

Avoiding Eight-Alarm Fires in the Political Economy of Systemic Risk Management

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ABSTRACT

The inherent tensions in the financial sector mean that episodes of extreme stress are inevitable, if unpredictable. This is so even if the regulatory and supervisory regimes are in many respects effective. The capacity of government to intervene may determine whether the distress is confined to the financial sector or breaks out into the real economy. Although adequate resolution authority to address a failing financial firm is a necessary objective of the current regulatory reform, a firm-by-firm approach will be unable to address a major systemic failure such as the Crisis of 2007-08, which may require capital support of the financial sector to avoid severe economic harm. We therefore propose standby systemic emergency finding authority, triggered by agreement among Treasury, the Federal Reserve, and the FDIC. Such a fund, scaled appropriately to the size of the US economy, \$1 trillion, should be funded (and partially pre-funded) by risk-adjusted assessments on all large financial firms, who benefit from systemic stability. Standby emergency authority avoids the need for high stakes legislative action mid-crisis, which can be destabilizing even if successful and catastrophic if not. The “triple key” constraint and on-going monitoring and oversight should address concerns of legitimacy and accountability.

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Introduction

The current economic crisis demonstrates the “eight-alarm fire problem” in the political economy of systemic risk management in the United States. The legacy of Depression-era statutes was to give the Federal Reserve and the Treasury sufficient reserve authority to fight and contain a four-alarm fire in financial markets. The loss of confidence in asset-based securitization that precipitated the Lehman Brothers bankruptcy gave us, unfortunately, a six-alarm fire. Financial innovation and the globalization of finance had intensified the conflagration beyond Depression-era imaginings. What happened next produced an eight-alarm fire, the exacerbation of a financial and

economic crisis because of the grimly foreseeable consequence of seeking additional authority mid-crisis.

Immediately upon the Lehman bankruptcy, the Fed and Treasury went to Congress for additional authority, in particular the “Troubled Assets Relief Program” (TARP), in effect a request for \$700 billion blank check. The Congressional response, in the midst of the election season, was a spectacle. A “clean” version of the TARP legislation was initially defeated, an action that provoked one of the largest stock market declines in history, wiping out more than \$1 trillion in equity values,¹ on a day that New York Times columnist Thomas Friedman bracketed with the Kennedy assassination and 9/11 as leaving him “frightened for my country.”² The inability of the political class to cooperate across the partisan divide at a moment of grave economic danger was on vivid display.³ The President, the Secretary of the Treasury, and the Chairman of the Federal Reserve Board made extraordinary statements of the economic peril faced by the US – indeed, the world.⁴ In order to rescue the financial sector -- to avoid the catastrophe whose prospects already scared Wall Street -- the political and economic leadership had to scare the entire country.⁵

Whatever the prior anxiety, that was the moment that the crisis which had been raging in the financial sector broke out in full force in the “real” economy. The moment is vividly displayed in a Gallup graphic that shows the percentage of those “worried” about “personal finance” – their

¹ Sarah Lueck et al, Bailout Plan Rejected, Markets Plunge, Forcing New Scramble to Solve Crisis, Wall. St. J., Sept. 30, 2008, p. A1; Alexandra Twin , Approximately \$1.2 trillion in market value is gone after the House rejects the \$700 billion bank bailout plan, CNN, Sept. 29, 2008, http://money.cnn.com/2008/09/29/markets/markets_newyork/index.htm?postversion=2008092911.

² Thomas Friedman, Rescue the Rescuers, N.Y. Times, Sept. 30, 2008, at A27. See also David Brooks, Revolt of the Nihilists, N.Y. Times, Sept. 30, 2008, at A27.

³ Carl Huse & David M. Herszenholn, “Defiant House Rejects Bailout; Next Step Is Uncertain,” N.Y. Times, Sept. 30, 2008, at A1; Dana Milbank, “A House Divided Along Twisted Lines,” Wash. Post, Sept. 30, 2008, at A3; Jackie Calmes, “A Leadership Breakdown,” N.Y. Times, Sept. 30, 2008, at A1. Republican leaders blamed the bill’s defeat on a partisan speech delivered just before the vote by Speaker of the House Nancy Pelosi, [Calmes], a charge that prompted Representative Barney Frank to mock, “Somebody hurt my feelings, so I will punish the country?” “Give me those 12 people’s names and I will go talk uncharacteristically nicely to them” [Milbank].

⁴ Speech, President George W. Bush, Sept. 24, 2008, available at http://www.nytimes.com/2008/09/24/business/economy/24text-bush.html?_r=1&pagewanted=1; Henry M. Paulson, Jr., Testimony before the Senate Banking Comm., Sept. 23, 2008, available at <http://www.treas.gov/press/releases/hp1153.htm>; Henry M. Paulson, Jr., Testimony before the House Fin. Servs. Comm., Sept. 24, 2008, available at <http://www.treas.gov/press/releases/hp1154.htm>; Ben S. Bernanke, Testimony before the Senate Banking Comm., Sept. 23, 2008, available at <http://www.federalreserve.gov/newsevents/testimony/bernanke20080923a1.htm>; Ben S. Bernanke, Testimony before the Joint Economic Comm., U.S. Congress, Sept. 24, 2008, available at <http://www.federalreserve.gov/newsevents/testimony/bernanke20080924a.htm>.

⁵ The initial proposal was made by Secretary Paulson on September 20, 2008. It was defeated when a motion to append it to H.R. 3997 failed by a vote of 205-228 on September 29, 2008. Reintroduced as substitution/amendment to H.R. 1424. The final legislation was the Emergency Economic Stabilization Act of 2008, Pub. L. No. 110-343, div. A (2008). Note that the “pork” added to the second bill may cost more than the TARP program itself.

immediate economic well-being – abruptly shifting from a general trend of mid-30’s to mid-40’s.⁶ It is reflected as well in a sharp turndown of the various indicators of economic activity during the fourth quarter of 2008, including an immediate and accelerating fall in retail sales⁷ and the grimmest Christmas for retailers in nearly forty years.⁸ Such an abrupt turn in economic expectations also tangibly weakened the financial sector because it increased the default risk of a broader range of assets beyond mortgage-backed securities.⁹ This is reflected in the dramatic rise in quantitative measures of bank solvency risk during the period.¹⁰ It produced a “depressionary psychology”¹¹ that makes economic recovery more difficult.¹² In short, the consequence of seeking additional authority mid-crisis to deal with a six-alarm fire was to give us an eight-alarm fire.

This paper sees the problem of providing sufficient “standby” authority to contain the dangerous spread of a financial sector emergency – to avoid the eight-alarm fire – as one of the key projects for the current round of financial regulatory reform. It is now widely appreciated that a breakdown of the banking system – more generally, the system of finance – will cause far-reaching

⁶ Gallup Poll, Gallup Daily Personal Finance, www.gallup.com/poll/110827/Gallup-Daily-Personal-Finance.aspx. (visited March 18, 2009). It is also reflected in changes in an important measure of the stock market “fear factor,” the so-called VIX index of market volatility produced by the Chicago Board Options Exchange (more precisely, the implied volatility of S&P 500 index options). The VIX index closed at approximately 31 on Monday, Sept. 15, the day the Lehman bankruptcy was announced. During the subsequent week, as the President, Secretary Paulsen, and Chairman Bernanke gave speeches or Congressional testimony declaring the need for the TARP legislation, the VIX index rose to 36. On Monday, Sept. 29, when the House defeated the legislation, the VIX index spiked to 48. By then near panic had set in and the VIX index trended steadily upward, peaking at 80 on Nov. 20, as Citibank’s future hung in the balance. Data is from the CBOE website, <http://www.cboe.com/data/mktstat.aspx>. Stock volatility itself is “an important factor in depressing consumer spending.” See Christina D. Romer, Back from the Brink, Sept. 29, 2009, available at [CEA website] (citing Christine Romer, *The Great Crash and the Onset of the Great Depression*, 105 QJE 597 (Aug. 1990)).

Some have objected that it was the government’s panicky response to Lehman’s failure, including the legislative push and the public speeches, that spooked markets. See, e.g., John H. Cochrane & Luigi Zingales, *Lehman and the Financial Crisis*, Wall St. J., Sept. 15, 2009. This fails to notice that the need for the TARP funds was urgent, that Congressional action was required, and that the only way to motivate Congress was to spell out the disastrous alternative, which had a highly regrettable side effect.

⁷ See John B. Taylor, *Analysis of Daily Sales Data during the Financial Panic of 2008* 5, Fig 3, available at <http://www.stanford.edu/~johntayl/>

⁸ Matthew Yi, “Legislators at Odds over Federal Stimulus Money,” S.F. Chron., Feb. 1, 2009, at B4; Andrea Chang, “PacSun Moves to Cut Costs,” L.A. Times, Jan. 29, 2009, at C2.

⁹ See, e.g., Ben White & Eric Dash, “Wachovia, Looking for Help, Turns to Citigroup,” N.Y. Times, Sept. 27, 2008, at C1; Zachary A. Goldfarb, “Banks Hoard Cash as Credit Card Defaults Rise,” Wash. Post, Oct. 16, 2008, at D1.

¹⁰ See John B. Taylor, *The Financial Crisis and the Policy Response: An Empirical Analysis of What Went Wrong* 15-17; fig. 13 (Nov. 2008), available at <http://www.stanford.edu/~johntayl/> (tracking widening spread between 3 month Libor rate and 3 month Overnight Index Swap OIS) rate in period following the Lehman bankruptcy. The OIS rate reflects forecasts of short term rates set by central banks; thus the spread reflects estimates of solvency-related counterparty risk among banks).

¹¹ The coinage is Ron Gilson’s, to contrast with the “inflationary psychology” of the 1970s and early 1980s.

¹² Cites to econ literature about consumer mood and economic behavior. Richard Posner, “How I Became a Keynesian,” *The New Republic*, available at <http://www.tnr.com/article/how-i-became-keynesian> (last visited Feb. 2, 2010); and responsive letter re Shiller & Akerlof .

damage to the real economy for reasons beyond a contraction in the money supply.¹³ The particular mechanisms of government intervention are contested, however, as to their effectiveness in avoiding a breakdown and their longterm impact on financial sector development.¹⁴ We offer a somewhat different approach, looking to the government's standby intervention authority as an independent element in the outcome of a financial crisis. We claim that investing the government with sufficient standby authority can minimize the fall-out from a financial crisis. This claim rests on three separate grounds. First, intervention sooner rather than later can often avoid negative economic sequelae. In this case, intervention to address the Lehman failure would have avoided some of the ensuing economic distress. Severe economic consequences from misbegotten practices and misvaluations in the financial sector may have been unavoidable, but the further consequences of financial panic were not. The panic produced a seize-up in financial markets, which led to immediate credit rationing for non-financial borrowers thereby hampering their on-going economic activity, and deepened the recession.

Second, standby authority avoids the negative conditioning of popular economic expectations that is inevitable in the effort to persuade legislators to grant the authority mid-crisis. The events of fall 2008 provide ample illustration.¹⁵ Standby authority achieves a certain "acoustic separation"¹⁶ between the public and government officials that has particular value in the case of a financial crisis, where fears of economic distress rapidly become self-fulfilling.

Third, the fashioning of standby authority can take place in a relatively "cool" state, not the extraordinarily "hot" state of a financial crisis. Intervention is likely to entail bail-out of the very institutions whose improvidence may have precipitated the crisis and will inevitably benefit the rich, powerful actors who control or work for those institutions.¹⁷ To ask legislatures to approve the funds for such an intervention in the middle of this recognition is daunting. Understandable anger may overwhelm longer term public interest. The political economy of obtaining additional authority mid-crisis is additionally fraught by the particular partisan divisions and political fortunes of the moment. It was not a sure thing that TARP would pass, or that an emergency relief measure will necessarily be adopted in a future crisis.¹⁸

¹³ See, e.g., Ben S. Bernanke, Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression, 73 A. Econ. Rev. 257 (1983).

¹⁴ See, e.g., Charles Calomiris et al. A Taxonomy of Financial Crisis Resolution Mechanisms, World Bank Pol. Res. W.P. 3379, Aug. 2004, available on SSRN.

¹⁵ Note that this concern applies differently in circumstances in which a financial crisis has broken out full force into the real economy; there, government steps to intervene may restore confidence. This is the case of the financial rescue measures of the New Deal, adopted in 1933 after the financial crisis of 1929-30 had become the Great Depression, and which thereupon enabled President Roosevelt to reassure the public against "fear itself."

¹⁶ Meir Dan-Cohen, Decision Rules and Conduct Rules: On Acoustic Separation in Criminal Law, 97 Harv. L. Rev. 625 (1984).

¹⁷ Lorenzo Bini Smaghi, Conflicts of Interests and the Financial Crisis, 12 Int'l Fin. 93, 98-99 (2009).

¹⁸ Some readers have disputed the claim that the rocky course to legislative approval of TARP had strong independent effect on the subsequent economic contraction, on the view that the collapse of the housing bubble and the resulting impact on high leveraged financial firms and consumers would have powerfully ramified regardless. Our argument does not depend on assessing the negative impact of the legislative process, *assuming that TARP is passed*. The key point is that passage of TARP in the particular political configuration of 2008 was not a sure thing, and had it failed, the consequences would have been very severe. By extension, the political economy of the

Moreover, standby authority fashioned outside the crisis moment can be shaped more broadly than the one-off authority sought-in mid-crisis, which, to minimize the political fallout, may well be proposed in too narrow a form. It was a fortuitous accident of the legislative process that the eventual TARP enactment expanded the reach of Treasury's initial limited request for authority to purchase troubled assets, an approach that proved to be unworkable.

In short, if the economic well-being of the American people is the measure, we are better off having appropriate emergency authority in place rather than look to legislative augmentation after the crisis has broken out. After the crisis has subsided is the right time to assess responsibility and blame (and to undertake corrective institutional change). This emergency authority should include the capacity to provide capital support to key financial institutions as deemed necessary by the relevant authorities, presumably the Treasury and the Federal Reserve, perhaps including the FDIC. Thus an overall financial regulation reform package should include not only resolution authority to address individual failing financial firms that are not currently "banks" but also emergency authority to enable capital support (or other assistance) to firms in the financial sector as necessary to avoid widespread financial sector distress that would have severe economic consequences. The conditions for invoking this authority should be stringent and should not be assimilated to the common interventions by bank regulators and guarantors (like the FDIC) in the case of failing banks, or per an expanded resolution authority, in the case of bank holding companies or other critical financial firms, as now under legislative consideration.

Part One of this paper argues that systemic crises, which are ubiquitous throughout finance history, are inevitable notwithstanding good faith regulatory efforts to avoid them. The recurrence of financial crisis can be explained in at least four different but non-exclusive ways. The first is the inherent fragility of banks (including their "non-bank" substitutes), given the liquidity promise to bank capital suppliers and the illiquid nature of bank assets. The second is the inherent instability of a capitalist financial system, which has a strongly pro-cyclical bias that tends towards asset bubbles and increased leverage. The third is the risk of financial innovation, in which at an ill-defined moment of dissemination, the systemic risks of an innovation flip from the minor to the major. Cutting across all of these accounts is a fourth explanation: the constrained capacity of regulators in light of cognitive gaps and pro-cyclical political economy pressures to foresee systemic risks and then to cabin them. Paradoxically, successful control of systemic risk is also risk-creating, as parties come to rely on a benign financial environment. Thus systemic breaks in the financial sector will inevitably occur, on a potentially violent scale.

Part Two examines the shortfall in the Fed's and Treasury's authority to deal with the present crisis, at least before the passage of TARP. This involves a comparison of the "rescue" cases of Bear Stearns and AIG with the "bankruptcy" case of Lehman and then a further comparison with a post-TARP rescue case, Citibank. The Fed devised an extraordinary extension of its existing emergency authority in order to rescue Bear Stearns and, eventually AIG. But it drew a consistent line between "liquidity" support and "solvency" support, asserting that only the former was authorized by its role as the monetary authority of the United States, not its fiscal authority.

adoption of similar legislation in the midst of any other systemic financial crisis is also likely to be fraught, imposing a similarly enormous risk on the real economy. Thus: even if standby emergency authority will not make things much better, no emergency authority will make things much worse.

Treasury is the fiscal authority yet it could act only pursuant to appropriations. On this view, since Lehman Brothers, unlike Bear or AIG, was visibly insolvent at the time of its bankruptcy, the Fed could not fashion a rescue. The applicable provisions of the Federal Reserve Act could have been read in more expansive ways, and, as a practical matter, a Fed rescue of Lehman would not have been successfully challenged in court or otherwise overturned. Yet it is unlikely that Lehman would have been the last financial institution to seek solvency support. Continued expansive assertion of such authority, without prior precedent, would, with high probability, have threatened the Fed's relative insulation from the political process, the key to its independence as a monetary authority. The TARP legislation provided the missing piece, nominally, Treasury authority to provide solvency support, but more broadly, Congressional sanction for the enterprise.

Part Three argues that as part of the restructuring of US financial sector regulation now underway, two elements are necessary to confront the risks posed by systemic breaks. The first is resolution authority that covers failing non-bank financial institutions, similar in breadth to the FDIC's resolution authority with respect to failing banks. Such resolution authority will presumably come with financial support provided by financial sector participants, either a fund raised in advance or through an ex-post fee. The second is standby emergency authority, what we call "Systemic Emergency Funding Authority," for Treasury's use in appropriate circumstances for three purposes: first, to provide capital support for particular resolution plans; second, to provide capital and other assistance to firms in the financial sector generally; and three, to support emergency authority wielded by the Federal Reserve. To be effective the on-going authority needs to be appropriately scaled to the size of the economy and the financial sector. The initial authorization should be \$1 trillion, indexed to an appropriate measure of financial sector growth. The authority should be pre-funded in part through risk-adjusted fees charged to systemically important financial firms. Losses should be recovered in a similar manner so as to mutualize risk within the financial sector.

To be clear, the recourse to this Systemic Emergency Funding should be available only in the event of a systemic emergency, not the non-emergency resolution of failed bank or non-bank financial institutions. The goal is to avoid a cascade of financial sector failures that will severely disrupt the real economy. To address legitimacy and accountability concerns, we propose a "triple key" approach to material use of such authority, requiring the concurrence of the Federal Reserve (reflected in a Board of Governors' vote), the Secretary of the Treasury (necessary for Treasury's commitment of funds), and the FDIC (in light of its likely role in non-bank resolutions), with notification and consultation with the appropriate House and Senate committees. We also contemplate that the use of such authority would be subject to monitoring (compare, for example, provisions in the current TARP program) and review through the customary process of Congressional hearings and potential legislative action.

The new resolution authority and emergency capital support measures are interrelated. The Bear-Stearns, Lehman, and Citibank cases all show the present gap in the current set of resolution authorities. In the case of a failing bank, the FDIC can put the institution into either a receivership, in which it winds down the bank's affairs, selling off assets for the benefit of the insured depositors,

or a conservatorship, in which it may operate the bank as a going concern.¹⁹ FDIC intervention will ordinarily wipe out the bank's shareholders, but in addressing non-insured depositor creditor claims, the FDIC may distinguish among creditor classes. Moreover, a bank resolution is initiated and administered solely by the FDIC, unlike a bankruptcy proceeding, which starts with a judicial filing and is run subject to judicial administration. In the cases of Bear-Stearns and Lehman, the only resolution mechanism realistically available was a merger with another institution.²⁰ The relevant merger statutes required shareholder approval -- which gave shareholders economically valuable decision-rights and injected potentially destabilizing delay and uncertainty into the transaction -- and also protected creditors, which increased the required level of the Fed's economic support and meant no creditor sharing in the resolution costs.

As Citibank exemplified, most large banks are in fact part of complex holding companies, which are not themselves banks. The FDIC's resolution authority is limited to the bank, excluding the parent holding company, for which bankruptcy is the only resolution mechanism. And as Lehman demonstrated, the threat of bankruptcy is destabilizing for a financial institution, and bankruptcy itself of a major financial institution in the middle of a financial crisis may be a systemic event.

Appropriate resolution authority would give regulators flexibility to act quickly, resolve uncertainty, and restructure creditor claims quickly, and thus should reduce systemic consequences to failure. It could well reduce the ultimate costs to the government in the case of failing, insolvent financial institutions in a systemic crisis. Resolution authority that includes greater latitude over non-insured creditor claims should also condition creditor expectations, which may inject greater market discipline into financial sector risk-taking. On the other hand, in a systemic emergency, customary resolution tools may be inadequate. The fragility of the financial system may make it unwise to impose significant losses on non-insured creditors or to count on equity markets to capitalize post-resolution financial firms. In a systemic crisis, resolution authority without an emergency funding source may be inadequate. The crisis is likely to manifest in serious liquidity problems of notionally solvent financial institutions and may well require very significant resources to resolve or avoid large scale failures. Capital injections or asset purchases need a funding source.

Moreover, "resolution" proceeds on a firm-by-firm basis. Such an approach may be inadequate in the case of widespread financial sector distress. Indeed, resolution of a series of falling dominos may exacerbate systemic distress. In such cases, a sector-wide approach may be

¹⁹ See *infra* (describing FDIC options in more detail). As is clarified below, there are important permutations on these models.

²⁰ This was also true in the case of Merrill Lynch, which accounts for the Treasury and Fed's eagerness that Bank of America close its proposed merger with Merrill and the willingness to commit government financial support as necessary. After its fourth quarter 2009 losses, Merrill may not have been independently viable, and a merger was the only resolution alternative to a bankruptcy. The circumstances surrounding the transaction were the subject of hearings before House Committee on Oversight and Government Reform that included testimony by Bank of America CEO Ken Lewis, Fed Chairman Ben S. Bernanke and Treasury Secretary Henry M. Paulsen. For a critical analysis of the Congressional hearings on the merger, see Joseph Nocera, *Looking Back in Anger at the Crisis*, NY Times, July 18, 2009, at B1 col. 1. There is an on-going SEC investigation into the completeness of the disclosure to Bank America shareholders of Merrill's bonuses in the context of large fourth quarter losses at Merrill.

appropriate, including, for example, the guarantee or acquisition of distressed assets or providing capital support to distressed financial firms. Such intervention would require a substantial funding source. Thus standby Treasury authority to provide funding to support various measures taken in a systemic emergency is an important addition to current efforts at financial regulation restructuring to reduce the risk that that financial sector distress will seriously damage the real economy.

Part Four discusses the problems of legitimacy and accountability in the grant of standby authority to address systemic crises in the financial sector. Financial emergencies are no less a threat to the nation's well-being or even survival than other contingencies for which Congress has granted emergency authority. To object "on principle" to emergency financial assistance authority on the ground that it will encourage risk taking or that the recipients will be unworthy ignores the consequence for third parties in the real economy. The "triple key" system that we propose entails at least the same level of checks as required by other emergency schemes. To add to the customary process of Congressional oversight, we propose that the use of the proposed emergency authority should automatically trigger the convening of a special Congressional review process, much like the 9/11 Commission, or the so-called "Pecora II" Commission recently impaneled to investigate the current crisis,²¹ in addition to a procedure like the current Congressional Oversight Panel that monitors the emergency intervention in a current way.

I. The Inevitability of Systemic Crisis

Since long before the present crisis, a cottage industry of economic historians has documented and attempted to explain the historical recurrence of systemic financial crisis.²² Three general accounts shake-out of this literature, focusing on different sources of instability in the financial system at varying levels of institutional particularity: in the banking system, in the financial system as a whole, and in financial innovation. A fourth general account relates to political economy factors that constrain regulators from intervening even as a crisis begins to build.

1. Inherent fragility of the banking system

²¹ See Public Law 111-21 (111th Cong. 1st Session), §5, 123 Stat. 1625 (May 20, 2009) (establishing the "Financial Crisis Inquiry Commission" "to examine the causes, domestic and global, of the current financial and economic crisis in the United States").

²² Notable contributions include: Charles P. Kindleberger, *Manias, Panics and Crashes* (1st ed. 1975; 5th ed., with Robert Aliber, 2005); Charles Goodhart & P.J.R. Delargy, *Financial Crises: Plus ça Change, plus c'est la Môme* Chose, 1 *Int'l Fin.* 261 (1998); Michael D. Bordo et al, *Is the Crisis Problem Growing More Severe?*, *Economic Policy* Michael D. Bordo & Antu Panini Murshid, "Are Financial Crises Becoming Increasingly More Contagious? What is the Historical Evidence?" in Kristin Forbes & Stijn Claessens, eds., *International Financial Contagion: How It Spreads and How It Can be Stopped* 367-406 (2001); Larry Neal & Marc Weidenmier, *Crises in the Global Economy from Tulips to Today: Contagion and Consequences*, NBER W.P. 9147, Sept. 2002, available on SSRN [published as book chapter]; Michael D. Bordo et al, eds., *Globalization in Historical Perspective* (2003); Carmen M. Reinhart & Kenneth Rogoff, *This Time is Different: A Panoramic View of Eight Centuries of Financial Crises*, NBER W.P. 13882 March 2008) (available on SSRN).

Banking system fragility derives from three interlocked elements: first, the inherent fragility of banks; second, the potential dissemination of local distress to the banking system as a whole; third, the expandable boundaries of the banking system. *I.a. Fragility.* Banks (or their “non-bank” substitutes) are inherently fragile because of the liquidity mismatch between bank liabilities and bank assets.²³ Banks typically raise a large fraction of their funds from depositors – holders of checking accounts, savings accounts, and certificates of deposits – who expect ready access to their funds, a high degree of liquidity. Banks classically use depositors’ short term commitments to perform a “maturity transformation,” lending to consumers and businesses for long term investment.²⁴ Maturity transformation is a profitable business when short term rates paid to depositors are lower than long term rates charged borrowers. Banks also develop and exploit superiority over public securities markets in assessing initial credit-worthiness, in monitoring on-going creditor behavior, and in addressing changes in the borrower’s ability to repay. Banks customarily maintain only “fractional reserves” to cover depositor withdrawals, relying on first, the aggregate uncorrelated liquidity needs of its depositors and second, a “reputation” for prudential loan-making that retains the ongoing confidence of depositors in the safety of their funds.²⁵

Assume some event disrupts depositor confidence, even a rumor of bad luck on the lending side that seems to pose some risk that depositor claims might not be paid in full.²⁶ Suddenly

²³ This account draws from Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 *J. Pol. Econ.* 401 (1983); Franklin Allen & Douglas Gale, *Understanding Financial Crises* (2007); Jean –Charles Rochet, *Why Are There So Many Banking Crises?* (2008), and Markus Brunnermeier et al, *The Fundamental Principles of Financial Regulation* (2009).

²⁴ “Maturity transformation” is the conversion of the short term liquidity needs of depositors into long-term funding commitments for borrowers. Banks have traditionally performed this function. Depositors put funds into checking accounts and savings accounts and certificate of deposit, which can be withdrawn from the bank on demand, though perhaps with some notice in the case of savings accounts and the forfeiture of some interest in the case of CD’s. In turn, the bank lends these deposited funds to borrowers on typically much longer-lived terms, whether to fund specific projects or asset purchases, or by way of a longterm lending commitment. This bank activity thus “transforms” short term liabilities into long-term assets, hence “maturity transformation.” Under this arrangement, the bank will not necessarily have cash immediately available in the event of unexpected depositor withdrawals. But the bank can borrow money from other financial institutions on the security of its assets, and, in the case of systemic liquidity pressure, can borrow from a “lender of last resort,” like the Federal Reserve. The process by which the different time horizons of depositors and borrowers are nevertheless matched up is at the core of a successful system of financial intermediation. See Financial Services Authority, *The Turner Review: A Regulatory Response to the Global Banking Crisis* 21 (2009) (discussing how the growth of “shadow banking” reflected changes in the forms of maturity transformation); Jeffrey N. Gordon, *Comment Letter to the SEC on Money Market Reform* (Sept. 9, 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1473275.

