

Systemic Risk – Curing the Disease and Killing the Patient

The road to hell is paved with good intentions – Saint Bernard of Clairvaux

As you may know, I have been asked from time to time to participate in Federal Reserve Bank sponsored events as well as work with them in a consulting capacity with regard to market shocks, liquidity and systemic risk. I participated in such an event on October 22, 2010¹ and this paper is an outgrowth of that discussion. It is our view that we are in a precarious moment in markets where regulators have both heightened authority and a genuine believe that their involvement is essential to moderating systemic risk for the good of markets and the economy.

What is Systemic Risk?

Before we discuss what the US Government is likely to do to curb Systemic Risk going forward, and whether it will be the proper course of action, let's define it. By definition a *systemic risk* in the financial sector is a risk that impacts the entire financial system and real economy, through cascading, contagion, and chain-reaction effects. The triggering event for such a macro impact can come from the public sector—as when the central bank suddenly contracts liquidity, or from the financial markets—as when a large private firm fails, or externally—as when a natural disaster or terrorist attack shuts down the payments system.²

One definition of systemic risk is risk that can potentially cause instability for large parts of the financial system.³ Often, systemic risk will be caused by risks that individual firms cannot protect themselves against. The financial crisis that intensified in September 2008 featured many examples of systemic risk, including runs on financial institutions and illiquidity of asset classes.

Causes of this Ongoing Financial Crisis

Perhaps, as some would say, regulators failed to prevent the crisis as they were given a mandate to prevent *micro-prudential* risk, but no regulator has a mandate to prevent *macro-prudential* risk. *Micro-prudential* regulation focuses on identifying risks to an individual firm and requiring firms to protect against those risks, whereas *macro-prudential* regulation focuses on preventing or safeguarding against systemic risks. Nonetheless, the arguments are:

The Market Did It:

The crisis was due to *forces emanating from the market economy* which the government did not control, either because it did not have the power to do so, or because it chose not to. This view sees systemic risk as a market failure that can and must be dealt with by government actions and interventions; it naturally leads to proposals for increased government powers. Indeed, this view of the crisis is held by those government officials who are making such proposals.

The Government Did It:

The crisis was due more to *forces emanating from government*. According to this view federal government actions and interventions caused, prolonged, and worsened the financial crisis. This

¹ Our slides from the FMA presentation on Systemic Risk available on www.tiburonholdings.net

² *Systemic Risk and the Role of Government*, Federal Reserve Board of Atlanta, Jekyll Island speech, May 12, 2009

³ International Monetary Fund, *Global Financial Stability Report*, April 2009, p. 113



view sees government as the more serious systemic risk in the financial system; it leads in a different direction—to proposals to limit the powers of government and the harm it can do.

Weighing the Evidence – Market versus Government

- There was excessive monetary easing by the Fed in which the federal funds rate was held very low in the 2002-2005 period, compared to what had worked in the past two decades. Clearly such an action should be considered systemic in that the entire financial system and the macro economy are affected. *Government.*
 - Low interest rates led to the acceleration of the housing boom and to the increased use of adjustable rate mortgages and other risk-increasing yield grabbing products. The boom then resulted in a bust, with delinquencies, foreclosures, and toxic assets on the balance sheet of financial institutions in the United States and other countries.
 - Fannie and Freddie exacerbated the housing boom and encouraged risk taking—chain reaction style—as they supported the mortgage-backed securities market. Moreover these agencies were asked by government to purchase securities backed by higher risk mortgages.
- 2007 turbulence in the money markets was misdiagnosed by policy makers as a liquidity problem rather than a counterparty risk problem. Liquidity was pumped into the system and interest rates were slashed too rapidly which caused the dollar to depreciate and commodity prices to skyrocket, with a severe hit to the economy. *Government.*

Versus

- International market forces beyond the power of the Fed were at work; Alan Greenspan argues that increased saving from abroad brought down world interest rates and thereby mortgage rates. A variant on this “market did it” theme is the argument now made by some top U.S. government officials that the problem was the U.S. current account deficit through which a low U.S. saving rate sucked in financing from abroad and drove down interest rates. *Market.*
- The government failed to intervene and prevent the bankruptcy of Lehman. *Market.*

Our Take

The *Market* argument that the savings imbalance coming in from abroad doesn't ring true given that the global savings rate was historically low. Further, the complete passivity of the Fed at the time to deal with low rates (see Fed Funds table below) is inconsistent. The low US savings rate is surely, in part, due to this low interest rate policy as well.

