature to discipline the bank, since the soundness of the bank's assets could not otherwise be verified by depositors. Deposit insurance largely destroys the risk control benefits of demandable deposits. I say largely because there is evidence that some insured deposits still run.

Thus, there are sound economic reasons for arguing that short-term debt restrictions on designated financial firms may be less advantages than they might at first seem. Short-term (noninsured deposit) debt controls risk taking, and the current wave of theoretical economic models that produce "asset fire sales" do not consider the risk control benefits of short-term debt. If financial firms are forced to fund themselves using longer-term debt, their cost of debt will increase, and either the institutions will absorb these costs and be less profitable or pass these cost on to customers in the form of higher loan rates and lower returns on deposits. Section 165, and indeed the current wave of macroprudential economic models, do not recognize that short-term debt restrictions are likely to have real economic costs for borrowers.

5. Mandatory Board of Governors annual stress are being used to run the largest banks

Section 165 Board of Governor stress tests are perhaps the most problematic form of enhanced prudential supervision required by the Dodd-Frank Act. The value of these exercises for identifying and mitigating financial sector excesses is highly questionable, and yet the Federal Reserve System spends an enormous amount of resources on this activity. Indeed senior Federal Reserve officials have argued that Basel regulatory capital rules should be suspended, and the Board of Governors annual stress test should be formally recognized as the means for determining minimum capital requirements for large bank holding companies.

Aside from the confidence expressed by senior Federal Reserve officials, there is no evidence that coordinated macroeconomic stress tests will be effective in preventing future financial crisis. Already, these stress tests have missed the "London Whale" at JPM Chase and a multibillion dollar hole in Bank of America's balance sheet. Fannie Mae and Freddie Mac both passed severe government-designed macroeconomic stress tests right before they failed in September 2008. Even before the financial crisis, many countries produced financial stability reports that included bank stress tests and none anticipated or prevented the crisis. Prior pan-European EBA stress tests failed to identify a number institutions that become problematic in short order. Based on the track record to date, stress tests have a pretty poor record for detecting "problem" institutions.

A stress-test based approach for setting bank capital has two gigantic measurement problems. First, the macroeconomic scenario must actually anticipate the next financial crisis. And secondly, regulators must be able to translate the macroeconomic crisis scenario into accurate predictions about actual bank profits and losses.

Few regulators possess the prescience necessary to accomplish this first step. Rewind your clock to 2006 and ask yourself if the Board of Governors would have used a scenario that predicted the housing crisis. It was less than 2 years away, but the Fed did not see it coming. The New York Fed's staff was publishing papers that dismissed the idea of a housing bubble and the Federal Reserve Chairman's speeches argued—worst case—there may be some "froth" in local housing markets. Even as the subprime bubble burst, the new Fed Chairman publicly opined that the economy would suffer only minor fallout.

Even if the Board of Governors stress scenario correctly anticipates a coming crisis, the crisis must be translated into individual bank profits and losses. The problem here is that bank profits and losses are not very highly correlated with changes in macroeconomic indicators. Quarter-to-quarter bank profits do not closely follow quarterly changes in GDP, inflation, unemployment, or any other macroeconomic indicator. The best macroeconomic stress test models explain only about 25 percent of the quarterly variation in individual bank profits and losses, meaning that more than 75 percent of the variation in bank profit and losses cannot be predicted using GDP, unemployment, or other business cycle indicators.

Because of these measurement issues, bank loss predictions from macroeconomic stress tests have very little objective accuracy. Even using the best models, there remains a great deal of

uncertainty surrounding how each bank may actually perform in the next crisis, presuming the stress scenario anticipates the crisis.

These issues are real and serious and they make macroeconomic stress testing more of an art than a science. There is no formula or procedure that will lead to a single set of stress test bank loss estimates that can be independently calculated by different stress test modelers. Thus, it is not surprising that the Board of Governors and the U.S. banks rarely agree on stress test results. The Fed uses its artistic judgment to produce large losses while the banks' aesthetics favor smaller loss estimates. Both the bank and the Fed are probably wrong, but the Fed's judgment always prevails when it comes to the stress test capital assessment.

The stress test process requires the Board of Governors to be intimately involved in modeling the operations and exposures of each large banking institution. It also requires the Federal Reserve Board to use its own judgment to set each large bank holding company's "stress tested" capital plan. What if the Board of Governors is wrong? How can they let an institution that they are essentially managing fail? When regulations get so intrusive that the regulator virtually "runs the bank," it becomes difficult for the government to impose losses on the institution's shareholders and bondholders if the institution fails. This precarious situation could easily encourage the Board of Governors to over-regulate the largest institutions to ensure that there is never a failure on its watch. This outcome is a recipe for permanently slower economic growth and stagnant financial institutions.

It may not be widely appreciated, but the coordinated macroeconomic stress test approach to regulation also encourages a "group think" approach to risk management that may actually increase the probability of a financial crisis. Stress test crisis scenarios have to be specific so that banks and regulators can model the same event. Moreover, the Board of Governors imposes some uniformity in loss rates across all designated banks by using its own stress test estimates. The Board of Governors is very much like a coach or a central planner that tries to ensure some coherence in each designated firms estimates and capital plans. Unintentionally perhaps, by requiring all firms to approach the stress test problem in a Board of Governors' approved way, the process is encouraging all large institutions to think and operate the similarly. What happens when all the largest banks are steeled against the wrong crisis scenario? Could the financial

losses generated by a different an unexpected crisis actually be made worse by the coordinated stress test exercise?

