PCI White Paper

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Why 'Too Big to Fail' is Too Short-Sighted to Succeed

Problems with Reliance on Firm Size for Systemic Risk Determination

Research by: NERA Economic Consulting

Prepared for: Property Casualty Insurers Association of America

PCI Property Casualty Insurers Association of America
Shaping the Future of American Insurance

NERA Economic Consulting

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PCI is comprised of more than 1,000 member companies, representing the broadest cross-section of insurers of any national trade association. PCI members write over $180 billion in annual premium and 37.4 percent of the nation's property casualty insurance. Member companies write 44.0 percent of the U.S. automobile insurance market, 30.7 percent of the homeowners market, 35.1 percent of the commercial property and liability market, and 41.7 percent of the private workers compensation market.

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Contributors

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Executive Summary

This paper discusses why relying on size as the primary determinant of financial institution systemic risk is inappropriate, and details negative economic consequences likely to result if a sized-based process is utilized in financial reform legislation.

To be sure, several large financial institutions significantly contributed to the systemic risk episode recently experienced. However, absolute size is not an appropriate proxy for a firm's systemic risk contribution. Legislative proposals that rely on a size-based identification process would erroneously identify a number of financial firms as systemically risky, when in fact they are not. Other firms that do in fact pose significant systemic risk would fail to be identified. Such a process, if enacted, would create a cross-subsidy of significant magnitude from firms that do not pose systemic risk to those firms whose activities are systemically risky. The resulting moral hazard would encourage increased risk-taking and, as such, could ultimately defeat the legislation's intent of reducing the economy's exposure to systemic risk.

Further, if a size-based process for identification of systemically risky financial firms were accompanied by heightened regulatory requirements and new systemic risk charges, the following economic results would be expected:

- Increased financial system risk as a result of new sources of moral hazard;
- Distortions in the competitive environment, impacting economic efficiency and creating potential barriers to entry;
- Increased costs to consumers for basic, often required, financial services, as a result of the pass-through of assessment cost, and costs associated with increased regulation; and
- U.S. job losses, including those predicted to result from reductions in capital and labor expenditures and economic dislocation, as a result of efforts by firms to structure to avoid size thresholds.

On balance, the costs of the proposal, considering the moral hazard and economic impacts, are economically significant, easily exceeding the benefit of the actual systemic risk fund itself.

Though reducing systemic risk and related taxpayer costs is critically important, to achieve these goals and avoid negative economic distortions, underlying sources of firm systemic risk must be properly identified. Elements not directly linked to size, including interconnectedness, cyclicality, leverage, liquidity, and transparency are important considerations in the identification and quantification of systemic risk. While incorporating such elements into the official identification and assessment of systemically risky financial institutions may increase the complexity of the process, a size-based process could result in more economic harm than good.

Introduction

On December 11, 2009, the U.S. House of Representatives approved H.R. 4173, the "Wall Street Reform and Consumer Protection Act of 2009," which requires that asset size be used to determine whether a financial firm is deemed a "covered financial company" and subject to assessments that would pre-fund a "systemic dissolution fund." As described in the House Financial Services Committee's Summary, "The Fund will be pre-funded by assessments on financial companies with more than $50 billion in assets and by hedge funds with more than $10 billion in assets."[1] A pending Senate bill, expected to be taken up in early 2010, may also require that asset size be used as a determinative factor in designating financial firms as systemically risky and subjecting such firms to new assessments.

The intent of the systemic dissolution fund is to prevent the government, and ultimately the taxpayers, from incurring the cost of supporting or winding-down of financial institutions during future systemic risk episodes. However, the economic problems associated with approaches currently pursued may outweigh any actual benefits.

This paper discusses problems with identifying systemically risky institutions based on size and negative economic consequences associated with subjecting these firms to heightened regulatory oversight and new assessments to pre-fund a systemic dissolution fund. These problems include: consumer price increases for basic financial services, heightened systemic risk as a result of increased moral hazard, potential U.S. job losses, and other economic inefficiencies.

1 HR 4173, TITLE I—Financial Stability Improvement Act, Summary, available at http://financialservices.house.gov/Key_Issues/Financial_Regulatory_Reform/FinancialRegulatoryReform/HR4173_summaries_by_title/Title_I_FISA_120309.pdf, accessed December 29, 2009.

Sources of Financial Firm Systemic Risk and Failings of Size-Based Determinations

Systemic Risk Defined

To best determine those firms that are systemically risky or systemically important requires an understanding of what constitutes systemic risk. No single agreed upon definition of systemic risk exists. However, various authorities have offered definitions reflecting the manner with which institutions they govern contribute to or are affected by systemic risk. The Chairman of the Federal Reserve, Ben Bernanke stated in a letter to Congress, "Systemic risks are developments that threaten the stability of the financial system as a whole and consequently the broader economy, not just that of one or two institutions."[2] According to the Property Casualty Insurers Association of America ("PCI"), systemic risk is "the likelihood and the degree that the institution's activities will negatively affect the larger economy such that unusual and extreme federal intervention would be required to ameliorate the effects."[3] Thus, systemic risk arises and manifests in a microeconomic context, but can induce instability in the macroeconomic context.

A sample of other definitions from various informed authors is provided below.

- A report from the Congressional Research Service's Marc Labonte states that, "Systemic risk within the financial system is often characterized as contagion, meaning that problems with certain firms or parts of the system spill over to other firms and parts of the system."[4]
- The Commodity Futures Trading Commission ("CFTC"), which regulates futures and options markets, recognizes that systemic risk results from default and the resulting interconnectedness among market participants and markets in general. The CFTC Glossary defines systemic risk as, "the risk that a default by one market participant will have repercussions on other participants due to the interlocking nature of financial markets. For example, Customer A's default in X market may affect Intermediary B's ability to fulfill its obligations in Markets X, Y, and Z."[5]
- During a speech on June 26, 2006, to the Housing Policy Council of the Financial Services Roundtable, U.S. Treasury's Assistant Secretary for Financial Institutions, Emil W. Henry, Jr. defined systemic risk as, "the potential for the financial distress of a particular firm or group of firms to trigger broad spillover effects in financial markets, further triggering wrenching dislocations that affect broad economic performance. Perhaps a useful analogy is to think about systemic risk as an illness that can become highly contagious."[6]

continued

2 Ben Bernanke, in a letter to Senator Bob Corker, dated October 30, 2009, quoted in "Bernanke Offers Broad Definition of Systemic Risk," WSJ Blogs, November 18, 2009, available at http://blogs.wsj.com/economics/2009/11/18/bernanke-offers-broad-definition-of-systemic-risk/, accessed December 29, 2009.

3 Testimony of Robert DiMuccio, before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Entities, U.S. House of Representatives, March 5, 2009, p. 4.

4 Marc Labonte, "Systemic Risk and the Federal Reserve," Congressional Research Service, October 28, 2009, p. 1.

5 CFTC Glossary, available at http://www.cftc.gov/educationcenter/glossary/glossary_s.html, accessed December 29, 2009.

6 Remarks of Emil W. Henry, Jr., Before the Housing Policy Council of the Financial Services Roundtable, June 26, 2006, available at http://ustreas.gov/press/releases/js4338.htm, accessed December 29, 2009.

Notably, none of the definitions above mentions "size." As might be expected, these and other systemic risk definitions focus on the negative impact that failures or problems in an individual or groups of firms can have on the entire financial system, and ultimately the economy at large. In a market-based financial system, the failure of individual private firms is expected, and ultimately serves to improve efficiency. However, the demise of certain firms or groups of firms can pose "systemic" problems, the overall impacts of which are disproportionately large relative to their size.[7]

As referenced in many of the definitions, the disproportionately large impacts of systemically important firms stem from contagion or spillover effects. Spillover from, or to, a firm or group of firms can occur both directly and indirectly. Direct spillovers result from contractual exposures such as credit arrangements and other contractual commitments. The inability or unwillingness of a firm to honor significant contractual commitments with other institutions can lead to direct spillover, which may create a "domino" effect. Indirect spillovers can arise as a result of fear and uncertainty among market participants who lack sufficient information to determine if other firms retain direct exposure to a known problem firm, or the issues impairing the problem firm. In his 2006 speech, Assistant Secretary Henry stated, "Indirect spillovers typically develop, not from direct exposures to the firm at the epicenter of the crisis, but when this firm causes a lack of confidence leading to a sense of panic and turbulence that results in action that generates substantial losses for firms that were not directly exposed to the impaired firm."[8]

In that regard, the Bank of England cites "information frictions" as prominent in the run-up to the crisis including, "Network externalities which arise when agents in a financial system do not have the information necessary to determine the risks to which they are exposed."[9] The risk of indirect spillovers within a system tends to increase with opacity and complexity.

Sufficient transparency of financial institution exposures, appropriate diligent prudential supervision, and efficient pre-established resolution regimes can increase market understanding of problems and likely outcomes, thereby reducing indirect spillover risk, at least among regulated financial firms.

Recent Bail-Out Experience and Financial Institution Size

Given the recent explicit government support provided to certain large financial institutions (i.e., "bail-outs"), there is an understandable tendency to associate size with systemic importance and risk. The association begins with a focus on highly visible household-name financial firms that were bailed-out by governments, and became popularly known as "too-big-to-fail" institutions. The association leads to the following implicit line of thought:

- Each of the large individual institutions that was bailed-out must have been systemically important
- Systemic importance existed as a result of each firm's large size, an easily identifiable common factor
- Any financial firm of significant size must be systemically important, and therefore poses systemic risk

7 A financial firm's relative size and market power is limited by various anti-trust statutes and other regulations. Potential systemic risk arising from a firm or firms' market concentration should be addressed specifically by such existing authorities.