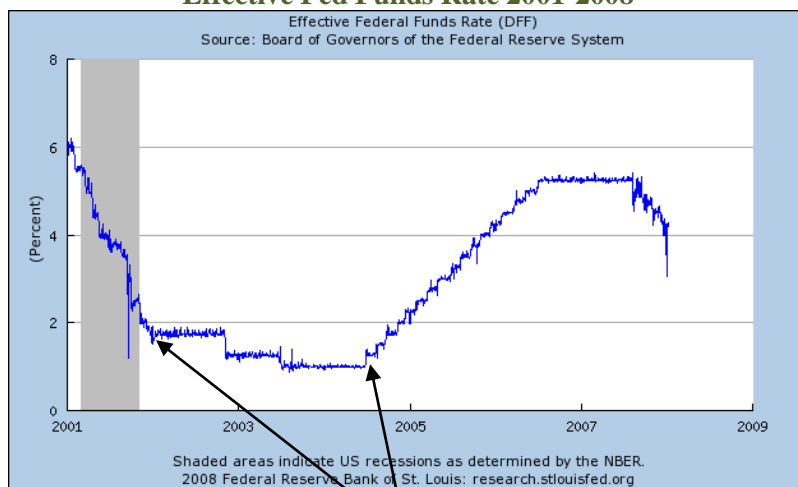
The *Market* argument that the government's failure to prevent Lehman's bankruptcy misses the bigger point – the government failed to articulate a clear predictable strategy for lending and intervening in the private sector is the larger issue. Lehman, Bear, AIG, Chrysler, GM, Fannie, Freddie were all dealt with in unexpected and divergent ways.



Our Conclusions:

- Market risks are not systemic risk
- Mistakes in markets are made, corrections occur without systemic shock
- Government actions converted market risks to system risk
- Low interest rates forced global investors to reach for yield
- Wall Street innovation in asset-backed securities with implied “AAA” rating met the need
- Low interest rates led to low cost mortgages, driving up home prices
- Low delinquency and foreclosure rates comforted rating agencies, underwriters and investors
- Demand for paper, low interest rates, skyrocketing home prices drove an extraordinary vicious cycle leading to declining standards and documentation

Effective Fed Funds Rate 2001-2008



Were Protracted Low Rates Necessary?
Why Did the Fed Refuse to Act?

Systemic Risks to Worry About

Okay, so given this point of view, looking forward, what is it that concerns us most? As a digression, I should admit that as we are financial stewards of the investment capital we manage, there is no room for politics in our portfolio decisions. The decisions that we make are politically agnostic. The markets could rally or fall based on governmental initiatives. *Our goal is to accurately predict the outcomes and construct a portfolio that benefits from these dynamic macro event and technicals.* We bet with our heads not our hearts. Okay, then, where were we? Yes, given our point of view, what concerns us most?

Deficits and growing debt of the federal government. According to the Congressional Budget Office, the federal debt was 41 percent of GDP at the end of 2008 and it is projected to grow to 82 percent of GDP by 2019. CBO calculations also indicate that, with the average government borrowing rate rising above the growth rate of GDP in the future, the debt to GDP ratio will continue to rise on an unsustainable explosive path. The deficit in 2019 is expected to be \$1.2 trillion, about the same as the most recent Administration budget for 2010. The gap between spending and tax revenues will not decline. There is no stimulus effect from such deficits and it puts a very heavy burden out in the not so distant future. This is a systemic risk because it will affect the entire financial system and the real economy.



To balance the budget in 2019, Income tax revenues are expected to be about \$2 trillion, so with a deficit of \$1.2 trillion, a 60 percent tax increase across the board would be required. So how else can debt service payments be brought down as a share of GDP? Inflation will do it. But how much inflation? To bring the debt to GDP ratio down to the level at the end of 2008, it will take a doubling of the price level. That one hundred percent increase will make nominal GDP twice as high and thus cut the debt to GDP ratio in half, back to about 40 from around 80 percent. A hundred percent increase in the price level means about 10 percent inflation for 10 years. This is not a forecast, because policy can change; rather it is an indication of the systemic risk that the government is now creating.⁴

Fed's balance sheet. Reserve balances at the Fed have increased 100 fold since last September, from \$8 billion to around \$800 billion, and with current plans to expand asset purchases it could rise to over \$3,000 billion by the end of this year. While Federal Reserve officials say that they will be able to sell the newly acquired assets at a sufficient rate to prevent these reserves from igniting inflation, they or their successors may face political difficulty in doing so. That raises doubts and therefore risks. The risk is systemic because of the economy-wide harm such an outcome would cause.