The finial Section 165 issue I will discuss is related to the requirement that designated firms must file an annual orderly resolution plan. Section 165 directs the Board of Governors and the FDIC to determine whether designated firms' orderly resolution plans are credible or whether they would fail to facilitate an orderly resolution of the company under Title 11 of United States Code. However, Section 165 does not provide any specific guidance that constrains the agencies' judgment. There are no specific criteria specified that can be used to identify a credible plan; there are no objective standards that must be met. The credibility of a plan is entirely based on subjective judgments by the Board of Governors and the FDIC.

6. Orderly Resolution Plans are not Pre-Packaged Bankruptcies

The recently released report from the House Financial Services Committee on Too-Big-to-Fail Four Years after Dodd-Frank identifies a number of shortcomings associated with Dodd-Frank's requirement for designated firms to file Orderly Resolution Plans. While these so-called "living wills" have been advertised as pre-packaged bank bankruptcy plans, they are nothing of the sort. Pre-packaged bankruptcy agreements are agreements negotiated between creditors and the distressed firm's shareholders that will allow the distressed firm to recapitalize and emerge from bankruptcy as a liquid and solvent firm. First and foremost, these agreements must be approved by the distressed firm's creditors before they are taken to the court for approval if they are to successfully avoid a lengthy judicial proceeding.

Orderly liquidation plans are drafted by designated financial institutions and reviewed and (potentially) approved by the Board of Governors and the FDIC. They are kept secret and never shared with the designated firm's creditors. Should the firm become distressed, there is no basis for assuming creditors would accept these bankruptcy plans as a pre-packaged bankruptcy and indeed there is no requirement that a firm must follow the Orderly Liquidation Plan it files with regulators.

Second 165 does not include any objective thresholds or standards that the FDIC and Board of Governors must consider when identifying an "acceptable" Orderly Resolution Plan. The acceptability of an orderly resolution plan is based solely on judgments rendered by the FDIC

and Board of Governors. There is no judicial review and essentially no way for a designated firm to challenge FDIC or Board of Governors opinions as to the acceptability of these plans. This is especially problematic because Dodd Frank allows the FDIC and the Board of Governors to require operational changes and even require divestitures if a designated firm does not remedy regulatory objections to its Orderly Resolution Plans within a reasonable period after objections have been raised.

7. Orderly Resolution Plans Should be used to Improve FDIC Resolutions

Historically, when large banks fail, the FDIC arranges a whole bank transaction in which a larger, typically healthier bank, assumes all the deposits and most if not all of the institutions assets. Sometimes the FDIC uses a loss share agreement to partially cover losses on the failed bank assets that are of questionable quality. A whole bank transaction was used to resolve WAMU, the largest bank failure in US history, without cost to the deposit insurance fund.

The problem with whole bank resolutions is that there needs to be a bigger heathier bank to purchase the failing institution, and even when one exists, if a sale is successful, it creates a new larger institution. One step toward fixing the too-big-to-fail problem, is to require the FDIC to break up failing banks when they sell them in a normal FDI Act resolution.

There are costs associated with changing the public policy priorities in an FDIC resolution. Whole bank purchases often impose the least cost on the deposit insurance fund because bidders value acquiring the entire franchise intact. It may be costly and require significant time and resources to separate and market large failing banks piecemeal. For example, it may be difficult to identify all bank operations associated with a single customer relationship, and more difficult yet to package these customer relationships into sub-franchises that are readily marketable. But the added resolution costs are costs that must be born to avoid creating too-big-to-fail banks through the resolution process. Indeed the FDIC SPOE envisions undertaking a similar process in a Title II resolution.

There may be practical ways to reduce the cost of requiring the FDIC to break up large banks in an FDIA resolution. For example, the FDIC could be required to use Title I orderly resolution planning powers to require organizational changes within the depository institution that would allow the institution to be more easily broken apart in a resolution. This may involve organizational changes to information systems, employee reporting lines or other process to

ensure that the bank has the capacity to conduct key operations in house and is not relying on venders or consultants in a manner that would inhibit the break-up of the institution in a resolution process.

There are many complicated, complex, and potentially costly issues that must be solved before a large bank could be successfully dismantled and sold in pieces in an FDIC resolution. However, these issues are a subset of the issues the FDIC must solve if it is to undertake a Title II resolution of the largest, most complex and internationally active institutions and downsize them in the resolution process.

Once large regional banks can be managed and downsized in the course of a normal bank resolution, there would no longer be a case to require these banks to meet heightened prudential capital, leverage, stress test, or other regulatory standards prescribed by Section 165 (excepting the requirement to submit a satisfactory orderly resolution plan). Improvements in the resolution process can substitute for overly-rigorous prudential regulations that limit economic growth.

III. Over-Regulation Stifles Financial Intermediation and Reduces Economic Growth

Since financial regulations are designed around the idea that banks and financial intermediaries play a special role in the economy, it is useful to briefly review the economic functions of banks and financial intermediaries to highlight the link between financial regulation and economic growth.

