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Rebuilding the U.S. Banking System: Back to Basics in Financial Markets and Institutions

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Abstract: This paper seeks to review events leading up to the financial crisis of 2008, including the massive government intervention into the U.S. financial markets, and then asks some questions and makes some recommendations about changes in specific areas of business practice and public policy as they affect the U.S. financial services industry. Given that many of these issues are unresolved and still moving rapidly, this paper is preliminary and looks primarily at events up to May of 2009.

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> In the modern world, science and society often interact in a perverse way. We live in a technological society, and technology causes political problems. The politicians and the public expect science to provide answers to the problems. Scientific experts are paid and encouraged to provide answers. The public does not have much use for a scientist who says, "Sorry, but we don't know". The public prefers to listen to scientists who give confident answers to questions and make confident predictions of what will happen as a result of human activities. So it happens that the experts who talk publicly about politically contentious questions tend to speak more clearly than they think. They make confident predictions about the future, and end up believing their own predictions. Their predictions become dogmas which they do not question. The public is led to believe that the fashionable scientific dogmas are true, and it may sometimes happen that they are wrong. That is why heretics who question the dogmas are needed.
>
> "The Need for Heretics"
> Freeman Dyson[1]

Boom and Bust

During the past two years, the U.S. banking system has experienced a series of shocks that are changing the landscape of the financial services industry. These shocks follow a period of record profitability and low credit loss rates, and result primarily from the collapse of the private market for residential and commercial housing finance and related derivative contracts and securities such as credit default swaps (CDSs) and collateralized debt obligations (CDOs), and the impact of this collapse on the ability of banks and other financial institutions to fund their operations. Although most observers think of the private securitization markets as a means for consumers and business to finance *their* credit needs, the more important point is that the ability to originate and sell assets to private investors has been a crucial component in the funding and profitability of the banking industry. But the collapse in many sectors of the financial markets also has more medium and long-term causes that are less obvious and not reflected in the headlines.

The financial boom and bust of the first decade of the 21st century has roots that stretch back nearly half a century before, to World War II (WWII) and the subsequent demographic boom that has greatly influenced American economic behavior. In the later part of the 20th century, after decades of U.S. industrial predominance based upon extraction and industrial transformation, trade liberalization began to force a shift in the composition of the U.S. economy away from production of goods and toward services, with a special emphasis on financial services. But whereas financial services have traditionally found validation in the real economy of industry and commerce – in fact, the former served the latter – more recently the opposite has been the case, with the financial tail wagging the real economy dog, to borrow the metaphor from popular culture. The financial transaction no longer draws its justification from the real economy of commerce and transformation, but stands alone as an event seen as being equal to production or extraction. Just as many Americans think of day trading stocks or real estate speculation as "work," the ethic prevailing on Wall Street in the first decade of the 21st century seems to accept as true that borrowing money is the same thing as earning a wage, a belief that seems to track the irresponsible fiscal behavior of Washington.

Indeed, during the decade or more leading up to the current financial crisis, financial "innovation" in and of itself, a speculative activity that is apart from the real economy and fueled by derivatives, became the focus of financial institutions such as Long Term Capital Management, Enron, American International Group, Bear, Stearns & Co., Lehman Brothers and Citigroup. The itinerant customers of the major Wall Street dealers, as well as the dealers themselves, amassed enormous risk positions, positions based upon the idea that to rent is the same as being an owner.

This crucial quality of the derivative mindset enabled the multiplication of risk that now threatens the entire global financial marketplace because the principal purpose was speculation rather than investment. Whereas the large Wall Street dealers and their political sponsors in the Congress claimed that these "innovations" would benefit consumers, precisely the opposite has occurred, because these activities were never valid as investments in a traditional American sense of the term. The derivative is merely a way for Wall Street speculators to leverage the real world, thereby giving renters of assets the same or greater status than true owners.

The theory of investment discussed and developed by thinkers like John Maynard Keynes, Irving Fisher and Friedrich Hayek bears no resemblance to the speculative gaming that Wall Street today pretends is investing. And a large part of the problem in finance today is the misuse of mathematical methods to create speculative, opaque securities that nobody, including the dealers, regulators and supposedly sophisticated investors, can understand or value. The intellectual capture of the entire risk management and financial analytics world, which substitute price discovery for quantitative methods in the creation of derivatives such as CDSs and CDOs, has made it virtually impossible to manage a large financial institution because it is impossible to understand the risks that the institution takes at any point in time. Given this situation, where do concepts such as "safety and soundness" or "prudence" fit into the intellectual framework?[2]

Since a majority of the inhabitants of the political, regulatory and academic worlds seemingly are convinced that large banks are better and that the risks taken by large banks can be understood and managed effectively, the public is caught in a trap whereby the financial services industry is actually growing more concentrated, less transparent and thus more risky, but nobody is willing to take action to actually stop this process. Or to paraphrase the physicist Freeman Dyson, life is not just about mastering replication via the understanding of DNA, but also understanding the most effective way to manage metabolism on a stable and ongoing basis. The financial crisis of 2008 shows that if members of the global financial community know anything, they know how to replicate.