²⁵ “Fractional reserve” banking permits banks to leverage their skill in making good lending decisions but, as with any leveraging strategy, it will expose the bank to insolvency risk should loans turn sour. But the “inherent fragility” of banks persists even with “full reserves,” if deposits can be withdrawn on demand but assets are illiquid. Modern banking regulation both permits fractional reserve banking, to enhance the availability of credit in the economy, and controls its extent, through reserve requirements that reduce the risk that the bank will be unable to meet depositor withdrawal demands.

²⁶ Economists differ on whether the crisis initiation can be genuinely random, a “sunspot equilibrium,” or will invariably be triggered by a macroeconomic event. See Charles W. Calomiris & Joseph R. Mason, *Fundamentals, Panics, and Bank Distress during the Depression*, 93 *Am. Econ. Rev.* 1615 (2003). Following a macroeconomic

depositor liquidity demands may become correlated on the dimension of solvency risk. This “run” exhibits the dynamics of a prisoner’s dilemma: it is rational to be at the head of the line to withdraw your money from a bank that might fail. If you think others will “run,” you want to run first.

The fragility consists in the fact that the run is rational even if the depositors, individually, believe that the bank’s assets are worth more than its liabilities, if depositors also believe the contrary view may be widely shared. Assume, first, the depositor believes that the bank’s credit losses have resulted in negative net worth, even if the assets can be sold at fair market values. Then the depositor wants to withdraw before the bank’s assets are depleted. Assume second, that the depositor believes, to the contrary, that the bank’s net worth is positive, but also knows that the bank will have to dispose of longterm assets to satisfy the “running” depositors. The depositor may well conclude that the sale of longterm assets in the midst of a run will lead to negative net worth because of a fire-sale type discount, from either of two factors: first, the “congestion effect” from the unexpected sale, more technically, from short term inelasticity of liquidity supply; second, asymmetric information: purchasers will offer prices discounted in anticipation of the bank’s rational exploitation in the sale process of its superior knowledge of asset values. The bank will be hard pressed in the relevant time-frame of a liquidity crisis bank to credibly demonstrate the assets’ high quality.²⁷ Thus a run can result even in the case in which the bank would be solvent but for the run.

1.b. Dissemination of distress. There are two general mechanisms that spread local financial distress to the banking system generally. The first is “contagion,” meaning that the failure of one bank could, because of interbank credit relationships, so significantly increase the solvency risk at other banks as to trigger a cascading series of runs. The second is “similarity” or “common mode failure,” in which depositors learn from the failure of one bank with a particular asset and liability strategy that other similarly-situated banks are also at risk. These primary mechanisms are exacerbated by rapid escalation in uncertainty, given the opacity of counterparty exposures and financial firm balance sheets. A important secondary mechanism is significant uncertainty about the exposure of particular institutions to contagion or similarity risks, heightened by a bank’s inability to credibly certify that it is not so exposed. All of these mechanisms operated in the crisis of 2007-08.

It was commonly stated that Bear Stearns was not “too big to fail,” the general moral hazard objection to government rescues, but “too interconnected to fail.” This is a classic case of contagion risk. Bear Stearns and its peers throughout the financial sector were tied together through a web of counterparty relationships – derivatives, financing contracts, and buy/sell orders – so that a failure by Bear might result in the inability of other financial firms to meet their counterparty obligations. Bear’s failure was “contagious” even though it would not *necessarily* result in another firm’s failure

shock, a run may be triggered if depositors are unable to distinguish a “good,” still solvent bank from a “bad,” now insolvent one, in other words, a problem of asymmetric information. Charles W. Calomiris & Gary Gorton, *The Origins of Banking Panics: Models, Facts, and Bank Regulation*, in R. Glenn Hubbard, ed., *Financial Markets and Financial Crises* 109 (1992). The 1933 “bank holiday” and the 2009 “stress tests” of major financial firms thus served the same purpose of providing information that depositors and other credit-suppliers could rely upon in assessing solvency.

²⁷ Note that this source of fragility will increase in the valuation opacity of the assets that the bank may want to sell.

because it could *probabilistically*. All it takes is the necessary quantum of uncertainty to trigger a run.²⁸

Even though Bear was rescued through a Fed-supported merger with JPMorgan Chase,²⁹ its “failure” provided information to market participants about the high solvency risk of firms with balance sheets heavily laden with mortgage-backed securities (MBS) and whose business models depended on underwriting such securities. Similar strategies would fail in common. Thus an important reason the crisis soon engulfed Lehman, Merrill Lynch, and Citigroup was because of “similarity.” Like Bear, these firms heavily invested in MBS on the asset side and similarly depended on mortgage origination and underwriting MBS to generate operating income. When Bear failed, the handwriting was on the wall for those firms. Thus even without interconnections to those firms, Bear’s failure could disseminate throughout the financial sector.

1. c. Expandable boundaries. Various “confidence sustaining” mechanisms have arisen to combat the problem of bank runs, including inter-bank lending and liquidity support arrangements (lending funds to a solvent bank using its assets as collateral),³⁰ deposit insurance (protecting depositors of insolvent banks),³¹ and central bank lender-of-last resort liquidity support (lending when private parties will not).³² Indeed, regulatory oversight of the banking sector in the name of

²⁸ For investment banks, short term credit suppliers are the functional equivalent of bank depositors.

²⁹ See the discussion *infra* at nn ---.

³⁰ Before the creation of the Federal Reserve System, the clearinghouse organized by money center banks to clear transaction between them in ordinary times would issue “clearing house certificates,” temporary emergency loans to supply liquidity to a bank facing a run, in effect providing support through the credit of the banking collectivity. See Robert F. Bruner & Sean D. Carr, *The Panic of 1907* 107-108, 168-169 (2007); Gary Gorton, *Clearinghouses and the Origin of Central Banking in the U.S.*, 45 *J. Econ. Hist.* 277 (1985); Gary Gorton and D. Mullineaux, *The Joint Production of Confidence: Endogenous Regulation and Nineteenth Century Commercial Bank Clearinghouses*, 19 *J. Money, Credit & Banking*, 458 (1987). In their account, Friedman & Schwartz attribute the atrophying of this capability to the formation of the Federal Reserve System. See Milton Friedman & Anna J. Schwartz, *A Monetary History of the United States, 1867-1960* (1963).

³¹ For example, as provided in the US by the FDIC.

³² Walter Bagehot, *Lombard Street* (1873) (explaining role of the central banker as lender of last resort). In practice the central bank’s capacity to play this role is limited by the sense of panic its intervention may give rise to. Some Fed insiders believe that at least the timing of Bear Stearns failure was tied to the Fed’s announcement of a special program to support the liquidity of primary dealers in Treasury securities, which the market apparently misinterpreted as the Fed’s anticipation of a Bear Stearns failure. See TAN *infra* --. Accord, Brunnermeier, *Deciphering the Liquidity and Credit Crunch 2007-2008*, 23 *J. Econ. Persp.* 77, 88 (2009). The Fed has been reluctant to invoke its emergency powers in the past for fear of panicking market participants. In the U.K., the Bank of England’s announcement that it was providing liquidity support to Northern Rock seems to have triggered the retail deposit run that played so vividly on television. See Hyun Song Shin, *Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis*, 23 *J. Econ. Per.* 101, 102 (2009). Indeed, U.S. banks have historically been reluctant to access the Fed’s discount window – a much milder signal of financial distress – to avoid sending a negative signal of financial strength. Stephen G. Cecchetti, *Crisis and Responses: The Federal Reserve in the Early Stages of the Financial Crisis*, 23 *J. Econ. Persp.* 51, 55-56 (2009); C.H. Furfine, *The Reluctance to Borrow from the Fed*, 72 *Econ. Letters* 209 (2001).

First world economies have generally rejected the standard theoretical “solution” to a bank run, for a single bank or the system as a whole: the immediate suspension of convertibility, meaning to freeze deposits in place. Under such a regime, depositors would know that no one can withdraw ahead of them and thus lose the incentive to run in the

“safety and soundness” has confidence sustaining objectives. These mechanisms, built on the experience of preceding crises, may not be sufficient to avoid fragility as unforeseen circumstances unfold in even a relatively static banking system. The more serious problem is that the banking system is not static, in significant measure because parties will attempt to avoid the costs of confidence sustaining mechanisms while free-riding on the banking system stability that these mechanisms provide. Some costs are direct, such as the deposit insurance fee. Other costs are indirect, such as the imposition of capital requirements, regulatory accounting, and conduct constraints. In the effort to avoid these costs, various banks and “non-banks” will test the possibilities of regulatory arbitrage in moving some traditional banking activity outside the banking system as defined for regulatory purposes, “boundary expansion” for the banking system. As “shadow banking” grows, the confidence sustaining measures designed for a narrower banking system will lose their capacity to stabilize an expanded banking system. This reintroduces the fragility that such measures were designed to mitigate. Moreover, discrete acts of boundary expansion can collectively induce fragility because of their unforeseen interaction. Unawares, the banking system as it expands crosses over from “relatively stable” to “fragile.”

Once again the crisis of 2007-08 offers good examples of boundary expansion both by banks and non-banks and the interaction, as well as the consequences for banking system fragility.

1.c.1. Boundary expansion by banks: off balance sheet banking. Banks in the early-mid 2000s established “conduits” of different types to finance the growth of mortgage-based assets.³³ These vehicles were designed to avoid capital charges while free-riding on banking system stability. Although “off-balance sheet” for regulatory capital purposes, they benefited from explicit arrangements like “liquidity puts” to the bank and letters of credit, and implicit reputational concerns that would give credit suppliers full recourse to the bank itself.³⁴ Like the bank, these vehicles were used for maturity transformation: here, the financing of long term mortgage-related assets with short term liabilities.³⁵ The liabilities were not retail deposits locked firmly in place by deposit insurance but short term wholesale credit market instruments, typically asset-backed

first instance. See Dybig & Diamond, *supra* note --. The maintenance of such a regime is not credible, even if ex ante efficient, because governments are likely to permit “hardship” or “high need” claims for withdrawal. A mechanism that distinguishes among withdrawal claims would be ex post efficient – but this then reintroduces depositor incentives to avoid the risk of losing in the “worthiness” competition and finding that such earlier withdrawals at par have reduced recovery rates on later withdrawals. For formalization of this “time-inconsistency problem in banking policy,” see Huberto M. Ennis & Todd Keister, *Bank Runs and Institutions: The Perils of Intervention*, 99 *Am. Econ. Rev.* 1588, 1589 (2009).

³³ See Daniel M. Covitz, Nellie Liang, & Gustavo A. Suarez, *The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market* Fed. Res. B. WP 2009-36, available at <http://ssrn.com/abstract=1364576>; Gillian Tett, *Fool’s Gold* (2009).

³⁴ The Basel I accord, which reflects harmonized worldwide practices on capital requirements for banks, has a favorable capital charge for contractual credit lines and no charge at all for implicit, i.e., reputation-based, credit lines. See Markus K. Brunnermeier, *Deciphering the Liquidity and Credit Crunch 2007-2008*, 23 *J. Econ. Persp.* 77, 80-81 (2009). For financial accounting purposes, mortgage securitizations supported by a third party guarantee (as is common) that are held through “Special Purpose Entities” are not consolidated in the bank’s financial statements. *Financial Accounting Standard 140* ¶¶ 35, 46, 182 (2000).

³⁵ The conduits also supported the banks’ underwriting of mortgage-based securities by providing a captive buyer of particular tranches of such securities.

commercial paper bought by institutional investors and corporate treasury departments. This is a much more volatile funding source than retail deposits because of the greater exposure of such uninsured creditors to default risk, their greater monitoring capacity, and the high likelihood of correlated credit judgments. The simple decision not to “roll over” these instruments would amount to a withdrawal, and if sufficiently pervasive, would amount to a “run.”³⁶

The consequence for bank fragility of this expansion of banking system boundaries was highly significant. As market indices began to reflect investor pessimism about the safety of mortgage-backed securities, banks had to perform on their explicit and implicit commitments, which meant bringing these assets explicitly onto the balance sheet to avoid runs, defaults, and immediate calamity. Such a move both exposed the bank to losses on these assets and made apparent the weakness of the bank’s capital base, in turn reducing the confidence of the bank’s depositors and other credit-suppliers.³⁷ Second, the wholesale source of the short-term credit for a substantial chunk of the bank’s assets made the entire bank more fragile. Because of the initial boundary-expanding structure, long term illiquid assets had come to be funded by the jumpiest short term creditors.

1.c.2. Boundary expansion by non-banks. A good example of a “non-bank” bank that has grown outside the boundaries of the banking system is the money market mutual fund (MMF), which as of pre-crisis 2007 held nearly \$3 trillion in short term credit assets (vs. bank deposits of \$9 billion)³⁸ MMFs arose in the 1970s as a regulatory arbitrage of the ceiling on interest rates that depository institutions, banks and thrifts, could offer to depositors, so-called “Reg Q.”³⁹ At a time of high short interest rates, MMFs provided retail savers access to money market rates and became a substitute for both savings and checking accounts. Accounts at MMFs are not federally insured, of course. The industry is premised on providing the functional equivalent, a credible commitment that MMFs will maintain a \$1 per share net asset value and that funds will be immediately accessible. This is supported by SEC regulatory requirements of high credit quality and short-term

³⁶ Thus the televised retail depositor “run” in September 2007 on Northern Rock, the UK building society, was preceded, and precipitated by, a much less visible “run” by wholesale credit suppliers who were adjusting their own risk profiles and liquidity positions. Yet Northern Rock had not made itself a particularly risky financial institution; it avoided both off balance sheet financings and subprime lending. See Hyun Song Shin, Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis, 23 J. Econ. Per. 101 (2009).

³⁷ Thus the fragility of the conduits stuffed with mortgage-backed securities undermined the stability of other conduits that held other asset-based securities, such as credit card and other receivables. The asset-backed securitization market, which relies on these conduit mechanisms, shrank from a 2007 peak of \$1.2 trillion to \$460 million in October 2009. See Covitz et al, supra note --, at Table 2 and Federal Reserve Board, Outstanding Commercial Paper (accessed Nov. 15, 2009), <http://www.federalreserve.gov/releases/cp/outstandings.htm>.

³⁸ Federal Reserve System, Flow of Funds Rel. Z-1, L.5 ll.7-10 (June 11, 2009).

³⁹ Interest rate ceilings for depository institutions were defended as stability-enhancing because they mitigated the interest rate risks in the maturity mismatch between short term deposits and long term assets. The rise of MMFs was particularly devastating to thrifts, whose assets were concentrated in fixed rate long term mortgage loans. The flow of retail deposits out of thrifts and into MMFs led to the insolvency of many thrifts, various futile and counter-productive efforts to “save” the industry, and finally an enormous federal bailout program, \$400 billion by some estimates, the largest such program until the Crisis of 2007-08.

maturity (less than 180 days on average) of MMF holdings.⁴⁰ The focus on not “busting the buck,” buttressed by historical success in this regard, is the industry’s protection against runs.

The limitations of these SEC-crafted substitutes for deposit insurance became apparent in the financial market distress of fall 2008, which vividly demonstrated the fragility of MMFs and the ramifying effects of that fragility on the banking system as a whole. At the time of the Lehman failure, the Reserve Fund held \$785 million in Lehman commercial paper, an economically significant amount but even if the eventual recovery in bankruptcy was \$0, still only 1.2 percent of Reserve Fund’s \$62 billion in assets. Yet knowing that the composition of Reserve Fund’s portfolio meant it was likely to “bust the buck,” its depositors immediately began a run -- eventually amounting to redemption requests of \$40 billion – that was halted only by a freeze in redemptions.⁴¹ The run at Reserve Fund became a serious threat to disseminate through the \$3 trillion MMF sector, through the mechanism of “similarity” or “common mode failure,” not contagion. Many MMFs had substantial holdings of commercial paper issued by financial firms, meaning that, like Reserve Fund, many MMFs would be threatened by further financial firm insolvencies. Treasury immediately stepped into the breach with an explicit guaranty of all money market funds on deposit prior to the Lehman bankruptcy filing.⁴²

Concern for the fragility of MMFs apparently shaped other key regulatory actions in the financial crisis. For example, there is widespread belief among industry participants that FDIC actions that fully protected creditors of Wachovia but not Washington Mutual were based on a well-founded belief that a Wachovia default would have “busted the buck” of one of the largest MMFs. In other words, in order to address the fragility of MMFs as a non-bank bank, the FDIC was forced into an intervention pattern that itself created instability because of its seeming arbitrariness in the treatment of bank creditors.

The fragility of MMFs affected the banking system generally and indeed the entire financial sector. Notwithstanding the Treasury’s guaranty (or perhaps because of its insufficiency), MMF depositors withdrew funds from so-called “prime” MMFs and reinvested in “Treasury” MMFs or directly in US Treasury instruments.⁴³ MMFs themselves reallocated funds from the private short

⁴⁰ The SEC also provides a form of regulatory forbearance that permits MMFs to use “hold to maturity” rather than “mark to market” valuations to smooth over small deviations from par, Investment Company Act of 1940, Rule 2a-7, and grants regulatory relief to permit MMF sponsors to support \$1 net asset values through buying distressed securities in MMF portfolios. The current (and very modest) SEC reform proposal provides a useful summary of the current rules. See Money Market Reform, Inv. Co. Rel. No IC-28807 (June 30, 2009).

⁴¹ See Aaron Elstein, Inside the Panic at Reserve Fund, Crain’s NY Business, May 10, 2009.

⁴² Treasury offered a jury-rigged use of the Exchange Stabilization Fund, \$50 billion laid against \$3 trillion in MMF assets. Department of the Treasury, Exchange Stabilization Fund, Financial Report Fiscal Year 2008 at 14, available at http://www.ustreas.gov/offices/international-affairs/esf/congress_reports/final_22509wdc_combined_esf_auditreports.pdf. On the other hand, a Reserve Fund-type loss averaged across all MMF assets would amount to only \$36 billion. Information on the Treasury program is provided at <http://www.treas.gov/offices/domestic-finance/key-initiatives/money-market-fund.shtml>.

⁴³ See 2009 Investment Company Fact Book (49th ed. 2009) 146-151 (for 2008, showing (1) outflows of cash during 2008 from non-governmental MMFs and inflows into government MMFs, Table 38; (2) asset composition shift by non-government MMFs away from private firm issuances into government issuances, Table 42; (3) asset composition shift by government MMFs away from repurchase agreements secured by government securities to direct government issuances, especially Treasury bills, Table 41.

term credit market to direct government issuances.⁴⁴ The shift added stress to the banking system in two ways: First, many banks and other financial intermediaries had come to finance on-balance sheet assets as well as off-balance sheet assets through short term credit market in which MMFs played a significant role.⁴⁵ Those markets virtually disappeared.⁴⁶ Second, banks regularly provided backup credit lines to protect industrial firms that relied upon commercial paper markets against “rollover risk.” Ordinarily this risk related to a firm’s particular business circumstance, but as short term credit markets shut down, many firms called on their back up lines. This meant that banks were forced to extend credit unselectively at a time when they needed to build reserves. This too added to bank fragility.

Restoring a semblance of bank stability required the emergency creation by the Federal Reserve of the Commercial Paper Funding Facility to buy commercial paper.⁴⁷ As the Fed’s press release explained, “A large share of outstanding commercial paper is issued or sponsored by financial intermediaries, and their difficulties placing commercial paper have made it more difficult for those intermediaries to play their vital role in meeting the credit needs of businesses and households.”⁴⁸

1.d. Fragility, in sum. The argument is not that banks and the banking system are “fragile” in the sense of a high probability of bank failure, or that the combination of banks and non-banks that are likely to arise alongside banks in a complicated financial environment is highly probable to fail. Rather, “fragility” means that relatively small shocks can have disruptive effects, arising from the time-varying liquidity demands of capital suppliers and the illiquidity needs of capital users. This fragility may grow in the complexity of financial intermediation and quickly outstrip the already imperfect confidence sustaining measures previously put in place. One can believe both that “panics [are not] an inherent feature of banking generally,” and that “details of the institutional setting” matter crucially,⁴⁹ but also that with complexity and inevitable changes in circumstances and institutions, the tensions comprehended within the banking system will recurrently break out into financial sector crisis.

⁴⁴ Id., Tables 42, 41.

⁴⁵ See Gordon, SEC Comment Letter, supra note --.

⁴⁶ To be sure, MMF behavior was only part of the reason for the seizing-up of short term credit markets in fall 2008, since MMFs accounted for only 20-25% of the these markets. See Gordon, SEC Comment Letter, supra note – . Nevertheless the SEC rules designed to stabilize MMFs’ net asset values, in particular the shortening of portfolio maturities, artificially increased the supply of short term credit and thereby encouraged the use of securities markets to “transform” short term liabilities into long term assets. This meant that bank finance and corporate finance was subject to the dysfunction of those markets at times of financial stress. The propensity of short term credit markets to seize-up is modeled in Viral Acharya, Douglas Gale & Tanju Yorulmazer, Rollover Risk and Market Freezes (WP Feb 2009), available on SSRN (for assets with small default risks funded by rollovers, shift in sentiment from “optimistic” to “pessimistic” can lead to sudden market freezes).

⁴⁷ For a regulatory history of the facility, see the New York Federal Reserve Bank’s compilation, <http://www.newyorkfed.org/markets/cpff.html>.

⁴⁸ <http://www.federalreserve.gov/newsevents/press/monetary/20081007c.htm> (release of Oct 7. 2008).

⁴⁹ Gary Gorton, The Panic of 2007 2 (W.P. 2008).

2. *Pro-cyclical bias of capitalist financial system*

A second source of systemic instability in the financial sector may be the structure of the capitalist financial system, which has a strongly pro-cyclical bias that tends towards asset bubbles and increased leverage. This thesis has two versions: first, what might be called the “strong form” associated with the economist Hyman Minsky that is part of a broader Keynesian theory of the business cycle and the government’s role; second, a “semi-strong” offshoot that focuses on the interaction of asset bubbles and credit expansion, particularly innovations in credit supply.

2.a. *Minsky’s “financial instability hypothesis.”* Minsky’s particular take on Keynes adds a “financial theory of investment” in which the uncertainty of payoffs plays a significant role in business investments that require external funds.⁵⁰ Lenders and borrowers each require a “margin of safety” in their decisions. At the bottom of the business cycle (or sectoral cycle) firms are pessimistic, and external finance is demanded (supplied) only to the extent that debt and principal payments can be covered from current cash flows, that is, making no profit assumptions about the new productive capacities that are externally funded. Minsky calls this stage “hedge finance.” If profit targets are reached, borrowers (lenders) become bolder and obtain (provide) external finance to fund new projects on a narrower margin of safety that requires only that interest payments be covered from current cash flows; debt repayment, by contrast, will require new profits. This is “speculative finance.” In the final stage, some firms move into “Ponzi finance,” meaning that coverage of both debt and principal payments requires profitability from new projects (profits which may include assumptions about declining refinancing costs or the ability to sell appreciated assets).

Critically, individual decisions feed into the overall business cycle: as total investments increase, the multiplier effect on demand produces higher profits. This increases the likelihood that firms will meet or exceed profit targets on new projects, consistent with the desired margin of safety, and thus encourages greater demand (supply) for external finance. Soon, of course, these expectations get built in. Thus not only do future profits depend on current aggregate investing, so does the individual borrower’s (lender’s) assessment of whether an investment has met its target in light of the desired margin of safety. If some borrowers (lenders) become pessimistic about realizing profit targets from further investment, they will cut back. This reduces aggregate demand and, via the multiplier effect, lowers profits, which in turns constrains investing in the next period as firms begin to miss their profit targets. As the economy (or the sector) contracts, financial distress spreads first to Ponzi-financed firms and then to speculative finance firms and also to their credit suppliers. A prolonged expansion that heavily depends on external finance will produce an unraveling with significant, even severe, impact on the financial system.⁵¹

⁵⁰ What follows is based on Hyman P. Minsky, *Stabilizing an Unstable Economy* 171-253 (1986); Hyman P. Minsky, *The Financial Instability Hypothesis*, *Levy Econ. Inst. W.P. No. 74* (May 1992) (available on-line); Hyman P. Minsky, *Securitization* (1987) (as edited by L. Randall Wray, *Levy Econ. Inst. 2008*); L. Randall Wray & Eric Tymoigne, *Macroeconomics Meets Hyuman P. Minsky: The Financial Theory of Investment*, *Levy Econ. Inst. W.P. No. 543* (Sept. 2008); Charles P. Kindleberger, *supra* note --, at 16-37.

⁵¹ Some have suggested that the Minsky thesis requires irrational behavior on the part of firms and lenders, e.g., Ben S. Bernanke, *supra* note --, at 258. But irrationality is not required once we assume that parties generally have insufficient information to distinguish between profits on new investments that were correctly forecasted based on the prior state of the world and profits from unforecasted increases in others’ investment that raised overall demand.

2.b. *Asset Bubbles and credit expansion.* A modified, or semi-strong version of the financial instability thesis focuses particularly on the appeal and dangers of credit-financed asset bubbles, particularly where new forms of credit help fuel the bubble. This account helps distinguish between the tech bubble, which left the financial system unscathed when it collapsed, and the housing bubble, which had a different consequence.

2.b.1. *Bubbles.* If markets were “complete,” meaning parties could acquire security positions that would provide certain pay-offs in all possible contingencies, and if all information were common knowledge, then bubbles, at least “rational bubbles,” would be highly unlikely.⁵² These are strong assumptions which obviously do not hold. Many mechanisms have been proposed by which buyers might overpay for securities, including: incorrect beliefs about fundamental values based on inadequate information, mistaken beliefs about what other parties believe about fundamental value,⁵³ agency costs in investment management,⁵⁴ and heuristic biases that interfere with rational decision-making.⁵⁵ In theory arbitrage activity by informed traders should bring share prices back in line and prevent a bubble getting much headway. But arbitrage may be under-supplied, either because of institutional or legal constraints on short sales,⁵⁶ or because arbitrage is costly. On the costs: Arbitrageurs face “fundamental risk,” the possibility that a change in fundamentals will reverse the previous overpricing, saddling them with losses.⁵⁷ Arbitrageurs also face “noise trader risk.” Uninformed traders may continue to buy, or worse, buy in greater volume, which increases mispricing. There is no set time for prices to converge on fundamental value. Meantime the arbitrageur’s potential losses increase. In both instances, absorbing these losses is particularly costly for an undiversified investor or for the hedge fund manager who faces potential withdrawals from investors who can directly observe only ex post results, not managerial skill. Indeed, if arbitrage is insufficient to constrain a bubble, arbitrageurs – who are trading to make money, not to provide a

A different critique of the Minsky thesis is that its deterministic character does not account for the differences across countries and over time in the appearance of pathological asset bubbles. Minsky may describe a tendency or a vulnerability, but other institutional (and non-institutional) elements are critical for severe financial distress to result.⁵² This discussion draws from Markus Brunnermeier et al., *The Fundamental Principles of Financial Regulation* (2009); Markus Brunnermeier, *Bubbles*, in *The New Palgrave Dictionary of Economics* (2008), Andrei Shleifer, *Inefficient Markets* (2000); Franklin Allen & Douglas Gale, *Bubbles and Crises*, 110 *Econ. J.* 236 (2000).

⁵³ For example, all investors may share the same beliefs about the fundamental value of a security but knowledge of that shared belief is not itself shared. Many parties may believe that other parties will mistakenly value the security, and so the security price is bid up in expectation of a future sale to misinformed investor.

⁵⁴ For example, investment managers may want to demonstrate their investment prowess to clients by investing; investment managers may engage in herd behavior because of relative performance evaluation against peers and the market itself; investment managers have limited liability and otherwise can risk shift to clients in the pursuit of upside potential.

⁵⁵ For example, over-optimism bias in which a party who has ridden a lucky trend overestimates his/her ability to out-perform the market, or “loss-aversion,” in which parties are unwilling to sell-out loss positions despite information that would suggest such a course.

⁵⁶ See Ronald J. Gilson & Reinier Kraakman, *The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias*, 28 *J. Corp. L.* 715, 726-29 (2003).