In many capitalist economies, banks are the only intermediaries that collect consumer savings and channel them into private sector investments. In bank-centric economies, if banks make sound investment decisions, the economy grows, banks profit, and consumers earn interest and their deposits are safe. If banks make poor investment choices, their investments fail, consumers lose their savings and economic growth plummets.

Some economies, including the U.S. economy, also benefit from non-bank financial intermediation, sometimes called “shadow banking” by bank regulators. Non-bank financial intermediation occurs when consumers channel their savings into private sector investments without the intermediation of a bank. In the most common form of non-bank intermediation, firms issue publicly-traded securities that consumers can purchase and own directly, but savers

may also purchase and own securities indirectly through collective investment vehicles like mutual funds, insurance companies, private equity, hedge funds or other non-bank financial institutions. These intermediaries along with broker-dealers are part of the financial infrastructure that makes it possible for consumers to purchase and sell securities and thereby channel their savings into investments without using the banking system as the investing intermediary.

The ability to invest saving using non-bank forms of intermediation generally gives savers more control over their investment decisions as well as the ability retain a larger share of the profit (or the loss) generated by their investment decisions. Non-bank intermediation is typically a cheaper source of funding for firms that have achieved a good reputation among investors by repeatedly honoring the financial claims they have issued in the past and through public disclosures that helps to make their operations and financial condition as transparent as possible to investors. Economists generally believe that economic growth is stronger when consumers can invest their savings using the wide range of invest opportunities available through non-bank intermediation.

Against this background, it is useful to consider a definition for systemic risk. My preferred definition of systemic risk is that systemic risk is the possibility that a disruption in the financial intermediation process could cause a significant sharp reduction in real economic growth.

The Dodd-frank Act operates under the theory that regulators have an ability to identify and stop "bad" financial intermediation, and by eliminating bad intermediation, regulators can remove the possibility that the failure of an institutions could disrupt financial intermediation and cause a recession. But slowing financial intermediation will slow economic growth. So within Dodd-Frank there is an implicit unrecognized trade-off between slowing economic growth in all periods against the benefit of reducing the probability of periodic recessions brought on by a financial crisis.

There is scant evidence to guide policymakers in choosing between financial stability and economic growth. History clearly demonstrates that financial safety and soundness regulations cannot prevent financial crisis. Perhaps financial regulation can reduce the probability that financial crisis occur, but even this is an unsettled issue. Safety and soundness regulations may merely replace investor monitoring with regulatory monitoring with little or no net change in the overall risk control exercised by financial institutions. Alternatively, regulation might replace

investor monitoring with much more restrictive controls on financial intermediary risk taking. Whether additional restrictive regulations benefits society depends in part on consequences of these additional restrictions for economic growth. Too much regulation is a recipe for a financially stable but economically stagnant economy.

A handful of studies have assessed the potential economic impact of Basel III heightened prudential capital and liquidity regulations. Industry studies have argued that the Basel III regulations will increase the cost and decrease the supply of bank credit and ultimately lower GDP growth in non-crisis periods. A 2010 study by the Institute of International Finance[2] offers the most pessimistic impact assessment, arguing that the new Basel III rules will increase the average cost of bank credit by more than 1.5 percentage points, constrict bank lending, and lower real GDP by about 3 percentage points over a 5 year period. A 2013 study sponsored by The Clearing House Association[3] also finds large economic costs associated with Basel III regulations.

In contrast to industry-sponsored studies, pro-regulatory studies commissioned by the Bank for International Settlements (BIS)[4], the Organization for Economic Cooperation and Development,[5] and independent scholars at the Brookings Institution[6] predict much smaller increases in bank loan rates and correspondingly smaller declines in bank lending and GDP growth.[7] For example, the BIS study estimates that Basel III changes will increase average bank lending rates by roughly 50 basis points (bps) which will reduce bank credit growth and reduce steady-state GDP by an estimated 35 bps.

[2] "Basel III Capital Standards: IIF Preliminary Analysis," Institute for International Finance, December 2010.
[3] The Clearing House Association (April, 2013), "Analyzing the impact of bank capital and liquidity regulations on US economic growth."
[4] See, Angelini, P., L. Clerc, V. Curidia, L. Gambacorta, A Gerali, A. Locarno, W. Roeger, S. Van den Heuvel and J. Vicek (2011). "Basel III: Long-term impact on economic performance and fluctuations," Bank for International Settlements Working Paper No. 338, Basel, CH.

[5] See, Slovik, P. and B. Cournède (2011), "Macroeconomic Impact of Basel III", OECD Economics Department Working Papers, No. 844, OECD Publishing.

[6] See, Elliott, D.J., (2009). "Quantifying the Effects on Lending of Increased Capital Requirements," The Brookings Institution, www.brookings.edu/papers/2009/0924_capital_elliott.aspx. .

[7] Santos, A.E. and D. Elliott, (2012). "Estimating the Costs of Financial Regulation," IMF Staff Discussion Note, SDN/12/11 (September 11) focuses only on estimating the impact of the regulatory changes on bank lending rates. It does not offer predictions on GDP growth.