8 Henry Remarks, June 26, 2006.

9 "The role of macroprudential policy," Bank of England discussion paper, November 19, 2009, p. 12.

In summary, the above concludes that financial institution size always causes, and is the sole cause of, systemic risk. In essence, a perceived correlation between institution size and bail-outs is stretched to reach the conclusion that size equals systemic risk. In reality, each of the points above is inaccurate. An examination of facts along with basic intuition reveals aspects of the underlying premise, as well as the conclusion, to be false.

Government Support Beyond Large Financial Firms

First, though a few poorly regulated large financial firms that were bailed-out during the recent financial crisis received much attention, many intermediate- and small-sized institutions also received direct government support to mitigate potential negative systemic effects. These firms include hundreds of regional and community banks that received government funds from the Troubled Asset Relief Program ("TARP"). Though such smaller banking firms typically exhibited relatively low interconnectedness, many had undertaken risks similar to those of the larger firms, including exposure to real estate prices and high use of financial leverage. As a group, a large-scale and rapid failure of these mid-size and small banking firms would have led to significant negative economic effects.

Beyond TARP fund injections, the FDIC's increase of the deposit insurance threshold represented broad support to U.S. insured depositories of all sizes. Given a relatively high reliance on deposit funding by most intermediate and small banks, this support reduced pressure on banking sector liquidity, thereby reducing overall systemic risk.

Government support of financial institutions not considered large is not unique to the most recent crisis. See Appendix for additional historical background on systemic risk and government support.

Government Support Not Provided To All Large Financial Firms

Second, though a number of large financial firms indeed contributed to systemic risk, other large financial firms had minimal or no contribution. In fact, many large financial firms neither required nor received direct government support during the recent systemic risk episode. Large private Property and Casualty ("P&C") firms including Liberty Mutual and GEICO received no government support, and GEICO's parent company, Berkshire Hathaway, was even able to provide liquidity to Goldman Sachs during the most uncertain times of the financial crisis.

As seen on the following page, during the turbulent market period from June 2008 through June 2009, equity performance across various sub-groups of the financial sector varied significantly. Large P&C insurance companies, which obtained no explicit government support, fared significantly better than other financial sub-groups. The market appears to have recognized that, regardless of size, P&C insurers exhibited relatively low interconnectedness to troubled parts of the financial system.

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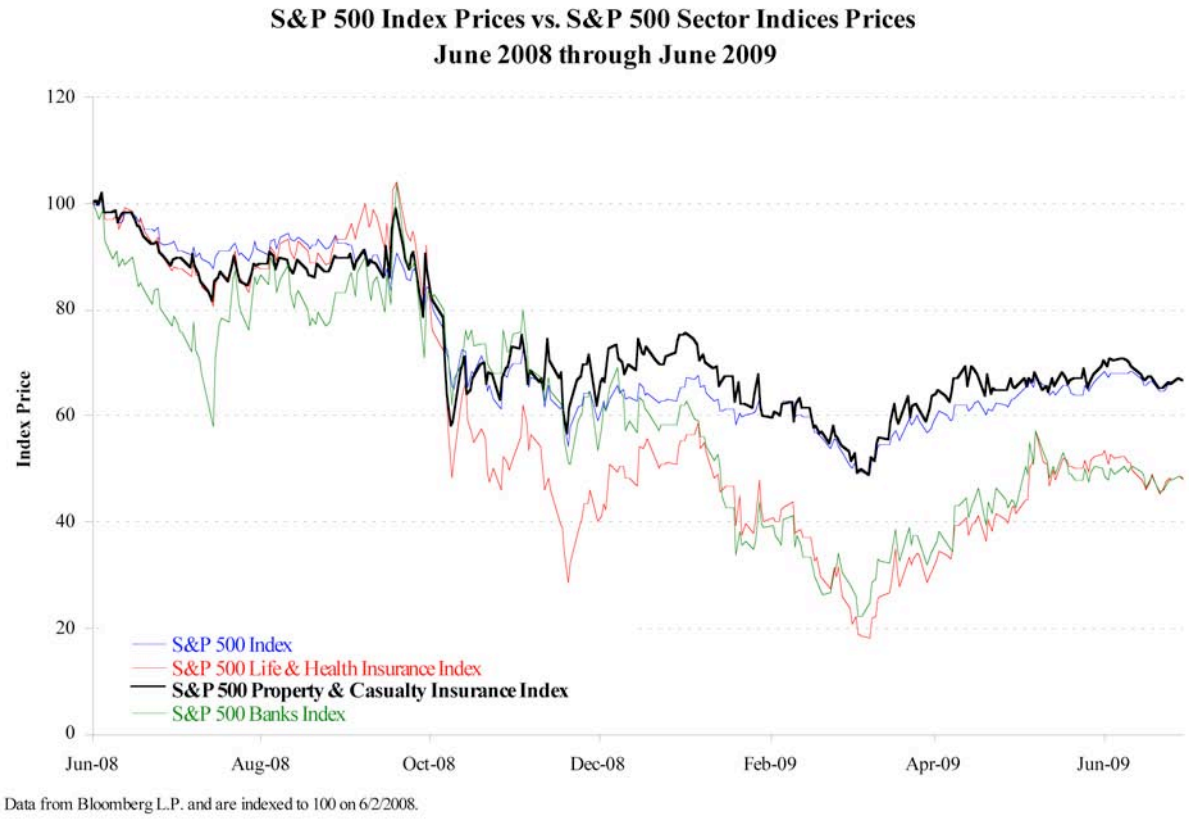

Some Large Financial Firms Supported in "Abundance of Caution"

Finally, certain large financial firms were almost certainly supported in an "abundance of caution." Given a lack of information, the government was uncertain as to whether certain firms were at risk of failure, and whether their failures would have posed systemic risk.[10] Fearing downside risk of "not doing enough" the government was willing to provide too much support, rather than too little. Given the concentration of banking assets held in the top 20 largest firms, it was most efficient for authorities to insure the survival of a large part of the banking sector by grouping these firms together and injecting capital into each of them.

The actual level of "cautionary" vs. "necessary" support provided by the government cannot be known. However, capital injections into large banks which, in some cases, was reportedly accepted only begrudgingly, seems to have been deemed necessary as a result of a number of key system failings. These include:

- **Opacity:** A lack of sufficient public transparency regarding risk exposures of certain financial firms and complex financial instruments posed the threat of indirect spillovers. For example, large unknown commitments booked off-balance sheet by some banking firms included contractual recourse that ultimately brought exposures on-balance sheet. Once the existence of these hidden exposures became generally known, investors became wary of what they may not know about seemingly sound banking institutions.

10 The fact that the U.S. banking and investment banking system had become highly concentrated within the top 20 institutions allowed the U.S. government, with its explicit pledges of support subsequent to the Lehman Brothers failure, to efficiently and definitively keep a large percentage of the total banking market open. Though expedient, this should not lead one to conclude that each of these institutions was disproportionately important relative to its size (i.e., systemically important).

- **Failure of Prudential Regulators:** Bank and securities company regulators lacked sufficient institutional knowledge to deal with a financial downturn. In the midst of the crisis, regulators were unable to gather and analyze (non-public) information quickly enough to determine an individual firm's true financial condition and its potential systemic risk upon failure.
- **Lack of Effective Systemic Oversight:** No regulatory authority was explicitly charged with the understanding and oversight of systemic risk issues across financial institutions and markets. Though there were programmatic efforts led by the New York Federal Reserve Board's ("NYFRB") Supervision area to identify and manage systemic risk, this group failed, even with respect to the universe of institutions over which it maintained direct authority.[11]
- **Ineffective Resolution Regimes:** Financial companies that were bailed-out tend to be characterized by the lack of effective resolution regimes. In some cases this was due to a myriad of complex intra-connections within financial conglomerates (e.g., holding company entities intertwined with bank entities). Clear and expedient resolution processes would have allowed institution failures, while minimizing spillover and customer effects.[12]

It is notable that each of the above failings is broadly accepted as having contributed to the recent systemic risk episode. Each is also currently in process of being specifically addressed in new legislation. Remediation of these core system problems and others should reduce future systemic risk, as well as the likelihood and scale of future bail-outs. The creation of a new systemic risk fund to pay for future bail-outs, in effect, assumes failure to correct core failings.

Key Elements Leading to Financial Firm Systemic Risk

A growing body of literature analyzing financial system risk identifies key sources of firm-based systemic risk.[13] These sources are largely indifferent to institution size. Though it is not the goal of this paper to comprehensively identify, define, and weight the importance of each of these sources, they are introduced here as important considerations for any systemic risk identification and assessment process. These sources will also provide useful context for the examples discussed in subsequent sections.

Interconnectedness

As noted in the systemic risk definition section above, interconnectedness, sometimes termed, "spillover" or "contagion," reflects the impact that financial firms have on one another. This concept is virtually synonymous with systemic risk. A group of firms or an individual firm, however large, that is not significantly impacted by other firms' problems, and whose failure does not significantly impact creditors, counterparties, and customers, should not be

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11 The Federal Reserve's Large Financial Institution Committee ("LFIC"), led by a chairperson and risk-head from the NYFRB was designed, in part, to develop cross-institutional perspectives and identify key and emerging risks.

12 In contrast, the resolution process for insurance companies, including the state-based guaranty fund system, has been effective in stemming potential systemic impacts from insurer insolvencies.

13 Certain elements of systemic risks stem from the system framework, within which firms operate, rather than directly from individual firms themselves. The framework is largely defined by various laws and regulations, as well as accounting principles. Part of the system framework that influences systemic risk includes requirements surrounding clearing and reporting of derivatives trades.

deemed systemically risky. Conversely, a group of firms or an individual firm that is highly impacted by other firms' problems, or whose own problems pose potential large negative impacts on other firms or customers, is more likely to encompass systemic risk.