⁵⁷ It might be possible to hedge against fundamental industry risk – for example, going long on Intel while shorting AMD – but that will not protect the arbitrageur against an unexpected turnaround because AMD releases a superior processor at a lower price.

public good of more accurate asset prices – may flip to become “momentum traders” who contribute to the bubble.⁵⁸

2.b.2. Bubbles and credit expansion. Asset bubbles may come and go without leaving the financial sector and the economy in ruins. What may produce a financial sector crisis is the interaction between a bubble and credit expansion that occurs either through deregulation or through financial innovation. Assuming that the short term supply of a particular asset is fixed, a credit expansion increases demand for the asset (because of lower interest costs from the increase in the effective money supply) and thus its price. If the lender relies on the asset as collateral, price appreciation will increase the amount that can be lent (assuming a fixed capital requirement). This further expansion of credit may in turn raise asset prices and promote activity to increase the asset’s supply. If the “boom” continues for a while, the bank may adjust downward its risk assessment of lending to acquire the asset. This too lowers interest rates and thus supports even higher asset prices. Eventually parties discover that assets are over-valued relative to the non-financial sector cash flows on which their value depends. (For example, commercial landlords discover that businesses cannot pay escalating rents.) Asset values decline, parties default on loans, collateral is insufficient to cover the losses, collateral sales further depress asset prices – a spiral that may result in the impairment of bank capital. The damaged banks begin to ration credit, limiting it to their most credit-worthy borrowers. As the debt-fueled bubble collapses, the industry devoted to meeting demand for the asset also collapses, a further macroeconomic shock. The process by which stronger bank balance sheets helped promote the bubble and the related economic activity now reverses itself; the feedback loop becomes negative.

In theory regulation should be programmed to force counter-cyclical behavior, in particular to constrain bank-lending in good times, through a compulsory increase in reserves, for example. The impulse will be strong to evade a regime to compel banks to stockpile funds at times when the opportunity cost seems highest – in the name of avoiding a risk of some great systemic harm.

A different regulatory move is to limit credit creation and extension and to resist the siren call (or potentially large economies) of deregulation. The 1920s stock market bubble was fueled by the innovation of margin lending for stock purchases. High margin requirements now enforced by the Federal Reserve Board limit that form of credit creation. The 2000s housing bubble was fueled in part by asset securitization, which, through converting low quality home mortgages into ostensibly high-quality (AAA) securities expanded credit available for home finance. Tight regulation of banks and the financial system more generally may hold down the incidence of financial crises, as illustrated by the almost complete absence of banking crises in the 1945-1971 period, as compared to prior and subsequent periods.⁵⁹ In 1971 the US abandoned the gold standard, a change that heralded a period of financial liberalization that is associated with many more crises.

Notwithstanding government efforts to constrain, even control, the growth of credit, the private efforts to expand credit are pervasive and help to power many financial innovations.

⁵⁸ Gilson & Kraakman, *supra* n. --, at 730.

⁵⁹ Francis Allen & Douglas Gale, *Understanding Financial Crises* 2,11 (2007). Among the regulatory constraints were entry barriers and price controls that protected banks from competition. See Jean-Charles Rochet, *Why Are There So Many Banking Crises?* 30 (2008).

Kindleberger documents many historical instances, including a telling case of how 19th century British merchants evaded the government's credit creation constraints through the use of successively endorsed bills of exchange as a currency substitute. Successive holders relied on the credit of the endorsers as well as the bill's issuer, sometimes passing the notes at a discount to face value.⁶⁰ The chain of signatories opened up the endorsers to counterparty risk from merchants who levered up using bills that were only sporadically redeemed -- until holders lost confidence and began to redeem suddenly. Ratcheting 100 years forward, part of what powered the recent subprime mortgage boom was the banks' desire to avoid capital requirements that limited their leverage.⁶¹ As described previously but now understood as an effort to evade leverage constraints, banks established off-balance "conduits" or "special investment vehicles" that held large quantities of the "super senior" tranches of mortgage-backed CDOs. The banks financed these long term debt holdings through short term wholesale credit markets and profited from the difference between long term and short term rates, a so-called carry trade. As noted above, these structures did not require additional capital and so were a tempting way to increase the supply of credit for real estate finance.

Credit's role in sometimes fueling an asset bubble, and the persistent effort by banks and other financial intermediaries to create more credit (evading the regulatory regime if necessary), help explain why financial sector crises are recurrent. Otherwise put, credit will predictably expand in unpredictable ways, tending to produce asset bubbles whose collapse will, unpredictably, produce severe financial sector distress.

3. *The uncertain effects of financial innovation.*

A third source of systemic instability in the financial sector is the role of financial innovation, which can have unpredictable but powerful effects on financial firms. *3.a. The systemic conundrum.* Financial innovation presents a conundrum. Its inception may be entirely benign, a genuine advance that lowers the cost of capital by, for example, reducing information requirements, lowering the costs of diversification, or enabling superior risk sharing, all straightforward efficiencies. But then as the innovation disseminates, its properties and its consequences change. Think of an S-curve of innovation effects, in which at a critical point of dissemination (which may not map onto the S-curve of dissemination itself), the innovation's principal effects switch from the "local" to the "systemic." Effects may become systemic when dissemination of the innovation potentially transforms practices on which the innovation relied,⁶² or significantly changes patterns of risk distribution,⁶³ or substantially substitutes for alternative methods of achieving a similar result,⁶⁴ or attracts new investment flows that significantly affect asset prices and underlying risk

⁶⁰ Charles Kindleberger & Ronald Aliber, *supra* note --, at 64-83.

⁶¹ This follows Gillian Tett, *supra* note --, at --.

⁶² For example, the way in which the increasingly lax underwriting standards in mortgage origination undermined the reliability of the loans that entered into mortgage backed securities.

⁶³ For example, the way in which credit default swaps ended up concentrating risk in AIG.

⁶⁴ For example, the way in which the commercial paper market fueled in part by money market funds became a substitute for long-term finance.

assumptions.⁶⁵ When an innovation's effects are principally local, they are relatively easy to assess, and if on balance the innovation does not pan out, the consequences are not harmful. But if the consequences of innovation are locally good (so it survives and disseminates) but systemically bad, the net consequences can be quite costly. The systemic effects of an innovation are often hard to appreciate *ex ante* and even harder to calculate. Systemic risk may be described by a curve that starts off concave and then, at some inflection point in the innovation's adoption, become sharply convex.⁶⁶ Indeed, in the early stages, the systemic risk curve may be downward sloping; innovation may reduce systemic risk – that was an argument for securitization. It's only at the inflection point that systemic risk shifts direction, but then sharply so. Innovation's risk is that even if the functional form can be predicted, the inflection point cannot be. Unless the regulator severely clamps down on innovation (difficult in many respects), from time to time particular financial innovations will disseminate rapidly with unexpected systemic consequences that may eventually produce a financial sector crisis.⁶⁷

One response might be for the regulator to clamp down at least on innovations that are obviously an evasion of a regulatory restraint that still is justified, pure regulatory arbitrage. The problem is that the initial innovation may not have that purpose or immediate effect, but in application (or sub-innovation) may take on that character in ways that are hard to monitor. Securitization is a good example. A bank may have comparative advantage in identifying good borrowers but not in risk bearing. Because of regulatory or prudential limits, some parties can bear only AAA risks while others can be more aggressive. Securitization, which separates credit allocation and risk-bearing, worked successfully for many years in the finance of car loans, credit card receivables, and conventional mortgages long before sub-prime mortgages were thrown into the mix. Indeed, insofar as securitization took long-lived assets like home mortgages off bank balance sheets, it was heralded as reducing fragility. Even after the securitization of sub-primes, further innovation was required to fuel the crisis: the creation of collateralized debt obligations (“CDOs”) built on packages of sub-prime mortgage-backed securities⁶⁸ and the banks' creation of conduits and SIVs to hold such securities in evasion of capital requirements. Where exactly on this curve should the regulators have intervened?

⁶⁵ For example, the way in which mortgage-backed securitization contributed to the escalation of real estate prices and the increase of systemic risk associated with such assets. To elaborate: mortgage-backed securities provided a low cost way to diversify against the idiosyncratic risk of real estate assets, and when tranching, augmented the supply of purportedly AAA assets. The demand for such assets -- for example by banks seeking to satisfy regulatory capital requirements at lowest cost or and by other investors seeking highly safe assets yielding more than sovereign debt -- drew a flood of funds into real estate markets that escalated the price of real estate assets and thus changed the systemic risk associated with real estate investment.

⁶⁶ In this regard systemic risk is just the dark side of “network externalities” that are often much praised.

⁶⁷ One way to understand the regulators' job in a dynamic environment is to identify the factors that point to an inflection point.

⁶⁸ And CDOs created with tranches of other CDOs, so-called CDO-squareds and synthetic CDOs, which often were the long side of hedging positions or negative directional bets. See Gregory Zuckerman, *The Greatest Trade Ever* (2009); Gregory Zuckerman, *Profiting From the Crash*, *Wall. St. J.*, Oct. 31, 2009.

The ultimate irony of course is that even innovations that appear to reduce systemic risk may be laying the groundwork for an eventual crisis.⁶⁹ Take a risk-spreading innovation that does indeed enhance stability in the short or medium run. Financial innovations run on models that critically depend on historical data for their calibration. A period of stability reduces measures of volatility, and that low-volatility experience gets factored into pricing models and into estimates of liquidity, the ease of exiting a position. As the yield-differentials between risky and risk-free assets narrow, risk-taking becomes more aggressive, a kind of gunpowder waiting for a spark.

The challenge of financial innovation is that the systemic effects may simply be unforeseeable until they materialize to create or materially contribute to a financial sector crisis.⁷⁰ For example, indices based on super-senior tranches of mortgage-backed securities reflected only very small default risk levels throughout the first half of July, despite the fact that such securities were already a ticking time bomb on financial firm balance sheets.⁷¹ Although the crisis of 2007-08 offers many examples, two instances of the impact of one important innovation, credit default swaps, illustrate the unpredictable but sometimes devastating consequences of financial innovation.

3.b. CDS effects on investment bank fragility. One example of the disruptive effects of credit default swaps (“CDS”) is the way they made obsolete the model of a free-standing investment bank on the Bear Stearns/Lehman/Goldman Sachs model by significantly increasing its financial fragility. How so? Investment banks start with the fragility of banks but more so, since an investment bank funds many of its activities through short term debt obligations that are on a much quicker trigger than retail deposits or even commercial paper. A significant portion of an investment bank’s funding needs are covered by very short term loans, sometimes overnight loans, which are typically collateralized through a pledge of high quality securities whose notional value is greater

⁶⁹ See, e.g., IMF, Global Financial Stability Report 51 (April 2006): “There is growing recognition that the broad dispersion of credit risks by banks to a broader and more diverse group of investors, rather than warehousing such risk on their balance sheets, has helped to make the banking and overall financial system more resilient. ... These new participants ... help to mitigate and absorb shocks to the financial system.... The improved resilience may be seen in fewer bank failures and more consistent credit provision”; Counterparty Risk Management Group II, Toward Great Financial Stability: A Private Sector Perspective (July 2005): “[T]he Policy Group shared a broad consensus that the already low statistical probabilities of the occurrence of truly systemic financial shocks had further declined over time. The belief that the risk of systemic financial shocks had fallen was based on a number of considerations including: (1) the strength of the key financial institutions at the core of the financial system; (2) improved risk management techniques; (3) improved official supervision; (4) more effective disclosure and greater transparency; (5) strengthened financial infrastructure; and (6) more effective techniques to hedge and widely distribute financial risks. Indeed, members took some collective comfort from the fact that in the post LTCM/Russia period, financial markets had absorbed with remarkable resiliency the effects of multiple disturbances, including but not limited to: (1) the bursting of the technology bubble of the late 1990s; (2) a mild recession; (3) September 11; (4) two wars; (5) an oil shock; and (6) a wave of corporate scandals (including a handful of major bankruptcies).”

⁷⁰ For a perspective from complexity theory, see Didier Sornette, *Why Stock Markets Crash* (2002). Sornette nevertheless believes that the timing of crashes is somewhat predictable from statistical anomalies in the time series of relevant data even if the particular features that lead to the crash are not. Didier Sornette, *Dragon-Kings, Black Swans and the Prediction of Crises*, *Int’l J. of Terraspace Science and Engineering* (2009).

⁷¹ See, e.g., Brunnermeier, *Liquidity and Credit Crunch*, *supra* note – at 83 (Fig. 1); Gary Gorton, *The Panic of 2007* 56, Yale ICF WP No. 8-24 (rev. Oct 2008), available at <http://ssrn.com/abstract=1255362>.

than the loan. An investment bank also covers its funding needs through the “rehypothecation” of customer assets, that is, the pledging of securities and cash in a customer’s margin accounts as collateral for the bank’s own loans. If the investment bank begins to look undercapitalized, lenders can break off their funding arrangements – overnight. Even if a loan is fully collateralized, who wants to be involved in a potentially messy insolvency and liquidation when there are more credit-worthy borrowers? Customers can immediately close accounts to avoid similar entanglements. Because the investment bank does not have recourse to a lender of last resort, a run can be devastating. This model of investment banking has of course a long history. The reliance on short term funding has been explained as a commitment device – to maintain sufficient capital to assure “confidence” -- and as a ruthless survival mechanism that eliminates non-expert bankers.⁷²

Credit default swaps add an obsoleting fragility because they provide information that was not previously available, first, about comparative investment bank default risk and second, about collateral default risk. Large investment banks will have significant issues of debt securities outstanding. With the advent of the CDS, market participants can now buy (sell) credit protection on the bank’s debt, to protect themselves against default risk on portfolio securities, to protect themselves against the loss of other valuable relationships with the bank, or to speculate on default risk. The cost of this protection is readily observable even though CDS are (currently) traded over-the-counter, not on exchanges. Thus as financial conditions become choppy, CDS spreads reflect the market consensus about the default risks of any particular investment bank, and, just as important, its comparative risk. Instead of hunches, body language, local gossip and rumors, a lender or customer can look to a quantitative measure of absolute and comparative risk, a much superior monitoring mechanism. The market measure may even be inaccurate, but it provides a node around which sophisticated opinion can crystallize. It provides common knowledge that can coordinate the behavior of disparate individuals, a classic condition for a run.

Similarly, CDS prices (including CDS indices) inform the valuation of securities that the investment bank might offer to collateralize a loan.⁷³ As spreads widen, suggesting greater default risk for a particular kind of collateral (high-grade tranches of mortgage-backed securities, most recently), lenders may insist on greater “haircut” for collateral purposes (for example, a bond may be valued at 90 percent of face value, rather than 95 percent) or may refuse to accept the collateral at

⁷² Charles Calomiris & C. Kahn, 81 *Am. Econ. Rev.* 497 (1991); Douglas W. Diamond D. W. & R.G. Rajan, R. G. (2001), *Liquidity risk, liquidity creation and financial fragility: A theory of banking*, 109 *J. Pol. Econ.* 287 (2001).

⁷³ For example, a new index, the ABX index, was created in January 2006 to measure the payment probability of mortgage-backed securities by vintage (month of issuance) and tranche (credit rating/relative seniority), as reflected in CDS costs for selected issues. For the first time market participants had a clear view of the expectations of other participants of the likely track of mortgage delinquencies and housing prices, that is, the value of the mortgages that were folded into the securities and thus the value of the securities themselves. See Gary Gorton, *The Panic of 2007* 52-57, Yale ICF WP No. 8-24 (rev. Oct 2008), available at <http://ssrn.com/abstract=1255362>. In July 2007 the ABX index for the AAA tranche of recently issued mortgage backed securities began to fall from par (100 percent) – quite notable for newly- issued, highly-rated securities -- and eventually fell below 40 at yearend 2008. See Brunnermeier, *Liquidity and Credit Crunch*, supra note – at 83 (Fig. 1).

all.⁷⁴ This has the effect of reducing the supply of collateral and makes it harder for the investment bank to meet its short term funding needs. The run on Bear-Stearns, and then Lehman, were driven both by absolute and comparative default factors, as well as increasing haircuts on collateral.⁷⁵ The remaining investment banks converted to bank holding company status, sheltered by access to the Fed discount window and other liquidity facilities that the Fed can readily provide.

The point is that the inventors had no idea that credit default swaps would have such important consequences for a long-standing form of economic organization. Nothing about the risk distribution features of the CDS itself was critical; rather it was the new information provided by market-making in CDSs. Certainly that the advent of the credit default swap would be their death knell was a surprise to the investment banks, active CDS dealers whose market-making activity contributed significantly to the dissemination of this innovation.

3.c. The uncertain incidence of CDS losses. Credit default swaps had another unintended effect. In the face of systemic financial distress, the uncertainty engendered by the CDS market about the solvency of the various firms that traded them played a major role in the seizing up of inter-bank lending markets that marked the most critical moment of the crisis.⁷⁶ The point is illustrated by the fallout from the Lehman Brothers collapse in September 2008, in which Lehman filed for bankruptcy with outstanding liabilities of approximately \$650 billion. There were approximately \$450 billion notional amount of CDSs written on Lehman's debt. "Notional amount" is not by any stretch the same as "net amount," since CDS dealers commonly hedge almost all their counterparty exposure on a particular position through a trade with the same or different party. At its peak the total CDS market was approximately \$57 trillion in notional amount, which reportedly netted out to "gross market value" of "only" \$3 trillion.⁷⁷ Nevertheless, \$450 billion is a substantial sum, and many critical things were unknown: the valuation gap between Lehman's assets and its liabilities, the extent of offsetting CDS trades, firm-specific exposures, firm-specific capacity to perform on CDS obligations to counterparties, and the domino effect of CDS defaults by one or more firms on the solvency of other firms.⁷⁸

⁷⁴ See, e.g., Franklin Allen & Elena Carletti, *The Role of Liquidity in Financial Crises*, in -----, at 400 (Table 1) [Jackson Hole Conference 2008] (Haircut on AAA rated asset-backed collateralized debt obligations (CDOs) increases from 2-4% in Jan-May 2007 to 15% in April 2008).

⁷⁵ See, e.g., Bruce Kogut & Sudhakar Balachandran, *Early Warning Signals: Could Regulators and Investors Have Forecast the Crisis*, WP 2008. (chart showing much higher CDS spreads for Lehman Brothers and Merrill Lunch securities than for Goldman Sachs).

⁷⁶ For example, the "TED-spread," the interest rate differential between US Treasury securities and the LIBOR index of the rate banks charge on short-term interbank loans, shot up from roughly 100 basis points (1.0 percent) in early September 2008 to 450 basis points following the Lehman Brothers bankruptcy filing. Markus Brunnermeier, *Deciphering the Liquidity and Credit Crunch 2007-08*, 23 *J. Econ. Persp.* 77, 86 fig 3., (2009). As Paul Krugman put it, "indicators of financial distress have soared to the equivalent of a 107-degree fever, and large parts of the financial system have simply shut down." Paul Krugman, *Edge of the Abyss*, NY Times, Oct 2, 2008.

⁷⁷ See IMF *Global Financial Stability Report* 179 (April 2009) (Table 5, as of June 2008).

⁷⁸ See Mary Williams Walsh, *Insurance on Lehman Debt Is the Industry's Next Test*, N.Y. Times, Oct. 11, 2008, B1. For a useful discussion of the debate about CDS riskiness, see Rene Stulz, *Credit Default Swaps and the Credit Crisis* NBER W.P. Sept 2009, available at <http://ssrn.com/abstract=1478802>.

Indeed, a default of its CDS obligations by AIG, which absorbed risk rather than hedging it, was regarded as such a serious threat to the financial system that the Fed put in \$85 billion initially, \$120 billion eventually, to rescue AIG after the Lehman collapse. Two remarkable things occurred when the Lehman Brothers CDSs were settled two weeks later, per the terms in the standard form CDS contract. First, when the parties ran an auction to determine the loss incurred, the Lehman bonds were valued at 8 cents on the dollar, almost a total loss.⁷⁹ Yet the total that subsequently changed hands in settlement of \$414 billion in notional losses was \$6 billion, dispersed among several dealers, a sum that posed no threat to the solvency of any bank much less the world financial system. Adding the \$20 billion in previously-posted collateral (a known loss) to the \$6 billion, it meant that there had been not much risk shifting on Lehman Brothers debt -- but a debilitating level of uncertainty.

The reform case for shifting CDS market-making to a clearinghouse rather than the present system of bilateral “over-the-counter” arrangements is first, to provide particularized information on risk shifting and second, to reduce counterparty risk by socializing any failures on CDS obligations among clearinghouse members.⁸⁰ Yet at the time credit default swaps were invented, they were a classic over-the-counter product, a “start-up” in the financial innovation field, hardly a risk to anyone. As to the foreseeable importance of a clearinghouse: other over-the-counter swap markets – equity swaps and interest rate swaps, also over-the-counter -- all functioned throughout the crisis. Moreover, even expert risk evaluators like the Group of 30, which recommended improvement in CDS clearing and settlement procedures in 2003 and then produced a final monitoring report in 2006 that called for further improvements,⁸¹ did not focus on the systemic risks of the OTC structure.⁸²

The unpredictable ways that financial innovation may critically contribute to financial sector crisis is not a counsel of regulatory despair. Mitigation of foreseeable systemic risks and systemic risks that later materialize is of course always the regulators’ job. But the likelihood, if not inevitability, of innovation’s surprises will predictably produce financial sector distress.

4. The political economy of regulation.

⁷⁹ See Serena Ng, Emily Barrett and Jacob Bunge, Lehman Swap Payments Look Bigger Than Expected, Wall St. J, Oct. 11, 2008, B2.

⁸⁰ Of course the concern is that if risk-taking by one or more members is imperfectly monitored, socializing risk may become a vector of contagion.

⁸¹ Group of 30, Global Clearing and Settlement: A Plan of Action (Jan 2003).

⁸² Nor did the Group of 30 focus on what, in hindsight, was a major flaw in the standard form CDS agreement produced by the International Swap Dealers Association (ISDA): not requiring collateral posting by a AAA credit against adverse market moves on a CDS. This became an invitation to AIG Financial Products to write protection for the fee income without considering risks of market volatility. When AIG lost its AAA rating in 2005, it stopped writing most CDS protection, but the firm was by then massively exposed to mortgage market volatility. Robert O’Harrow Jr. & Brady Dennis, Downgrades And Downfall, Wash Post. Dec. 31, 2008. More generally, collateral posting on a CDS was tied in part to the credit rating of the counterparty rather than only to the changing value of the instrument, reasonable perhaps in light of thin markets in many specific CDS, but a source of systemic risk.

A fourth source of systemic risk is the regulators' frequent failure to address new risks as they emerge in a period of financial sector expansion, whether because of failures of cognition or, more likely, interest group pressure. The systemic effect lies in the regulators' chronic inability to identify and then rein-in systemic risks that arise from private activity. In the run-up to the Crisis of 2007-08, for example, it's hard to believe that regulators were unaware of declining standards in the underwriting of sub-prime mortgages, the increased exposure of firms to sub-prime securitization, and the systemic risks of the rapidly escalating CDS marketplace.⁸³ Yet the instances of regulatory intervention were mild or non-existent. Much to the relief of market participants, for example, the Fed's intervention in the CDS market was limited to mechanical settlement issues.⁸⁴

Regulatory inaction is tied up with the cycle of the expansion itself.⁸⁵ As the strategies of financial firms generate increasing profits, the industry proponents of potentially risky practices gain power vis-à-vis the regulators. First, the growing profits seem to attest to the skill and sagacity of industry participants so as to increase normative deference to their views. Second, the added profits generate additional resources for lobbying, campaign contributions, and media campaigns that not only enhance the industry's ability to block new legislation but also to enlist legislative and executive pressure against regulatory intervention under existing authorities. Third, the enhanced profitability of the financial sector typically produces economic spillovers that add to overall economic growth, which is highly desired by political actors. Prosperity becomes a hostage to financial sector expansion, so that industry objection to regulatory action carries weight even with those who do not directly receive industry largesse.⁸⁶

An additional political economy factor that inhibits regulatory intervention is the ability of industry participants credibly to threaten exit to a laxer regulatory regime. This threat becomes more credible as profits increase, because more is at stake for the industry should "intrusive"

⁸³ See, e.g., Timothy F. Geithner, Risk Management Challenges in the US Financial System 3 (Feb. 28, 2006) available at <http://www.bis.org/review/r060303a.pdf> BIS Review 14/2006 (observing bank exposure to securitization in both balance sheet and revenue sense, and, noting increased but uncertain risks from growth of CDS market from the "scale of losses in the event of default in the underlying credits or the consequences of a prolonged disruption to market liquidity").

⁸⁴ See Lawrence G. McDonald, *A Colossal Failure of Common Sense* (2009). See also a report by experienced market participants headed by former regulator Gerald Corrigan, *Toward Great Financial Stability: A Private Sector Perspective*, Report of the Counterparty Risk Management Group II (July 27, 2005) (calling for "urgent" industry-wide efforts to resolve "serious 'back office'" and trade assignment problems). In the report's lead up to a modest reform agenda, however, it gives a chillingly prescient account of how a systemic crisis would unfold, starting with a decline in asset prices "sufficiently steep to raise questions about the creditworthiness of major counterparties or institutions," leading to "risk mitigation efforts [that] add pressures on asset prices [and] the evaporation of asset liquidity." Id. 6-11.

⁸⁵ For an account that focuses on the related problem of securities market bubbles, see Erik F. Gerding, *The Next Epidemic: Bubbles and the Growth and Decay of Securities Regulation*, 38 Conn. L. Rev. 393 (2006).

⁸⁶ In discussing the regulators' difficulties in introducing counter-cyclicality, Prof. Goodhart observes: "[R]egulators/supervisors will be roundly condemned for tightening regulatory conditions in asset prime booms by the combined forces of lenders, borrowers and politicians, the latter tending to regard cyclical bubbles as beneficent trend improvements due to their own improved policies." Charles A.E. Goodhart, *Central Banks' Function to Maintain Financial Stability: An Uncompleted Task*, June 24, 2008, <http://www.voxeu.org/index.php?q=node/1263>.

regulation diminish profitability. If profits are positively linked to the riskiness of the underlying activity, the irony is that as the case for intervention grows, so does the industry's exit threat. Thus, for example, it is not a coincidence that officially-sanctioned reports worrying about New York City's decline as financial center vis-à-vis London because of allegedly intrusive US regulation appeared at the height of the financial sector boom.⁸⁷

The political economy constraint operates on two different regulatory levels. First is the constraint on efforts to regulate primary activity, whether by administrative action under existing authority or new legislation. But second, perhaps more insidious, is the constraint on the regulator's capacity to collect information on new practices or important new actors necessary (a) to assess potential increases in systemic risk and (b) to prepare contingency plans in light of the changing level and incidence of risk. For example, in the Crisis of 2007-08, no one – not private parties nor regulators – knew the current risk distribution from the trillions in CDSs. Based on central bank reports, the Bank for International Settlement reduces worldwide notional amounts to “gross market values,”⁸⁸ but it was not common industry (much less regulator) knowledge that, for example, AIG was warehousing risk.⁸⁹ Similarly, as shown by systemic consequences of the Lehman failure, the regulators had a grievously incomplete awareness of risk incidence from the boom-era financial innovations, even after the failure of Bear six months earlier put them on notice of systemic fragility.

⁸⁷ Jenny Anderson, U.S. Financial Sector Is Losing Its Edge, Report Says, NYT, Jan. 22, 2007 (report released by Mayor Bloomberg and Senator Schumer); Interim Report of the Committee on Capital Markets Regulation ix (Nov. 30, 2006) (“But the evidence presented here suggests that the United States is losing its leading competitive position as compared to stock markets and financial centers abroad.”)

⁸⁸ See Bank for International Settlements Statistics, Table 19, available at <http://www.bis.org/statistics/derstats.htm>. This is based on quarterly or semi-annual reports from central banks throughout the world.