These Basel III impact assessments use simplistic macroeconomic models and reduced-form relationships to estimate the potential impacts of Basel III regulations on GDP. Basel III regulatory changes are assumed to increase the interest rates banks will charge their customers. The studies differ, however, in their assessment of likely increases in loan rates and the impact that these increases will have on reducing consumption and investment demand, and, ultimately, GDP.[8]

IV. Title II Reduces "Systemic Risk" by Extending New Government Guarantees

Title II creates a special process to "liquidate failing financial companies that pose a significant risk to the financial stability of the United States in a manner that mitigates such risk and minimizes moral hazard. (Sec. 204 (a))." Title II creates a new administrative resolution process that is similar to the FDIC's administrative process for resolving failed banks, and it assigns systemic resolution authority to the FDIC It includes specific responsibilities that must be carried out in the resolution including a claims priority that must followed when assigning receivership losses. It also allows the FDIC to temporarily charter a bridge financial institution to facilitate a systemic resolution and creates the Orderly Liquidation Fund (OLF) to fund Title II resolutions.

Title II creates a new Orderly Resolution Authority that imposes some broad guidelines on the FDIC but it does not dictate exactly how the FDIC must resolve a company put into Title II receivership. Title II leaves the FDIC with significant discretion to manage a receivership. To provide clarity to the Title II process, the FDIC has released a proposed strategy for executing a Title II resolution. To minimize financial sector disruption, the FDIC's "Single Point of Entry" strategy (SPOE)[9] will take the parent financial holding company into receivership, replace management, keep the operating subsidiaries open and operating and manage them from a newly chartered bridge financial holding company:

> The SPOE strategy is intended to minimize market disruption by isolating the failure and associated losses in a SIFI to the top-tier holding company while maintaining operations at the subsidiary level. In this manner, the

[8] The Clearing House Association (April, 2013) provides a detailed discussion of the assumptions used in these studies.

[9] http://www.fdic.gov/news/board/2013/2013-12-10_notice_dis-b_fr.pdf

> resolution would be confined to one legal entity, the holding company, and would not trigger the need for resolution or bankruptcy across the operating subsidiaries, multiple business lines, or various sovereign jurisdictions. p. 76623.

The parent holding company shareholders and most of its liabilities will remain in the receivership to absorb the failed institutions' losses. Since most holding company liabilities would not be transferred into the bridge holding company, the new bridge company would be predominately equity funded. With the help of government guarantees and OLF funding as necessary, the bridge bank will issue new debt instruments and downstream the proceeds to recapitalize any subsidiaries that suffered losses or replace subsidiary funding to prevent asset "fire sales" to meet redemption demands.

The SPOE is designed to have the equity and debt holders of the parent company absorb all of the losses of holding company subsidiaries, but the FDIC anticipates circumstances when this may not be possible:

> …if there are circumstances under which the losses cannot be fully absorbed by the holding company's shareholders and creditors, then the subsidiaries with the greatest losses would have to be placed into receivership, exposing those subsidiary's creditors, potentially including uninsured depositors, to loss. An operating subsidiary that is insolvent and cannot be recapitalized might be closed as a separate receivership. Creditors, including uninsured depositors, of operating subsidiaries therefore, should not expect with certainty that they would be protected from loss in the event of financial difficulties (p 76623).

The FDIC's has been actively "marketing" is SPOE strategy since it formally released the proposal in December 2013. Resolution is a very esoteric topic, and so it is not surprising that the SPOE has been subjected to relatively little public debate. However, there are many public policy issues associated with the processes that will take place under a Title II SPOE resolution. I will discuss some of the most important implications of a Title II SPOE resolution in the remainder of this section.

A. Most large financial firms that might be subject to Title II are primarily banks

Most of the large financial institutions that might be candidates for a Title II resolution are bank holding companies. For the majority of these institutions, their primary asset is a bank or a subsidiary bank holding company. Figure 1 shows, for all bank holding companies larger than $10 billion in consolidated assets, the share of each parent holding company's equity that is

invested in a subsidiary, affiliated bank, or a subsidiary bank holding company. For most of these institutions, their primary asset is a bank, and even in cases where these institutions have multiple banks or subsidiary bank holding companies, they usually have one large depository institution that holds most of the holding company's consolidated assets and issues most of the holding company's consolidated liabilities. This feature is important because if the bank holding company's largest asset is a big bank, the holding company will only be in financial distress when its largest bank is in distress.