In discussing connectivity and stability, Andrew Haldane of the Bank of England, notes,

> Within a certain range, connections serve as a shock absorber. The system acts as a mutual insurance device with disturbances disbursed and dissipated… But beyond a certain range, the system can flip the wrong side of a knife-edge. Interconnections serve as shock-amplifiers, not dampeners, as losses cascade. The system acts not as a mutual insurance device but as mutual incendiary device.[14]

Cyclicality/Correlation of Risk Exposures

When a group of financial institutions is heavily exposed to the same macroeconomic cycles or events, the entire sector can deteriorate simultaneously. Even without significant interconnectedness, the demise of a large portion of firms in a sub-sector of the financial industry can result in a reduction of services that cannot be replaced efficiently by healthy firms. This can harm deserving consumers and businesses and thereby weigh negatively on the economy.

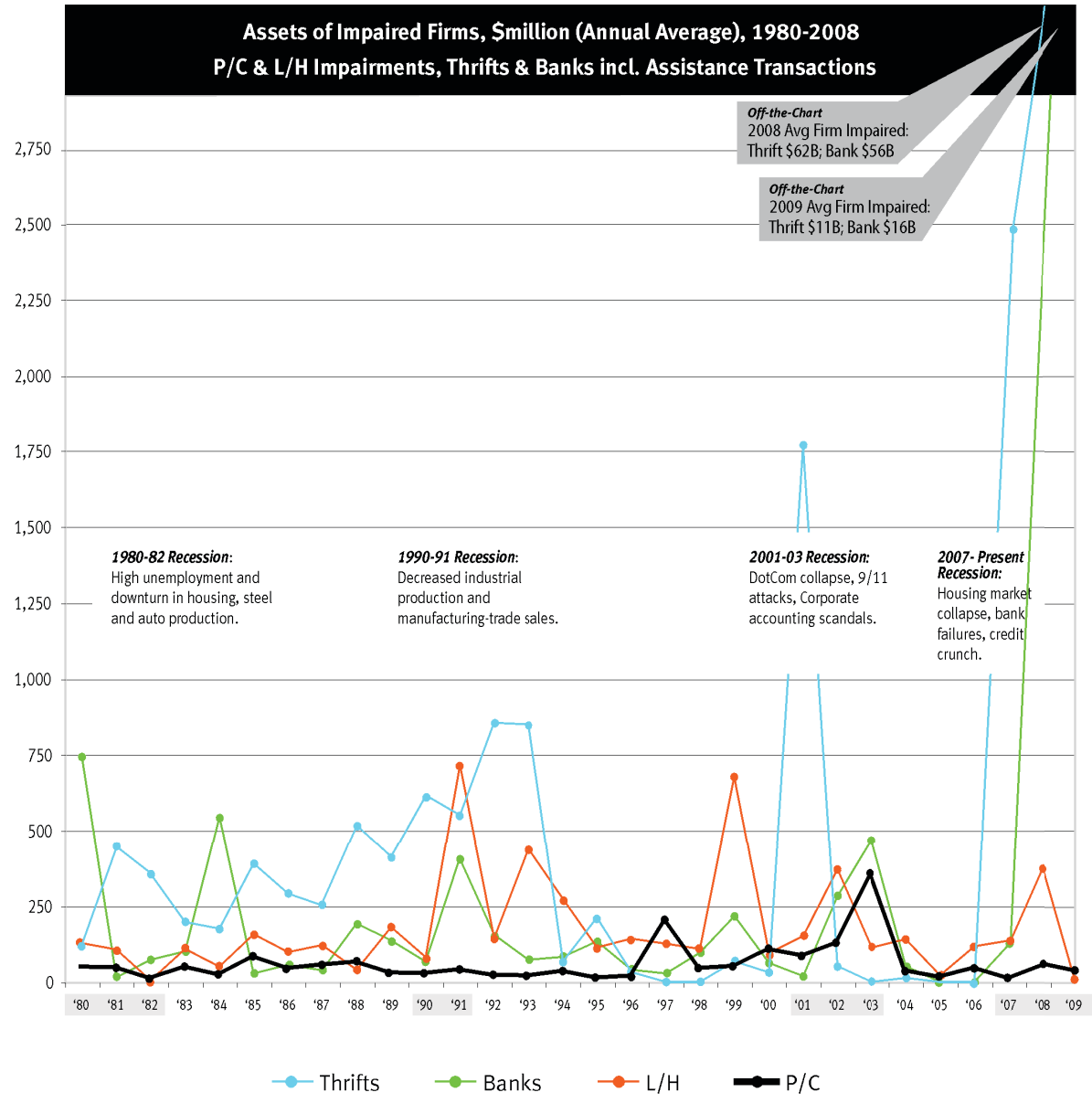
A clear example from the recent crisis is the exposure among a significant portion of the U.S. banking market to declining real estate prices. With respect to correlated risk exposures of banks, the Dallas Federal Reserve's Fisher and Rosenblum write that:

> The problem isn't just the riskiness of a big bank's assets, nor even the bank's size relative to the overall system. It's important to know whether the bank's asset holdings are highly correlated with those of other banks. Did they all make the same bad bets at the same time? Did they all bet that real-estate prices would rise forever? As we all know, the answer, in this decade, unfortunately, is "yes."[15]

14 Andrew G. Haldane, "Rethinking the Financial Network," Speech delivered at the Financial Student Association, Amsterdam, April 2009, p.10.

15 Richard W. Fisher and Harvey Rosenblum, "The Blob That Ate Monetary Policy," *Wall Street Journal*, September 27, 2009, available at http://online.wsj.com/article/SB10001424052748704471504574438650557408142.html, accessed December 29, 2009.

The chart below illustrates exposure to recessions of various sub-groups within the financial industry. Banks and thrifts show noticeable increases in impairment levels during various economic downturns over the prior 30 years. The life and health insurer industry exhibits less cyclical impairment, while P&C insurer impairments show virtually no correlation to cycles.



Source: "Impairment Experience of the Financial Services Industry," Property Casualty Insurers Association of America, May 22, 2009.

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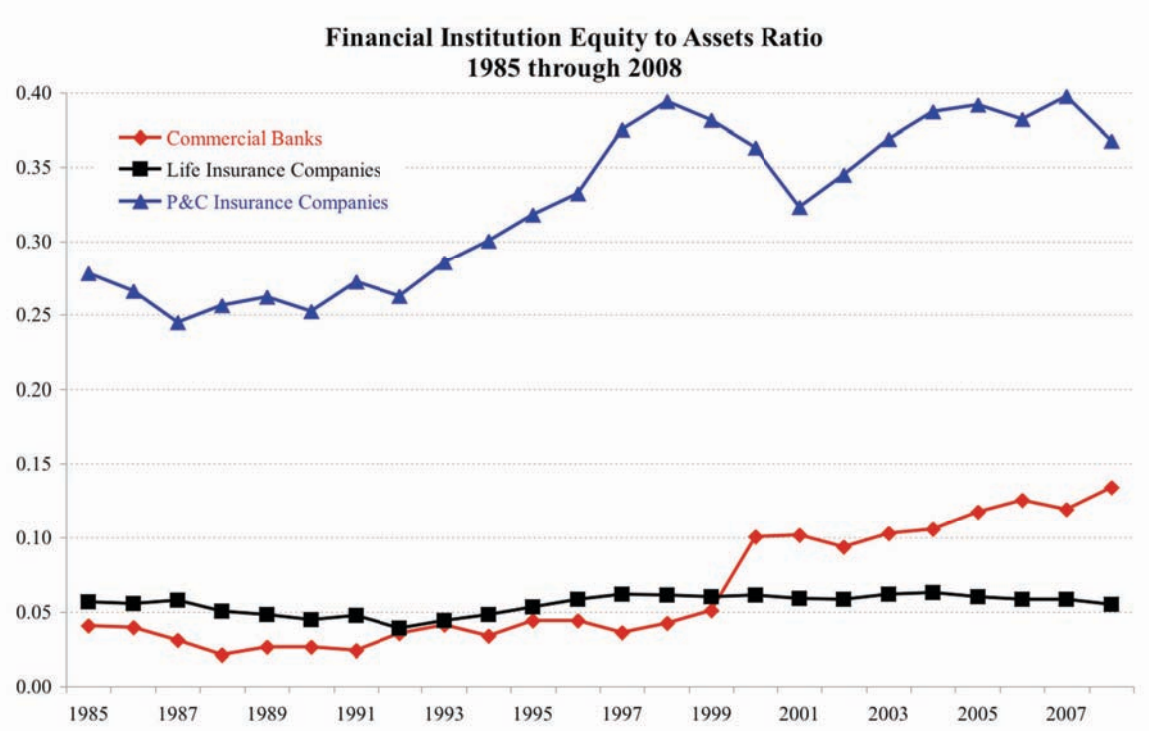
Leverage

In finance, leverage is known as an agnostic amplifier of returns. Leverage in a firm, or within an industry, amplifies both positive and negative returns. All else being equal, a firm with a higher amount of capital has more cushion to weather financial difficulties and cycles, relative to a firm with less capital. As a result, financial firms and sub-sectors of the industry with higher leverage are inherently more risky. The higher risk of failure results in greater likelihood of negative systemic effects.