⁸⁹ See Report of the Counterparty Risk Management Group II, supra note --, at A-17; Paul Van den Bergh, Data Issues in the Context of the Recent Financial Turmoil, in Measuring Financial Innovation and Its Impact 515 (IFC Bull. No. 31) (July 2009) (Conference Proceedings from Aug. 2008), available via download from <http://www.bis.org/search/?q=counterparty&scope=&dr=730&mp=any&st=false&c=10&sb=0/> (limits on data on CDS). The Fed collects data on banks and other large derivative dealers, but not “end-users.” See Sally Davies, Cross-border Derivatives Exposure: How Global are Derivatives Markets?, in id., at 159. A recent compilation of the top 20 CDS counterparties did not include AIG in 2006 and put them at the bottom in 2005, obviously not reflecting its unhedged risk. See David Mengle, Credit Derivatives: An Overview, Fed. Res. B. Atlanta, Econ. Rev. 10 (4th Q 2007) (Table 4, reporting Fitch Credit survey data).

In response to these criticisms, the major industry clearing institution, Depository Trust and Clearing Corp., agreed to make public release of historical and current data on credit default swap activity in its Trade Information Warehouse, “the only comprehensive global repository for the OTC derivatives market.” DTCC press release, Sept. 2, 2009, available at http://www.dtcc.com/news/press/releases/2009/further_cds_transparency.php. DTCC now makes available considerably more information, including exposure by specific “references names,” (i.e., companies or other entities that have issued debt) and information on the various indices. See http://www.dtcc.com/products/derivserv/data_table_i.php. Among other things, it appears that the notional exposure on CDS was overstated by approximately 100 percent, since the BIS tallied reports from both sides of the swap, whereas DTCC can avoid such double-counting.

Political economy factors that inhibit regulatory intervention will thus in many circumstances operate to increase the likelihood of systemic failure. Such failures are predictably unpredictable but inescapable.

II. The Shortfall in Treasury's and the Fed's Authority in the Crisis of 2007-08

Many parties have been critical of steps taken by the Treasury and Federal Reserve to address the financial distress of a succession of large financial firms during the crisis. Economic analysts have particularly criticized the differences in the handling of Bear Stearns (rescued) versus Lehman Brothers (filed bankruptcy), which allegedly created confusion among credit markets participants as to the prospects for government intervention and thus contributed to the seizing-up of credit markets following the Lehman failure.⁹⁰ Foreign government officials were similarly confounded.⁹¹ Legal commentators have suggested that the investment banker background of some of the government protagonists, especially the Secretary of the Treasury, meant that the government brought a “deal maker’s” mentality to the financial crisis.⁹² On this view, matters were addressed on a firm-specific transactional basis that did not produce a coherent overall approach and used contract institutions to finesse potential legal constraints.

Our view is that the Treasury-Fed approach to failing financial firms was both shaped and confined by the limited resolution authority under the applicable law; it was an ultimately failed search for a satisfactory resolution mechanism under existing institutional constraints.⁹³ Two recent precedents of resolutions of failing financial firms – the Fed-coordinated private rescue of Long Term Credit Management in 1998 and the bankruptcy of scandal-touched Drexel Burnham Lambert in 1990 – proved unworkable in 2008. The episode strongly supports the case for resolution authority that covers all systemically important financial firms, not just banks.

For the problems of Bear Stearns and Lehman Brothers there were essentially two options: bankruptcy and merger. As to “bankruptcy”: the special protections for creditors and counterparties of a financial firm and the general due process protections for creditors in bankruptcy meant that this option was ill-suited to wind-up the affairs of a failing firm in such a systemic

⁹⁰ E.g., John B. Taylor *Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis* (2009); John Cassidy, After the Blowup, *New Yorker* 30 (Jan 10, 2010) (quoting Eugene Fama on the inconsistency of government action).

⁹¹ See, e.g., Jennifer Ryan & Brian Swint, Lehman Collapse “Surprised” Gieve After Bear Rescue, *Bloomberg*, Aug. 17, 2009 (Bank of England official); Joe Nocera, Lehman Had to Die, It Seems, So Global Finance Could Live, *N.Y. Times*, Sept. 12, 2009, at A1 (reporting French finance minister Christine Lagarde’s comment that the decision was “horrendous” and a “genuine mistake,” and ECB head Jean-Claude Trichet’s private statements to the same effect).

⁹² Steven M. Davidoff & David Zaring, *Big Deal: The Government’s Response to the Financial Crisis* W.P. (Jan. 2009) available on SSRN.

⁹³ In this respect we sharply disagree with the assertion by Profs. Posner & Vermeule that “the administration, acting through the Fed, could probably have bought up mortgage-related assets as necessary; it did not need statutory authorization to borrow, and could have borrowed hundreds of billions, even trillions, of dollars in order to buy those assets or the institutions that owned them.” Eric A. Posner & Adrian Vermuele, *Crisis Governance in the Administrative State: 9/11 and the Financial Meltdown of 2008* (Nov. 2008), available at <http://ssrn.com/abstract=1301164>.

moment. Yet the corporate governance protections for shareholders meant that “merger” was ill-suited to the deal-certainty necessary to rescue a failing financial firm in the midst of a systemic crisis. Moreover, neither the Treasury nor Fed had clear authority to recapitalize an insolvent firm, though we shall argue that the Fed could have sustained a case under its existing authority to provide financial assistance to a Lehman rescue. It was only with the passage of the TARP legislation, which appropriated funds that Treasury could apply to recapitalizing failing firms, that the Treasury and Fed had straight-forward authority sufficient to rescue a major firm; this made the difference for Citibank.

Market participants’ uncertainty about the actions of the US government during the crisis arose to a significant extent because of the failure to appreciate the constraints felt by the Federal Reserve and because of the significant differences in the resolution authority (and practices) available to address the problem of banks as opposed to non-bank financial firms. In particular, for systemically important banks, the FDIC has commonly used its resolution authority to protect not only insured depositors but uninsured creditors as well. Indeed, in the past the FDIC has used this authority to protect the creditors of the relevant bank holding company, even though it has no formal resolution authority with respect to the holding company.⁹⁴ Moreover, the Fed’s novel use of its financial emergency powers in connection with the rescue of Bear Stearns, which, according to former Fed Chairman Paul Volcker, “extend to the very edge of its lawful and implied powers,”⁹⁵ opened a new avenue for financial firm rescues. Thus the Treasury/Fed unwillingness to protect the Lehman creditors might well have come as a genuine surprise to market participants.⁹⁶

We postpone to Part III a sketch of the resolution authority we propose to address these gaps and to resolve these inconsistencies.

1. The Fed’s Authority.

⁹⁴ The 1984 rescue of Continental Illinois, in which FDIC protected holding company creditors as well as bank creditors, vividly demonstrated how systemic concerns could trump moral hazard. Among other things, the bank regulators were concerned that a contrary course would have led to cascading insolvencies of correspondent banks who had substantial made substantial debt investments in Continental and would have major international fall-out because of substantial Eurodollar deposits. See Continental Illinois and “Too Big to Fail,” in FDIC, History of the 1980s – Lessons for the Future, available at <http://www.fdic.gov/bank/historical/history/vol1.html>. A series of large bank rescues in the 1980s produced pushback against such “too big to fail” actions, reflected in the tightening standards for FDIC assistance set by the Federal Depository Insurance Act of 1991 (“FDICIA”). But even in one subsequent large bank holding company case, the Bank of New England in 1991, where the FDIC was “tough,” all depositors of the bank were protected, even if uninsured. Although bondholders of the bank holding company were not protected, their exposure was only \$700 million and systemic concerns were minor. See “Banking Problems in the Northeast,” *id.*, Ch. 10. Moreover, litigation from that resolution lasted nearly a decade.

⁹⁵ Paul A. Volcker, Former Chairman, Federal Reserve System, Keynote Address at the 395th Meeting of the Economic Club of New York 2(Apr. 8, 2008) (transcript available at <http://econclubny.org/files/>).

⁹⁶ We do not mean to minimize the impact of the reported determination of Secretary Paulson that no public funds should go into a rescue of Lehman Brothers on the ultimate outcome. See Lawrence G. McDonald, A Colossal Failure of Common Sense 321-23(2009). As we explain below, Paulson’s approach, which exposed Lehman’s financial condition to public scrutiny, made it more difficult for the Fed to use its emergency authority within what it took to be its limits.

Banks that are members of the Federal Reserve System have ready access to the Fed's discount window during a financial crisis.⁹⁷ So long as the banks can provide satisfactory collateral, the Fed can lend to such institutions without limit.⁹⁸ The Fed also has considerable discretion to redefine the parameters of collateral that it will accept, as demonstrated by the present crisis.⁹⁹ Non-bank financial firms – such as investment banks – do not have access to the discount window. The Fed's authority to lend to such firms is a product of Depression-era amendments to the Federal Reserve Act as crucially modified by a 1991 amendment adopted in the wake of the 1987 stock market crash.

The relevant provision, Section 13(3) of the Federal Reserve Act,¹⁰⁰ provides:

Under unusual and exigent circumstances, the Board of Governors ..., by the affirmative vote of not less than five members, may authorize any Federal reserve bank, during such periods as the said board may determine, at rates established in accordance with [section 14(d) of the Act, 12 USC § 357] , to discount for any individual, partnership, or corporation, notes, drafts, and bills of exchange when such notes, draft, and bills of exchange are indorsed or otherwise secured to the satisfaction to the Federal reserve bank: *Provided*, That before discounting any such note, draft, or bill of exchange for an individual, partnership, or corporation the Federal reserve bank shall obtain evidence that such individual, partnership, or corporation is unable to secure adequate credit accommodations from other banking institutions. All such discounts ... shall be subject to such limitation, restriction, and regulations as the Board of Governors ... may prescribe.

Section 13(3) thus permits emergency lending by the Fed to any person, subject to three principal requirements, one procedural and two substantive. One, Section 13(3) may be invoked

⁹⁷ As noted above, see *supra* note --, banks are traditionally reluctant to use the Fed's discount window because of the negative signal of creditworthiness. The Fed anticipated this problem in its design of a substitute, the Term Auction Facility (announced Dec. 12, 2007) <http://federalreserve.gov/newsevents/press/monetary/20071212a.htm> , under which Federal Reserve Banks would make short-term (usually around 28--35 days) collateralized advances to auction winners at auction-set interest rates. Parties would be bidding on a fixed supply of liquidity that the Fed wanted to provide, and, as with other forms of participation in the Fed's open market operations, there would be no stigma attached. For further explanation, see Ben S. Bernanke, Financial Markets, the Economic Outlook, and Monetary Policy (Jan. 10, 2008), at <http://federalreserve.gov/newsevents/speech/bernanke20080110a.htm#f3>.

⁹⁸ See David H. Small & James A. Clouse, *The Limits the Federal Reserve Act Places on the Monetary Policy Actions of the Federal Reserve*, 19 Ann. Rev. Banking L. 553, 560-563 (2000). In general loans made to depository banks through the discount window have been in the form of "advances," evidenced by a promissory note from the borrower, on the security of the borrower, rather than a "discount" on third-party indebtedness pledged by the borrower. This is because the loan transaction is straight-forward and the collateral requirements are looser.

⁹⁹ Indeed, the Fed's power under Section 10B of the Federal Reserve Act, 12 USC § 347b, to make "advances" to banks "secured to the satisfaction of [the] Federal Reserve Bank," rather than to provide "discounts" on discount-eligible short term paper (so-called "real bills") is itself a Depression-era addition, see § 10B, formerly § 10(b), as added Feb. 27, 1932, c. 58, § 2, 47 Stat. 56, and amended Feb. 3, 1933, c. 34, 47 Stat. 794; Mar. 9, 1933, c. 1, Title IV, § 402, 48 Stat. 7; Aug. 23, 1935, c. 614, Title II, § 204, 49 Stat. 705.

¹⁰⁰ 12 USC § 343.

only in “unusual and exigent circumstances.”¹⁰¹ Two, “not less than five members” of the Board of Governors must approve the invocation.¹⁰² (This is the one procedural requirement.) And three, “before discounting . . . the Federal reserve bank shall obtain evidence that [the borrower] is unable to secure adequate credit accommodations from other banking institutions.”¹⁰³ This last requirement, however, is likely to be satisfied in the process of satisfying the first. In exercising this power, the Fed may set the interest rate on emergency discount loans, prescribe “limitations, restrictions, and regulations,” and demand endorsement or other security to its satisfaction.

Until recent events, the Fed’s use of this capacious lending authority had been quite limited, even in the depths of the Depression, and even then was used principally, if not exclusively, for so-called “industrial” firms, not non-bank financial firms. This is to some extent historical happenstance: before the adoption of the Glass-Steagall Act in 1933, most financial activity was carried on by universal banks, which already had access to the Fed’s discount window. Over the 1932-1936 period when the Section 13(3) authority was in effect,¹⁰⁴ only 123 loans were made, totaling approximately \$1.5 million (roughly \$23 million in 2009 dollars).¹⁰⁵ Subsequently, Section 13(3) has been activated only three times, and no loans were drawn down on those occasions.¹⁰⁶ This means that for a 70 year period, from 1936 until 2008, Section 13(3) lay dormant. This parsimonious use has been for four reasons: First, until an important 1991 amendment, the Fed’s emergency lending authority was subject to collateral provisions that restrained its use.¹⁰⁷ Second, in the case of “industrial” firms, the Fed gained additional, much more liberal, authority in 1934 that supplanted the Fed’s use of Section 13(3) for that purpose.¹⁰⁸ Third, in the case of financial firms,

¹⁰¹ 12 U.S.C. §343 (2000).

¹⁰² 12 U.S.C. §343 (2000). There are currently seven governors. If because of vacancies or absences five governors are not available, a unanimous vote of the available governors is sufficient, see section 11(r)(2) of the Federal Reserve Act, 12 U.S.C. § 248(r)(2). This was the case for the invocation of Section 13(3) in the case of Bear Stearns.

¹⁰³ 12 U.S.C. §343 (2000).

¹⁰⁴ The Fed’s initial authorization of Section 13(3) began on August 1, 1932 for six months and was renewed until July 31, 1936. See Thomas C. Baxter, *The Legal Position of the Central Bank: The Case of the Federal Reserve Bank of New York* (Jan. 19, 2009) (on file with author); Howard Hackley, *Lending Functions of the Federal Reserve Banks: A History* 128-30 (1973); 18 Fed. Res. Bull. No. 8 (Aug. 1932) at 518.

¹⁰⁵ Hackley, note – supra, at 130; David Fetting, *The History of a Powerful Paragraph* 33, 34 *The Region* (2008), available at http://www.minneapolisfed.org/publications_papers/issue.cfm?id=180. See also David Fetting, *Lender of More than Last Resort* 15 *The Region* (2002), available at http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=3392. Among the recipients: Smith-Corona Co., the typewriter manufacturer; Miller Cummings Co., a vegetable grower, and L.N. Renault & Sons, distillers. These loans were \$300,000 or less.

¹⁰⁶ In 1966 and 1969 the Board authorized Section 13(3) loans to protect thrifts -- mutual savings banks and savings and loans associations -- from liquidity pressures from deposit withdrawals to pursue higher market rates; in 1980 to solve a particular liquidity problem of a Michigan nonmember bank. No loans were ever disbursed. See Baxter, note --- supra, at 5-6.

¹⁰⁷ See infra TAN – and nn. [no longer discount eligible paper]

¹⁰⁸ Section 13b, which broadly permitted extension by federal reserve banks of industrial working capital loans, was added to the Federal Reserve Act in 1934. Section 13b’s flexibility, which permitted maturities of up to five years, obviated the use of Section 13(3) for loans to industrial or commercial enterprises. Hackley 130; Schwartz, 61;

the Reconstruction Finance Corporation (RFC) began an aggressive recapitalization program, centering on preferred stock purchases, that took away whatever pressure might have led the Fed to broaden the potential application of Section 13(3).¹⁰⁹ Fourth, over the post World War II era, the Fed has actively resisted pleas to invoke this authority, fearing: (i) a “slippery slope” that could make it hard to lend to just one or handful of non-financial firms; (ii) potential loss of political independence to conduct monetary policy because of lending activity that could be styled as industrial policy making,¹¹⁰ and, (iii) particularly in the case of loans to financial firms, possibly exacerbating a financial crisis by making the required findings of “unusual and exigent circumstances.”¹¹¹

Until the 1991 amendment, Section 13(3) was in fact an unwieldy instrument for assisting non-bank financial firms. The 1933 version limited the acceptable collateral to “notes, drafts, and bills of exchange *of the kinds and maturities made eligible for discount by member banks under other provisions of this Act.*”¹¹² At the time, this meant paper that arose out of commercial transactions and that had a maturity of 90 days or less or agricultural paper with a maturity of 9 months or less.¹¹³

Fettig 2002 at 16-17, 19, 44-45. Lending activity under Section 13b was still relatively small compared to the even more flexible terms provided by the Reconstruction Finance Corporation. The Fed became increasingly hostile to its industrial lending role in the 1950s. Section 13b was repealed by the Small Business Investment Act of 1958, Pub. L. 85-699, 72 Stat. 689 (Aug. 21, 1958), which established the Small Business Administration.

¹⁰⁹ Schwartz; Fettig. The consequence of the solvency tests in the course of the “Banking Holiday” of 1933 was to reduce the number of banks from approximately 17,000 to 12,000 on Jan. 1, 1934, of which half, 6000, obtained at least some capital from the RFC. See Jesse H. Jones, *Fifty Billion Dollars: My Thirteen Years with the RFC, 1932-1945* 35, 38, 47-79 (1951).

¹¹⁰ For example, the Fed came under pressure in 1970 to lend to the Penn Central to avert its bankruptcy, in the mid-1970s to lend to New York City, in the 1979, to Chrysler Corp, and in 2001, to the airlines industry. See Anna J. Schwartz, *The Misuse of the Fed’s Discount Window*, *Federal Reserve Bank of St. Louis, St. Louis Review* 58, 62-63 (Sept./Oct. 1992); Fettig, *supra* note -- at 34; See also the 1957 testimony of Chairman William McChesney Martin favoring repeal of lending authority under Section 13b of the Federal Reserve Act, quoted by Fettig at 45 (Fed should devote itself to monetary and credit policy, not lending to non-financial firms).

¹¹¹ Baxter, *supra* note – at 6.

¹¹² See Section 210 of the Emergency Relief and Construction Act of 1932, 47 Stat. 709, 715, 72d Cong., 1st Sess. (July 21, 1932) (emphasis added). The Act was enacted after a contentious struggle with President Hoover. The expansion of the Fed’s role in industrial lending arose from the ashes of a bill, H.R. 12445, the “Emergency Relief and Construction Act of 1932,” that had been vetoed by President Hoover on July 11, 1932 because it would have expanded the authority of the RFC beyond support of banks to lend to non-financial firms. See Hackley 127; 72 H.Rep. 1760 (July 6, 1932) (conference report). Hoover believed that the vetoed bill would have “place[d] the Government in private business in such fashion as to violate the very principle of public relations upon which we have builded [*sic.*] our nation. Such action would make the Reconstruction Finance Corporation the greatest banking and money-lending institution of all history.” 75 Cong. Rec. H. 15040, 15041 (July 11, 1932) (statement of President Hoover). Rather, he said, the purpose of the RFC “was to preserve the credit structure of the Nation,” and “[i]ts authority was limited practically” in service of that purpose. *Id.* But Congress disagreed. The same day as the presidential veto, a new bill was introduced, with Senator Glass offering an amendment giving authority to the Federal Reserve to extend credit to non-member-banks “in unusual and exigent circumstances,” 75 Cong. Rec. S. 14981 (July 11, 1932); see also Hackley 128, and the next day, July 12, 1932, Senator Wagner introduced a bill containing largely similar language. 75 Cong. Rec. 15098 (July 12, 1932).

¹¹³ Hackley 128--29.

Moreover, the 1933 version required that the collateral be “indorsed and otherwise secured to the satisfaction of the Federal reserve bank.”¹¹⁴ This is taken by some as reflecting a Congressional intent to limit the facility to creditworthy borrowers, consistent with the general idea that a lender of last resort provides liquidity, not new capital.¹¹⁵

In 1991 Section 13(3) took present form through a provision in the Federal Deposit Insurance Corporation Improvement Act of 1991 (“FDICIA”)¹¹⁶ that removed the paper-eligibility requirement of §13(3).¹¹⁷ This vastly expanded the Fed’s lending authority, because it meant that the Fed could accept collateral that was ineligible for the discount window, including a “note” issued by the borrower.¹¹⁸ It raises novel questions about what it means for borrower debt to be “secured to the satisfaction to the Federal reserve bank.” Is that merely a requirement that the note be a valid and binding obligation of the borrower? If it pertains to likelihood of repayment, can the Fed be “satisfied” with probabilities far short of near-certainty?

Moreover, the legislative history of the 1991 amendment suggests an even broader reach for eligible collateral, at least for securities firm: “stocks, bonds, and other securities.”¹¹⁹ This raises the

¹¹⁴ 72 Stat. 715.

¹¹⁵ Hackley, writing his Fed history in 1973, states: “...it seems clear that it was the intent of Congress that loans should be made only to creditworthy borrowers; in other words, the Reserve Bank should be satisfied that a loan under this authority would be repaid in due course, either by the borrower or by resort to security or the endorsement of a third party.” Hackely, at 129.

At the Fed’s request, see Hackley, the Banking Act of 1935, 49 Stat. 705, changed the security requirement from “indorsed *and* otherwise secured to the satisfaction of the Federal reserve bank” to “indorsed *or* otherwise secured.” The change obviously increased the Fed’s flexibility when lending under Section 13(3), but it was enacted with little or no fanfare as part of an omnibus banking reform bill. It was included, in both the House and Senate versions, within a section entitled “technical amendments to the banking laws” and neither chamber’s committee report included anything more than a bare descriptive statement, 74 S. Rep. 1007 (May 13, 1935) (accompanying H.R. 7617); 74 H. Rep. 742 (accompanying H.R. 7617). Arguably, that such little comment accompanied the amendment suggests that little significant substantive change was envisioned.

¹¹⁶ Pub. L. 102-242, 105 Stat. 2236 (Dec. 19, 1991): In ... an emergency, the Federal Reserve must be able to ensure the liquidity of the financial system, including if necessary by the use of advances to securities firms.”

¹¹⁷ Id., §473, 105 Stat. 2386.

¹¹⁸ Note that another provision of the Federal Reserve Act, Section 13(13), 12 U.S.C. § 347(c), added in 1933, would permit nonbanks to borrow without a finding of financial emergency but only if collateralized by Treasury securities (or, since 1968, government-sponsored agency securities). The amended section 13(3) in effect permits a nonbank institution to borrow on the collateral of its own note.

¹¹⁹ 102 S. Rpt. 167, at *203: “Title XI [§ 1123] therefore amends the Federal Reserve Act to allow stocks, bonds and other securities to be used for discount advances by borrowers other than member banks. This clarifies that access to liquidity in special circumstances can be made available directly to a securities dealer to help preserve market liquidity and avoid market disruption. The borrowers must still demonstrate their inability to obtain credit elsewhere and the instruments must still be secured to the satisfaction of the Federal Reserve Bank. With the increasing interdependence of our financial markets, it is essential that the Federal Reserve System have authority and flexibility to respond promptly and effectively in unusual and exigent circumstances that might disrupt the financial system and markets.”

possibility that the Fed could secure a loan not only with portfolio securities held by the recipient firm, but stock (including warrants) issued by the firm, or by a subsidiary.

The origins of §473 (the amending section) of FDICIA are somewhat murky. The original version of the bill (S. 543) made no mention of §13(3), but an amendment was added during markup and appeared in the reported version. The House-passed bill did not include any changes to §13(3), but the “emergency liquidity” (§1123 in the Senate version) provision of the engrossed Senate bill survived the conference. The only mentions were in the Senate committee report and in a remark by Senator Dodd, both of which noted that the amendments to §13(3) were intended to permit the Federal Reserve to discount “stocks, bonds and other securities” so as to be able to provide emergency “liquidity” to “securities firms” and thereby prevent market crashes like that experienced in October of 1987.¹²⁰ In 1987, the Fed had been constrained in its ability to lend directly to liquidity-troubled non-bank financial firms and had instead resorted to leaning on member banks to on-lend discount credit.¹²¹ At the time, market participants felt that the financial system quivered on the verge of collapse because of the possible failure of key market intermediaries.¹²² Apparently Congress concluded that easing the constraints on Fed discount lending to non-bank financial institutions would allow to Fed to better avert future 1987-like crashes and to mitigate their impact. Staunch monetarists criticized the expansion of Fed lending authority as a diversion from its function of regulating monetary aggregates in light of prevailing conditions,¹²³ and others noted that the amendment “expanded the federal safety net” even in legislation that purported to be cutting it back.¹²⁴ Indeed, critics of the amendment argued that the effect would be to expand the “too big to fail doctrine” from banks to investment banks.¹²⁵

2. The rescue of Bear Stearns.

¹²⁰ 102 S. Rpt. 167 at *12; 137 Cong. Rec. S18619 (Statement of Sen. Dodd).

¹²¹ Mark Carlson, A Brief History of the 1987 Stock Market Crash with a Discussion of the Federal Reserve Response 18--20 (Divisions of Research & Statistics and Monetary Affairs, Fed. Reserve Board, Fin. & Econ. Discussion Series); Hearing of the Econ. & Commercial L. Subcomm. of the House Judiciary Comm., Drexel Burnham Lambert Bankruptcy (Mar. 1, 1990) (testimony of Alan Greenspan) (“[W]ith respect to non-depository institutions . . . our authorities are really very limited and . . . are centrally limited by statute. We in effect cannot lend for the purpose of purchasing or carrying securities.”); but see Hearing of the Telecommunications and Finance Subcomm. of the House Energy and Commerce Committee, Financial Regulation (June 20, 1991) (testimony of Richard Breeden) (“Under the law, as I understand it, the Fed has the ability to lend to securities firms today.”).

¹²² James B. Stewart & Daniel Hertzberg, “Terrible Tuesday: How the Stock Market Almost Disappeared a Day after the Crash,” *Wall St. J.*, Nov. 20, 1987.

¹²³ Schwartz at 63, 65-66.

¹²⁴ Walker F. Todd, FDICIA’s Emergency Liquidity Provisions, 29.3 *Economic Review*, Federal reserve Bank of Cleveland 16, 18, 19, 21 (assessment by assistant general counsel of the Cleveland Federal Reserve Bank).

Available at www.clevelandfed.org/research/Review/1993/93-q3-todd.pdf. (Arguing that before the amendment, Section 13(3) loans could be made only for a “commercial,” not an “investment banking” purpose, meaning, for operating expenses but not to finance “speculative” activities such as a portfolio of third party securities). See also Hackley at 38.

¹²⁵ Todd, supra note – at xx.

The resolution of the Bear Stearns illiquidity/insolvency crisis took the form of a merger with JPMorgan Chase supported by a loss sharing arrangement with the Fed on a portfolio of \$30 billion in Bear Stearns assets. In the course of the transaction the Fed devised a novel use for its Section 13(3) lending authority that vastly expanded its rescue capabilities. The mechanism, creation of a “special purpose vehicle” that could itself borrow funds from the Fed which it could then use to acquire toxic assets from the rescue target, was later employed for AIG and would have been available for a Lehman rescue. A Fed-supported merger dominates bankruptcy in a financial emergency, we believe, but is hardly the ideal resolution mechanism.

The financial crisis probably dates to the failure of two Bear Stearns mortgage-backed securities funds in July 2007.¹²⁶ Increasing distress in the sub-prime mortgage market affected many major financial firms, but Bear Stearns was particularly vulnerable because of its deep involvement in that market and its exposure on the asset side.¹²⁷ Matters began seriously to unravel for Bear during the week of March 10, 2008, as counterparties, including short term “repo” lenders, began to withdraw from their dealings with the firm and large customers began to move funds to other broker-dealers. By Thursday, March 13, close-of-business, Bear faced an immediate liquidity crisis.¹²⁸ On Friday, March 14, the Fed invoked its Section 13(3) power and stepped in with an approximately \$12.9 billion discount window loan to Bear funneled through JPMorgan Chase Bank, secured by approximately \$13.8 billion in assets provided by Bear.¹²⁹ Bear’s position nevertheless deteriorated during the day Friday and Fed and Treasury officials¹³⁰ decided that Bear could no longer survive as an independent firm, meaning a definitive resolution was needed before the opening of markets Monday morning in Asia, meaning Sunday night in New York.