Fed Market Interventions. Interventions by the federal government into the operations of private business firms represent systemic risk. The interventions are also becoming more intrusive and seemingly capricious whether they are about employee compensation, the priority of debt holders or the CEO. Many of these actions reverse previous government decisions and involve ex post facto changes in contracts or unusual interpretations of the law. We risk losing the most important ingredient to the success of our economy since America's founding—*the rule of law*, which will certainly be systemic.

Runs and Liquidity. Firms are said to be liquid when they are able to meet current obligations or short-term demand for funds. A firm is said to be solvent but illiquid when its assets exceed its liabilities but it is unable to liquidate assets rapidly enough to meet current obligations. Markets are said to be liquid when a large volume of financial securities can be traded without price distortions because there is a ready and willing supply of buyers and sellers. Liquid markets are a sign of normalcy—most of the time; investors can take liquidity for granted.

Banking, and many other types of financial intermediation, often involves borrowing on a short term basis and using the funds to lend or invest on a long-term basis. This creates a mismatch, where a financial institution's assets tend to be less liquid than its liabilities. Under normal financial conditions, the institution's short-term liquidity needs are relatively predictable, and it can easily sell or borrow against its long-term assets to meet those needs.

Runs may begin at troubled institutions but sometimes spread to healthy institutions because of the liquidity mismatch. Because an institution's liquidity is finite, all depositors or creditors have an incentive to withdraw their funds first if they believe that the firm may run out of it. The sudden withdrawal of funds can cause losses for remaining creditors at an otherwise healthy institution and can ultimately lead to the firm's failure. Runs can also be set off by an otherwise healthy institution's "counterparty" exposure to an unhealthy institution. Financial firms do not operate in isolation—they depend on each other as sources of credit, liquidity, risk-sharing, and to buy and sell securities. Through these transactions, they become counterparties to each other, with the failure of one counterparty potentially imposing loss on the other. One way regulators

⁴ John Taylor, Professor of Economics, Stanford University.



reduce the likelihood of liquidity problems is by requiring that financial firms hold sufficient liquid reserves to meet unforeseen circumstances. Another way is to limit reliance on short-term debt that may be difficult to roll over during periods of financial turmoil. In principle, these interventions can be justified on economic grounds based on the argument that liquidity creates *positive externalities* for the financial system as a whole that are not fully captured by the individual institution holding the liquidity. Because the individual firm does not receive all of the benefit generated by the liquidity, from a societal perspective, the individual does not hold as much as would be optimal. In addition, individual institutions may hold too little liquidity for their own needs because they know that if they run out they can access Federal Reserve liquidity inexpensively (at least during the recent crisis). In economics, this is called the *moral hazard* problem—anticipated rescue from bad outcomes leads to greater risk taking.

During the crisis, money market mutual funds were also revealed to be susceptible to runs. When Lehman Brothers failed, the Reserve Fund, a money market fund holding Lehman Brothers commercial paper “broke the buck” (the value of its assets fell below par), and this prompted widespread withdrawal requests that could not be met. This set off a run throughout the money market industry, including a run against funds that did not hold Lehman debt. Like any investment fund where funds can be withdrawn on demand, a run is possible when the assets of the fund cannot be immediately liquidated to meet unusually high redemption requests. Money market mutual funds are seen as more susceptible to runs than other types of investment funds because funds can be withdrawn on demand; some funds hold assets, such as commercial paper, that cannot be resold to meet redemption requests; and money market funds are marketed as a safe alternative to bank accounts, with some featuring bank-like options such as check-writing.