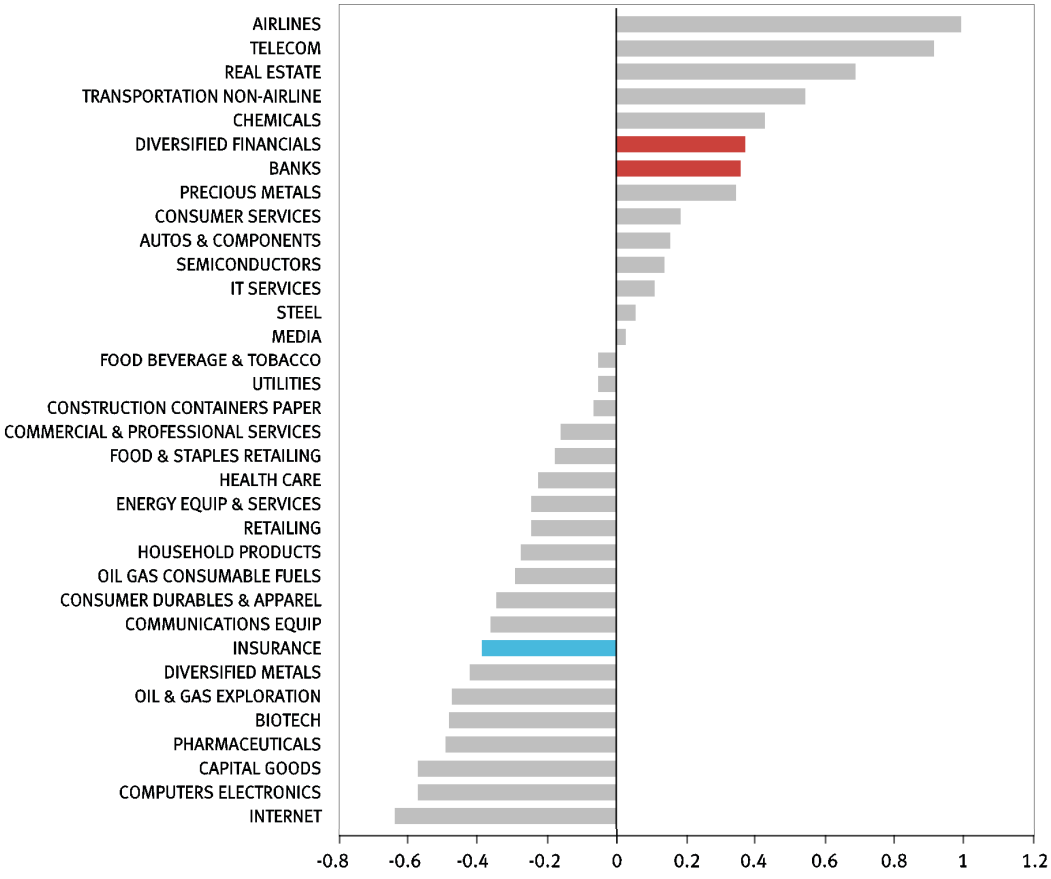
As a result of FDIC insurance, other government support, and the perceived safety associated with being highly regulated, the market is generally accepting of a high level of leverage within U.S. banking entities. During good times, when financial accounting earnings are high, banking institutions often employ stock buy-backs and high dividend pay-outs which keep capital levels lean, thereby resulting in high returns on capital. However, during crisis periods, bank equity can become quickly depleted. The illustration below shows the average capitalization levels of various types of financial firms over time. P&C insurers tend to hold capitalization that is several times that of banks and life insurance companies.



Data from the Federal Reserve Flow of Funds accounts and are not seasonally adjusted. Leverage ratio = (total financial assets - total financial liabilities)/total financial assets.

The figure below depicts financial leverage across a variety of industries. Banks rank seventh on the list and maintain higher than average leverage, while insurance companies, which rank twenty-seventh, have significantly lower than average leverage.

Cap-Weighted Leverage for Various Industries (Average 1994 - 2008)



Source: Financial Leverage," MSCI Barra Research Bulletin, October 2008, p.3

Liquidity Risk/Asset-Liability Mismatch

Firm-specific and sector liquidity are important considerations with respect to systemic risk. For many financial firms, liquidity is partly a sub-set of interconnectedness. For example, banking firms that tend to fund long-term, less liquid assets with short-term liabilities are naturally reliant on the funding parties to "roll-over" funding. A reluctance to do so can quickly result in the borrowing firm's failure to meet obligations.

Liquidity risks are paramount for banks, investment banks, and hedge funds, as significant declines in the values of assets can lead to reduced liquidity. In effect, liquidity tends to become unavailable just when it is needed most. This run-on-the-bank phenomenon is not experienced by traditional insurance companies (e.g., property, casualty,

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life). Though some insurance company contingent funding sources may decrease during market stress, contractual liabilities and pay-outs on traditional policies are not correlated with declines in overall market liquidity.

The risk of significant asset-liability mismatches was realized in 2008, particularly by some former "stand-alone" investment banks, whose heavy reliance on short-term wholesale borrowings to fund illiquid long-term securities left them at the mercy of short-term funders. Firms whose asset and liability maturities are more closely matched tend to be less exposed to cycles and less reliant on the funding element of interconnectedness.

Transparency

Transparency with respect to a firm's financial and other risks has a significant impact on the willingness of investors to continue holding the firm's debt and equity, particularly during episodes of market stress. Relatively opaque firms that experience difficulty are less likely to retain support from investors (and funding parties) as a result of various unknown risks (e.g., counterparty and off-balance sheet exposures).

While hedge fund investors have traditionally been accepting of the industry's opacity, as returns declined during the recent market crisis, opacity almost certainly contributed to the large withdrawals of capital from the industry.

Stylized Examples Illustrating Lack of Impact with Respect to Firm Size

Two stylized examples are presented below that provide intuition as to why financial firm size should not be equated with high risk or high systemic risk. These examples illustrate the importance of commonly discussed firm-specific and systemic risk sources unrelated to size.

The following context is presented as a foundation for the examples. For a financial firm to significantly contribute to a systemic risk episode two criteria must be met:

1. It must fail or significantly reduce operations (as a result of illiquidity or insolvency).
    - The firm's demise may be caused by its own traditional internal asset/liability risk exposures or due to significant spillovers from other firms. If a firm continues normal operations, providing financial services to customers, it cannot cause or exacerbate a systemic risk episode.
2. Given reduced operations or failure of a financial firm, negative impacts must spillover to the broader system, given reduced operations or failure of a financial firm.
    - An individual firm failure that does not have significant negative impacts on consumers or other firms in its market or nearby markets, by definition, does not affect the "system."[16]

16 As discussed earlier, it is possible that a large group of participants in a certain market fails as a result of similar concentrated risk exposures. However, risk transparency, along with diligent prudential supervision and systemic oversight, would minimize such cases. Appropriate resolution regimes would facilitate the replacement of services to minimize economic impacts.

Example 1

Consider two large financial firms, both with $100 billion in total assets, with the following attributes.

Attributes	Firm 1	Firm 2
Asset Size	$100 Billion	$100 Billion
Character of Liabilities Funding	Mixed deposit types with significant short-term wholesale borrowing	Non-cyclical insurance liabilities funded with regular premium payments
Character of Assets	Long-term real estate and commercial loans/ securities; proprietary trading positions	Low risk earning assets with durations matched closely to liabilities
Capitalization	High financial leverage (10 to 1)	Low to Moderate financial leverage (3 to 1)
Complexity of Risk	High: Significant assets with high complexity; concentration of "tail" or cyclical risks	Low: Predictable liabilities funded with non-complex high credit quality assets
Intra-Company Dependency	High: Individual business cross legal entity lines and rely on common IT infrastructure	Low: Ring-fenced liquidity and capital, and stand-alone IT infrastructure
Regulatory Oversight	Multiple legal entity regulators	Single regulator
Transparency Level	Low to Moderate: Public company with significant opaque off-balance sheet contractual exposure	High: Financial statements reflect all significant exposures
Special Activities	U.S. Treasury primary dealer	None
Resolution Process	Specific resolution process for bank and broker; other affiliates fall to standard bankruptcy laws	Specific single resolution process/authority
Guarantee Fund	Banking and brokerage deposits guaranteed up to thresholds; no guarantee for other customers	Industry guarantee fund at state level covers all customers up to thresholds

Given risk concentrations, leverage, interconnectedness, and exposure to direct and indirect spillovers, over time economic and market-based values of Firm 1 would be expected to exhibit relatively high volatility, particularly in times of general economic stress. Conversely, Firm 2, with its lower leverage, low and predictable risk exposures, and relatively low potential spillovers, would be expected to exhibit economic and market-based firm values that are relatively less volatile through time.