There were two resolution options for Bear, bankruptcy and a merger with another financial firm. As demonstrated by its subsequent action, the Fed obviously regarded bankruptcy, the default

¹²⁶ Of particular analytic importance was the decline in the value of AAA tranches of mortgage-backed securities reflected in the ABX.HE indices. The decline began in January 2007 but took a sharp downward turn in July. See Brunermeier, 2009 JEP, supra note --, at 83 fig. 1. Many of the underwriters of these securities had stuffed their balance sheets (and off balance sheets) with such securities, which now, shockingly for AAA securities, looked to be valued at an increasingly large discount to par.

¹²⁷ The drama of Bear Stearn’s fall and rescue is spelled out in informative trade books, see, e.g., William D. Cohan, *House of Cards* (2009); David Wessel, *In Fed We Trust*, 147-175 (2009), Gillian Tett, *Fool’s Gold* Ch. 14 (2009). and detailed press accounts, e.g., Andrew Ross Sorkin, *In Sweeping Move, Fed Backs Buyout and Wall St. Loans*, N.Y. Times, Mar.17, 2008, at A1; Roddy Boyd, *The Last Days of Bear Stearns*, available at http://money.cnn.com/2008/03/28/magazines/fortune/boyd_bear.fortune/index.htm; Kate Kelly, *Bear Stearns Nearing Collapse Twice in Frenzied Last Days*, Wall St. J., May 29, 2008, at A1.; Bryan Burrough, *The Collapse: Bringing Down Bear Stearns*, Vanity Fair, Aug. 2008, at 106. For a transactionally sophisticated account, see Davidoff & Zaring, supra note --.

¹²⁸ Testimony of Timothy Geithner before the U.S. Senate Committee on Banking, Housing and Urban Affairs (Apr. 3, 2008).

¹²⁹ Board of Governors, Report Pursuant to Sec. 129 of the Emergency Economic Stabilization Act of 2008 for Bear Stearns. The transaction was structured as a simultaneous “back to back” loan, in which the Fed lent to JPMB, and JPMB lent to Bear, with the Fed taking as collateral the same assets that Bear had pledged to JPMC. The transaction was non-recourse to JPMC.

¹³⁰ Among the reasons that Fed officials sought Treasury involvement and collaboration was that Treasury was in effect a residual claimant on the Fed’s activities, since the Fed regularly turned over its “profits” to the Treasury.

option, as highly undesirable. The concern was not so much that a bankruptcy filing would dissipate firm value and therefore produce a lower recovery for Bear's creditors but because of the systemic effects. As the Fed later explained,

Most crucially, the consequences of an unexpected and disorderly default or insolvency by Bear Stearns - a major borrower and lender in the repurchase agreement market - could have seriously disrupted this very large, important, and increasingly strained market for short-term secured financing. Market participants were likely to respond to the failure of Bear Stearns by withdrawing generally from short term collateralized funding markets, resulting in a dramatic drop in the availability of short-term financing, and threats to the liquidity and possibly the solvency of other large and highly leveraged financial institutions.¹³¹

Other parties expressed concern about Bear's extensive involvement in the CDS market. A default by Bear on its payment obligation might suddenly expose counterparties to unhedged risk that could potentially threaten their solvency.¹³² The common phrase was not that Bear was "too big to fail" but "too interconnected."

2.1. *The problems with bankruptcy.* What were the problems with bankruptcy that would produce such a result?¹³³ As presently constructed, bankruptcy ill-suits the business model of a financial institution deeply engaged in trading and market-making. First, such a firm depends on collateralized short-term rollover financing for its core business activities as well as to finance portfolio positions, at a significant leverage ratio. In order to avoid the systemic distress that could follow from a cascading series of failures arising from the bankrupt's inability to repay its financing, the Bankruptcy Code provides safe harbors from the automatic stay for various financial contracts.

¹³¹ Board of Governors Report, supra note – at 3. This, of course, is what happened when Lehman failed 6 months later.

¹³² This was one of the stated rationales for the rescue of AIG several months later. See Board of Governors, Report Pursuant to Sec. 129 of the Emergency Economic Stabilization Act of 2008 for American International Group, Inc.

¹³³ See generally the superb treatment in Edward R. Morrison, *Is the Bankruptcy Code an Adequate Mechanism For Resolving the Distress of Systemically Important Institutions?* – Temp. L. Rev -- (2009).

Note that systemic distress from the bankruptcy of an important financial firm is not inevitable, as illustrated by the bankruptcy of Drexel Burnham & Lambert in 1990, following its inability to finance its large portfolio of junk bonds as that market declined (and after the firm had pleaded guilty to a number of felonies connected to the activities of Michael Milken). See Kurt Eichenwald, *The Collapse of Drexel Burnham Lambert*, N.Y. Times, Feb. 14, 1990, at A1. One factor that may have limited the systemic fallout was Drexel's very preeminence in the junk bond market; it controlled close to 50 percent, the remaining share was dispersed among several Wall Street firms, see Miles Livingston & Glenn Williams, *Drexel Burnham Lambert's Bankruptcy and the Subsequent Decline in Underwriter Fees*, 84 J. Fin. Econ. 472, 473, 478-84, 491 (2007). Thus "similarity" would not have powerfully disseminated the consequence of the Drexel failure to other firms – unlike the case of mortgage backed securitization by Bear and Lehman, which was an important part of the business of many large firms. Junk bonds were a relatively small part of the US capital market in the late 1980s – but then were subprime mortgages in the 2000s. But even had Drexel applied 2000s securitization technology to junk bonds, the systemic spread would have been constrained by the practical limits on junk bond origination and the evidence that valuations of corporate issuers could decline (unlike real estate).

This includes the repos (repurchase agreements) that are the vehicle for short term finance.¹³⁴ Repo creditors can net out their position with the bankrupt firm, seize pledged collateral, and sell it to discharge the indebtedness. This will happen immediately upon the filing. No new creditors will step into the breach and the firm's business will rapidly unravel.

Second, a bankrupt firm will stop paying on obligations, short term and long term, to creditors who, depending on market conditions, may be financially fragile. A consequence of the Lehman bankruptcy, for example, was the unexpected "breaking of the buck" by the Reserve money market fund, which held Lehman commercial paper.¹³⁵ This in turn devastated the commercial paper market, as nervous money market participants headed for Treasury bills.¹³⁶ In the case of obligations like swaps, such as a CDS, a counterparty could well be exposed to unhedged risk that could threaten its own solvency.

Third, often financial contracts are supported by margin, i.e., are partly collateralized. The bankruptcy filing gives a counterparty the right to terminate the contract, net out its position with the bankrupt, and sell the collateral to the extent it is a net obligee. Such termination forces rapid correlative responses by the bankrupt that can reduce the realizable value from these contracts. In the case of Lehman, for example, in the two weeks post-bankruptcy it disposed of over a million contract positions, at an opportunity loss, it is said, of *\$75 billion*, almost a third of its ultimate loss.¹³⁷ Even more seriously, the fire sale of collateral by the counterparties of one bankrupt can depress assets values on the books for other market participants and lead to a negative spiral of credit supply throughout the market.

Fourth, more generally, bankruptcy is not set up to resolve financial distress in a time of financial emergency.¹³⁸ Due process rights of creditors are protected in bankruptcy, both procedural and substantive.¹³⁹ A plan of reorganization requires judicial approval. It would be impossible to

¹³⁴ See Edward R. Morrison & Joerg Riegel, *Financial Contracts and the New Bankruptcy Code: Insulating Markets from Bankrupt Debtors and Bankruptcy Judges*, 13 *Ann. Bankr. Inst. L. Rev.* 641 (2005). Additionally, if the exemption from the automatic stay is reversed or applied in an ad hoc fashion, the result could be to produce runs at an earlier stage as short term secured creditors act to avoid being "trapped" in a bankruptcy filing. This may increase the risk of "crowded trades," fire sale exits, and contagion.

¹³⁵ The Reserve Fund was forced to write off \$785 million in Lehman debt, as a result of which its net asset value dropped to \$0.97 per share. See Press Release, The Reserve (Sept. 16, 2008), available at http://www.reservefunds.com/pdfs/Press%20Release%202008_0916.pdf

¹³⁶ Following the announcement, other money-market funds admitted Lehman-related problems, and investors pulled more than \$170 billion out of the funds in the week after. Davidoff & Zwaring, 37—38.

¹³⁷ See Jeffrey McCracken, *Lehman's Chaotic Bankruptcy Filing Destroyed Billions in Value*, *Wall. St. J.*, Dec. 29, 2008.

¹³⁸ Note that although a broker-dealer must file under Chapter 7, liquidation, a holding company that owns a broker-dealer can file under Chapter 11, reorganization. In Lehman, the holding company parent filed, but not the US broker dealer. Part of the negative fall-out was because the applicable U.K. law resulted in the initiation of liquidation of Lehman's U.K. broker dealer subsidiary, and, unlike the U.S., the failure to segregate customer funds in separate accounts meant those funds were frozen for a substantial period of time. Tony Loomas, *Unwinding Lehman Brothers in the UK* Jan. 2009 (speech by lead administrator at London School of Economics Conference).

¹³⁹ "These include formal rights given to creditor committees, the opportunity of creditors to object to the terms and timing of asset sales, and indirect control over the debtor through covenants in DIP [debtor-in-possession] loans." Kenneth Ayotte & David A. Skeel, *Bankruptcy or Bailouts?*, W.P. 2009 available on SSRN.

consult and negotiate with creditors of a financial firm about a “prepackaged” bankruptcy without starting a run on the firm. Moreover, when systemic concerns are important, market conditions may be changing sufficiently rapidly so as to destabilize negotiations. Similarly, tamping down systemic risk is not high on the list of bankruptcy goals, which include maximizing the value of the firm, respecting the bargained-for priorities of the creditors, and assuring equal treatment of comparably situated parties.

2.2. *The problems with merger.* The second resolution option was a merger between Bear and another financial firm whose credibility and balance sheet would provide the necessary solvency and liquidity comfort to Bear’s counterparties. Mergers as a resolution mechanism suffer from two inconvenient institutional facts. First, mergers under standard U.S. state corporation statutes¹⁴⁰ require, at a minimum, approval of by majority of the outstanding common shares of the target.¹⁴¹ This has three practical entailments: One, target shareholders must receive some appreciable share of the post-rescue value of the firm as inducement for their consent. Otherwise they may roll the dice on the value of the firm in a changed economic environment. Two, less obviously, target shareholders get a free option with respect to the rescue proposal during the proxy solicitation period, a minimum of 40 days under the federal securities law.¹⁴² This is because during the post-signing/pre-closing period, someone needs to guarantee the debts and trading obligations of the rescued firm to avoid its unraveling, and to be effective, this guarantee must cover obligations entered into during this period even if the merger is subsequently terminated. Target shareholders can exploit this “bridge guarantee” to look for a better offer or simply to hope for a turnaround in the economic environment that would let them renegotiate the deal. Meantime, it’s the guarantor that bears the risk of loss. Three, the combination of the first two points means that a merger agreement probably must contain either or both of (i) deal-forcing provisions, “lock-ups,” designed to deprive target shareholders of effective choice, or (ii) compensatory provisions such as high break-fees or uncapped stock options that give the first bidder a significant payoff from a higher-valuing bid. Otherwise the bridge guarantor would bear too much uncompensated-for risk. But the required deal protections would probably exceed the conventional limits of mergers and acquisitions law and so require a kind of judicial forbearance. That itself injects some uncertainty. In other words, the corporate governance provisions of “merger” create deal uncertainty that makes it much harder to put together a transaction, as proved grimly the case with Lehman Brothers.

¹⁴⁰ E.g., Del. Gen. Corp. L §§ 251 et seq.; Model Busn. Corp. Act §§ 11.01 et seq. ,

¹⁴¹ Both Delaware law and the MBCA permit *acquirers* to avoid a shareholder vote through use of a triangular structure, in which the required shareholder approval is satisfied by the parent’s vote of its shares in the acquisition subsidiary. Even if an acquirer does not have sufficient authorized but unissued common shares, the corporate finance statutes and standard planning mean that the acquirer can use fractional shares of a class of “blank check” preferred stock configured by board resolution to mimic the economic and governance rights of common shares.

On the other hand, where the acquirer uses as consideration common stock that amounts to 20 percent or more of the currently outstanding common, an NYSE listing rule requires a shareholder vote even in the case of a triangular merger. See NYSE Listed Company Manual § 312.03(c). The disclosure requirements in connection with such a shareholder vote have figured in controversies associated with the Bank of America-Merrill Lynch merger.

¹⁴² Rule 14a-16 promulgated under the 1934 Securities Exchange Act. Where the jurisdiction’s laws insist on an acquirer shareholder vote, deal uncertainty becomes an even greater problem. See *infra* – [collapse of the Barclay’s deal for Lehman Brothers.]

The second inconvenient institutional fact is the hard-wiring in the merger statutes that requires the acquirer to take on the debts and other obligations of the target.¹⁴³ There is no provision in “merger” for imposing loss-sharing, or contingent loss-sharing, on any creditor of a financially-distressed or insolvent firm, no way to distinguish between senior and subordinated creditors, secured or unsecured, or to require creditors to swap debt for equity or in any other way to act to facilitate a merger that might well enhance the enterprise value of the firm. If the acquirer is unwilling to bear such losses, or the risk of loss on hard-to-value assets, then a transaction is not possible, unless third parties, public or private, with systemic interests, provide financial assistance. Similarly, the merger statutes do not permit the acquirer to reject or unilaterally modify contractual obligations of the target, such as executive compensation contracts. This has played out vividly in the compensation controversies arising from Bank of America’s acquisition of Merrill Lynch, in which litigation over disclosure of bonuses may be driven by objections to “pay for failure.”

Both of these structural limitations of “merger” as a resolution mechanism increase third party rescue costs. Since the increased costs inure to the benefit of failing firm shareholders and creditors, merger as a resolution mechanism promotes moral hazard because of the reduced incentives to constrain the firm’s risk-taking. If the third party is a public entity, the visible limits to loss sharing will predictably stir political backlash.

There is an additional inconvenient fact about “merger,” that follows its accomplishment: The resulting financial firm is bigger. This concentrates systemic risk and may put an implicit government guarantee behind an institution that has become “too big to fail.” Moreover, the merger may reduce competition in the relevant commercial and investment banking markets. These are major long-run costs.

2.3 The Bear Stearns transaction. The infirmities of the merger option were on full display in the rescue of Bear Stearns. During the weekend of March 14-16, JPM and Bear-Stearns put together a merger supported by a \$30 billion Fed loan facility created under Section 13(3). JPM was apparently willing to offer approximately \$10 a share but Secretary Paulson insisted on a \$2 price to signal that Treasury would insist on tough terms in exchange for government assistance and thereby control moral hazard¹⁴⁴ (and, presumably, political fallout). The deal documents contained two elements designed to minimize deal uncertainty, the first, an uncapped “leg up” option grant to JPM for 19.9 percent of Bear’s outstanding stock¹⁴⁵; the second, a special “force the vote” provision that

¹⁴³ See Del. Gen. Corp. L. § 259; MBCA, § 11.07(a). The MBCA’s Official Comment states: “The survivor automatically becomes the owner of all real and personal property and becomes subject to all the liabilities, actual or contingent, of each party merged into it.” In mergers of industrial firms, use of an acquisition subsidiary might succeed in insulating the acquirer from some of the liabilities of the target. In a financial firm merger where trading and banking operations will be consolidated, such insulation will not be practicable, and, of course, if the merger is arranged as a rescue in the midst of a financial crisis, such liability avoidance could be self-defeating.

¹⁴⁴ See Robert Steel, Under Secretary for Domestic Finance of the Treasury, *Actions by the New York Fed in Response to Liquidity Pressures in Financial Markets, Testimony before the U.S. Senate Committee on Banking, Housing and Urban Affairs, Washington, D.C.* (Apr. 3, 2008) available at <http://www.ustreas.gov/press/releases/hp904.htm>.

¹⁴⁵ The option was “uncapped,” meaning that a successful third party bidder would have to pay JPM the difference between the deal price and the \$2/share exercise price for the shares covered by the option. On conventional assumptions, this means that a successful bidder would have to value Bear by more than the cost of the option

required the Bear board to put the transaction to shareholder vote even if the board subsequently came to oppose it, and then, should the shareholders initially vote “no,” to continuously maintain the vote solicitation for up to a year.¹⁴⁶ Both of these were boundary-stretching applications of the merger and acquisitions law of Delaware, Bear’s state of incorporation.¹⁴⁷ Crucially, JPM also provided a guarantee of certain of Bear’s trading obligations and counterparty arrangements until the merger was closed (after which it would be superfluous) or the merger agreement was terminated. But the guarantee would survive the termination, meaning that covered obligations entered into while the merger was “on” would have JPM’s back-stopping even after the merger was “off.”¹⁴⁸

Although the Bear board approved the merger agreement – they felt they had no choice – shareholders were predictably very unhappy. The stock had closed at \$30 on Friday, March 14, and \$70 on the preceding Monday. During the post-announcement period, Bear’s stock consistently traded well above the \$2 share price, especially as market participants became aware of the shareholder option created by the guarantee (a feature that in the rush to complete the merger agreement seems not to have been anticipated by JPM’s lawyers). The deal uncertainty also made market participants wary of trading with Bear, notwithstanding the guarantee. In any event, the parties renegotiated the transaction to eliminate these problems. Bear was able to use its new negotiating leverage to obtain a higher share price, \$10/share. In exchange, JPM got virtual deal certainty, receiving 39.5 percent of Bear’s common stock in exchange for JPM stock, which it augmented through an open market purchase of another 9.93 percent of Bear’s stock. This gave JPM a 49.43 percent block, just a shade under the required 50 percent shareholder vote.¹⁴⁹ But it

payment in other to overbid JPM, and the “uncapped” nature of the option would add to this cost. *See* Stock Option Agreement by and between The Bear Stearns Companies Inc. and JP Morgan Chase & Co., dated March 16, 2008, filed as an exhibit to The Bear Stearns Companies, Inc., Current Report, (Form 8-K) Mar. 20, 2008, *available at*

http://www.sec.gov/Archives/edgar/data/777001/000091412108000252/be12335840-ex99_2.txt.

¹⁴⁶ *See* Agreement and Plan of Merger by and between The Bear Stearns Companies Inc. and JP Morgan Chase & Co., dated March 16, 2008 at § 6.3, filed as an exhibit to The Bear Stearns Companies, Inc., Current Report, (Form 8-K) Mar. 20, 2008, *available at*

http://www.sec.gov/Archives/edgar/data/777001/000091412108000252/be12335840-ex2_1.txt.

¹⁴⁷ Davidoff & Zaring at 16.

¹⁴⁸ *See* Guaranty Agreement by JP Morgan Chase & Co., dated March 16, 2008, filed as an exhibit to The Bear Stearns Companies, Inc., Current Report, (Form 8-K) Mar. 20, 2008, *available at*

http://www.sec.gov/Archives/edgar/data/777001/000091412108000252/be12335840-ex99_1.txt

¹⁴⁹ *See* Bear Stearns Definitive Proxy Statement on Schedule 14A, at 1 (filed April 4, 2008) *available at* <http://www.sec.gov/Archives/edgar/data/777001/000119312508092860/ddefm14a.htm>. By the time of the shareholder vote, JPM owned 49.73 percent. *See* JPMorgan Chase & Co. et al., Amendment to General Statement of Beneficial Ownership (Form 13D/A), at 6 (Apr. 21, 2008), *available at*

<http://www.secinfo.com/drDX9.tEk.htm#1stPage> (noting additional share purchases); As observed by Davidoff, the JPM shares exchanged for the Bear stock were not registered and JPM did not give Bear registration rights, meaning that they could not be easily resold in a way that would give Bear liquidity apart from JPM.

See Steven M. Davidoff, *JPMorgan and Bear Test the Limits*, N.Y. Times Dealbook, Mar. 24, 2008, *available at* <http://dealbook.blogs.nytimes.com/2008/03/24/jpmorgan-and-bear-throw-down-the-gauntlet/>.

took quite a wrench in standard Delaware law to provide the necessary deal certainty to move the transaction forward.¹⁵⁰

2.4. The Fed's financing vehicle. As noted above, a consequence of “merger” is to saddle the acquirer with the obligations of the target. There is no capacity for loss-sharing or contingent loss-sharing with the target creditors. In a financial crisis, for a target of substantial size, uncertain asset values can make “merger” too risky a bet for an acquirer. In connection with the Bear transaction, the Fed conjured an ingenious mechanism to augment “merger” as a resolution mechanism, in which it can take on risk that an acquirer would not. This entails creating a special purpose vehicle to buy a substantial chunk of the target's distressed asset, subject to a loss-sharing agreement in which the Fed bears most of the downside risk. The details are worth working through because they show how a mechanism that worked for Bear could not be made to work for Lehman (and foreshadows the problem with asset purchases under TARP).

In the JPM-Bear transaction, the Federal Reserve Bank of New York (FRBNY) first created a Delaware limited liability company, Maiden Lane, LLC. The company was capitalized with a \$1 billion subordinated note from JPM. With the Fed's Section 13(3) authorization, FRBNY lent the company \$29 billion, taking back its note. Maiden Lane then used the \$30 billion to buy a portfolio of Bear's mortgage-related securities, loan, and hedges. An outside portfolio manager was hired to manage the portfolio with the understanding that the senior creditor, FRBNY, would be paid in full from the proceeds before JPM was repaid, and that FRBNY was the residual claimant on proceeds beyond the requirement payments on the notes.¹⁵¹ But after the first \$1 billion, the Fed would bear the risk of further declines in asset values.

The Fed did not lend to Bear Stearns, taking back collateral, as in its initial loan. Rather, this new mechanism simply took the distressed assets off Bear's balance sheet altogether. Instead of \$30 billion of assets of low liquidity and dubious value – 7.5 percent of its assets -- Bear now had cash. This transformation of Bear's balance sheet made “merger” possible. The Fed's loan was collateralized by the assets held by Maiden Lane, whose “fair value” was deemed to be \$30 billion as of March 14, that is, prior to the market turmoil associated with the Bear rescue, even though JPM and the Fed agreed on a final term sheet only March 24 and the actual loan wasn't disbursed until June 26, 2008, when the asset acquisition closed.¹⁵² Over the March 14-December 31, 2008 period, the portfolio value of the assets declined by approximately \$4.5 billion, meaning an unrealized loss of \$3.5 billion for the Fed (after deducting JPM's \$1 billion).¹⁵³

¹⁵⁰ For close analysis of the Delaware law and discussion on how the Delaware and other courts avoided direct consideration of its possible breach, see Marcel Kahan & Edward Rock, How to Prevent Hard Cases from Making Bad Law: Bear Stearns, Delaware and the Strategic Use of Comity, 58 Emory L. Rev. 713 (2009).

¹⁵¹ See FRBNY, Maiden Lane Transactions, available at www.newyorkfed.org/markets/maidenlane.html.

¹⁵² Federal Reserve Board, Report Pursuant to Section 129 of the Emergency Stabilization Act of 2008: Loan to Facilitate the Acquisition of The Bear Stearns Companies, Inc. by JPMorgan Chase & Co, at 4-5. The Board of Governors vote to authorize the \$30 billion loan occurred, however, on Sunday, March 16, *id.*, and presumably there was a Fed-JPM deal associated with the first iteration of the merger agreement entered in March 15, which presumably explains the use of the March 14 date. Note that Bear's assets were booked at approximately \$400 billion as of early March. *Id.*

¹⁵³ Maiden Lane LLC Consolidated Financial Statements for the Period March 14, 2008 to Dec. 31, 2008, at 12.

Apart from the sheer novelty of the mechanism, the Fed had to contend with two concrete legal points. First was the authority to make a loan to a “limited liability company,” which was not one of the specifically enumerated candidate borrowers, “an individual, partnership, or corporation.” Presumably the Fed’s lawyers reasoned that the enactment intended to be inclusive of all forms in which business was carried out and thus a form that did not exist in 1932, the limited liability company – after all, a partnership-corporate hybrid -- should be an eligible borrower.¹⁵⁴ The second legal point was the interpretation of the provision that the loan should be “secured to the satisfaction of the Federal reserve bank.” On the simplest account of the Fed’s compliance with Section 13(3), the Fed was making a \$29 billion loan to an entity, Maiden Lane LLC, that owned assets worth \$30 billion, under terms that secure the Fed’s prior claim on these assets and their proceeds. Thus assuming the correctness of the valuation (Bear Stearns’ marks)¹⁵⁵ and assuming further the stability of asset values between the valuation date (March 14) and the closing date (June 28, 2008),¹⁵⁶ the Fed was fully secured when funds were advanced. Furthermore, one could say that the entity that received the loan was solvent. Thus on this view the Fed need not get entangled with the question of who is the ultimate beneficiary of the loan – is it Bear Stearns or JPM? -- and if the former, whether Bear was solvent at the time the loan was made (or authorized), and whether such solvency is required by Section 13(3).

The security provision could also be finessed away entirely through a purely formal reading: the collateral was “secured” in that the Fed’s claim was prior to any other creditor even though its fair market value was less than the loan. That JPM was prepared to pay a positive price for Bear once the \$30 billion in mortgage- related assets moved from Bear’s balance sheet to the Fed’s suggests that Bear was solvent on a going-concern basis if not a balance sheet basis.

Notice the potential potency of the financing facility the Fed used in the JPM-Bear transaction. By lending to an SPV that could in turn buy assets, the Fed could remove illiquid, hard-to-value assets from the balance sheet of troubled financial firms.¹⁵⁷ The cash paid for the assets would provide instant liquidity, and depending on the terms of trade, inject capital as well.

¹⁵⁴ In this regard it should be noted that the initial bill did not include “partnership,” which was specifically included by the conference committee. See 75 Cong. Rec. 15098 (July 12, 1932) (offering bill as an amendment in the nature of a substitute to H.R. 9642, with the relevant section being §208); 75 Cong. Rec. H. 15482, 15485, 15489 (July 15, 1932) (conference report); 75 Cong. Rec. S. 15605 (July 12, 1932) (conference report). This reveals Congressional intent that an emergency statute like Section 13(3) should have expansive reach.

¹⁵⁵ See Section 129 Bear Stearns Report, *supra* note --, at 4.

¹⁵⁶ Alternatively, the Fed could contend that the loan authorization date, March 16, a Sunday, so March 14, the last preceding business day, is the relevant date for determination of whether the Fed was secured.

¹⁵⁷ For example, in the restructuring of the government’s assistance to AIG, the Fed created Maiden Lane II and Maiden Lane III. Maiden Lane II acquired residential mortgage backed securities (RMBS’s) from the securities lending portfolio of several of AIG’s insurance subsidiaries. Under the parent’s direction, the subsidiaries had invested the cash collateral received upon the loan of portfolio securities in RMBS, to increase the returns from securities lending. The RMBS had become unsalable except at “fire sale” prices (or, depending on your perspective, accurately low prices) and the struggle to refund the collateral when the securities were returned threatened the stability of the insurance subsidiaries. Maiden Lane II, funded by a Section 13(3) loan, bought approximately \$21 billion of the RMBS’s (par value: approximately \$39 billion). See FRBNY, Maiden Lane II, available at <http://www.newyorkfed.org/markets/maidenlane2.html>.