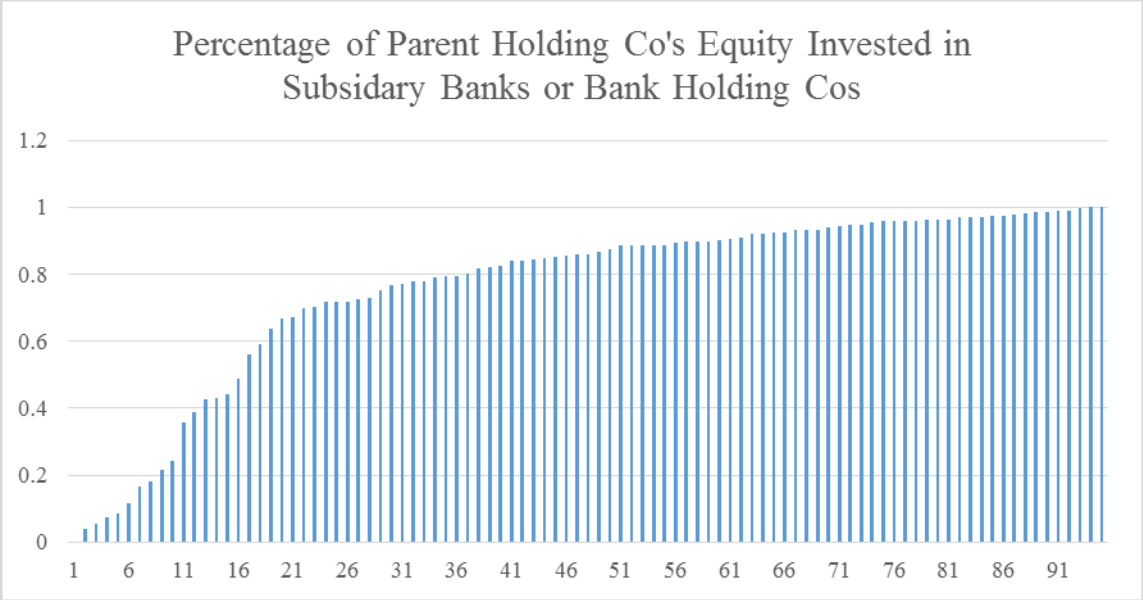

Figure 1: Percentage of parent bank holding company's equity invested in subsidiary or affiliated banks and subsidiary bank holding companies for all bank holding companies largest than $10 billion in consolidated assets. Source: Author's calculation using bank holding company data from the Federal Reserve Board National Information Center.
http://www.ffiec.gov/nicpubweb/nicweb/nichome.aspx

B. *For most Title II candidates, parent equity = consolidated holding company equity*

To understand how well the SPOE might work in practice, it is instructive to take a closer look at the equity and liability characteristics of bank holding companies larger than $100 billion, banks that might require a Title II resolution. Table 2 reports March 2014 data on all holding companies larger than $100 billion. Two of these holding companies are savings and loan

holding companies which have less detailed disclosures reported in the Federal Reserve public database. The first important point to recognize in Table 2 is that when the equity in the parent holding company is exhausted by losses in its subsidiaries, then there is, at best, only a tiny amount of equity remaining in the consolidated institution.

Holding Company	Consolidated Assets	Parent Holding Company Total Assets	Parent only Equity as a Percentage of Consolidated Equity	Parent only Liabilities as a Percentage of Consolidated Liabilities
1 JPMORGAN CHASE & CO.	$2,476,986,000	$463,296,000	99.80%	10.80%
2 BANK OF AMERICA CORPORATION	$2,152,533,000	$459,156,000	99.98%	11.83%
3 CITIGROUP INC.	$1,894,736,000	$400,870,000	99.15%	11.42%
4 WELLS FARGO & COMPANY	$1,546,707,000	$292,852,000	99.54%	8.55%
5 GOLDMAN SACHS GROUP, INC.	$915,705,000	$277,360,000	99.65%	23.71%
6 MORGAN STANLEY	$831,381,000	$256,383,098	95.45%	24.87%
7 AMERICAN INTERNATIONAL GROUP, INC.	$547,111,000	$143,344,000	99.44%	8.93%
8 GENERAL ELECTRIC CAPITAL CORPORATION	$516,971,228	$574,047,466	99.48%	113.32%
9 U.S. BANCORP	$371,289,000	$55,108,119	98.39%	3.97%
10 BANK OF NEW YORK MELLON CORPORATION	$368,241,000	$64,103,000	97.48%	7.93%
11 PNC FINANCIAL SERVICES GROUP, INC.	$323,586,973	$45,692,264	96.44%	0.85%
12 HSBC NORTH AMERICA HOLDINGS INC.	$308,847,926	$36,245,589	93.46%	1.97%
13 CAPITAL ONE FINANCIAL CORPORATION	$290,886,180	$54,978,022	100.00%	4.91%
14 STATE STREET CORPORATION	$256,672,720	$30,430,990	99.98%	3.89%
15 TEACHERS INSURANCE & ANNUITY ASSOCIATION OF AMERICA*	$252,936,464	$252,936,464	NA	NA
16 TD BANK US HOLDING COMPANY	$237,493,754	$34,023,813	98.05%	4.37%
17 BB&T CORPORATION	$184,651,158	$33,770,316	99.60%	6.40%
18 SUNTRUST BANKS, INC.	$179,553,408	$28,966,042	99.42%	4.61%
19 AMERICAN EXPRESS COMPANY	$151,497,000	$33,256,685	99.95%	10.10%
20 ALLY FINANCIAL INC.	$148,452,000	$45,224,000	99.99%	22.96%
21 CHARLES SCHWAB CORPORATION	$144,066,000	$12,794,000	100.00%	1.49%
22 STATE FARM MUTUAL AUTOMOBILE INSURANCE COMPANY*	$132,022,280	$132,022,280	NA	NA
23 FIFTH THIRD BANCORP	$129,654,487	$20,607,584	99.74%	5.04%
24 UNITED SERVICES AUTOMOBILE ASSOCIATION	$127,322,366	$35,300,145	100.35%	9.99%
25 RBS CITIZENS FINANCIAL GROUP, INC.	$127,295,624	$21,021,496	100.00%	1.46%
26 REGIONS FINANCIAL CORPORATION	$118,136,516	$18,363,716	100.00%	2.19%
27 BMO FINANCIAL CORP.	$114,499,474	$19,357,799	99.96%	5.27%
28 SANTANDER HOLDINGS USA, INC.	$109,168,077	$20,992,661	82.90%	3.53%
29 UNIONBANCAL CORPORATION	$107,237,659	$15,228,926	98.29%	0.83%
30 NORTHERN TRUST CORPORATION	$103,832,578	$11,352,157	100.00%	3.55%