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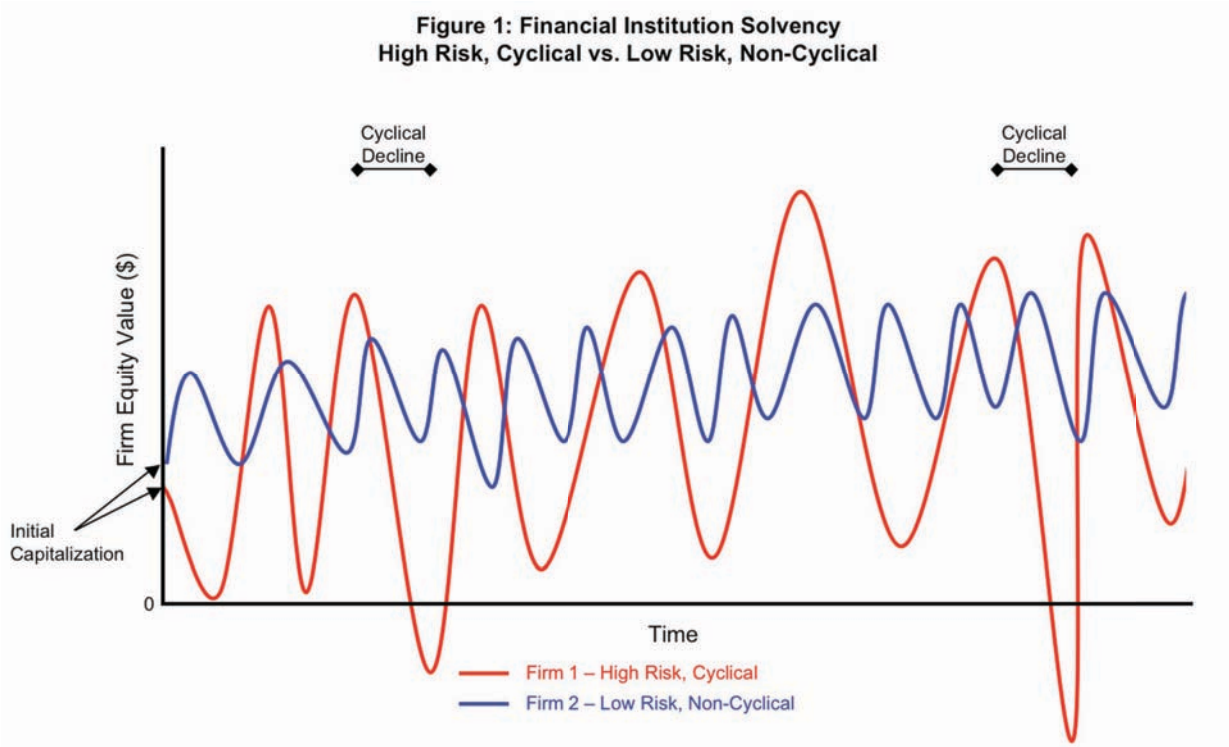
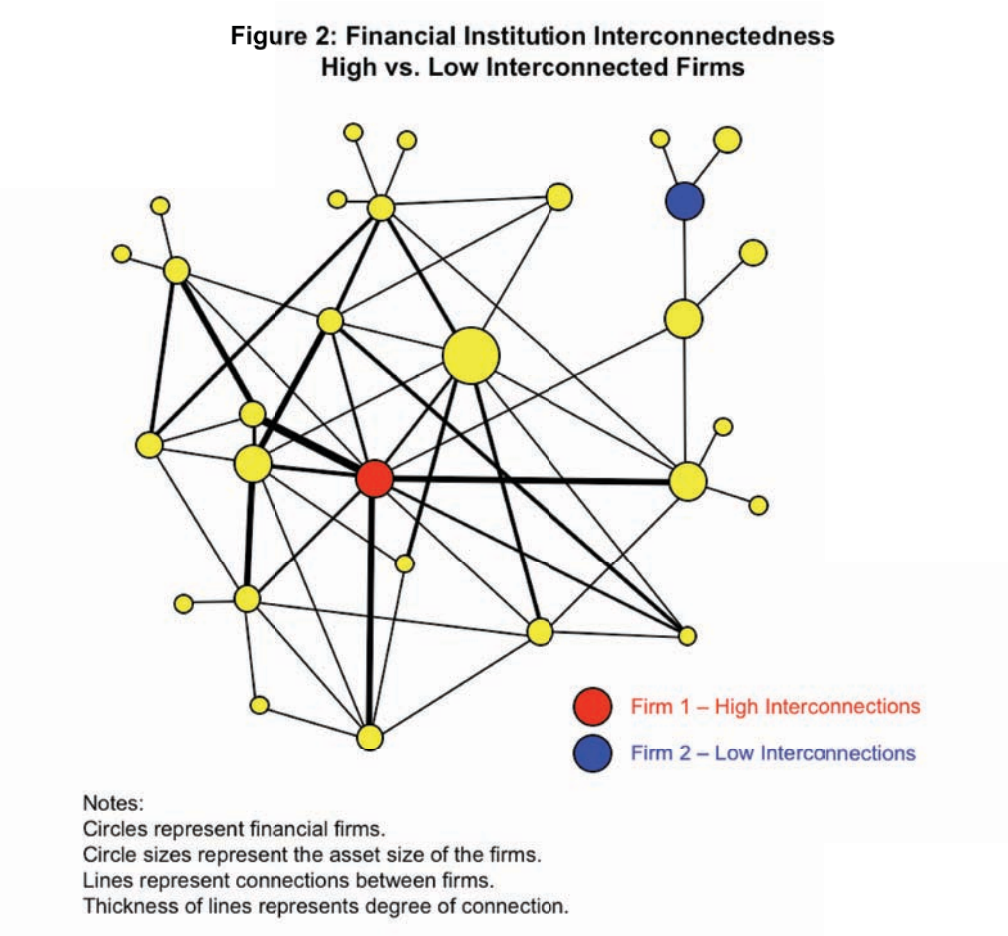


Figure 1 above reflects how the volatility of Firm 2's equity value remains relatively low and stable. Firm-value remains positive through time and is not impacted by stressful economic and market conditions. Given its relative stability and lack of cyclical exposure, Firm 2 is unlikely to contribute to systemic risk, despite its size, as it is unlikely to fail. Conversely, Firm 1 exhibits relatively high firm-value volatility (i.e. it is a high-risk firm). Capital growth is constrained in strong economic periods as a result of stock buybacks, dividends, and large compensation payouts. However, Firm 1 is more likely to become insolvent, particularly during stressful economic environments, and is therefore more likely to contribute to systemic risk.

Figure 2: Financial Institution Interconnectedness
High vs. Low Interconnected Firms



Notes:
Circles represent financial firms.
Circle sizes represent the asset size of the firms.
Lines represent connections between firms.
Thickness of lines represents degree of connection.

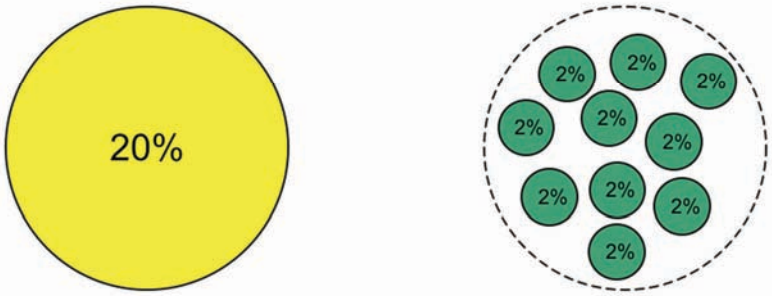
As noted above, for a troubled firm or group of firms to contribute significantly to systemic risk, it must have a significant negative impact on its market or nearby markets. Figure 2 above depicts differences in "connectedness" between Firm 1 and Firm 2 within the system. Firm 2's lack of significant derivatives positions and cyclical contingent liabilities (e.g., off-balance sheet positions with contractual recourse) minimizes potential negative impacts from, or to, other institutions. Furthermore, even in the case of firm failure, the presence of Firm 2's industry guarantee fund prevents negative impacts from spreading to customers and financial counterparties. The resolution regime and ease of replacement of Firms 2's customer policies allows surviving firms to absorb customer needs without significant negative spillovers. Firm 1 maintains a far greater number and significance of interconnections. The connections are also more complex as indirect exposures are more likely to ultimately flow to or from Firm 1. As a result, systemic risk posed by Firm 1 clearly exceeds that of Firm 2.

continued

Example 2

In this example a single large firm represents 20 percent of a particular financial market. A separate group, comprised of 10 firms, each represents a 2 percent pro-rata share of the same market. All other significant risk features of the large and small firms are virtually identical, including interconnectedness, cyclicality, leverage, liquidity, and transparency.

Figure 3: Financial Institution Size
Single Large Firm vs. Group of Smaller Firms



Note: Percentages represent the firm's share of the market.

Given the described attributes and illustration above, the pertinent question is, "does the single large firm pose more systemic risk than the group of smaller firms?" Current pending legislation that would identify the large firm as systemically risky and impose additional monetary assessments implies that the large firm poses risks that are greater than those of the group of small firms. However, assuming the large firm is operating freely and not in violation of anti-trust rules, the source of any significant incremental risk to the system is not apparent.

In terms of risk of firm deterioration or failure, the single large firm and the group of smaller firms are both equally exposed to the same financial and economic risks, and so the likelihood of failure is virtually identical. Further, assuming deterioration or failure, because the level and scale of interconnectedness between the single firm and the group of firms is the same, the net transmission of financial problems should not differ.

A few potential differentiating factors are considered below:[17]

Operating Efficiency Differences

It may be assumed that as a result of their smaller size, the smaller firms operate with less efficiency (e.g., economies of scale) relative to the large single firm. As a result, over time there may be less retained profits to buffer the smaller firms from failure, resulting in a higher likelihood of failure. Additionally, given the smaller firms' relative inefficiency, the group's failure may result in a higher level of direct employee job loss, relative to the larger firm.

These considerations would tend to indicate a somewhat higher potential systemic impact from the group of smaller firms.

Psychological Impacts

Given a potentially higher level of media reporting and broader name recognition, a failure of the large firm, though not inherently more likely, may have an incrementally higher risk of indirect spillover due to psychological (e.g., fear) factors. However, assuming relatively high transparency of risk positions within the industry and efficient resolution regimes, indirect spillover effects would be mitigated.

In any case, these considerations would tend to indicate a somewhat higher potential systemic impact from the single large firm.

Conclusion

Even when considering the above potential mild differentiating factors, the systemic risk posed by the larger firm and the group of smaller firms appears to be highly comparable. In terms of potential systemic risk legislation, this argues against identifying systemically important firms by asset size and subjecting such firms to heightened regulation and additional assessments.