3. *Lehman Brothers: “merger” fails.*

In our view, “merger” did not work as a resolution mechanism for Lehman because the possibility of a Fed financing facility was taken off the table by Secretary Paulson’s insistence that valuation risks be borne by private firms, not the Fed. “Merger” without the Fed’s assistance apparently did not provide sufficient protection for Barclays. This became particularly salient because of the corporate governance constraints on a UK acquirer’s freedom of action. By the time this became apparent, time may have run out to put together an alternative transaction with Fed support. But the more important problem was that the extensive private due diligence in anticipation of a “private solution” made it much tougher for the Fed to claim that a financing facility would be fully collateralized, in contrast to Bear. Among other things, since the private parties had decided that at least some of Lehman’s asset valuations were too high, it would have been difficult for the Fed subsequently to use Lehman’s marks in determining the value of the collateral, unlike in Bear. Thus the Fed would have been subject to criticism that it was recapitalizing Lehman, not simply solving a liquidity shortfall.¹⁵⁸

As we elaborate below, we think the Fed had the authority to take this step, though it would have been a stretch under current law. But it also would have extended the Fed’s reach beyond the central bank function of providing “liquidity” to the more fraught domain of supporting solvency. Taking this step would have raised political accountability questions that might well have led to legislative or executive actions that could undermine the Fed’s political independence in running monetary policy. It also raised challenging questions of role morality. The Fed’s great power may be bearable because its officials feel constrained by an image of the appropriate domain of a central bank. Support for a private financial firm in a way that transparently provided capital, not just liquidity support, would have clashed with that role conception. As many Fed officials told us, providing capital and taking the associated risk of loss is the business of the “fiscal authority” of the United States, the Treasury, not the “monetary authority,” the Fed.¹⁵⁹

Maiden Lane III, funded with approximately \$24 billion of Section 13(3) loans and \$5 billion in equity from AIG, purchased approximately \$30 billion in CDOs (par value, \$62 billion) in exchange for terminating CDS agreements. (The counterparties retained the collateral that AIG has previously posted, so the total cost of closing out these CDS positions was higher by that amount than the loan disbursement.)

<http://www.newyorkfed.org/markets/maidenlane3.html>.

¹⁵⁸ More generally, by the time of Lehman’s troubles in September 2008, following close on the heels of Treasury’s rescue of Fannie Mae and Freddie Mac, it had become apparent that the financial sector distress was powered by concerns about the solvency of the financial institutions that were major players in the mortgage-backed securities market, not their liquidity. Thus it would have been more difficult for the Fed to accept the bankers’ marks as genuine “hold to maturity values” (unlike in Bear). Similar problems would confound the use of TARP funds to purchase distressed assets. To accept the bankers’ marks would have been an obvious capital infusion by way of subsidy; to have insisted on significant loss-sharing would fail to capitalize the banks and thus resolve the solvency crisis.

¹⁵⁹ For public expression of that view, see, e.g., [Questions for the Record and Responses from Timothy Geithner, Treasury Secretary nominee](#), Sen. Fin. Comm. 82 (Jan. 2009)(response to question from Senator Snowe): “Under section 13(3) of the Federal Reserve Act, the Fed is prohibited from taking equity or unsecured debt positions in a firm. At its core, this restriction reflects the importance of maintaining the line between the responsibilities and

3.1. *Lehman's need for a way out.* The rescue of Bear Stearns may have avoided a meltdown in March 2008 but did not sooth markets for long. In subsequent months, default rates increased on sub-prime and Alt-A (just above subprime) mortgages, credit-downgrades of mortgage-backed securities proliferated, and the market value of even the highest-rated securitized tranches further deteriorated. Financial institutions came under increasing stress. IndyMac, one of the country's largest mortgage originators and securitizers, was taken over by regulators in July 2008, the fourth largest bank failure in US history.¹⁶⁰ In July, Congress gave Treasury standby resolution authority and funds for Fannie Mae and Freddie Mac, the government-sponsored mortgage banks.¹⁶¹ This was to be a "bazooka" of financial firepower to protect the two firms from market turbulence.¹⁶² The bazooka came off the wall in early September, when Treasury imposed a conservatorship and provided a \$100 billion capital injection.¹⁶³

Lehman's troubles began with its announcement on Sept. 10 of asset write-downs of \$7.8 billion and net losses of \$3.9 billion.¹⁶⁴ By the end of the week it had become clear that with the withdrawal of credit and customer funds, Lehman could not survive as an independent entity. Treasury summoned representatives of approximately 15 money center banks and investment banks to work out a solution over the weekend. According to published accounts, Secretary Paulson emphasized at the outset that the parties needed to find a "private" solution and that there would be no government funds forthcoming. The parties apparently took him at his word. The likeliest source of rescue was a merger; Bank of America and Barclays, a leading UK bank, were the main candidates. Bank of American quickly turned to a merger with Merrill Lynch, which perceived itself as imperiled, and attention shifted exclusively to Barclays. The main business problem appeared to be the questionable value of Lehman's commercial real estate portfolio, containing many "trophy" properties acquired at what turned out to be the market top. The banks stepped up to provide

authorities of the fiscal authority, and those of the monetary authority." This explains why the Fed thought it was very important that it receive a letter from Treasury endorsing its actions to save Bear, [cite – Wessel?] and similarly why Paulson's insistence on a "private solution" for Lehman would have been constraining.

¹⁶⁰ See Louise Story, *Regulators Seize Mortgage Lender*, N.Y. Times, Jul. 12, 2008. Indeed, the IndyMac seizure triggered a run, despite deposit insurance.

¹⁶¹ Housing and Economic Recovery Act of 2008, Pub.L. 110-289, 122 Stat. 2654, enacted July 30, 2008. See especially section 1117, 122 Stat. 2683, which gives Treasury the authority, after making an "emergency determination," to buy securities of either Fannie or Freddie, seemingly without a dollar cap. The authority expires at yearend 2009.

¹⁶² See Stephen Labaton & David M. Herszenhorn, *Debating Rebates and Bailouts A Rescue for Fannie and Freddie Kindles Opposition and Political Duels*, N.Y. TIMES, Jul. 16, 2008, at C1 (In testimony before Congress, Sec. Paulson states, "If you have a bazooka in your pocket, and people know you have a bazooka, you may never have to take it out.")

¹⁶³ See Charles Duhigg et al., *As Crisis Grew, A Few Options Shrank to One*, N.Y. TIMES, Sep. 8, 2008, at A1.

¹⁶⁴ This summary account follows the more detailed accounts of Lehman's collapse provided in Davidoff & Zaring, *supra*, note --; Lawrence G. McDonald, *A Colossal Failure of Common Sense* (2009), David Wessel, *supra* note --, at 9-26 (a subtle retelling); Cohan, *supra* note --, at 427-450; Andrew Ross Sorkin, *Too Big to Fail* (2009); Carrick Mollenkamp et al, *The Two Faces of Lehman's Fall – Private Talks of Raising Capital Belied Firm's Public Optimism*, Wall St. J., Oct. 6, 2008, A1; Susan Craig et al., *The Weekend That Wall Street Died*, Wall St. J. Dec. 29, 2008; William D. Cohan, *Three Days That Shook the World*, Fortune, Dec. 16, 2008. It also relies to a lesser extent on confidential interviews with industry participants.

Barclays with financing that would “ring-fence” approximately \$40 billion in commercial real estate assets. As of late Saturday, many of the participants believed that a Lehman transaction with Barclays would be concluded.

Here’s where the corporate governance limitations of a merger played a crucial role. As noted previously, a merger does not provide optimal transaction certainty, because of the shareholder vote requirement, and the consequent period between the boards’ entering into a merger agreement and the closing. Presumably the parties had learned from the Bear Stearns experience how to produce sufficient certainty on the target side. On the acquirer side, however, UK governance rules posed two barriers. First, for a transaction the size of the Lehman acquisition, the UK Listing Rules required a shareholder vote. More technically, the UK Listing Rules require acquirer shareholder approval of “larger,” so-called “Class 1” transactions, meaning a transaction that amounts to 25 percent (or more) of any of the company’s gross assets, profits, or gross capital, or in which the consideration is 25 percent (or more) of the market capitalization of the company’s common stock.¹⁶⁵ What proved to be the deal killer was a second barrier: a similar shareholder vote requirement for any indemnity which is “exceptional” and which entails either unlimited liability or 25 percent of the company’s average annual profits over a three year period.¹⁶⁶ The transaction could not proceed without a guarantee of Lehman’s trading book and counterparty agreements until the closing – comparable to what JPM provided to facilitate the Bear merger. The listing rule gives the UK Financial Services Authority some discretion in applying the guarantee provision, however,¹⁶⁷ and apparently the parties (at least the US parties) had assumed that the FSA was on board with its waiver and were surprised by its refusal.¹⁶⁸

3.2. *Lehman and the Fed’s authority redux.* After the catastrophic consequences of the Lehman failure became clear and Treasury and Fed officials were criticized by their foreign counterparts, the Fed parties seemed to settle on the view that the Fed was without authority to rescue Lehman. As Chairman Bernanke put it:

“A public-sector solution for Lehman proved infeasible, as the firm could not post sufficient collateral to provide reasonable assurance that a loan from the Federal Reserve would be repaid, and the Treasury did not have the authority to absorb

¹⁶⁵ See UK Listing Rules 10.1.1, 10.2.2, 10 Annex, available at <http://fsahandbook.info/FSA/print/handbook/LR/10/>. Note that although the UK Companies Act of 2006, § 907 (Eff. Ap. 2008) requires an acquirer shareholder vote on a merger, it does not apply in cases where the target is acquired in a structure at least formally leaves it a free-standing subsidiary.

¹⁶⁶ UK Listing Rules 10.2.4.

¹⁶⁷ UK Listing Rule 10.2.5.

¹⁶⁸ See Jennifer Ryan, *Lehman Rescue Failed on Guarantees, Baxter Says*, Bloomberg.com, Jan. 19, 2009. (FRBNY General Counsel). Different reports suggest alternatively (1) that UK authorities were did not believe that the banks’ financing arrangement sufficiently protected Barclays against further deterioration in the value of the mortgage-related assets on Lehman’s balance sheet, or (2) that Barclays itself got cold feet because of these concerns and did not press the FSA. Compare, e.g., Wessel, *supra* note --, at 19, 20 (UK government) with, e.g., James Quinn, *Lehman Brothers on Verge of Collapse as Barclays Pulls Out*, Telegraph, Sept. 14, 2008; (Barclays) Suzy Jagger, *No Federal Bailout of Lehman Brothers, the Free Ride Was Over for Financiers*, The Times (UK), Sept. 16, 2008 (semble).

billions of dollars of expected losses to facilitate Lehman's acquisition by another firm because the firm was insolvent.”¹⁶⁹

We agree that Treasury, pre-TARP, had no authority to provide funds to facilitate a Lehman transaction. Our view is that the question of the Fed’s authority is a close question, made notably more difficult by the initial insistence by Secretary Paulson that a rescue transaction be privately financed, but that the Fed did have sufficient authority. First, start with the assumption that the FSA’s refusal to grant the necessary approval for the Barclays merger was in fact based on an assessment that the transaction left Barclays with too much risk from Lehman’s residential mortgage-backed assets, not the commercial real estate assets ring-fenced by the private financing already in place. Here the Fed could have stepped in with an additional financing facility similar to the Bear transaction that would have off-loaded most of risk of an agreed-to portfolio from Lehman to the Fed. This would have provided Lehman with a large immediate increase in liquidity. Presumably there was a point at which Barclays and the UK regulator would have found the risk-shifting sufficient to make the follow-on merger a feasible transaction. Using Lehman’s prior marks on the mortgage-backed securities, in combination with a subordinated note from Barclays for a fraction of the total, following the Bear template, would have given the Fed a comparable secured position.

Second, the Fed has plainly lent to insolvent financial institutions in the past, even when it could be hard to claim that it was adequately secured, under its conventional power to lend to banks.¹⁷⁰ For example, in connection with the financial distress of Continental Illinois in the early 1980s that ultimately led to a large (\$15 billion) FDIC-led bail-out (which protected all creditors), the Fed extended loans of at least \$7.5 billion.¹⁷¹ At various times it appears that the Fed took

¹⁶⁹ Ben S. Bernanke, *Stabilizing the Financial Markets and the Economy*, Oct. 15, 2009 (speech at the Economic Club of New York), available at <http://www.federalreserve.gov/newsevents/speech/bernanke20081015a.htm>.

Chairman Bernanke provided a fuller account of the rescue effort a week earlier:

“Attempts to organize a consortium of private firms to purchase or recapitalize Lehman were unsuccessful. With respect to public-sector solutions, we determined that either facilitating a sale of Lehman or maintaining the company as a free-standing entity would have required a very sizable injection of public funds--much larger than in the case of Bear Stearns--and would have involved the assumption by taxpayers of billions of dollars of expected losses. Even if assuming these costs could be justified on public policy grounds, neither the Treasury nor the Federal Reserve had the authority to commit public money in that way; in particular, the Federal Reserve's loans must be sufficiently secured to provide reasonable assurance that the loan will be fully repaid. Such collateral was not available in this case.” Ben S. Bernanke, *Current Economic and Financial Conditions*, Oct. 7, 2008 (speech at the Nat. Ass’n for Bus. Econ.): Then Secretary-designate Geithner took a similar line in his confirmation hearing before the Senate Finance Committee, testifying that the situation faced in connection with Lehman Brothers reflected a “critical and tragic set of constraints.” NY Times Dealbook, *Live-Blogging the Geithner Confirmation Hearing*, Jan. 21, 2009, available at <http://dealbook.blogs.nytimes.com/2009/01/21/tough-questions-expected-for-geithner-today/>. (11:25 a.m.). See also Secretary-nominee response to questions, *supra* note --.

¹⁷⁰ See Fed. Res. Act. § 10B, 12 USC § 347b(a) (authorizing advances “secured to the satisfaction of such Federal Reserve bank”).

¹⁷¹ *Inquiry into Continental Illinois Corp and Continental Illinois National Bank*, Hearings before the Subcomm. On Fin. Insts. Of the Comm. On Banking, Fin. & Urban Affairs, H.Reg/ 98th Cong.2d Sess. Sept. 18, 19 and Oct. 4,

sketchy collateral.¹⁷² These extreme measures were taken because of the concern that failure of Continental Illinois would have had serious systemic consequences, nationally and internationally. In the late 1980s the Fed regularly made discount window loans to “non-viable or non-solvent” depository institutions. According to a House Banking Committee study, of 418 institutions that received extended Fed loans over the 1985-1991 period, 377 (90 percent) failed within a three year period.¹⁷³ This led to a 1991 amendment of the Fed’s general bank lending authority, Section 10B, to impose loss sharing on the Fed for extended loans to an undercapitalized bank that subsequently fails.¹⁷⁴

Third, in its prior practice lending under the Section 13(3), the Fed hardly seemed a stickler for rock solid security. For example, in loans to commercial businesses like a type-writer manufacturer, a vegetable grower, or a brewer, it beggars belief that the Fed received collateral that insulated it against the risk of significant loss.¹⁷⁵ One loan, made to pay farmers for grapes, was “secured by 5,000 shares of common stock of a brewing company and certificates representing ten barrels of brandy and 89 barrels of rum.”¹⁷⁶ If contemporary practice is a useful guide to legislative intent, it seems that the Fed had discretion to take considerable risk on the collateral it accepted.

Fourth, the 1991 amendment of Section 13(3) seemed to carry with it the message that the Fed could do whatever it took to avoid financial system disruption.¹⁷⁷ The amendment eliminated the collateral limitation to discount-eligible paper, which among other things, was tied to the “real bills” doctrine and the focus on short working-capital loans; instead, according to the legislative history, eligible collateral could include “stocks, bonds, and other securities,” inherently riskier. Since the legislation was spurred by fears of financial system meltdown that nearly occurred in the October 1987 market break, its purpose was broadly stated: “to help preserve market liquidity and avoid market disruption. . . . With the increasing interdependence of our financial markets, it is essential that the Federal Reserve System have authority and flexibility to respond promptly and effectively in unusual and exigent circumstances that might disrupt the financial system and markets.”¹⁷⁸

To be sure, the legislative history referred to the Fed as providing only “access to liquidity” and said the “instruments must be still be secured” to the Fed’s satisfaction, but a determined Fed in 2008 could have drawn significant support from the 1991 legislation’s evident desire to empower the Fed to avoid financial system disruption. Among other things, at a time of systemic financial

1984) (Ser. No. 98-111) at 4. But for these loans, the bank would have been insolvent on a going concern basis. *Id.* at 525 (referring Comptroller letters).

¹⁷² *Id.* at 522, 506 (Federal reserve bank loans secured by collateral that sharply declined in value, followed by agreement with FDIC calling for repayment over 5 year payback period).

¹⁷³ House Comm. on Banking, Finance and Urban Affairs, *An Analysis of Federal Reserve Discount Window Loans to Failed Institutions*, June 11, 1991, at 320.

¹⁷⁴ See Section 10B(b) of the Federal Reserve Act, 12 USC 347b(b), as added by Pub. L. 102-242, § 142, Federal Deposit Insurance Corp. Improvement Act of 1991 (Dec 19, 1991), 105 Stat 2279. Note that the amendment did not curb the Fed’s authority to lend to an insolvent bank, only to make it share some of the costs in doing so.

¹⁷⁵ See *supra* note – [note quoting Hackley & Fetting].

¹⁷⁶ Baxter, *supra* note --, at 5.

¹⁷⁷ See the notes and text accompanying notes – *supra*.

¹⁷⁸ 102 S. Rpt. 167 at *12.

distress, “liquidity” and “solvency” are not so clearly divided. If short term creditors are “running,” and long term assets can be sold only at “crowded-trade” (that is, fire-sale) prices, is that a liquidity problem or a solvency problem? In one sense, all liquidity problems are in fact solvency problems, just over a short time frame. The difference between “liquidity” and “solvency” in some cases might be simply the time period over which assets must be turned into cash, given prevailing market conditions.

Finally, the Fed’s actions after the Lehman failure suggest a much broader conception of its emergency lending authority. For example, in the aftermath of the Lehman failure, the Fed immediately made rolling overnight loans varying between \$51 and \$87 billion to the Lehman broker-dealer subsidiary, which was kept out of the holding company’s bankruptcy filing.¹⁷⁹ The probable source of these funds was the Primary Dealer Credit Facility created under the Fed’s Section 13(3) powers following the Bear Stearns failure, which permits a broad range of eligible collateral, including “investment grade corporate securities, municipal securities, mortgage-backed securities and asset-backed securities.”¹⁸⁰ The Fed claimed that these loans were necessary “for an orderly wind-down,” which no doubt was true, but in the market turbulence following the Lehman failure, it is hard to believe that the Fed felt genuinely secured against loss. As it turned out, Barclays acquired the Lehman broker-dealer in a transaction rushed through the bankruptcy court, agreeing to “step into the shoes of the Fed,”¹⁸¹ but that was by no means an assured outcome when the Fed began lending. In other words, the Fed made a prudential judgment in the exercise of its emergency authority.¹⁸²

In our view, then, the Fed had sufficient authority to provide the necessary financial assistance to avoid a Lehman failure, but the case is close and probably strengthened by hindsight

¹⁷⁹ Andrew Ross Sorkin, How the Fed Reached Out to Lehman, N.Y. Times Dec. 15, 2008 (Dealbook, available at <http://www.nytimes.com/2008/12/16/business/16sorkin.html?dbk>.)

¹⁸⁰ Fed. Res. Bank NY, Primary Dealer Credit Facility: Program Terms and Conditions, March 16, 2008, available at http://www.newyorkfed.org/markets/pdf_terms_080316.html. “The pledged collateral will be valued by the clearing banks based on a range of pricing services.”

¹⁸¹ Sorkin, *supra* note --.

¹⁸² We do not believe that it was necessarily inconsistent for the Fed to distinguish between Lehman and AIG. The \$85 billion credit facility for AIG was secured by AIG’s ownership of highly profitable and industry-leading insurance companies whose finances seemed to be insulated from the holding company’s. The fact that, *ex post*, the Fed may take a loss on AIG, see GAO, Status of Government Assistance Provided to AIG, GAO Rep. 09-975 (Sept. 2009), at 42, does not invalidate the *ex ante* judgment that the Fed was fully secured.

On the other hand, the Fed’s capacious interpretation of Section 13(3) in connection with the AIG rescue, is consistent with our view that, as a statutory matter, the Fed could have rescued Lehman. In AIG, the Fed went well beyond “securing” its loan; rather, it obtained an almost 80 percent equity ownership stake (which it deposited into a trust whose sole beneficiary is the Treasury, see GAO Report at 37-38). Nothing in section 13(3), nor the Fed’s prior use of section 13(3), directly appears to authorize such an expansive approach to “securing” a loan, so the Fed must have been relying on the general provision that such loans “shall be subject to such limitation, restriction, and regulations as the Board of Governors . . . may prescribe.” It appears that the terms of the AIG rescue were designed to match the Bear Stearns terms in the Paulson-influenced effort to control moral hazard by massively diluting existing shareholders. A comparably expansive approach would have made short work of objections to the under-collateralization of a Lehman loan by saying such a loan was nevertheless “secured to the satisfaction to the Federal reserve bank,” because in these circumstances, FRBNY was “satisfied” with less than full security.

bias from observing the cost of non-action.¹⁸³ Nor would we minimize the firestorm that would have erupted had the Fed stretched its authority to rescue Lehman with a large “bailout” and thereby successfully averted much of the ensuing damage to the financial system and real economy. (It could well be that avoiding Lehman’s collapse would only have postponed the inevitable.¹⁸⁴) The public observes only the cost of prevention, not the averted (and speculative) catastrophe; criticism will commonly outweigh praise, and the reaction of the political system will often follow.

Part III: Resolution Authority for Non-Bank Financial Firms

The previous section has shown two important missing elements in the ad-hoc resolution authority used in the early stages of the financial crisis: first, great difficulty in injecting fresh capital into insolvent financial institutions to avoid their collapse; second, an inability to impose appropriate loss-sharing on capital suppliers, particularly creditors. This section shows: First, the adoption of the Troubled Asset Relief Program (“TARP”) and related authorities in October 2008¹⁸⁵ may have addressed the first gap, capital infusion, but not the second, loss-sharing, using the rescue of Citigroup as an example. Second, the FDIC’s current resolution authority is inadequate for large bank holding companies. Third, the resolution authority for systemically important financial institution currently under consideration is likely to be inadequate on important occasions of financial sector distress. And therefore, that additional emergency authority, on standby before the crisis, is appropriate to mitigate the risk that financial sector distress breaks out into the real economy in a devastating way.

The underlying theme of this part is two-fold: first, that adequate resolution of financial institution distress needs to provide a mechanism to impose loss-sharing on capital suppliers, to provide such parties with incentives to monitor managerial risk taking (avoid moral hazard); second, that at critical moments that are not necessarily foreseeable, conventional resolution mechanisms will prove inadequate and standby emergency authority should be available to the responsible regulators. These two themes are of course in tension, since potential government intervention that may possibly modify or even suspend loss-sharing rules in the name of financial sector stability undercuts monitoring incentives. Our underlying position is that government cannot credibly commit to non-intervention at moments of great financial sector stress and that it better – measured in the welfare of those subject to a severe economic downturn -- to provide intervention authority in advance rather than to insist on emergency recourse to the legislature. The challenge is to assure that this “emergency” authority falls so deep in the regulators’ toolkit as to minimize the monitoring loss. The Fed, after all, had not invoked its authority under Section 13(3) of the Federal Reserve Act in more than 70 years before it came out of the tool box in September 2008.

¹⁸³ Note that the Fed faced little risk of a judicial countermand of the exercise of what it took to be its authorized power. See, e.g, *Raichle v. Federal Res. Bank*, 34 F.2d 910 (2d Cir. 1929); *Huntington Towers, Ltd. v. Franklin Nat. Bank*, 559 F.2d 863 (2d Cir. 1978).

¹⁸⁴ It was remarked at the time that Secretary Paulson didn’t want to bail-out Lehman Brothers because he would then have to bail-out all the troubled firms, but because he wouldn’t bail-out Lehman, he had to bail-out the others anyway.

¹⁸⁵ As part of the Emergency Economic Stabilization Act of 2008, Pub. L. 110-343.

1. What TARP did: the example of Citigroup

After the Lehman failure, it was plain that many large financial institutions faced a risk of a massive run and the solvency of many of them was at risk, as reflected in the seize-up of the interbank lending market. Citigroup (the parent of Citibank) carried approximately \$2.0 trillion in liabilities, only \$360 billion of which were long term, and only \$200 billion of which were insured.¹⁸⁶ A major player in the residential and commercial mortgage securitization market, including sub-primes, Citigroup also faced major write-downs in the value of such securities carried on the asset side of its balance sheet.¹⁸⁷ As part of a general effort to support and recapitalize the banking system, Treasury infused \$25 billion into Citigroup on October 28, 2008, receiving in return preferred stock and warrants. Eight other large financial institutions received similar capital contributions from the Capital Purchase Program. Despite solvency questions about some of the recipients, the intervention was styled as financial sector capital support, not a rescue of specific firms.¹⁸⁸

By November it had become apparent that Citigroup faced imminent insolvency because of losses on the “toxic” mortgage-backed securities on its balance sheet. This led to a Citigroup-specific rescue, which consisted of another capital infusion of \$20 billion in the form of a purchase of preferred stock and warrants and also a loss-sharing agreement among Citigroup, Treasury, the FDIC, and the Fed in which the government parties guaranteed 90% of losses on a pool of approximately \$301 billion in covered assets, after a “deductible” of \$39.5 billion, a maximum possible exposure (in a doomsday scenario) of \$234 billion.¹⁸⁹ In February 2009, Treasury decided to further strengthen Citigroup’s balance sheet by converting its initial \$25 billion preferred stock

¹⁸⁶ Citigroup Inc., Form 10-Q (for the period ending Sept. 30, 2008), at 51.

¹⁸⁷ *Id.* at 8-9, 34-39.

¹⁸⁸ In announcing the program, Secretary Paulson said the aid recipients were “healthy institutions” and that they were accepting federal assistance “for the good of the U.S. economy.” See U.S. Department of the Treasury, *Statement by Secretary Henry M. Paulson, Jr., on Actions to Protect the U.S. Economy* (Oct. 14, 2008) (available at www.treasury.gov/press/releases/hp1205.htm).

¹⁸⁹ This account generally follows the narrative provided by Congressional Oversight Panel, November Oversight Report: Guarantees and Contingent Payments in TARP and Related Programs 13-22 (Nov. 2009). In more detail: The second round of preferred stock and warrants purchases came through the Treasury’s “Targeted Investment Program,” a program that was created to address the Citigroup problem. The loss sharing agreement came through the “Asset Guarantee Program,” a program also devised for Citigroup (later used for Bank of America) under which Treasury would guarantee certain distressed or illiquid investment assets held by “systemically significant financial institutions.” U.S. Department of the Treasury, *Report to Congress Pursuant to Section 102 of the Emergency Economic Stabilization Act*, at 2 (Dec. 31, 2008) (online at www.financialstability.gov/docs/AGP/sec102ReportToCongress.pdf) (hereinafter “Treasury AGP Report”).

Losses were shared among the government parties in the following way: For losses above \$39.5 billion, Treasury would cover 90% of the first \$5 billion; the FDIC, 90% of the next \$10 billion, and for 90% of amounts above a total of \$54.5 billion in losses, the Federal Reserve was the residual loss-bearer. Advances to cover these losses would be secured by the toxic asset pool. As consideration for this guarantee, Citigroup issued approximately \$7 billion in preferred stock and warrants to the government parties.

investment into common stock, obliging Treasury to take an approximately 34% equity ownership stake.¹⁹⁰

Using a combination of existing authorities of the FDIC and the Fed, in combination with the new authority granted to Treasury under the Emergency Economic Stabilization Act, the government successfully (thus far) “resolved” the potential failure of Citigroup. As a resolution mechanism, however, this jury-rigged assemblage falls short. Loss-sharing is plainly inadequate. Equity capital suppliers have been diluted but not wiped out. Although Citigroup shareholders as of September 30, 2008 were diluted approximately 75 percent over the following year, the value of their equity stake as of September 30, 2009 was still approximately \$26 billion, value that a desirable resolution mechanism should have captured.¹⁹¹ Credit suppliers have emerged unscathed, having borne none of the losses associated with Citigroup’s insolvency. Unsecured creditors have fared as well as secured creditors. Unlike the typically restructuring in or out of bankruptcy, creditors have not been called upon to swap their claims for equity or even debt instruments with concessionary interest or maturity terms.