* Indicates savings and loan holding company which have limited data collected in regulatory reports.

Table 2: Equity and liability characteristics of bank and thrift holding companies with consolidated assets in excess of $100 billion. Source: Author's calculations calculation using Federal Reserve Board holding company data. http://www.ffiec.gov/nicpubweb/nicweb/nichome.aspx

Table 2 shows that, for most of these institutions, once the parent is facing insolvency because losses exhaust its equity, any equity in its remaining solvent subsidiaries would be consumed by the losses in the holding company's insolvent subsidiaries. So if the parent's equity is exhausted

or nearly exhausted when it is taken into a Title II receivership, then parent liability holders must be relied on to bear the receivership losses.

C. Would the SPOE have prevented TBTF Bailouts in the Last Crisis?

In the most recent financial crisis, the government rescue of non-bank firms like AIG and Freddie Mac and Fannie Mae involved cancelling shareholder claims, firing management, and taking a controlling interest in the companies' using preferred shares in exchange for access to a massive government line of credit. AIG got access to government funding through a special Federal Reserve 13(3) lending facility whereas the housing GSEs used both the Fed (the Fed bought the agencies mortgaged banked securities) and a direct line of credit with the U.S. Treasury.

In each case, the parent company received a very large amount of government funding that was used to keep the institutions' open and operating. In the case of AIG, government funds provided to the parent were down streamed to subsidiaries where they were used to cover losses on securities lending and meet collateral calls on credit derivatives written by AIG's London Financial Products subsidiary. In the case of the housing GSEs, government funding was used to pay interest and principle due on the agencies' outstanding bonds, to pay indemnities and other contractual obligations related to the mortgage-back securities they had insured and issued, and to raise new funds to continue mortgage guarantee operations.

There is a very close correspondence between the Title II SPOE resolution strategy proposed by the FDIC and the strategy the government used to support non-bank financial institutions in the past crisis. The SPOE explicitly plans to ensure the continuing operation of important activities of the largest financial institutions by keeping the subsidiaries open and operating. In most cases this means that the SPOE would ensure that payments on the subsidiaries' liabilities are fully discharged to avoid entangling subsidiaries in an additional bankruptcy or resolution proceedings. Similarly, the SPOE must meet subsidiary funding needs or risk starving subsidiaries of funding which would cause them to suspend operations.

If the SPOE were employed to resolve AIG, the FDIC would have secured funding from the U.S. Treasury using the Orderly Liquidation Fund. Instead of taking the U.S. Treasury taking a

controlling interest in preferred shares, the FDIC would gain management authority directly by being appointed receiver through the Title II process. The FDIC would secure Treasury funding by pledging the receivership's unencumbered assets as collateral. To keep the institution ongoing, subsidiary liabilities will be fully paid and similarly situated creditors at the parent holding company might be treated differently should the FDIC determine this is necessary to prevent financial instability or to maximize the recovery on the receivership.

Thus, in a repeat case of AIG distress, the SPOE would downstream the proceeds it borrows from Orderly Liquidation Fund to pay collateral calls at AIG Financial Products in London and to cover securities lending losses in other AIG subsidiaries. Management would be replaced and shareholders would suffer losses similar to what happened in the prior financial crisis. In an AIG repeat, the government would decide how broadly it wanted to extend the safety net, and Orderly Resolution Fund assessments would be used to recoup the costs. In contrast, in the prior crisis, the government used high credit line fees the ex post sale of preferred shares were used to recoup bailout costs.

Aside from providing a mechanism to fund the Orderly Liquidation Fund, the only other marginal benefit SPOE may have over the prior government approach is that the senior and subordinated debt holders at AIG's parent company would be required to bear losses. Since most of the emergency funds were used to honor immediate subsidiary liabilities and to keep them open and operating, it is unlikely that imposing losses on the parent company's senior and subordinated debt holders would have made a substantial difference.[10]

D. Title II and SPOE can provide larger government guarantees than bankruptcy

To keep a financial firm's subsidiaries open and operating in a Title II resolution, the FDIC will have to guarantee all subsidiary liabilities so that counterparties do not undertake additional insolvency proceedings that would suspend subsidiary operations and tie up their assets in additional (potentially foreign) legal proceedings. If the FDIC guarantees subsidiary liabilities,

[10] AIG's 2007 financial statement indicates it had issued more than $156 billion in total debt liabilities, of which, about $36 billion were issued by the parent. From the materials included in the annual report, it is unclear whether all of the parent's debt liabilities would have been available to absorb losses in a SPOE resolution. About $15 billion of the parents debt are identified as "matched notes and bonds" that appear to be payable to subsidiaries, but this is not completely clear in the financial statement. If these claims do represent borrowings from subsidiaries, they cannot be used to absorb consolidated group losses in a SPOE resolution.

then only the parent holding company's liabilities remain to absorb losses and recapitalize and fund subsidiaries.