17 The listing may not encompass all potential differences.

Problematic Results Arising from Implementation of a Size-Based Systemic Risk Identification Process

Negative Results Introduction

Several negative economic effects would occur if legislation for identifying systemically important financial institutions were based on firm size. These effects, in general, result from the undesirable incentives associated with inappropriate identification processes and associated costs. A number of overarching issues are introduced below and are discussed more thoroughly in subsequent text.

Results from Erroneous Identification of Non-Systemically Risky Firms

As illustrated in the examples from the previous section, firms of the same absolute size can have wide variances with respect to their potential contributions to systemic risk. Some large financial firms simply do not pose significant systemic risks. Identifying a large firm as systemically risky when, in fact, it is not would have the following negative effects:

Cost Increases to Undeserving Customers: The costs of additional regulation and required systemic dissolution fund assessments would act as an excessive tax on mis-identified firms. This tax is likely to be passed-through to the ultimate financial firm customer. As a result, an undeserving group of consumers would be forced to pay to fund the systemic dissolution pool, from which they would likely never receive any benefit.

Cross-Subsidization of Risky Firms: Beyond the direct cost increases to consumers, the erroneous charges would serve to subsidize the risk-taking of those firms that truly do pose significant systemic risks. Simply stated, low-risk large firms would pay more than their fair share.

Incentives to Increase Risk: Beyond customer cost increases and cross-subsidization of risky firms, an underlying incentive would remain for lower-risk firms to increase their systemic riskiness in line with the new costs they face from increased regulation and monetary assessments.

Results of Failure to Identify Systemically Risky Firms

As also illustrated in the examples from the previous section, individual groups of smaller firms may pose the same or greater systemic risk than large financial firms. Should a systemic dissolution fund be generated from assessments only on large financial institutions, systemically risky financial firms falling under the subjective size threshold would inevitably be missed. The failure to identify such systemically risky firms would likely have the following negative effects:

Increased Likelihood of Future Taxpayer Funded Bail-outs: If additional regulatory oversight and systemic dissolution fund monetary assessments were not required of a number of systemically risky firms falling under arbitrary size thresholds, a systemic risk episode in the future may not be avoided, and could come as a surprise to regulators.

continued

In such a case, despite any dissolution fund financed by firms, taxpayers would likely bear much of the direct and indirect economic costs of the episode.

Free-Rider Problems and Reduced Economic Efficiency: Firms that are effectively supported by the dissolution fund, and by a high tier of government support given the actual systemic risk they pose, would become "free-riders" if missed as a result of a size-based threshold. Free-riders would benefit from systemic stability and various backstops to systemic risk without paying their fair share. This provides the free-riders with a significant competitive advantage, particularly when compared against large firms that are not significantly risky but are explicitly assessed (i.e., the excessively taxed). This would allow less efficient firms to gain advantage over more efficient firms, a poor economic result.

Potential Legislation Does Not Remedy Sources of Systemic Risk and Increases Moral Hazard and Economic Inefficiency in the Financial System

Moral Hazard

The establishment of backstop insurance measures, such as a systemic dissolution fund, in a sense assumes failure by lawmakers and regulators to directly address and properly monitor sources of financial system risk, as discussed earlier. Though an effort to reduce the public cost of potential future systemic risk episodes may seem prudent, a bifurcation of "systemically important" and "other" financial firms not only creates competitive issues, it can increase the likelihood of future systemic risk episodes. This is because moral hazard would be increased beyond the level that is already inherent in implicit government guarantees provided to financial entities.

The contribution of moral hazard to the recent financial crisis has been widely acknowledged by reports and economic studies evaluating the crisis. As described by the Congressional Oversight Panel in its analysis of the various programs utilized to avert systemic failure during the crisis:

> [T]he guarantee programs discussed in this report have broader costs resulting from the moral hazard that arises when the government agrees to guarantee the assets and obligations of private parties. Generally, the question of moral hazard arises when a party is protected, or expects to be protected, from loss. The insured party might take greater risk than it would otherwise, and market discipline is undermined.[18]

The Bank of England in its November 2009 paper states, "Incentive problems are widely believed to have contributed to excessive risk-taking in the run-up to the crisis, including through: Moral hazard arising from explicit or implicit guarantees of official sector support offered to state-regulated financial institutions."[19] The proposed systemic dissolution fund that unduly focuses on size thereby has the potential to introduce additional incentives to engage in risky activities thereby increasing moral hazard created by government guarantees, whether explicit or implicit.

18 Congressional Oversight Panel, "November Oversight Report: Guarantees and Contingent Payments in TARP and Related Programs," November 6, 2009, p. 70.

19 "The role of macroprudential policy," Bank of England, p. 12.

The identification of systemically important financial firms and the establishment of a pre-funded dissolution pool would effectively establish a higher tier of financial firms that would be implicitly "more supported" by the U.S. government and explicitly supported by the systemic fund. The additional support, whether real or perceived, is likely to encourage higher risk-taking among the more supported firms. Financial firm customers (e.g., depositors, counterparties, etc.) will likely feel comfortable doing business with firms identified as systemically important, even if they are aware of relatively high risk activities, given the higher level of implied government support. These results are similar to that created through FDIC insured bank deposits. Fully insured depositors have no incentive to economically reward or punish a bank based on the firm-specific or systemic risk that it undertakes. The moral hazard that would be created within the financial firms above the size threshold is likely to result in many negative results, including an increased likelihood of systemic risk episodes.

Economic Inefficiency

The moral hazard effects on market perception described above also are predicted by economic scholarship to distort the competitive environment in which firms covered by the assessments operate. For example, financial entities operating in the capital markets that are guaranteed, whether explicitly or implicitly, would be able to obtain cheaper funding (lower capital costs) since they are perceived to be less risky (as a result of the government guarantee). This provides those firms with a competitive advantage due to lower funding costs. Competitors that are more efficient, or those with higher actual credit quality, which are not perceived to be covered by the guarantees, may have a less favorable competitive stance with higher cost of capital and with potentially less investment opportunity.

The assessment approach based on size could also discourage competitors and the positive impact such competition can have on firm efficiency and consumers. The lower cost of capital and competitive advantage for companies with government guarantees creates higher explicit costs and barriers to entry for smaller competitors. Instead of rewarding efficiency and astute management of business activity, the competitive environment for smaller firms is unbalanced, leading to distortions in resource allocation and market efficiency.

Mis-Aligned Incentives

The proposal to assess fees on financial institutions above a certain threshold also creates moral hazard by imposing costs on financial entities unrelated to their business activity and by failing to align the incentives of the financial entities that pose or could potentially pose systemic risk. One of the most basic ways to align incentives is to ensure that the assessment for the systemic dissolution fund is directed at the source of risk and commensurate with the magnitude of risk created by that entity. By seeking to measure and match risk-taking activity with the level of assessment, an efficient policy will cause firms to take the costs into account prior to engaging in the risky activity, as well as force firms to internalize the externality they pose on the financial system by engaging in the activity.

In effect, the potential legislation's size-based approach provides financial firms with incentives to either:

- Take steps to avoid size thresholds, at which new supervision and assessments would begin, or
- Take maximum advantage of the additional implicit and explicit support associated with being identified as systemically important.

continued

Neither of the resulting actions has the effect of reducing firm-generated systemic risk or reducing the likelihood of systemic risk episodes.

Potential for Increased Systemic Risk-Taking

In an economic context, systemic risk is an externality imposed on the financial system by an entity that is not confined to the risks it willingly and purposely assumes to pursue its own business and economic objectives. By assessing firms for the additional risks they impose on others, a properly designed assessment would align the incentives of those firms to take account of the risks they pose to the financial system (external risks). While it may be difficult to design a policy that precisely assesses those external risks and assesses costs accordingly, a model that assesses a fee on large firms (in the current proposal those firms with assets above $50 billion) may also fail to curtail the external risk-taking of those firms below the threshold.

Since firms are not incentivized to minimize external risks they pose, the proposal could actually result in greater risk-taking by financial entities, given that they still fall under the umbrella of protection should their activities give rise to systemic threats. This result has been observed with other guarantee systems, in many cases at the encouragement of regulators or policymakers, with costly results (e.g., the Treasury encouraged banks to relax underwriting standards to reignite the economy, which resulted in greater risk-taking by financial firms). At the margin, regardless of their size, those firms in danger of default may have additional incentives to push the envelope to engender help from the systemic dissolution fund. In that event, the result is a cross-subsidy from firms above the threshold regardless of their external risk to those whose activities pose external risks undeterred by the assessment policy.

A counter-argument to concerns regarding the assessment scheme may be that stronger regulators will be required to undertake more scrutiny with respect to the firms designated systemically important. However, this argument has little merit for two reasons. First, experience suggests that financial regulators have historically failed to take necessary actions to prevent major crises. Second, if, in fact, prudential and systemic oversight functions do effectively perform their roles, then no systemic dissolution fund would be necessary.

Failure to Encourage Systemic Risk Reduction

An incentive-compatible assessment program would encourage financial institutions to adopt strategies to reduce those activities that increase systemic risk, or at least would not discourage risk-reducing behaviors. Risk-reducing strategies can only be incented by a mechanism that reinforces or increases the incentives of stakeholders (such as shareholders, creditors, and counterparties) likely to benefit from government intervention.

An assessment policy should not act to defeat market discipline by those entities whose investment in or connection with the financial entity is governed by its own due diligence and decisions regarding its interactions with the financial entity. In order to efficiently reduce systemic risk, stakeholders must be encouraged to monitor the institution and act according to their best interest, whether that means pulling their credit lines, contractually assessing counterparty credit risk, or buying/selling the shares of the institution based on the risks they pose, etc. For example, if the perception of a government guarantee is present, private sector approaches to mutualize or reduce

risk (such as clearing, private resolution funds, or insurance) may become less feasible in a cost-benefit sense. Through these market mechanisms, systemic risks are effectively and efficiently reduced since firms act to avoid negative consequences of interacting with the entity exposing it to heightened risks.