2. Why the FDIC’s resolution authority was inadequate to address the financial crisis

The review of the TARP/Citibank example gives some perspective on why the FDIC’s existing resolution authority was inadequate to address the solvency risks to the banks, much less the other major financial institutions at risk in the financial crisis of 2007-09, and provides as well a cautionary perspective on the redesign of resolution authority now underway. In the first stage of the financial crisis the FDIC was on the sidelines because the immediately affected institutions, Bear Stearns and Lehman Brothers, were not banks and held no insured deposits, also true for the remaining large securities firms teetering after Lehman’s crash. For the next stage of the crisis -- the effort to address the general capital adequacy problem of large financial institutions with a bank at their center -- the FDIC’s resolution authority was inapposite. Its resolution authority was designed to address banking firm distress on a case-by-case basis following an insolvency-related trigger, not to provide financial sector support even though it might reduce risk to the insurance fund. In the third stage, in dealing with the complexity and scope of institutions like Citigroup and Bank of

¹⁹⁰ This conversion was conditioned on other holders of preferred stock making a similar exchange. The exchange was successfully concluded in July 2009. The government’s remaining preferred stock was converted to “trust preferred stock,” a stock-debt hybrid that is accounted for as capital. See generally Citigroup, Inc. Form 10-Q, for quarter ending Sept. 30, 2009.

¹⁹¹ The dilution calculation was based on a comparing the number of common shares outstanding on September 30, 2009 (after the government’s exchange offer) versus September 30, 2008, 22.8 billion versus 5.4 billion. Compare Citigroup Inc., Form 10-Q (for the period ending Sept. 30, 2009), at 2 with Citigroup Inc., Form 10-Q (for the period ending Sept. 30, 2008), at 1. This doesn’t give weight to the potential dilution from the government’s conversion of warrants. But in recent other cases of the repayment of TARP funds, warrants have been redeemed rather than exercised. The value of the Sept. 30, 2008 shareholders’ equity stake is based on a share price of \$4.74, according to historical prices on Yahoo Finance. Citibank shares traded at approximately \$4.75 a share on Sept. 30, 2009, according to historical prices on Yahoo Finance. Ironically the market capitalization of Citigroup is not so different, \$102 billion at the beginning of September 2008 (\$19 a share), pre-Lehman failure, versus \$108 billion on Sept. 30, 2009.

America, the FDIC had insufficient resources and insufficient authority to undertake a rescue of the affected bank and parent bank holding company. Take the example of Citibank and its parent Citigroup. On the FDIC's precedents, in a Citibank-only rescue the FDIC would protect all depositors, not just insured depositors, almost \$800 billion worldwide, not just \$200 billion insured, an enormous stretch of its resources. Yet a bank-only rescue would have resulted in the unfathomable consequences of a bankruptcy of its holding company parent, which carried nearly half of the \$2 trillion in liabilities of the consolidated entity. But the FDIC had no authority – other than to force a bankruptcy -- to resolve the parent's financial claims.

As part of the prospectus on the redesign of resolution authority, this section sketches the existing FDIC authority and the precedents on its use. It also points to a serious limitation with resolution authority: that it works best in the case of financial firms that fail because of idiosyncratic reasons and where the consequences of failure are isolated. Resolution authority may be inadequate to address serious financial sector distress that may result if single firm failure spreads systemically because of counterparty exposure or similarity risk that affects many financial firms.¹⁹²

i. The FDIC's current resolution authority. The FDIC's core business since its establishment as an independent government agency in 1933 has been the protection of insured depositors at banks and thrifts ("banks") through the provision of deposit insurance. In furtherance of that insurer's role, it both monitors banks against the risk of failure and then intervenes in cases of failed or failing banks as appropriate. At the outset of the financial crisis, the FDIC insured more than \$4 trillion in deposits backed by an insurance fund of \$45 billion raised through assessments on participating banks and a \$30 billion line of credit at Treasury. Depositors presumably relied upon an implicit US government guarantee.

The FDIC's current resolution authority was built for "banks," not for complex, systemically important financial institutions, though its basic forms provide a promising starting point. Upon a determination by a bank's supervisor (for example, the Controller of the Currency, a Treasury official, in the case of nationally-chartered banks) that the depository institution had failed or was failing, the FDIC steps in as either conservator or receiver.¹⁹³ The usual basis for such a determination is that the bank is insolvent in either a balance sheet or going concern sense or nearing insolvency with no prospects of becoming adequately capitalized. As receiver, the FDIC has the option of liquidating the bank's assets and simply paying off the insured depositors (which may entail high losses to other creditors). Instead, it generally engineers a "purchase and assumption" transaction: the FDIC purchases "bad" assets at a premium, and arranges for a third party, generally a stronger bank, to purchase "good" assets and assume the insured deposits and certain other liabilities of the failing bank, aided by FDIC financial support.¹⁹⁴ The transaction commonly takes the form of a "merger," but governed by the Federal Deposit Insurance Act rather than state law.

¹⁹² Note that similarity risk will be increasing in financial firms' exposure to equity market pressure, as firms come under pressure to follow apparently successful strategies at peer firms. Executive compensation is only one conduit for such pressure. Augmenting shareholder power could well be another.

¹⁹³ A provision added by FDICIA (1991) also gives the FDIC power to asset a conservatorship or receivership on its own motion.

¹⁹⁴ The practice is to transfer all depositor claims, whether or not insured.

A purchase and assumption can preserve the going concern value of the failed bank, which can promptly re-open under the purchaser's name. The "bad" assets can be whittled down over time, with ultimate losses borne by the insurance fund and creditors whose claims were not assumed by the third party bank.¹⁹⁵ Thus while a purchase and assumption transaction may reduce the losses to the deposit insurance fund and to uninsured creditors, its structure gives the FDIC significant discretion to disfavor particular creditor claims, simply by not including them in the transferred liabilities. The non-transferred creditors will be left with recourse to the receivership only, which will have been depleted by the assisted assumption.¹⁹⁶ But note that amidst the clashes among creditors, any sort of receivership, even a purchase and assumption transaction, will wipe out the common shareholders and probably preferred shareholders.¹⁹⁷

In bank resolution cases, ordinarily the FDIC steps in as receiver. Less commonly, the FDIC as conservator will operate a bank with the objective of restoring it to solvency. The FDIC also has the power to provide "open bank" assistance, which avoids an adverse finding and which also commonly leaves management in place. Shareholders much favor conservatorship or open bank assistance because of the greater chance of salvaging shareholder value. In theory the choice among receivership, conservatorship, and open bank assistance should follow a hierarchy of pre-intervention capital adequacy. In a wave of bank failures in the 1980s, the FDIC liberally used its open bank assistance powers to resolve failing bank cases, generally of large banks. This had the effect of minimizing loss-sharing with uninsured depositors and other creditors and shareholders, in the most salient cases. Congress responded with a provision in FDICIA in 1991 that required the FDIC to resolve cases in the "least cost" way. This meant to limit FDIC assistance to cases where necessary to protect the deposit fund *and* where such assistance was the least costly to the deposit insurance fund of *all* possible resolution methods.¹⁹⁸

There is an important carve-out to the least cost rule: it does not apply in cases of systemic financial distress, where the FDIC, the Secretary of the Treasury and the Board of Governors agree

¹⁹⁵ See 1-15 Mathew Bender & Co., *Banking Law Manual* § 15.05(3) *Resolution Techniques* (2009). A variation on this is the establishment of a "bridge bank," in which the FDIC transfers the "good" assets and the liabilities into a new bank, which operates until it can be sold. A bridge bank can be a useful stabilizing technique that gives the FDIC time to arrange a follow-on sale and thus to realize more of the going concern value of the failed bank.

¹⁹⁶ See Russell Manning, Note, *Creditors' Remedies against the FDIC as Receiver of a Failed National Bank*, 64 *Tex. L. Rev.* 1429 (1986). In the 1980s creditors initially won some victories against such disparate treatment of creditors of a similar class but Congress overruled these results in the *Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA)*. The relevant provisions limit creditor claims to the amount that would have been received in a liquidation, See 12 *USCA* § 1821(i)(2) and specifically permit "supplemental payments" to some but not all creditors. 12 *USCA* § 1821(i)(3)(a). See Note, *Unsecured Creditors of Failed Banks: It's Not a Wonderful Life*, 104 *Harv. L. Rev.* 1052 (1991).

¹⁹⁷ In comparing purchase and assumption transaction that try to capture going concern value with straight liquidations that protect only uninsured deposits, it is important to note that in liquidations, the FDIC recovers *pari passu* with uninsured depositors and other unsecured creditors. Thus a broader rescue which protects additional creditor claims along with going concern value may not impose higher costs on the deposit insurance fund. See FDIC, *Managing the Crisis: The FDIC and the RTC Experience* 561 (1997).

¹⁹⁸ 12 *USC* § 1823(c) (4)(A), added by *F.D.I.C.I.A.*, Pub. L. No. 102-242, § 141, 105 *Stat.* 2252 (1991), amending *F.D.I. Act* § 13(c), 12 *U.S.C.* § 1823(c).

that adherence to the rule “would have serious adverse effects on economic conditions or financial stability.”¹⁹⁹

ii. The FDIC's struggle with “Too Big to Fail.” The events more than 20 years ago that led to Congressional curbs on a too-forgiving FDIC resolution practice are hauntingly similar to current events. That era’s crisis was the imminent failure of Continental Illinois, then the 7th largest U.S. bank by assets, in 1984.²⁰⁰ In the 1976-81 period, Continental was the banking sector’s star performer, trebling assets and doubling its stock price, principally through aggressive growth of its commercial and industrial lending. It ran aground in 1982 from its large purchases of participations in defaulting oil and gas loans originated by Penn Square Bank of Oklahoma and its exposure to shaky emerging market economy debt. Nevertheless it was a general deterioration in confidence rather than fresh particularly adverse news that triggered a run of its wholesale creditor suppliers in May 1984.²⁰¹ The Fed stepped in to provide liquidity, the FDIC provided “open bank” assistance in the form of subordinated notes, a group of large commercial banks provided a substantial bridge loan, and, most controversially, the FDIC promised to protect all depositors and creditors without regard for the insured deposit cap (then \$100,000), all while a “permanent solution” through merger with a healthier bank could be found. No white knight emerged and deposit outflows continued. Two months later the FDIC resolved the case by purchasing a large chunk of Continental’s troubled assets (\$4.5 billion, approximately 10 percent of total assets) and infusing \$1 billion into the bank holding company parent, taking an 80 percent equity stake.²⁰² There seemed to be no practical way to rescue the bank without protecting the creditors of the BHC as well.²⁰³

The alternative to such a resolution, which protected all creditors and left shareholders with some chance of an upside, was a straightforward liquidation: sell off the assets, pay off the insured depositors, pay the remaining creditors the residual, and move on. The reasons for the rescue of Continental Illinois and of many other large banks in the 1980s were many: concerns about systemic risk of national and international dimensions, the logistical challenges of liquidating a large bank, the knock-on effects on other banks, and the disruptive tying-up of uninsured depositor funds during a liquidation proceeding. The systemic risk concern was paramount in explaining the FDIC’s

¹⁹⁹ 12 USC § 1823(c)(4)(G)(ii).

²⁰⁰ This follows “Continental Illinois and ‘Too Big to Fail,’” in FDIC, *History of the Eighties – Lessons for the Future* (1997) (Ch. 7); FDIC, *Managing the Crisis: The FDIC and the RTC Experience 545- 565* (1997) (Part II, Case Studies of Significant Bank Resolutions, Ch. 4, Continental Illinois National Bank and Trust Company).

²⁰¹ Continental had approximately \$3 billion in insured deposits and \$40 billion in assets, making it more dependent on wholesale funding than Citigroup.

²⁰² The FDIC began selling off its equity position in 1986, two years after the rescue, but the final divestiture occurred only in 1991, seven years later. Ultimately the rescue of Continental cost the FDIC \$1.1 billion, 3.28 percent of Continental’s assets at the time of the intervention. The shareholders eventually surrendered their position.

²⁰³ First, holding company bonds included a covenant that barred dilution of the parent’s 100 percent ownership stake in the bank subsidiary without bondholder consent. Moreover, these debt instruments were widely held throughout the world, often in bearer form, making consent difficult to obtain. Second, the holding company was a funding intermediary for the bank in the wholesale credit market. It funneled those funds to the bank in the form of deposits, which it drew down to pay creditors. Thus the FDIC’s protection of bank depositors would inure to the benefit of a substantial group of the holding company’s creditors. With foresight, presumably the FDIC could have carved-out such intercompany deposits from its blanket protection.

strategy for Continental. Among other things, Continental's correspondent banks had heavily invested in Continental; in the era before interstate banking, local banks funneled capital to money center banks for the presumably higher rates of return than on local loans. Continental's failure would have imposed significant losses on dozens of other banks, producing a number of follow-on failures and tying up bank capital during the liquidation process. As the then Comptroller of the Currency put it:

We [the FDIC directors, the Fed chair, the Secretary of the Treasury] debated at some length how to handle the Continental situation. * * * In our collective judgment, had Continental failed and been treated in a way in which depositors and creditors were not made whole, we could very well have seen a national, if not an international, financial crisis the dimensions of which were difficult to imagine. None of us wanted to find out.²⁰⁴

The bank rescues of the 1980s led to a debate over "Too Big to Fail" that in turn eventually produced the "least cost" resolution strategy of FDICIA – except in cases of systemic distress.²⁰⁵ The legislative change produced some operational changes by the FDIC. Over the 1986-91 period, the height of open bank assistance, uninsured depositor losses in resolution cases averaged approximately 12 percent; in the immediately following 1992-1994 period, the average losses were 65 percent.²⁰⁶

²⁰⁴ Inquiry into Continental Illinois Corp. and Continental Illinois National Bank: Hearings before the House Subcommittee on Financial Institutions Supervision, Regulation and Insurance of the Committee on Banking, Finance and Urban Affairs, 98th Cong., 2d Sess. (September 18, 19, and October 4, 1984) Serial 98-111, at 287-88. As was pointed out by Chairman St. Germain, the government's overall aid package included \$7.5 billion in Fed discount window borrowing. *Id.* at 289. Tallying up to include the private banking parties' assistance, the total rescue package was \$17 billion. *Id.*

²⁰⁵ The major effect of the legislative change appears to have been to end the growing use of an "essentiality" test, which invited the FDIC to give significant weight to regional, even local, factors rather than systemic concerns. . Former 12 USC § 1823(c)(4)(A) permitted the FDIC to expend more than the cost of liquidation "in any case where the Corporation determines that the continued operation of such insured depository institution is essential to provide adequate depository services to its community." The legislative record suggests that many members were more offended by the disparate treatment of large banks, whose depositors were commonly fully protected, and small banks, where protection was commonly limited to insured depositors, than they were by the moral hazard issues of TBTF. See, e.g., House Subcommittee Inquiry, *supra* note --, at 292 (statement of Cong. Wylie) (referring to "serious policy question" about the existence of a "dual system" in which Continental is saved while "smaller community banks ... in the Midwest have been allowed to fail.")

Another significant change was to restrict the Fed's capacity to engage in below-the-radar bailouts of troubled banks through use of the Fed window. [In making such loans, the Fed would take the best collateral, which exposed the FDIC to greater risk. Explain the subordination of Fed loans if the bank subsequently needs FDIC protection.]

²⁰⁶ Continental Illinois and "Too Big to Fail," *supra* note --, at 253.

Nevertheless the precedents of the 1980s-1991 seem to establish the proposition that depositors in large banks would be fully protected against loss, whether or not insured.²⁰⁷ The modification to FDIC authority in FDICIA did not really change that proposition for depositors in the largest banks, those most likely to be found systemically critical. Indeed, FDICIA may have perversely encouraged deposit migration from regional banks to money center banks, or alternatively, may have encouraged the roll-up of regional banks into national banks because of the cost of funds advantage associated with the implicit deposit guarantee.

The lessons become somewhat more complicated in the case of bank holding companies (“BHCs”). In the Continental Illinois case, BHC creditors were fully protected as were parent credit advances to the banking subsidiary (styled as “deposits”). In a subsequent 1991 case, the Bank of New England Corp., the results were significantly different. The FDIC did not protect the parent BHC bondholders nor did it include parent credit advances in the liabilities transferred to the bridge banks that took over the banking subsidiaries. Bank of New England Corp. filed for bankruptcy and the bondholders were left to fight it out with the FDIC over allocation of the receivership estate in litigation that was finally settled almost eight years later.²⁰⁸ Still, the bondholder claims were relatively small in both absolute terms (\$700 million) and in relative terms. Of the \$22.7 billion in liabilities carried on the BHC’s consolidated balance sheet, \$21.3 billion in liabilities were associated with the banking subsidiaries, and all but the BHC credit claims were fully taken over by the bridge banks.

The gap in the FDIC’s resolution authority in the case of large complex financial institutions is the result of two important developments. First, some of the core functions of “banking” have shifted to non-bank financial firms. Brokerage firms like Lehman performed financial intermediation and maturity transformation, yet because they themselves did not issue insured deposits, they were outside the banking system. Second, the administrative unwinding and then legislative repeal of Glass-Steagall’s separation of banking and investment banking dramatically increased the balance sheet complexity of large financial firms. The financial sector deregulation in Graham-Leach-Bliley in 1999 was deeply flawed in not considering how the expansion of BHC balance sheets would affect the FDIC’s capacity to resolve failing banking firms, particularly in light of the problems manifest in the resolution difficulties in much simpler BHC cases. The tough question for the FDIC with respect to uninsured deposits in a failing bank becomes a problem of a different dimension when major banks are part of financial conglomerates and are all funded, even at the bank level, like Continental Illinois.

3. Proposals for new resolution authority and the unforeseen sources of financial distress.

²⁰⁷ In an important post-Continental Illinois case, involving the Bank of New England Corp. in 1991, the FDIC created bridge banks for all three banking subsidiaries (using power provided in 1987 by the Competitive Equality Banking Act) and fully protected all bank depositors relying principally on “essentiality” grounds.

²⁰⁸ See Steve Bailey & Steven Syre, “Bank of New England Reaches Accord with FDIC Creditors; Would Receive \$140 million,” *Bost. Globe*, Sept. 18, 1998, at F1.

The best estimate of the new resolution authority likely to emerge from the legislative process is reflected in the “Dissolution Authority for Large, Interconnected Financial Companies Act of 2009,” Title I.G. of House-passed H.R. 4173.²⁰⁹ Upon appropriate determinations by the Fed, the relevant regulator, and the Secretary of the Treasury regarding the impact of a particular financial firm’s impending failure on “financial stability or economic conditions in the United States,”²¹⁰ the FDIC is to step in as receiver, preempting the role of a bankruptcy court. The FDIC’s mission is “dissolution” of the financial firm, not “resolution,” meaning an orderly “liquidation.” not a conservatorship or open bank assistance, and shortfalls are meant to fall on shareholders and unsecured creditors.²¹¹ Nevertheless the FDIC has broad authority to engage in “emergency stabilization” activities, which include extending credit, purchasing assets, assuming or guaranteeing obligations, and selling off such acquired assets, liabilities or obligations. Any such stabilization plan must put shareholder claims last and see that taxpayer funds are repaid “before payments are made to creditors.”²¹²

The funding source of such stabilization activity is a “Systemic Dissolution Fund,” sized at \$150 billion, to be funded through risk-based assessments on financial firms with assets of more than \$50 billion and hedge funds with assets of more than \$10 billion. Shortfalls of \$150 billion can be funded through borrowing from the Treasury. Further Treasury borrowings, capped at an additional \$50 billion, can be obtained through a special approval procedure initiated by a presidential certification that such action is “necessary to avoid or mitigate an imminent financial emergency,” and then an affirmative House and Senate vote on a joint authorizing resolution. Each chamber must vote within six days of the presidential submission.²¹³

The legislation wants to make the FDIC route the exclusive means of resolution, including firm-specific “stabilization assistance,” and thus cuts back the Fed’s emergency authority to extend credit to firms other than members of the Federal Reserve System. The Fed’s section 13(3) authority would be amended to impose a “99 percent likelihood” requirement of repayment of credit extensions under the section and by limiting such actions to a “broadly available” facility rather for a “single and specific” borrower.²¹⁴ Such credit extensions are capped at \$4 trillion. The bill also

²⁰⁹ Wall Street Reform and Consumer Protection Act of 2009, H.R. 4173, 111th Cong., 2009-10, passed in the House, Dec. 11, 2009.

²¹⁰ *Id.*, § 1603(b).

²¹¹ *Id.*, §§ 1602, 1609(c).

²¹² *Id.*, § 1604(f)(3).

²¹³ *Id.*, §§ 1609(n) et seq. Additionally, upon the determination of the Financial Stability Oversight Council (nine financial regulators) “that a liquidity event exists that could destabilize the financial system,” the FDIC can create a “widely-available” program of guarantees of obligation of “solvent” banks or other financial firms, “except that a guarantee of obligations under this section may not include provision of equity in any form.” *Id.*, § 1109(a).

²¹⁴ Since these limits are tied to the exercise of the Fed’s section 13(3) emergency authority, presumably the Fed would retain its customary discretion over credit extensions to members of the Federal Reserve System. One surmises that the cutback on the Fed’s authority is based at least in part on dissatisfaction with its rescue of AIG. As to support that is “broadly available,” the “99 percent” certainty level might be rethought, since that could rule out many of the credit support facilities that the Fed created to address post-Lehman distress. These facilities, generally regarded as a notable success, permitted use of various asset-backed instruments as collateral, sturdy protection but not bullet proof. There is a circularity problem: a “99 percent” safety level meant to protect the Fed (indirectly, the

provides for expedited consideration of a joint resolution of “disapproval” of further Fed lending, although the legal, as opposed to political, effect of such “disapproval” is not clear.²¹⁵

There is much to admire in the effort to provide for an orderly winding up of a failing financial firm and in the advance allocation of \$150 billion for “emergency stabilization” purposes. But the bill’s regime would not have addressed the Crisis of 2007-08, much less crises that cannot be foreseen. By the time it failed, Lehman Brothers had a “hole” in its balance of at least \$60 billion in its commercial real estate assets; losses on mortgage-backed securities would have been in addition. The looming failure of AIG, which seemed fore-ordained regardless of Lehman’s fate, required an immediate infusion of \$80 billion to stabilize. The stabilization of Citigroup is instructive: a combination of TARP, FDIC, and Fed resources was required. Yet the Fed’s capacity to participate in a single firm “stabilization” seems ruled out by the bill. The executive branch’s capacity to augment the FDIC’s resources through a fast-track legislative process is limited in amount (another \$50 billion) and is likely to require, politically, the same alarming public rhetoric as with TARP.

The shortfall in the House bill’s resolution authority illustrates why genuine emergency authority is necessary. It’s not only that the funds immediately available are too small relative to the size of financial markets. Rather, resolution authority has a particular model of systemic distress: contagion from single firm failure that spreads because of counterparty risk. If Lehman’s dissolution had been orderly, not abrupt, various other financial players would not have faced dire risk and uncertainty from hanging contracts, defaulted obligation, and inaccessible funds which disrupted relationships among the surviving firms. That’s the theory. But the financial crisis of 2007-08 powerfully demonstrated the additional systemic risk of “similarity,” which would not necessarily be avoided by the adroit resolution of a particular troubled firm. The mortgage-backed securities on the balance of many large financial firms were abruptly revalued. Many firms were revealed to be insolvent, or on the verge, and needed to be recapitalized. TARP’s capital infusion provided an important interval in which financial firms could find additional private capital. The government guarantee against the failure of large financial firms also stabilized the real economy because it gave non-financial firms assurances that investments in production were likely to pay off.

4. Systemic Emergency Funding Authority

This foreseeable unfolding of a financial sector crisis shows why Systemic Emergency Funding Authority (“SEFA”) is necessary. In the event of widespread systemic distress, specific large firm resolutions may exceed the FDIC’s existing resources. In a systemic emergency, stabilization of the overall financial sector may be necessary. The alternative, multiple major firm-specific resolutions in a narrow time frame, will be administratively infeasible, are likely to exceed

taxpayers) against loss, may restrict the Fed from intervening in useful ways and thus may exacerbate the risk of loss.

²¹⁵ Id., § 1701(amending amendment of section 13 of the Federal Reserve Act). Note further that such a joint resolution, if the goal is to have legal effect, is subject to a presidential veto, which would require a two-thirds override vote. See TAN and nn – infra [post-*Chadha* requirements of bicameralism and presentment].

the FDIC's resources, and would amount to a government takeover of a large portion of the financial sector with consequences that are very difficult to chart. Such a massive intervention is hardly the way to avoid a break-out of financial sector distress into the real economy. Moreover, as we have argued, recourse to Congress in the middle of a crisis for additional authority will exacerbate the crisis within the financial sector and, more seriously, will result in the breakout of the financial crisis into the real economy. Even worse, a legislative failure in the crucible of an emergency would be a genuine catastrophe for the real economy.

What we propose is standby emergency authority scaled to the size of the current U.S. economy, \$1 trillion, in 2010 dollars. As of yearend 2009, GDP was approximately \$14 trillion,²¹⁶ total credit market debt was approximately \$53 trillion,²¹⁷ and total financial assets were approximately \$145 trillion.²¹⁸ In the current crisis, Congress granted \$750 billion of authority in TARP, all of which was taken down, and which at the worst moments seemed insufficient. The amount we propose for SEFA would amount to approximately 2 percent of the current credit market debt, perhaps the best measure of financial sector size. It is important that this standby authority be scaled to the growth the U.S. economy, proxied for these purposes by growth of the total credit market debt.

Use of SEFA would be permitted only by a consensus determination by Treasury, the Board of Governors of the Federal Reserve, and the FDIC that there exists systemic financial distress that cannot be adequately addressed by the use of non-emergency authority, including the FDIC's resolution authority, and that poses a threat to the U.S. economy of severe disruption. SEFA would be available for three purposes: first, to provide support to the FDIC's resolution plans and other FDIC-permitted activity; second, to provide capital and other assistance to firms in the financial sector, and third, to support emergency authority wielded by the Federal Reserve, for example, backstopping liquidity programs or asset financing programs as exemplified in the financing activity undertaken by the Fed in the present crisis.

To make SEFA a credible emergency funding source, it should be partially pre-funded by an assessment on large financial firms, including private financial firms such as hedge funds and mutual funds, who depend on the stability of the financial sector for their daily activity. A quarter of SEFA should be prefunded, \$250 billion in 2010, indexed appropriately. The financial sector assessment should be set so that the fund will accumulate slowly over time. We would favor a 20 year accumulation period – which balances the 75 year period since the last major systemic break in the Great Depression against the increased instability likely from globalizing finance. The assessments should be risk-adjusted. The assessments should continue after the initial fund is accumulated, so that relative risk adjustments can be made; for example, a firm that lowers its risk may receive a refund of more than it pays in for a particular period.²¹⁹ A SEFA drawdown of more than the accumulated fund should be supported by borrowing from Treasury. Any losses to Treasury should be covered by an assessment on all parties who are liable for prefunding assessments. This

²¹⁶ Bureau of Economic Analysis, U.S. Dept. of Commerce, Jan. 29, 2010, available at <http://www.bea.gov/national/index.htm#gdp> (as of yearend 2009).

²¹⁷ Id., Table L.4.

²¹⁸ Federal Reserve Board, Flow of Funds, Table L.5.

²¹⁹ The fund should be invested in long term Treasury securities and accrued interest should be credited to the fund.

mutualization of losses in a systemic emergency will give financial sector participants an incentive to alert the regulators to growing systemic risks.