Proponents of free market theory would respond that such management of economic metabolism is unattainable, thus consigning us to a world where we must endure and pay for periodic bouts of speculative mania. But it needs to be said that when free-market advocates such as former Federal Reserve Bank (Fed) Chairman Alan Greenspan and others placed their sole confidence in market mechanisms to govern the safety and soundness of financial institutions, they were acting in reckless disregard to some very profound political and historical realities. While it is popular in some conservative circles to pretend that America is a true free-market society, in fact since the 1930s the role of the state in the banking industry and the overall economy has been growing.

Look at the dozens of federal programs meant to facilitate the liability management of supposedly private U.S. banks – from housing finance to agriculture to small business lending to bailout loans financed by the Fed and Treasury during the past year – and the proposition that American banks are government sponsored entities (GSEs) seems difficult to refute. Thus when you look at the present financial crisis and the impact of speculative activities and poor risk management methods on the overall financial system, it seems important to recognize that today's financiers are playing their dangerous games within a financial system that is already heavily subsidized by the state. The purchase by the U.S. government of equity stakes in these private banks at the end of 2008, and the more important extension of Federal Deposit Insurance Corporation (FDIC) guarantees of their debt during the same time frame, seems to only confirm explicitly the government support that has been extant since the 1930s and has only increased during the golden age of post WWII American economic expansion. At some point, members of the academic community may need to go back and rewrite the financial history of the U.S. to reflect this reality.

William Janeway, a Managing Director and Senior Advisor of Warburg Pincus, and now a lecturer at Cambridge University (where he received his doctorate in economics as a Marshall Scholar), put in context the issue of intellectual capture of the regulators by Wall Street and the misuse of financial economics to enable unsafe and unsound financial behavior by banks:

> It was a kind of religious movement, a willed suspension of disbelief. If we say that the assumptions necessary to produce the mathematical models hold in the

> real world, namely that markets are efficient and complete, that agents are rational, that agents have access to all of the available data, and that they all share the same model for transforming that data into actionable information, and finally that this entire model is true, then at the end of the day, leverage should be infinite. Market efficiency should rise to the point where there isn't any spread left to be captured. The fact that a half a percent unhedged swing in your balance sheet can render you insolvent, well it doesn't fit with this entire constructed intellectual universe that goes back 50 years… But here is the problem. Real scientists tend to be much more skeptical about their data and their models, and thus tend to be critical empiricists. We can blame the crisis on failed physicists; they had all of the math but none of the instincts of good scientists that would enable them to be good physicists.[3]

Because of a variety of factors including poor loan underwriting standards, mispricing of risk, a lack of stable funding and the inability of market participants to price complex structured assets, the market for private label securitizations began to fall apart around the time that excesses in the loan origination market became visible. Starting in 2007 with the outright failure of subprime lenders such as New Century Financial, the entire market for private label securitizations and over-the-counter (OTC) derivatives has slowly disintegrated, causing an unraveling of the private mortgage-backed securities market that led to the distressed acquisition of Countrywide Financial in 2008 by Bank of America (NYSE:BAC). BAC, it is said, had lent Countrywide so much money to fund that firm's subprime conduit operations that an acquisition was considered mandatory by BAC management and federal regulators.[4]

Events would continue to develop during 2008 and eventually force the rescue of GSEs such as Fannie Mae and Freddie Mac later that same year. The largest GSE, the Federal Home Loan Banks, are in precarious condition as this paper was being finalized, with several of the banks unable to file timely financial statements with the U.S. Securities and Exchange Commission (SEC). While the housing GSEs remain functional, all will require continuing cash subsidies from the Treasury for operating losses in 2009 and beyond. By September 2009, for example, the U.S. Treasury estimates that Fannie Mae alone will have required over $120 billion in cash infusions to prevent a default. Despite protestations from the Congress about the "important role" of the housing GSEs, the sheer weight of cash subsidies required to keep the GSEs from defaulting on their debt may eventually require privatization or liquidation.[5]

The cash bleed from the operating losses of the GSEs only starts to describe the wreckage of the collapse of the public and private securitization sector, a collective financial loss to the U.S. economy that is almost beyond description. Ed Kane of Boston College makes a good attempt:

> The disastrous meltdown of structured securitization represents a dual failure of market discipline and government supervision. At every stage of the securitization process, incentive conflicts tempted private and government supervisors to short-cut and outsource duties of due diligence that they owed not only to one another, but to customers, investors, and taxpayers.[6]

During this same time frame, as the price level for private label securitizations fell, the perceived soundness of U.S. commercial banks was also significantly eroded with a rising number of banks, broker-dealers and insurers identified as being troubled and projections of future insolvencies by private ratings firms rising to levels not seen since the Depression. Levels of bank business model stress measured by The Institutional Risk Analytics (IRA) Bank Stress Index shown below, which is essentially a public data simulation of a regulatory CAMELS[7] type analysis, are now well-above levels calculated for the early 1990s.[8]

Q4 2008 Bank Stress Update
Average Bank Industry Stress Rose to 1.77
Up 15.7% from Q3 2008

Source: FDIC/The IRA Bank Monitor

The Bank Stress Index, developed by Dennis Santiago, is an explicit census of all FDIC insured banks that asks how each bank performed in a given quarter, thus the current and prospective average stress level of the industry is remarkable by itself. (As this paper was being finalized, the Stress Index score for all U.S. banks in Q1 2009 had risen to over 2.4, vs. 1.8 as of year-end 2008. More ominous, however, is the Economic Capital (EC) or "Maximum Probable Loss" calculated by the IRA Bank Monitor as of year-end 2008, using the same data from the FDIC and an EC calculation straight from a popular economics textbook.

For the group of U.S. banks from $10 billion in total assets on up, the EC totals $1.7 trillion – again, a surrogate for the maximum probable loss that could come from this population through the economic cycle. But when only the four largest banks – Citigroup (NYSE:C), JPMorganChase (NYSE:JPM), WellsFargo (NYSE:WFC) and BAC are considered – the EC totals over $1.4 trillion. The characteristic that seems to differentiate the larger banks from the rest of the population is some degree of involvement in structured finance and/or OTC derivatives. But that said, there are profound asset quality problems throughout the U.S. bank population whether you consider the large, more complex, "transactional" institutions or the more "classic" business model types with a preponderance of lending in the asset mix.[9]

The skew in terms of the visible indicia of the relative safety and soundness of U.S. banks is illustrated by the distribution of ratings such as those produced by IRA using data from the FDIC. While over 6,750 banks were rated "A+" by the mechanical process inside The IRA Bank Monitor at the start of 2006, meaning that these banks exhibited stress levels below the 1995 benchmark year (1995=1), by the end of 2008 the distribution slid sharply, with over 2,000 banks rated "F" vs. below 1,000 in 2006.

IRA Bank Stress Index
Grade Distribution – 2006-2008
(FDIC insured units)

Period	A+	A	B	C	D	F
2008-12	3,918	1,705	119	390	98	2,003
2008-09	4,498	1,325	283	356	63	1,793
2008-06	4,884	1,248	404	326	66	1,458
2008-03	5,167	1,042	578	334	68	1,233
2007-12	5,556	610	884	315	70	1,029
2007-09	5,931	395	950	274	37	902
2007-06	6,056	354	972	273	60	824
2007-03	6,075	304	1,057	284	63	795
2006-12	6,370	134	1,165	204	39	697
2006-09	6,666	29	1,108	198	44	628
2006-06	6,729	0	1,155	194	35	613
2006-03	6,752	2	1,131	187	39	608

Source: FDIC/The IRA Bank Monitor

This visible deterioration in the asset quality of banks and borrowers has caused alarm among investors and government officials alike. Subsequent to the takeover of the GSEs, and the failures of Bear Stearns, Lehman Brothers, and Washington Mutual, the U.S. Treasury and the Federal Reserve Bank of New York decided to launch an unprecedented government rescue for American International Group (NYSE:AIG) and C. The decision by then-Federal Reserve Bank of New York (FRBNY) President Tim Geithner to bail out AIG and Bear Stearns amounted to a huge public subsidy for the bond holders of these two non-bank financial firms, in effect sticking taxpayers with the tab for the excesses committed by these institutions. This decision was made by now Treasury Secretary Geithner in order to avoid "systemic risk," but the practical effect was to save the creditors of these firms the inconvenience of bankruptcy and significant loss – and all this without the consent of Congress. Since most of the "loans" made by the Fed to AIG and dozens of other financial institutions are secured by illiquid mortgage and other assets, these loans seemingly are not fully collateralized and, thus, self-liquidating as required by law. It seem reasonable to ask, therefore, whether the actions of Geithner and the Fed's Board of Governors in making these emergency loans were lawful or merely a political expedient.[10]