Taxpayers Remain at Risk Under Current Proposal

Another issue related to a potential systemic dissolution fund is that no fund will be able to compensate for the entire costs that a systemic risk episode poses to the economy. The cost of the most recent financial crisis is estimated in the trillions of dollars by many accounts.[20] In a systemic risk episode any systemic dissolution fund will absorb only a fraction of total economic costs. As a result, taxpayers will directly or indirectly continue to pay the bulk of any costs associated with systemic risk episodes. This argues for appropriate measures to prevent systemic financial crises, rather than mechanisms that attempt to partially fund such crises.

What is clear is that firms charged systemic dissolution assessments will seek to offset these costs in order to maintain competitive financial returns verses firms that are not charged. This creates an incentive for the charged firms to increase opaque risk-taking, which would ultimately increase financial system risk.

Potential Reduction in Employment and Investment

If firms are to be assessed based on the size of their assets, where does the money come from? Economic research provides an answer. Assessments on firms are akin to taxes on the economic infrastructure necessary to produce goods and services. If economic experience is a guide, an assessment based on size is likely to reduce investment in those very assets necessary to innovate and increase productive capacity. As described by Richard Vedder, these types of tax regimes "can have an adverse impact on the magnitude of labor and capital resources used in making goods. Moreover, such taxes can lower investments and capital formation over the long run, having further long-run consequences on output and income."[21] By causing firms to shift funds from their current allocation, the assessments have the potential for distorting economic efficiency of those firms, impacting both capital and labor expenditures.

The economic consequences of reductions in these expenditures are a loss of efficiency and potential job losses for employees of assessed firms. This is manifest in a reduction in employment overall, and lower wages generally, as firms seek to manage costs.[22] In addition, efforts by firms to avoid the size-based assessment, perhaps by reducing assets or in an attempt to lower consolidated asset values, may lead firms to move production, and therefore jobs, overseas. The potential decrease in employment predicted by empirical research into business taxes, coupled with

continued

20 Global Financial Stability Report: Navigating the Financial Challenges Ahead, International Monetary Fund, October 2009.

21 Richard Vedder, "Taxes, Growth, Equity, and Welfare," in *Taxation, Economic Prosperity, and Distributive Justice*, Part 2, E. F. Paul, F. D. Miller, and J. Paul, ed. (Cambridge University Press, 2006), p. 54.

22 Vedder describes the empirical literature noting that "new taxes have adverse effects on economic indicators such as income, output, employment, migration, business investment, and plant location." Ibid., p. 56.

the potential loss of jobs from economic dislocation due to migration of assets or restructuring to avoid the size threshold, could lead to job losses at a time when the impact of the financial crisis continues to plague economic recovery.

In the financial services sector (which includes banking and insurance), assets are not predominantly physical assets, but are often intangible, and with generally higher reliance on human capital in the provision of customer service, marketing, product and asset management. While historically recognized that service and reputation in the provision of financial services is important to performance, the competitive pressure to reduce costs and generate returns has been particularly relevant in this sector over the last two decades (coinciding with growth of telecommunications and increased globalization). The assessment on U.S. firms will cut into revenues and intensify pressure to find means to reduce costs to maintain competitiveness.

In the competitive environment characterizing financial services, foreign companies can penetrate a market through the internet or in the operation of offshore call centers, where labor is relatively cheaper. As this competitive pressure has increased, U.S.-based labor has become progressively vulnerable to being supplanted as a result of increased substitution of technology capital for labor (such as through increased automated self-service) and by the export of basic financial services to foreign locations. Not only does the assessment on U.S. companies harm their ability to compete with foreign entities, it will hasten the pressure for U.S. companies to increase substitution of technology capital for labor and lead to a reduction in U.S. jobs.

The impact of the assessment on jobs will depend on a number of factors, including the substitutability of capital for labor, and how labor intensive each company's operations are. Economic models of corporate taxes and employment suggest that the assessment is likely to raise the cost of capital, reducing its return, which in turn leads to lower wages and a reduction in labor productivity.[23] All of these factors act to bring about a reduction in labor demand, which lowers employment.[24] In its Industry Overviews of various subsectors, Hoover's reports that average annual revenue per employee in the investment banking sector is just under $1,000,000, while in the insurance sector, average annual revenue per employee ranges from $200,000 to $400,000.[25] While it is difficult to predict the precise impact on jobs in the different subsectors, the impact on the insurance sector would be predicted to be more detrimental to jobs than that in the investment banking industry, which has a greater revenue base and higher relative capital intensity.

The binary assessment methodology identifying large firms for contribution to the systemic dissolution fund, while excusing other firms from the contribution, creates the prospect for economic distortion and a significant impact on real economic activity. In his study of corporate taxation, Austan Goolsbee finds that differential tax treatment for corporations versus non-corporations affects a firm's choice of organizational form and this can lead to distortions that have an impact on real economic activity.[26] Corporations have been found to engage in restructuring, such as moving to incorporate offshore as opposed to producing through consolidated operations and to explicitly move more assets offshore, which is commonly observed in the case of financial assets) to avoid higher tax burden.[27]

23 Roger Gordon, "Taxation of Investment and Savings in a World Economy," American Economic Review 76, no. 5 (1986): 1086-1102.

24 Bettendorf, et al., provide a stylized macroeconomic model that yields useful insight into the effects of a corporate tax on employment and other economic variables. Bettendorf, et al., "Corporate Tax Policy and Unemployment in Europe: An Applied General Equilibrium Analysis," Tinbergen Institute Discussion Paper TI 2007-056/2, May 30, 2007.

25 See Hoover's Industry Overviews for Insurance Agencies, Insurance Carriers, and Investment Banking, available at http://www.hoovers.com/free/ind/fr/list.xhtml, accessed January 12, 2010.

26 Austan Goolsbee, "The Impact of the Corporate Income Tax: Evidence from State Organizational Form Data," Journal of Public Economics 88 (2004): 2283-2299.

27 James R. Hines, Jr. and Eric M. Rice, "Fiscal Paradise, Foreign Tax Havens and American Business," Quarterly Journal of Economics (February 1994), p. 157.

In addition, the negative effect on jobs in the finance and insurance industry will also have a negative spillover effect on other sectors. First, cutbacks in the service sector can have negative effects on supporting industries and local communities. Second, Jacob Kirkegaard (2009) observes that "the larger a country's services sector as a share of the economy and employment, the richer the country."[28] In the U.S., the services sector is positively integrated with overall wealth and welfare of the economy due to its importance to wealth generation and risk management; a decline in this sector could have a multiplier effect on employment and overall wealth in other sectors. Considering that the financial services sector has already experienced "large-scale layoffs" and that employment is now in structural decline, even moderate cuts in employment or expenditures as a result of the assessment would lead to more significant negative impacts on employment, wealth, and welfare in the services sector, local communities, and the economy at large.

The assessments on firms must come from other sources, so in the financial services industry, for example, firms would have little choice but to pass along the costs of the assessments to their customers. This creates a competitive disadvantage for these firms vis-à-vis their competitors. In fact, economic theory suggests that only firms that operate in industries with barriers to entry or that have products or services that are not substitutable would be able to avoid the competitive effects resulting from the increased costs and economic dislocation from the assessment.

In the P&C industry, many may look to the surplus as a source of the funds for the assessment. The surplus is used to support claims and overall operations, and is invested in assets that generate returns. It is part of the economic infrastructure that is used to support operations. Thus, a reduction in the surplus would result in a reduction in underwriting capacity. A firm's ability to pull funds from the surplus is limited by state insurance regulation. In addition, a reduction in the surplus to support the assessment could also have a negative effect on the credit rating of the firm (since rating agencies look to surplus as an indicator of credit quality), further increasing the cost of capital.

A focus on size also runs the risk of focusing firms' attention on the size of their assets, while potentially ignoring those factors that have recently contributed to systemic risk, such as leverage, liquidity, and mismatches in maturities underlying the balance sheet. As Andrew Lo noted in his Congressional testimony, "in a recent study commissioned by the G-20, the IMF determined that systemically important institutions are not limited to those that are the largest, but also includes others that are interconnected and that can impair the normal functioning of financial markets, including the provision of credit to households."[29]

continued

28 Jacob F. Kirkegaard, "The US Financial Sector is Now in Structural Employment Decline," Peterson Institute for International Economics, June 30, 2009, available at http://www.iie.com/realtime/?p=773, accessed January 12, 2010.

29 Andrew W. Lo, "The Feasibility of Systemic Risk Measurement," Written Testimony prepared for the U.S. House of Representatives Financial Services Committee, October 19, 2009, p. 3.

Examples of Structuring Around Size and Harmful Firm Behavior

As noted earlier, setting a size threshold that determines at what point firms must pay into a systemic dissolution fund is likely to result in structuring or gaming by some firms seeking to avoid the assessments. Such efforts can be undertaken by firms initially under the threshold or firms that are already in excess of the threshold. In discussing the potential for a rigid size-based criteria for identifying systemically risky institutions, Viral Acharya et al., state, "Clearly, there would be tremendous advantage for banks that are near the lower threshold of the top size category to remain just below that size. Indeed, larger banks may simply break themselves up yet retain virtually identical models; the true systemic risk will not be reduced, even though it is now contained in many more, smaller institutions."[30]

Potential Firm Strategy: "Originate to Distribute"

One strategy that may be employed by a firm seeking to remain below a subjective size threshold is engaging in increased "originate-to-distribute" activities. Rather than maintaining risk as assets on-balance sheet, originated financial products may be sold to other entities that are not at risk of being charged assessments. This would allow the firm to capture value of originating financial assets, but cap asset size. This technique can be used by firm managers to keep their institutions below any subjective size-based threshold.