IV. The “Democracy Deficit”: Legitimacy and Accountability in Emergency Authority

We have proposed a large grant of discretionary emergency authority – available to rescue the financial sector, which will of course redound to the benefit of specific firms in the financial sector who survive the first way of the mounting distress, their shareholders and their well-compensated employees. This Systemic Emergency Funding Authority, by its terms, would be exercisable on regulatory initiative without further legislative authorization. The grant of such authority is of course controversial. There are four sorts of objection: first, that such a rescue is likely to hold harmless the firms and even the individuals whose actions may have precipitated the crisis, in effect, rewarding the undeserving; second, that the existence of such authority will itself encourage reckless behavior by firms and regulators, increasing the risk of systemic distress, a moral hazard argument; third, that regulatory discretion over such large resources is inherently illegitimate and thus should not be permitted; fourth, that such regulatory discretion is anti-democratic because unaccountable.

1. Rewarding the Undeserving?

The first objection, a kind of unjust enrichment claim, is a major source of the political backlash against the TARP program, which has crimped the resolution authority proposed in current legislation. Such a stance, grounded in an understandable desire to punish relevant actors, falls short precisely because most of the punishment from the ensuing economic distress will be absorbed by “Main Street,” not “Wall Street,” even worse, absorbed by the millions who will lose jobs. Even *with* TARP (and a major economic stimulus program), unemployment reached 10 percent;²²⁰ 7 million workers lost jobs since September 2008.²²¹ Without the stabilization of the financial sector that TARP made possible, these losses would have multiplied. To some extent, the visceral first objection should be mitigated by a provision that clearly holds the financial sector responsible for supplying the necessary funds, through *ex ante* and *ex post* assessment mechanisms. Since a systemic emergency could well entail advancement of government funds, a funding recipient should provide the government with an “equity kicker” on its repayment as well as accepting stringent terms on executive compensation. Nor is there a principled objection to settling up *ex post* through an excise tax on the financial firm beneficiaries of the intervention, those who have survived

²²⁰ Bureau of Labor Statistics, Employment Situation Summary, Feb. 5, 2010 (comparing January 2010 unemployment (9.7%) with December 2009), available at <http://www.bls.gov/news.release/empsit.nr0.htm>.

²²¹ Bureau of Labor Statistics, Current Employment Statistics, Table B-1 (historical), available at <http://www.bls.gov/webapps/legacy/cesbtabs1.htm> (comparing employees on non-farm payrolls as of Sept. 2008 vs. Dec. 2009, seasonally adjusted). An alternative measure is unemployment, which shows an increase in unemployment of approximately 6 million over the period. See Bureau of Labor Statistics, Labor Force Statistics, Table A-10 (historical), available at <http://www.bls.gov/webapps/legacy/lfsatab10.htm>. (comparing number of unemployed as of Sept. 2008 vs. Dec. 2009).

and prospered as a result. But the key point cannot be lost: the alternative to an emergency intervention that may save some unworthy financial firms and individuals is a systemic break that spills over with potentially devastating effects on the real economy and thus on the lives of most citizens.

2. Increasing the Systemic Risk Problem?

The second objection is that the availability of standby emergency authority will increase the occasions of systemic distress because firms and regulators know there is a safety net. This objection runs up against the inevitability of systemic distress. We assume that a reform package will contain various measures to reduce systemic risk, including enhanced capital and liquidity requirements, increased supervisory oversight, structural changes to the industry, and on-going systemic risk monitoring. The interaction of these legislative and regulatory efforts with dynamic global financial markets, over the span of decades, is impossible to foresee. The availability of standby emergency authority does not make firms “too big (or too connected) to fail.” Rather it is a prudential measure against possibilities we may not project, notwithstanding efforts to avoid them, no more causative of failure than a safety net under a tightrope walker. Indeed, the structure of the replenishment mechanism that we have proposed, which assesses all significant firms in the financial sector, amounts to a mutualization of risk that should encourage firms following a more cautious strategy to press regulators to rein-in other firms and practices that pose systemic risks.

One strong counter to this particular objection is to look at the experience of the Fed’s invocation of its emergency authority under Section 13(3). As shown above, this power had been unused for 70 years, invoked only in the emergency conditions of fall 2008.²²² It is hard to believe that financial firms modified their risk parameters in expectation that the Fed would bail out the world financial system in a pinch. Indeed, the history suggests that the Fed has, if anything, been too reluctant to use its emergency authority or that at least Congress thinks so. In the stock market crash of 1987, several key Wall Street broker-dealers teetered on the brink of failure. The Fed supplied some liquidity support, but only through lending to member banks for follow-on loans to the broker-dealers, an awkward arrangement. In the aftermath of this brush with major systemic distress, the 1991 amendments to FDICIA expanded significantly the Fed’s authority to lend to non-bank financial firms by expanding the range of eligible collateral. The Senate committee report (and Senator Dodd’s separate remarks) were clear about the desirability of Fed intervention to avoid financial market collapse.²²³

Suppose in some generalized way, moral hazard will marginally increase. Creditors may lend to financial firms thinking that although credit extension to any single firm may be lost, government intervention will provide protection against severe credit losses from a generalized collapse. Thus creditors will marginally lower the cost of capital to risk-taking firms *ex ante*, but also will be less likely to retreat at the hint of a crisis. Is this a net negative? Standby emergency authority may be seen as a kind of generalized government guarantee designed to avoid a run on the entire financial system. Government protection against a break-out of a Hobbesian state of nature in

²²² See text accompanying notes – *supra*.

²²³ See text accompanying notes -- *supra*.

the financial world is surely one useful way that government promotes the “common welfare” and fosters economic development.²²⁴

3. *Granting Illegitimate Authority?*

The third objection to standby emergency authority focuses on the extraordinary discretionary authority over vast sums vested in government actors at a moment that they declare to be “an emergency.” A general objection on the grounds of democratic illegitimacy takes a stance on human agency that sits oddly in the present moment. Objectors to standby authority must imagine that we can construct through *ex ante* regulatory limits, incentives, and “supervision” a financial marketplace that will somehow avoid outbreaks of systemic distress. This is the world we thought we already had, a version of Alan Greenspan’s reliance on the “self-regulating” market. In this world, the costs of exceptional government action outweigh the likely costs of inaction. Such a view can be asserted now only because in this instance intervention avoided a catastrophe, which, because it was avoided, seemed the inevitable outcome no matter what.

Without attempting fully to engage the vast literature on Congressional delegation to administrative or executive authority, it seems fruitful to divide the concern over “illegitimate authority” into two familiar dimensions, substantive and procedural. *i. Substantive specification.* The substantive question is this: Is it possible to specify the use of Systemic Emergency Funding to those general circumstances that at least the enacting Congress would regard as legitimately triggering its use, so that delegation of authority merely responds to the need for urgent action rather than a standardless blank check? The answer, we believe, is “yes.” The exigent financial distress conditions that Congress is likely to specify will, ironically, constrain its non-exigent use, as the premature declaration of a financial emergency can become a self-fulfilling prophecy that the financial regulators will want to avoid. Here again the Fed’s experience with Section 13(3) is instructive. An important reason for the very rare use of Section 13(3) is the Fed’s concern that a finding of “unusual and exigent circumstances” that limit normal credit availability²²⁵ will provoke a run by financial sector actors who will converge on this negative signal by an informed market overseer. In other words, regulators will strongly hesitate to get ahead of markets, to act preemptively, in invoking this emergency authority. A definition of “systemic financial emergency” will thus become a credible standard. This contrasts favorably with Congress’ ability adequately to specify the constraints on executive authority in a military or national security emergency, for which there is much less counter-pressure against preemptive use.

ii. Procedural safeguards. Congress has frequently delegated authority subject to interagency consensus, a procedural safeguard against illegitimate action. The Sarbanes-Oxley Act of 2002,²²⁶ which establishes the Public Company Accounting Oversight Board (PCAOB), requires that all PCAOB rules and disciplinary sanctions be approved by the Securities and Exchange

²²⁴ For a reconstruction of the alternative view, see J. Bradford DeLong, “Liquidation” Cycles: Old-Fashioned Real Business Cycle Theory and the Great Depression, NBER W.P. 3456 (1990), available at <http://ssrn.com/abstract=226835>.

²²⁵ 12 U.S.C. §343 (2000).

²²⁶ Pub. L. 107-204, 116 Stat. 765 (July 30, 2002)

Commission.²²⁷ Section 721 of the Defense Production Act of 1950 (the Exon-Florio amendment), which governs Executive Branch review of foreign investments in U.S. companies, requires the concurrence of both the Treasury Secretary and the head of a designated “lead agency” to exempt any foreign-government investment from full review.²²⁸ And the Endangered Species Act of 1973²²⁹ creates an Endangered Species Committee, composed of seven cabinet secretaries, agency heads, and other executives, with the power to grant exemptions, upon the approval of five members, from statutory prohibitions on the jeopardizing of endangered species.²³⁰ In the financial realm, Congress has permitted the FDIC to vary from “least cost” resolution of a failing bank upon agreement among the FDIC, the Fed, and Treasury that such a variance will avoid “serious adverse effects on economic conditions or financial stability.”²³¹

The legitimacy-conferring benefits of this division of decisional authority are important. Some are political. The fact of separation avoids the accumulation in any one body of too much power, the same idea of checks and balances that underlies the tripartite structure of federal government. Because each body, to act, requires the acquiescence of others, none can enact idiosyncratic policy preferences. Different agencies will possess distinct expertise and information. Moreover, their actions will internalize different vectors of political accountability, including, for example: whether the agency head serves at the President’s pleasure, whether the agency is “independent,” and whether it depends on annual Congressional appropriations. Other benefits are cognitive. Divided decision-making can mitigate the analytical deficiencies that plague insulated decision-making. It can avoid “groupthink,” the peculiar dynamics of insulated decision-making that can produce premature consensus before considering the full range of options and that may be susceptible to over-confidence in calculative capacity.²³²

We have proposed a specific interagency decision process that requires a consensus among Treasury, a supermajority of the Board of Governors of the Federal Reserve System, and the FDIC. These agencies are differently accountable in a political sense and see the world through somewhat different lenses. The Secretary of the Treasury, who is likely to take the lead in invoking the emergency authority, is accountable to the President, who of course is uniquely accountable to the country as a whole. Treasury as the fiscal authority of the United States is sensitive to tax revenues, expenditures, the budget deficit, and the overall economy. Treasury also has intense interaction with Congress on a host of issues crucial to the administration.²³³

²²⁷ 15 U.S.C. §7217 (2006).

²²⁸ 50 U.S.C.A. §2170(b)(2)(D)(i).

²²⁹ Pub. L. 93-205, 87 Stat. 884 (Dec. 24, 1973) (codified as amended at 16 U.S.C. §§1531 et seq.). The Committee was added later, by Pub. L. 95-632, 92 Stat. 3751 (Nov. 10, 1978).

²³⁰ 16 U.S.C. §1536 (2000).

²³¹ 12 U.S.C. §1823(c) (2006).

²³² Robert S. Baron, *So Right It’s Wrong: Groupthink and the Ubiquitous Nature of Polarized Group Decision Making*, 37 *Advances in Experimental Social Psychology* 219, 221 (2005); Jeffrey J. Rachlinski & Cynthia R. Farina, *Cognitive Psychology and Optimal Government Design*, 87 *Cornell L. Rev.* 549, 561--62 (2002).

²³³ Some readers have suggested that the President explicitly endorse the relevant determination, on the view that visible presidential ownership of the “emergency” is appropriate from legitimacy and accountability perspectives,

The Fed is designed to be highly independent. Fed governors (a full complement is seven) are appointed by the President and confirmed by the Senate for a 14 year term. The Board is staggered, with terms expiring on even numbered years; full term appointments are not renewable (though those filling out a vacancy may be reappointed to a full term). The Chairman and Vice Chairman are appointed by President from among sitting governors, subject to Senate confirmation, for four year renewable terms.²³⁴ Although the Fed has broad responsibility for the overall economy, its specific function is the conduct of monetary policy. It thus closely monitors conditions in the financial sector, including specific firms whose activities may affect monetary policy. The Fed is funded by its earnings on its monetary operations; it is not dependent on Congress for annual appropriations.

The FDIC is an independent agency on the New Deal model: run by a five person board of directors appointed by the President and confirmed by the Senate, no three of whom may be from the same political party, with terms that do not coincide with presidential turnover. The President appoints the chairman for a five year term, subject to confirmation. In theory the chairmanship does not change upon presidential turnover, but apparently the current chairman offered to resign if the President wanted to choose someone else.²³⁵ The FDIC is funded through deposit insurance premiums collected from on financial firms; it too operates outside the appropriations process.

When it comes to providing financial assistance, Treasury cannot act except through a dedicated fund (like the Exchange Stabilization Fund) or through appropriations. The Fed literally prints money. It may feel authority constrained but not resource constrained. The FDIC is resource constrained by the limits of the deposit insurance fund and its line of credit at Treasury. As the agency that would have front-line responsibility in the non-bankruptcy resolution of any particular financial firm, the FDIC would have a different perspective from Treasury or the Fed.²³⁶

In assessing the legitimacy of a grant of Systemic Emergency Funding Authority to these agencies acting in consensus, it is important to note that this is a more conservative approach to emergency authority than in other areas. Usually in an emergency, the President can act alone.²³⁷

even though the Secretary of the Treasury is already subject to the President's control. From our perspective, tying the authority to a consensus among financial regulators, meaning Treasury on behalf of the administration, may serve to emphasize the financial sector disarray without stirring broader concern that the crisis is about to get out of control.

²³⁴ Federal Reserve Board: FAQ Board of Governors, available at

<http://www.federalreserve.gov/generalinfo/faq/faqbog.htm>. By statute, appointments of governors must reflect a "fair representation of the financial, agricultural, industrial, and commercial interests and geographical divisions of the country"; indeed, the law further specifies that no two governors can come from the same Federal Reserve District. Id.

²³⁵ See National Academy of Public Administration, Prunes Online, FDIC Chairman, <http://www.excellenceintransition.org/prune/prunedetail.cfm?ItemNumber=10736>.

²³⁶ Any system of divided decision-making raises the concern of multiple vetoes and thus gridlock in the face of a crisis. Realistically the political support of the administration, expressed through Treasury, and the financial tools of the Fed are minimally necessary in a financial emergency. Adding the FDIC, which will have functional responsibilities in a crisis, may address some prudential concerns over invocation of the Systemic Emergency Funding Authority.

²³⁷ Moreover, in many other "framework" statutes that devolve power on the President in an emergency, the invoking standards are less well specified than we contemplate in the case of SEFA. See Sanford Levinson & Jack

The International Emergency Economic Powers Act (IEEPA),²³⁸ for example, permits the President, upon a national emergency declaration,²³⁹ to investigate, regulate, or prohibit various international financial transactions.²⁴⁰ The National Security Act of 1947²⁴¹ permits the President to initiate covert action.²⁴² Treasury (with the approval of the President) can make use of the Exchange Stabilization Fund “to deal in gold, foreign exchange, and other instruments of credit and securities,”²⁴³ a broad remit that was employed in 1994 to make loans and currency swaps to Mexico and most recently to backstop a guarantee of money market funds. And the President has claimed, with the complaisance of Congress, vast war-making powers.²⁴⁴ The use of military force will almost certainly require Congress to appropriate funds, politically if not formally.²⁴⁵ Indeed, in the declaration of a “national emergency” that would warrant the exercise of military power, Congress has turned down legislative opportunities to restrict presidential claims to unilateral emergency authority.²⁴⁶

4. Lack of accountability?

Systemic Emergency Funding Authority raises particular accountability concerns because neither of the two most potent mechanisms, advance Congressional approval or robust judicial review, are available as a practical matter. But it is nevertheless possible to fashion a network of monitoring and checking mechanisms that bring genuine accountability to SEFA’s discretionary exercise.²⁴⁷

M. Balkin, *Constitutional Dictatorship and Its Design*, available at <http://ssrn.com/abstract=1508666>, at 43-46 (forthcoming Minn. L. Rev. 2010). Levinson & Balkin also observe that the “American system” typically provides for emergency powers on specified criteria (as found by the executive) rather than requiring Congressional action for each emergency. *Id.* at 71.

²³⁸ Pub. L. 95-223, Title II, 91 Stat. 1626 (Dec. 28, 1977) (codified as amended at 50 U.S.C. §§1701 et seq.)

²³⁹ 50 U.S.C. §1701 (2000). IEEPA §202.

²⁴⁰ 50 U.S.C. §1702 (2000). IEEPA §203.

²⁴¹ Pub. L. 80-235, 61 Stat. 495 (July 26, 1947).

²⁴² 50 U.S.C. §413b (2000). “Covert action” is defined in 50 U.S.C. §413b(e) (2000).

²⁴³ Gold Reserve Act of 1934, L. of Jan. 30, 1934, ch. 6, § 10(a), (b)(1),(c), 48 Stat. 341-42 (Jan. 30, 1934); as amended by Pub. L. 95-417, § 4(b), 91 Stat. 1229 (Oct. 28, 1977) (codified as amended at 31 U.S.C. §5302(b) (2000)). The 1977 amendment provided that no loan or credit to a foreign government or entity could remain outstanding for more than six months in any 12 month period, unless the President determines that “unique or emergency circumstances” necessitate otherwise.

²⁴⁴ This development was most recently described in Jack Goldsmith, *The Accountable Presidency*, *The New Republic*, Feb. 1, 2010 (reviewing books on executive power by John Yoo and Garry Wills).

²⁴⁵ See, e.g., Jide Nzelibe, *A Positive Theory of the War-Powers Constitution*, 91 *Iowa L. Rev.* 993 (2006).

²⁴⁶ See Bruce Ackerman, *The Emergency Constitution*, 113 *Yale L.H.* 1029, 1082 (2004) (discussing passage of National Emergencies Act of 1976, “which terminated all existing states of emergency and established a uniform procedural framework for the future exercise of all such powers,” *id.* at 1078). Ackerman provides a very useful canvass of the general scope and use of presidential emergency power, citing sources. *Id.* at 1077-81.

²⁴⁷ The following discussion finds substantial support and significant extension in the literature on “framework legislation.” See generally, e.g., Elizabeth Garrett, *The Purposes of Framework Legislation*, 14 *J. Contemp. Legal*

i. Congressional control. As to potential Congressional control: the Supreme Court’s decision in *Immigration and Naturalization Service v. Chadha*,²⁴⁸ has disabled Congress’ capacity to control administrative exercise of delegated authority through a “legislative veto” -- a short-form Congressional check before the action takes effect. Prior to *Chadha*, Congress had frequently inserted such provisions into policy-delegating statutes, most commonly in the form of a negative vote by either house.²⁴⁹ After *Chadha* Congress can disapprove administrative action only in full compliance with the Article I requirements of bicameralism and presentment. Thus use of SEFA could not be made subject to a one-house objection or indeed any other summary legislative action. Given near certainty of a presidential veto, this means it would take a two-thirds vote of each house to block SEFA’s use in a particular instance. One post-*Chadha* mechanism used in the case of administrative rule-making, to require a minimum waiting period during which objectors might attempt to marshal legislative support, would be inconsistent with the emergency needs that led to SEFA’s use.²⁵⁰ On the other hand, it would be possible, if not necessarily advisable, for Congress to provide for immediate use of an initial tranche of SEFA but to condition use of an additional tranche upon a justificatory report and a waiting period during which Congress could adopt a disapproving measure (subject to the need to overcome a presidential veto). This approach, including a legislative “fast track” for disapproval, was employed in the TARP legislation.²⁵¹

Issues 717 (2005) (developing concept). Framework legislation modifies or establishes congressional procedures to be applied to the consideration of future substantive legislation. Examples of these procedures are legislative disapproval (or approval) “fast tracks,” see *id.* at 727–28, 747–48; cf. *infra*, text accompanying notes []; and congressional reporting and consultation requirements, see Garrett, *supra*, at 746–47; cf. *infra*, text accompanying notes []. These procedures can be used to solve “democracy deficit” problems in instances of delegated decision-making, by facilitating congressional executive-branch oversight. Garrett, *supra*, at 744–45. And the literature suggests that using framework legislation to facilitate congressional executive-branch oversight is most appropriate in two circumstances: (1) where “Congress finds it difficult to specify in advance the substantive criteria that will . . . constrain [executive] discretion”; and (2) where judicial review is inappropriate or infeasible. Garrett, *supra*, at 745–46. Here, we have the second, see, *supra*, text accompanying notes []; and while we believe that Congress can specify *ex ante* some substantive criteria to constrain SEFA’s use, see, *supra*, text accompanying notes [], those criteria must necessarily be few and highly generalized so that the executive is afforded sufficient flexibility to respond to unforeseeable systemic crises. We thank Abbe Gluck for alerting us to this literature.

²⁴⁸ 462 U.S. 919 (1983).

²⁴⁹ See, e.g., Peter L. Strauss et al., Gellhorn and Byse’s *Administrative Law* 205 (Rev. 10th ed. 2003) (noting the “200+ statutes containing a veto provision” that existed at the time *Chadha* was decided).

²⁵⁰ Compare the Congressional Review Act, Title II of Pub. L. 104-121 (March 29, 1996), codified in 5 U.S.C. §§ 801-808, which subjects proposed administrative rules to a 60 day period of Congressional review and which further provides for expedited legislative action (a joint resolution) to reject the rule. See generally Daniel Cohen & Peter Strauss, *Congressional Review of Agency Regulations*, 49 *Admin. L. Rev.* 95 (1997).

²⁵¹ Section 115 of the Emergency Economic Stabilization Act, *supra* note --, provides for “graduated authorization”: of the total \$750 billion authorization, \$250 billion could be used immediately; an additional \$100 billion could be used upon a presidential certification of need, and then, before use of the remaining \$350 billion, a 15 day waiting period and a fast track legislative procedure providing for the possibility that “there is enacted into law a joint resolution disapproving the plan of the Secretary with respect to such additional amount.” Section 115 (c). (The

ii. Judicial review. All administrative action is inherently subject to judicial review.

Nevertheless judicial review will not be useful accountability check on SEFA actions because the balance of harms will highly disfavor injunctive action and judges will be extraordinarily hesitant to claim sufficient competence to override emergency determinations by regulators who can claim expertise and tasked responsibility. The TARP legislation explicitly provided for judicial review under the Administrative Procedure Act, inviting the courts to review exercises of TARP authority under the standard tests of arbitrariness, capriciousness, abuse of discretion, and lawfulness.²⁵² But TARP also ruled out injunctive relief against core exercises of TARP authority, responding to the practical need of finality in the disposition of financial assets in a financial emergency.²⁵³ The instinct that led the drafters of TARP to limit equitable relief would almost certainly carry over to judicial attitudes in reviewing SEFA actions. In the midst of a financial emergency jointly declared by the Treasury, the Fed, and the FDIC, a court would be most reluctant to intervene. The “hands off” approach the courts have taken regarding the Fed’s actions is instructive. Courts simply do not review the Fed’s often momentous monetary policy decisions and are reluctant to review other Fed decisions even in non-emergency situations.²⁵⁴

iii. Accountability mechanisms. Nevertheless there are many mechanisms of consultation, monitoring, and oversight that can weave a dense web of engagement with the emergency exercise of delegated power that satisfies the requirements of accountability. Before exercise of SEFA, Congress can require consultation with relevant House and Senate committees or the relevant Congressional leadership. This is common in grants of emergency authority.²⁵⁵ Concurrent with SEFA exercise, Congress can require the filing of reports with the relevant Congressional committees and public disclosure of the justifications for the emergency actions and a detailed description of them. Congress can also establish monitoring bodies that will track SEFA uses and provide an independent review. For example, the TARP legislation established a “Congressional Oversight Panel” that files monthly reports,²⁵⁶ and a Special Inspector General “to conduct,

period following Congressional action and before the president’s decision to sign or veto does not count as part of the 15 days, but the period following a veto does. Section 115(f)).

²⁵² See Section 119(a)(1) of the Emergency Economic Stabilization Act, *supra* note --

²⁵³ *Id.*, § 119(a)(2). It excludes an instance where equitable relief is necessary “to remedy a violation of the Constitution.”

²⁵⁴ See *Board of Governors v. MCorp Financial, Inc.*, 502 U.S. 32 (1991); *Huntington Towers, Ltd. v. Franklin Nat. Bank*, 559 F.2d 863 (2d Cir. 1978); *Raichle v. Federal Res. Bank*, 34 F.2d 910 (2d Cir. 1929).

²⁵⁵ E.g., The International Emergency Economic Powers Act (IEEPA), Pub. L. 95-223, Title II, 91 Stat. 1626 (Dec. 28, 1977) (codified as amended at 50 U.S.C. §§1701 et seq.), requires prior consultation with Congress “in every possible instance,” regular consultation thereafter, and periodic follow-up reports. IEEPA § 204. The National Security Act of 1947 requires the President to notify certain members of Congress before initiating any “covert action.” 50 U.S.C. §413b (2000). The War Powers Resolution, Pub. L. 93-148, 87 Stat. 555 (Nov. 7, 1973) (codified as amended at 50 U.S.C. §§1541 et seq.), requires the President to “consult with Congress before introducing United States Armed Forces into hostilities,” 50 U.S.C. §1542 (2000), and to make timely and periodic reports to various members of Congress thereafter. 50 U.S.C. §1542 (2000) (requiring regular consultation with Congress); 50 U.S.C. §1543 (2000) (requiring submission of report to congressional leaders within forty-eight hours and periodic reports thereafter).

²⁵⁶ Economic Stabilization Act, *supra* note --, § 125.

supervise, and coordinate audits and investigations” of TARP program,²⁵⁷ and also tasks the GAO with “ongoing oversight of the activities and performance” of TARP.²⁵⁸ These monitors are given broad information access rights.²⁵⁹ Congress can hold oversight hearings that require the emergency actors to account for their actions at all stages in the crisis, including the particular of their exercise of emergency authority. Congress can also convene review commissions to investigate and to bring an independent perspective on the causes of the crisis and its management. For example, in the aftermath of the recent crisis, Congress established a bi-partisan “Financial Crisis Inquiry Commission.”²⁶⁰ As the crisis response unfolds, Congress can exercise its customary law-making powers that may affect prospective use of emergency authority or the general authority of the emergency actors. And all the relevant political actors are ultimately accountable to the electorate.

In the case of SEFA, such measures would do three things: First, they would provide a high level of transparency as to the reasoning of the parties who have exercised emergency authority and the substance of the emergency actions. Second, they bring relevant actors from the executive branch and the regulators into sustained, on-going contact with Congress, which will be eager to assert its institutional prerogatives. Third, in the anticipation of rigorous ex post examination, such measures would restrain regulatory actors from hasty recourse to emergency authority. Among other things, the expectation of a detailed review that could jeopardize existing institutional authority would add another self-check to casual exercise of SEFA. These measures will be sufficiently robust to achieve sufficient accountability to Congress and the electorate so as to justify on democracy grounds a very significant grant of standby emergency authority to the executive and the regulators to address a financial sector emergency.

Conclusion

The core argument for Systemic Emergency Funding Authority is, in the end, simple: Serious systemic crises in the financial sector are inevitable if unpredictable, despite the regulators’ diligence and effectiveness in managing systemic risk. It does nothing to take away from the urgency of present efforts to reframe financial industry structure and regulation to recognize this. As part of the present moment of regulatory reform, we need to include the possibility for emergency intervention, recognizing that even successful recourse to the legislative branch mid-crisis will increase the damage to the real economy and to the lives of real people and, in the event of legislative breakdown, true catastrophe could result.

²⁵⁷ Id., § 121 (c).

²⁵⁸ Id., § 116(a)(1).

²⁵⁹ Id., § 125(e)(3) (Congressional Oversight Panel); Id., § 121 (e)(4) (Special Inspector General); Id., § 116(a)(2).

²⁶⁰ The commission was established by the Fraud Enforcement and Recovery Act of 2009, Pub. L. 111-21 (111th Cong. 1st Session), § 5, 123 Stat. 1625 (May 20, 2009). It has subpoena power. Id., § 5(d).