A merger between Wells Fargo (NYSE:WFC) and Wachovia was also orchestrated by the Fed and FDIC during this time frame, in this instance to avoid yet another bankruptcy by a bank holding company following the twin shocks of the Lehman Brothers and Washington Mutual failures, where bond holders took a near total loss in both cases. Many of the holders of the debt of large U.S. bank holding companies are leading foreign banks and investment funds that frequently have substantial state-sector ties or ownership, thus the sudden default of two large, heretofore investment grade American banks caused huge political ripples. The fact that central banks and monetary authorities around the world also are the predominant holders of U.S. Treasury debt further complicates the political outlook for Washington when contemplating the failure of a large financial holding company.

As already noted, at least part of the cost of the AIG bailout operation was financed by the FRBNY rather than via appropriations from the Congress, raising questions of due process that have only barely been considered in the rarefied atmosphere of crisis and urgency now prevailing in Washington.[11] At the end of 2008, the Bush Administration and Treasury Secretary Paulson sought authority from the Congress to spend up to $750 billion, ostensibly to purchase toxic assets from troubled financial institutions. Virtually all of the statements made by then-Secretary Hank Paulson supporting the legislation focused on the purchase of toxic assets.   But instead, at the urging of many observers including myself, the Treasury employed a significant amount of the funds authorized by the Congress to purchase preferred equity stakes in dozens of banks around the U.S. These investments were made allegedly to provide capital support to sound institutions and thereby bolster public confidence in banks, but so far the Treasury has refused to force these same banks to sell toxic assets.

As of March 23, 2009, some 511 eleven banking and other firms had received capital funds from the Troubled Assets Relief Program (TARP) totaling $197 billion,[12] but the Treasury and Fed have made financing commitments and contingent promises totaling into the trillions of dollars. The rescue of Bear Stearns and the many other loans made by the Fed to various counterparties remain shrouded in secrecy. Whereas the operations of the Treasury under TARP are subject to Congressional review, the Fed's operations are by law beyond reach of the Congress and the Government Accountability Office. Several news organizations have sued the Fed to force the disclosure of the details of the Maiden Lane vehicle created from assets taken by the Fed from the Bear Stearns rescue and other emergency loans made by the various federal reserve banks.[13]

A number of observers have questioned whether the bailouts of AIG and C, for example, or even the TARP investments in bank equity, were lawful and have demanded that Treasury Secretary Geithner be held accountable. William K. Black, Associate Professor, University of Missouri, Kansas City, and a former regulator,[14] asks: "Whatever happened to the law (Title 12, Sec. 1831o) mandating that banking regulators take "prompt corrective action" to resolve any troubled bank? The law mandates that the administration place troubled banks, well before they become insolvent, in receivership, appoint competent managers, and restrain senior executive compensation (i.e., no bonuses and no raises may be paid to them). The law does not provide that the taxpayers are to bail out troubled banks."[15]

Of course, depending on your reading of current law, you could argue that the law *does* provide conditions for loans to insolvent banks under certain narrow circumstances, but such determinations are made in the discretion of regulators. Thus we have the ridiculous situation involving General Motors Acceptance Corporation (GMAC), which was approved by the Fed as a bank holding company at the end of 2008 even though the company was visibly insolvent. The Fed's approval of the conversion to bank holding company status allowed GMAC to access TARP funds and the U.S. Treasury has since allocated further TARP funds to support the rising operating losses of GMAC[16]

In an effort to escape the stigma of the GMAC brand, GMAC Bank has rebranded itself as "Ally" but the bank itself remains financially unstable, with a Stress Index score of 21 as of year-end 2008 vs. the industry Stress Index score of 1.8 as of the same date. The bank subsidiary of GMAC, is using the TARP funds to compete with solvent banks via full page newspaper and television ads. However, the Obama Administration seems determined to continue to subsidize GMAC and its FDIC-insured bank unit in order to ingratiate itself politically with the United Auto Workers (UAW) and the workers and communities which are tied to the fate of Chrysler and General Motors (NYSE:GM).

In addition to hundreds of billions of dollars in government-financed asset purchases and equity investments in financial institutions, including hundreds of commercial banks, bank and financial holding companies, the Fed has been forced to become the dealer of last resort to Wall Street. Dozens of asset financing facilities have been put into place to replace the now nonexistent repo market for private-label structured assets. In a very real sense, as the entire secondary market for mortgage backed securities and related structured assets has evaporated, the Fed is now the lender of last resort to speculators – precisely the opposite of the intent of Congress in creating the Fed in 1913. With the demise of the market for private label securitizations, and with it an important funding mechanism for banks and other intermediaries, the Federal Reserve System is now the *de facto* market maker in large bank debt and equity, with the U.S. central bank now essentially one side of most cash and derivative trades.