Too Big to Fail. The failure of an important counterparty can impose losses on a firm that either causes that firm to fail or causes the firm’s other counterparties to doubt that the firm is solvent. Most counterparties are not important enough to impose serious losses on a critical number of counterparties, but regulators have argued that some firms, such as American International Group (AIG), are “too big to fail” or, in the case of Bear Stearns, if not too big, then “too interconnected to fail.” According to the International Monetary Fund (IMF), large firms “dominate key market segments ranging from private securitization and derivatives dealing to tri-party repo and leveraged investor financing.” Some policymakers have argued that if their counterparties and creditors experienced losses or delays in payment through the bankruptcy process, it could undermine the health of the financial system as a whole. For example, as discussed above, when Lehman Brothers failed, it caused a money market mutual fund holding its commercial paper to “break the buck.” This set off a widespread run on money market accounts that disrupted firms’ access to short-term debt.

Although equity holders of Bear Stearns and AIG suffered heavy losses, all counterparties and creditors (including subordinated debt holders, who bought debt that was explicitly junior to regular debt holders) were paid by the government. However, the knowledge or suspicion that a firm is too big to fail changes the behavior of a firm and its creditors because of moral hazard. If a firm and its creditors believe that they will be protected from any future losses, they have an incentive to take more risks in an attempt to increase potential profits, since there will be less downside if those risks turn out badly. Therefore, moral hazard increases the likelihood that large firms will be a source of systemic risk. As a result, many policymakers believe that too big to fail firms require more regulation to prevent risky behavior than other firms. Alternatively, it has been argued that a framework needs to be put in place so that these firms can fail without creating widespread contagion.



Leverage. During the credit boom, leverage increased in the financial sector, as some institutions increased their liabilities to expand their loans and asset purchases. As interest rates were relatively low, liabilities could be financed at relatively low costs. Beginning in the second half of 2007, firms began to write off losses on loans and assets, depleting their capital. Some capital was replenished by issuing new equity, but eventually institutions needed more capital than investors were willing to supply. Thus, if firms wished to reduce their liabilities to reduce leverage, they would have to sell some of their assets. Financial institutions complained that the desire of all institutions to sell assets at once when buyers were scared off by uncertainty about future asset prices led to a situation where assets could only be sold at “fire sale” prices that further depleted the seller’s capital. To the extent that assets were “marked to market,” fire sales could cause “feedback effects” where all institutions holding similar assets—even those that had not sold—faced write downs that depleted capital. Some economists have argued that this cycle of leveraging when times are good and deleveraging when times are bad is a source of systemic risk. They propose that capital requirements should be made less pro-cyclical, meaning that regulators would require firms to hold more capital than needed when times are good, so that they could draw down capital rather than be forced into fire sales when faced with losses.

Payment, Settlement and Clearing Systems. Another potential source of systemic risk could be an event that leads to the breakdown of a payment, settlement, or clearing system. This type of regulation focuses not on the activities of specific firms, but rather on the robustness of the system as a whole when something goes wrong. Adverse events could potentially include the failure of a major counterparty, exchange, or clearinghouse, technological disruptions, or fraud, any of which might disrupt timely payments to a large number of financial market participants.

Concerns regarding systemic risk in the payment systems in the current crisis have focused on the derivatives market. Policymakers have expressed concern that over-the-counter derivative contracts were not processed promptly enough and suffered from inadequate record keeping. Regulators have also expressed a concern that over-the-counter contracts were overly vulnerable to counterparty risk, since the holder of a contract, who is often trying to hedge risk of its own, is exposed to the risk that the provider of protection could fail to make contractual payments. Further, there was not enough transparency for markets or regulators to identify where these counterparty risks lay. One proposal to cope with these problems has been to move derivatives on to a regulated central clearing system or exchange.

Lessening Systemic Risk to Lower the Probability of another Financial Crisis – Our View

Stop the Projected Systemically Risky Budget Deficits. Exit from the extraordinary monetary policy actions, and to end the bailout mentality that is taking the federal government further and further into the operations of businesses and threatens the rule of law.

Government Should Establish Clear and Consistent Rules. Stop changing them during the game, and enforce them. The rules do not have to be perfect, but the rule of law is essential.

- ***Cease the Bailout Mentality.*** It will be necessary to let some firms fail. One way to wean the system from bailout presumptions would be for the government to try to stop chain reactions by helping the innocent bystander rather by rescuing the one who gambled and lost. This is a principle that was used to end the bailout mentality of the IMF in 2003 and it helped stop the bout of emerging market crises that began in the 1990s.
- ***Specific, Delineated Regulator Responsibilities.*** Rather than form any additional regulatory bodies, insist that the current ones become articulate in financial instruments, their use and their risks and share data with each other.