The final column of Table 2 shows that, in most cases, the parent's liabilities comprise only a small fraction of the consolidated liabilities in most financial holding companies larger than $100 billion in consolidated assets. This pattern is most pronounced when the holding company's largest assets are held in subsidiary banks. The implication is that a Title II SPOE resolution will extend government guarantees to the large majority of the financial firm's liabilities and impose the losses on only a small share of liabilities issued by the consolidated financial firm. This feature creates a government guarantee that is, in many cases, much larger than the government guarantee that would arise when a bank fails and the holding company goes into a commercial bankruptcy proceeding.

The FDIC and Board of Governors are likely to argue that the paucity of debt in the holding company parent is only a transitory feature of Title II. The Board of Governors and FDIC are reportedly working with the International Financial Stability Board to craft holding company debt issuance requirements that will address this issue.

E. Holding minimum debt regulations will be as complicated as Basel capital regulations

Crafting holding company minimum debt requirements is a process that is analogous to the process of setting bank holding company regulatory capital requirements. The development of regulatory capital requirements has taken tremendous resources on the part of both banks and regulators, not to mention more than 15 years of development time. Moreover, holding company minimum debt requirements will also have international competitive implications if large foreign banks do not face similar requirements. This sets up the case for another yet another extensive Basel Committee-type process to set international requirements for holding company debt issuance.

F. The OLF is a new guarantee fund that conflicts with the deposit insurance fund

If the parent holding company liabilities are insufficient to support receivership losses and distressed subsidiary recapitalization needs, the FDIC will have to use the OLF to fund the receivership. This will require an FDIC assessment of all financial firms with consolidated assets larger than $50 billion to fund the receivership.

The OLF Title II mechanism sets up a new government guarantee fund. Under the SPOE, it will guarantee all but the parent holding company liabilities of the failing financial firm unless the FDIC decides to put some subsidiaries into default. Unless there are some operational details yet to be released, resources from the OLF will be available to guarantee deposits at a bank subsidiary setting up a potential conflict of interest between banks that support the deposit insurance fund and larger institutions that will pay OLF assessments. This conflict becomes transparent when considering a SPOE resolution for a bank holding company whose primary asset is a single large bank.

Institution	Parent holding company liabilities	Bank liabilities	Parent liabilities as a percentage of bank liabilities
Goldman Sachs	$198,261,000	$84,341,000	235.07%
US Bancorp	$13,054,119	$326,154,482	4.00%
PNC Financial Services	$2,371,454	$274,311,095	0.86%
State Street	$9,158,101	$232,239,094	3.94%
BB&T	$10,311,260	$158,039,434	6.52%
Suntrust	$7,275,141	$153,490,040	4.74%
Ally Financial	$30,765,000	$82,572,057	37.26%
Fifth-Third	$5,781,902	$111,360,115	5.19%
Regions	$2,504,733	$101,004,081	2.48%
Northern Trust	$3,403,814	$96,299,648	3.53%
Key Corp	$3,349,783	$78,597,573	4.26%
Huntington Bancshares	$1,600,186	$54,774,690	2.92%
BBVA	$122,173	$63,120,164	0.19%

Table 3: Selected characteristics of bank holding companies with consolidated asset in excess of $50 billion with a single subsidiary bank. Source: Author's calculations calculation using Federal Reserve Board holding company data http://www.ffiec.gov/nicpubweb/nicweb/nichome.aspx and FDIC Statistics on Depository Institutions http://www2.fdic.gov/sdi/index.asp

Among bank holding companies with consolidated assets greater than $50 billion, there are 13 institutions that own a single bank subsidiary. Selected characteristics of these institutions are reported in Table 3. Of these institutions, only Goldman Sachs and Ally Financial have significant investments in non-bank subsidiaries. Subsidiary investments in the remaining 11 holding companies are concentrated in a single bank. If any of these holding companies is in

distress, their bank will also be failing. Then the Secretary of the Treasury and the President must make a decision whether to put the distressed firm through an FDIC bank resolution, or invoke Title II and use a SPOE resolution. This decision has important consequences.

A bank resolution uses the FDIC's long-standing administrative resolution process. Under this process, the failed bank's shareholders and senior and subordinated debt holders bear the institution's losses. Deposit protection, if needed, is provided by the deposit insurance fund, a fund that is built from assessments on all insured depository institutions. Under an FDIC bank resolution, the holding company equity holders will suffer large losses, and the holding company is often forced to reorganize in bankruptcy. Holding company senior and subordinated debt holders may have a better experience, and indeed they may even suffer no loss in bankruptcy.[11]

Under a Title II resolution, the investors that own senior and subordinated debt in the bank will be fully protected under the SPOE strategy. Bank deposits, insured and uninsured, will also be fully protected under a Title II resolution. The SPOE will impose losses on investors in senior and subordinated parent holding company debt if the receivership losses cannot be fully absorbed by the holding company's equity. Any additional losses and recapitalization needs that cannot be covered by the parent holding company debt will be borrowed from the OLF. Repayment of these OLF funds will be assessed against any financial firm with assets greater than $50 billion.