New incentives to originate-to-distribute could add to the negative implications already associated with the activity. It has been noted that the originate-to-distribute model may have contributed to a significant decline in the overall quality of system financial assets thereby exacerbating systemic risk. For instance, Purnanandam notes, "We show that the transfer of credit risk through the OTD channel resulted in the origination of inferior quality mortgages."[31] The incentive to distribute risky assets that would result from a size-based systemic risk identification process is at odds with efforts to have financial firms maintain keep "skin in the game" with respect to originated exposures.

Potential Firm Strategy: Split-Up or Replicate Institutions to Avoid Size Tax

Another strategy to avoid what may be perceived as size-based taxes that is generally simple to implement would be for growing organizations simply to replicate themselves, rather than continuing growth within an individual legal entity. A financial firm near a subjective size threshold could simply set up separate legal entities not residing under a common holding company. The new firm would be able to share many of the original firm's strategies and processes, and may even be able to share management. The firm replicas could be interconnected to the extent allowed by law, while avoiding size-based systemic risk assessments.

Certain existing large financial firms, including banking companies that have grown over time through acquisition, would be able to undertake a similar technique. Most of these firms maintain several "legacy" bank charters, though they currently tend to concentrate assets under one charter. Such banking companies could avoid firm size-based assessment by redistributing assets across multiple bank charters and moving the various charters out of the current

30 Viral Acharya, et al., "Measuring Systemic Risk," Chapter 4 in Real Time Solutions for Financial Reform, NYU Stern Working Group, December 2009, p. 23.

31 Amiyatosh Purnanandam, "Originate-to-Distribute Model and the Subprime Mortgage Crisis," working paper, April 15, 2009, p. 1.

parent holding company structure. Such spin-offs to create sister banking companies could be used to avoid simple size-based thresholds. Alternatively, large financial firms could simply book more positions and operate more heavily outside the U.S., to avoid capture within a size-based determination process. This reaction has implications to the U.S. job market, as noted previously.

Potential Harmful Incentive: Crises May Represent Opportunity for Large Firms

Under a bifurcated financial system comprised of large firms designated systemically important and other firms, the large firms could prosper as a result of crises. Specifically, during a crisis period, a customer flight from small firms to the designated systemically important large firms could allow large firms to garner additional market share and further increase economies of scale.

Consider the example of a depositor at a small bank who holds funds in excess of FDIC insured levels. At the first sign of systemic trouble, the depositor could make a rational decision to move funds to a large bank designated systemically important to achieve a higher perceived level of government protection. Not only would such action exacerbate any liquidity issues at small banks and make failure more likely, the "flight to quality" would benefit the pool of large institutions. Such a paradigm actually provides an incentive for large firms designated systemically important to allow crises to occur. This is a significant and negative unintended consequence of the current proposal.

Conclusion

Recently proposed financial market legislation would effectively divide financial firms into two classes: Those that are systemically important (i.e., systemically risky) and those that are not. This bifurcation on its own can lead to negative economic effects, as firms deemed systemically important may view themselves (and be viewed by consumers) as being "more supported" by the government.

However, if individual firms truly posing significant systemic risks were more closely regulated and appropriately charged for the external costs they pose to the system, such measures may provide reasonable incentives for firms to keep systemic risk in check.

Unfortunately, the proposed legislation fails to appropriately identify systemically important firms. Instead, an arbitrary asset size threshold is relied upon as the sole factor for effectively determining whether a firm is systemically important or not. Such a process is not only subject to gaming by firms, but is conceptually flawed, as well-known key factors for evaluating firm systemic risk are ignored. These factors, to be discussed further in a forthcoming white paper, include interconnectedness, cyclicality, leverage, liquidity risk, and transparency.

Should additional regulation and explicit monetary charges be assessed against an incorrectly identified set of financial firms deemed systemically important based on asset size, the following effects are likely:

- Increased frequency of systemic risk episodes, as a result of increased moral hazard;
- U.S. job losses as a result of efforts by firms to structure to avoid size thresholds;
- Increased costs to consumers, as a result of the pass-through of assessment costs and costs associated with increased regulation; and,
- Distortions in the competitive environment, impacting economic efficiency and creating potential barriers to entry.

The significant economic costs of such a flawed policy are likely to outweigh any potential benefits associated with the increased regulation of large firms and the planned creation of a systemic dissolution fund.

Appendix: Historical Background – Systemic Risk Episodes

Explicit government actions taken during the current, and previous, financial crises support the argument that size should not be the sole basis for determining systemic risk. Size did not protect the uninsured and unsecured creditors at all large financial firms against losses during the current and previous financial crises, and size did not subject uninsured and unsecured creditors at all insolvent small financial firms to losses during the current and previous financial crises.

Continental Illinois was the original "too-big-to-fail" bank. It received open bank assistance in 1984, yet its shareholders were wiped out. It was the uninsured and the unsecured creditors that were protected against any losses because of that government assistance.

During the years following the assistance provided to Continental Illinois, thousands of small banks became insolvent. They were treated in a manner that largely had the same effect on creditors as did the assistance provided to Continental Illinois. That is, shareholders were wiped out but uninsured and unsecured creditors generally were protected against any losses.

In other words, the treatment of small and large bank creditors during the previous financial crises was essentially the same regardless of bank size.

While the deposit insurance funds were only obligated to protect insured deposits, the protection was extended to uninsured deposits as well. Why were uninsured depositors protected against losses? In part, there was an equity argument: small bank creditors should not be subject to losses if large bank creditors were not. In part, there were operational considerations: banks were failing on average at a rate of one per day. This created operational difficulties in segregating insured from uninsured deposits quickly and effectively. This problem was avoided if all depositors were protected against any losses.

The most significant concern, however, related to maintaining financial stability. Even though the individual failures were in small banks, there were enough small bank insolvencies to create systemic concerns. The loss of public confidence that would arise if the general public had fears about the safety of their money was not something policymakers wanted to risk, so it was a safe decision to protect all depositors. Indeed, public confidence was maintained as a result of these actions. Bank closings became routine events. The general public was unconcerned because they knew they were protected against any losses even if their account balances exceeded the deposit insurance limits.

If small bank failures were few and far between this would not have been an issue. However, the cyclical nature of small bank failures created concerns related to systemic risk.

In the aftermath of the Savings and Loan Crisis in the 1980s, Congress, concerned about moral hazard, reacted to the protection provided to all bank creditors by enacting a least cost test for the deposit insurer. Beginning in 1991 the FDIC, by law, had to choose the bank resolution that resulted in the least cost to the deposit insurance

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fund, unless there was a systemic risk determination. Least cost generally meant that uninsured deposits would be left unprotected in the future, enhancing market discipline.

The legislation worked largely as intended during the 15 or so years between the two crisis periods. Bank failures were infrequent events without systemic concerns and uninsured and unsecured creditors were exposed to losses in those situations.

That changed in 2008, but not right away. IndyMac, a $32 billion bank that operated a $184 billion mortgage servicing operation, was closed in July 2008. Uninsured and unsecured creditors were not protected against losses. Washington Mutual was closed in September 2008. It was the sixth largest bank in the United States at that time with roughly $300 billion in total assets. Again unsecured and uninsured creditors were not protected against losses. There was no systemic risk determination for Washington Mutual. There were no losses to the deposit insurance fund or to taxpayers. There were costs associated with the closing, but they were borne by the bank's shareholders and other uninsured and unsecured creditors, including the holders of senior notes and subordinated debt. These losses are in the billions of dollars.

A number of large financial institutions did receive government assistance in September 2008, Fannie Mae and Freddie Mac among them. A systemic risk determination was made for Wachovia even though it was subsequently purchased by Wells Fargo without help from the deposit insurance fund. But as bank failures and other financial sector problems grew, policymakers became increasingly concerned over the systemic risk implications throughout the financial system.

The concerns about financial stability extended well beyond large financial firms. Risks to the system existed due to interdependencies that were largely unrelated to size. Policymakers began to look for ways to protect the entire financial system, not just the creditors at large banks.

Individual money market funds were not all large, but they were interconnected with the entire financial system in ways that raised systemic concerns. They all received temporary government guarantees.

Uninsured depositors did not need to have their deposits in large banks in order to worry about the safety of the banking system as a whole. One small bank failure meant there would be many small bank failures due to the cyclical, leveraged, and interconnected nature of their business models. The deposit insurance limit was temporarily raised to $250,000, effectively protecting almost all deposits against losses.

TARP was enacted by Congress. This resulted in the provision of $700 billion, much of which was invested in large and small banks.

The FDIC created the Temporary Liquidity Guaranty Program ("TLGP"), which guaranteed certain liabilities at both large and small banks. The TLGP was authorized by the use of a systemic risk determination.

The Federal Reserve created a number of new lending programs to increase liquidity throughout the financial system.

The federal government also provided substantial financial assistance to help stabilize the mortgage market throughout the country.

These government actions taken during the current and the previous financial crises illustrate the point that systemic risk is not driven just by the size of individual institutions; rather it is a function of interdependencies within the broader financial system.

Deposit insurance programs, such as that of the FDIC, provide bank managers with access to low- cost deposit funding for investment, while insulating them from the full risk of their decisions. Customers need not concern themselves with differentiating good bank managers from bad bank managers, as depositors know that the U.S. government ultimately guarantees the return of their funds.