What's wrong with the Dodd-Frank Financial Regulation?

Overreaching . The bill adds regulations and rules about many activities that had little or nothing to do with the crisis. For example, it creates a consumer financial protection bureau to be housed at the Fed that is supposed to protect consumers from fraud and other abusive financial practices. Yet it is not apparent that many consumers were victimized during the financial boom years, or that consumer behavior had anything of importance to do with the crisis. For example, consumers who took out subprime mortgages that required almost no down payments and had low interest rates were not victimized since these conditions enabled them to cheaply own houses, at least for a while.

The bill gives the Fed authority to limit interchange or “swipe” fees that merchants pay for each debit-card transaction, although these fees had not the slightest connection to the financial crisis. Such price controls are in general undesirable, and hardly seem to require the attention of the Federal Reserve. The bill also gives the SEC authority to empower stockholders to run their own candidates for corporate boards of directors. I cannot imagine that this improves corporate governance.

Expanded Authority of Regulators that Didn't Act Once Already. The Dodd-Frank bill gives several government agencies considerable additional discretion to try to forestall another crisis, even though they already had the authority to take many actions. The Fed could have tightened the monetary base and interest rates as the crisis was developing, but chose not to do so. The SEC and various Federal Reserve banks-especially the New York Fed- had the authority to stop questionable lending practices and increase liquidity requirements. These and other government bodies did not use their authority to try to head off the crisis partly because they got caught up in the same bubble hysteria as did banks and consumers. In addition, regulators are often “captured” by the firms they are regulating, not necessarily because the regulators are corrupt, but because they are mainly exposed to arguments made by the banks and other groups they are regulating.

Despite the fact that regulators failed to use the powers they already had, the bill mainly adds not clear rules of behavior for banks, but additional governmental discretionary power. For example, the bill creates the Financial Stability Oversight Council, a nine-member panel drawn from the Fed, SEC, and other government agencies, which are supposed to monitor Wall Street's largest companies and other market participants to spot and respond to any emerging growth in systemic risk in the economy. With a two-thirds vote this Council could impose higher capital requirements on lenders and place hedge funds and dealers under the Fed's authority. Given the regulators reluctance to use the power they already had to forestall the crisis, it seems highly unlikely that this Council will act decisively prior to the emergence of a crisis, especially when a two thirds majority is required.

Silent of Freddie and Fannie. One of the most serious omissions is that the bill essentially says nothing about Freddie Mac or Fannie Mae. In 2008 these organizations were placed into conservatorship of the Federal Housing Finance Agency. During the run up to the crisis, Barney Frank and others in Congress encouraged Freddie and Fannie to absorb most of the subprime mortgages. In 2008 they held over half of all mortgages, and almost all the subprimes. They have absorbed even a larger fraction of the relatively few mortgages written after 2008. Freddie and Fannie deserve a considerable share of the blame for the crisis, but they continue to have strong political support.

Potential Unintended Consequences. Many proposals in the bill will have highly uncertain impacts on the economy. These include, among many other provisions, the requirement that



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originators of mortgages and other assets retain at least 5% of the assets they originate, that many derivatives go on organized exchanges (may be an improvement but far from certain), that hedge funds become more closely regulated, and that consumer be “protected” from their financial decisions.

Two Roads Diverge – Parting Thoughts

We are in a precarious moment in markets where regulators have both heightened authority and a genuine believe that their involvement is essential to moderating systemic risk for the good of markets and the economy. We believe the crisis was due more to *forces emanating from government than the market – this differs from regulator’s points of view*. The federal government actions and interventions caused, prolonged, and worsened the financial crisis. Government intervention into markets and private business poses serious systemic risk in the financial system going forward. Given our view that regulators will regulate, government will tinker in the capital market (QE2, etc), we will adjust and manage our investor capital accordingly. As mentioned, as financial stewards of the investment capital we manage, there is no room for politics in our portfolio decisions. The decisions that we make are politically agnostic. *Our goal is to accurately predict the outcomes and construct a portfolio that benefits from these dynamic macro event and technicals*. We bet with our heads not our hearts. The road to hell may be paved with good intentions – but we will take the road less travelled, and that can make all the difference.⁵

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⁵ Homage to Robert Frost, *The Road Not Taken*.