G. *With Presidential approval, Title II empowers the Secretary of the Treasury to change property rights without prior notice, public debate, or Congressional action.*

The decision to use an FDIC bank resolution versus a Title II SPOE resolution has important consequences for investors. While holding company bankruptcy and FDIC bank resolutions are the presumed status quo where bank debt holders bear losses and bank holding company debt holders have a better chance of recovery, the Secretary of the Treasury and the President can, quickly and without public debate or Congressional approval, change the rules.

If Title II is invoked, losses are shifted onto holding company debt holders while bank deposits, investors in bank debt, and the deposit insurance fund are fully protected against any losses.

[11] For example, the senior and subordinated debt holders in WAMU bank suffered large losses while the senior and subordinated debt in the holding company had a 100 percent recovery on their securities.

Title II allows the President and his appointed Secretary of Treasury to completely change property rights and shift losses among distinctly different investors without prior notice, public debate, or any vote from Congress.

Unless the holding company has characteristics that are uncommon among the largest holding companies, invoking Title II has the potential to provide government guarantees far in excess of those that might be in force under an FDI Act resolution. The last column of Table 3 reports the liabilities of the parent holding company as a percentage of the subsidiary bank liabilities. Except for Goldman Sachs and Ally Financial, a Title II SPOE resolution would impose losses on only a very small fraction of liabilities issued by the consolidated holding company. If the bank subsidiary liabilities were protected by the SPOE, it is probable that a large share of the holding company's losses would be borne by the firms that must contribute to the OLF.

H. Title II provides inadequate funding to prevent asset "fire sales"

The SPOE raises a few additional issues. Under Title II, access to OLF funds are limited to 10 percent of the value consolidated assets of the failed financial firm as reported on its last financial statement. After 30 days, or when the FDIC completes an assessment of the market value of the receiverships' assets, OLF funding can increase to up to 90 percent of the market value of assets available to fund the receivership. The 10 percent cap on SPOE funding raises some important issues.

It is highly unlikely that a large financial institution fails because it prepares its financial statements and discovers that it is undercapitalized. Instead, long before financial statements reflect true distressed values, market investors lose confidence and withdraw funding from the firm. The firm ultimately suffers a liquidity crisis that forces it to find a buyer or to reorganize. In the case of Wachovia and WAMU, somewhere close to 10 percent of their depositors "ran" in the weeks before they failed. Thus, history suggests that a large financial institution that is in danger of failing will have losses that require capital injections, but they will also face funding withdrawals that must be replaced if they are to avoid asset "fire sales."

When the FDIC is required to quickly replace funding withdrawals and inject capital using the OLF, the 10 percent funding cap could become an important impediment. To avoid the cap, the FDIC may have to revalue the receivership assets quickly and then request funds in excess of 10

percent of holding company's initial consolidated assets. In reality, the FDIC does not have the capacity to value receivership assets that quickly, especially if the failure is a surprise. While I believe that the 10 percent funding cap is an example of good Congressional governance on paper, in practice, the FDIC will likely be forced into a speedy and less than rigorous revaluation because it will have to access additional OLF funding in the early days of a Title II receivership.

I. *How will Title II work when and a bank subsidiary is also being resolved by the FDIC?*

Some of my criticisms of the SPOE have been anticipated in the FDIC Federal Register proposal where the FDIC reserves the right to take the subsidiary bank or non-bank subsidiaries into separate receiverships. But it is unclear how such a policy would work when a large financial holding company is predominately comprised of a large bank, especially if the bank is internationally active. The overarching goal of the SPOE's is too keep critical subsidiaries of the holding company open and operating to facilitate global cooperation, prevent "ring-fencing," multiple competing insolvencies, and counterparty reactions that create operational difficulties and systemic risk. Resolving the large bank subsidiary would certainly create the problems SPOE tries to avoid.

The FDIC's SPOE proposal does not explain how a Title II resolution would work when it is paired with a FDIA resolution of a bank subsidiary. It is unclear how losses will be allocated between bank and holding company creditors and between contributors to the deposit insurance fund and the OLF. It is also difficult to envision how the FDIC might be able to close a very large internationally active bank subsidiary, and impose losses on its creditors, while keeping it open and operating and out of extra-national bankruptcy proceedings.

J. *Does Title II work in a true financial crisis?*

The last and biggest issue is how Title II and the SPOE would work when multiple large financial firms are simultaneously in distress. Would SPOE be used to simultaneously to resolve multiple large financial institutions through bridge banks? How different is this from nationalizing banks which could comprise a large part of the U.S. banking system?

Title II and SPOE do not fix the too-big-to-fail resolution problem in a true financial crisis when the distress of large financial institutions is mostly likely to arise. Instead, Title II will complicate and compound the too-big-to-fail issue when a single large institution fails in isolation without providing a practical resolution solution in a financial crisis when many large financial firms are likely to be distressed simultaneously.