No surprise, then, that a number of heretofore non-bank financial firms, including Goldman Sachs (NYSE:GS), American Express (NYSE:AMX) and Morgan Stanley (NYSE:MS) have converted into regulated holding companies and have restructured their operations to place institutional trading operations within a regulated bank affiliate. This migration away from a "monoline" business model configuration for broker-dealers and toward a banking model illustrates the huge premium paid by counterparties to face a bank when it comes to pre-settlement risk in today's marketplace. The growing fear among investors regarding counterparty risk is a function of the fact that the apparent soundness of many financial institutions is under stress and, in reaction to this perceived unsoundness, investors have taken recourse to such crude measures as tangible common equity (TCE) to judge a bank.[17]

Many of these "new" banks were swept along into participation in the Treasury's TARP rescue effort, placing the Chief Executive Officers (CEOs) of some of the most profitable investment banks in the world under strictures that curtail much of their compensation. For GS, at least, the decision to accept the government's investment via the TARP was a rather telling strategic mistake in this author's view. Not only could Goldman have arguably survived without converting into a banking group, but the participation in the TARP and the huge subsidy that the GS organization received in the AIG bailout in 2008 place the firm squarely in the glare of public scrutiny. The attitude in the Congress toward AIG and the dealers such as GS which benefitted from the government rescue was decidedly negative in the spring of 2009, when I appeared before the Senate Banking Committee. [18]

Areas for Reform: Banks, Products and Regulators

Given the seemingly manifest failure of the Congress, regulators and the banking industry to serve the public interest and prevent unsafe and unsound practices by U.S. financial institutions and, indeed, entire financial markets, Americans need to do some basic diligence about our financial institutions, our markets and our economy, both generally and with respect to the present financial crisis, before we can attack the task of remaking the current supervision and regulation of financial institutions. At a minimum, we need to consider how, within the context of a democracy, we can limit the risk taking tendencies of institutions that are able to buy political power in Washington, as in the case of the bailout of AIG. Here are some questions that need more attention from researchers and policy makers:

<u>Financial Institutions Structure</u>

- What is a financial institution in terms of the reality today in the marketplace vs. the stated intent of law and regulation? What tasks do financial institutions perform that actually require public regulation? What tasks do not?

- What activities should be permitted for federally insured depositories? What capital is required to support these regulated activities in a safe and sound manner? Can private banks earn positive, real returns for shareholders given a set of activities and capital requirements?

- How much capital must an insured depository institution have in order for a) markets and b) the public to have confidence in that institution's ability to function? Are regulatory measures even meaningful to the public today?

- How do regulatory regimes such as fair-value accounting and Basel II, and market-driven measures such as operating cash flow before interest taxes, depreciation and amortization (EBITDA) or TCE, affect the real and perceived need for more capital in financial institutions? Is the marketplace a better arbiter of capital adequacy, particularly from a public interest perspective, than the private internal bank models and equally inconsistent, non-public regulatory process enshrined in the Basel II accord?

Financial Market Structure

- What is "systemic risk?" Is systemic risk a symptom of other risk factors or an independent risk measure in and of itself? If the latter, how is it measured?[19]

- Is systemic risk a symptom of other factors, a sort of odd political term spawned under the equally dubious rubric of identifying certain banks as being "Too Big To Fail?" When issues such as market structure and prudential regulation of institutions are dealt with adequately, does the perceived "problem" of systemic risk disappear?

- How do government policies either increase or decrease systemic risk? For example, has the growth of OTC market structures increased perceived systemic risk, hurt investors and negatively affected the safety and soundness of financial markets?

- Does the fact of cash settlement for credit default contracts increase system leverage and therefore risk? Does the rescue of AIG illustrate how OTC cash settlement credit default contracts multiply the systemic risk of a given cash market credit basis?[20]

- Should the Congress mandate SEC registration for all investment instruments that are eligible for investment by smaller banks, insurers, pensions and public agencies? Should the Congress place limits on the ability of securities dealers to sell complex OTC structured assets and derivatives to relatively unsophisticated "end users" such as pension funds, public agencies and insurance companies?
- Should the Congress place an effective, absolute limit on size and complexity of banks? What measures ought to be used to gauge market share?

Political Economy

- Does the inability of the Congress to govern its spending behavior and the related monetary policy accommodation by the Federal Reserve Board add to systemic risk for global financial institutions and markets?

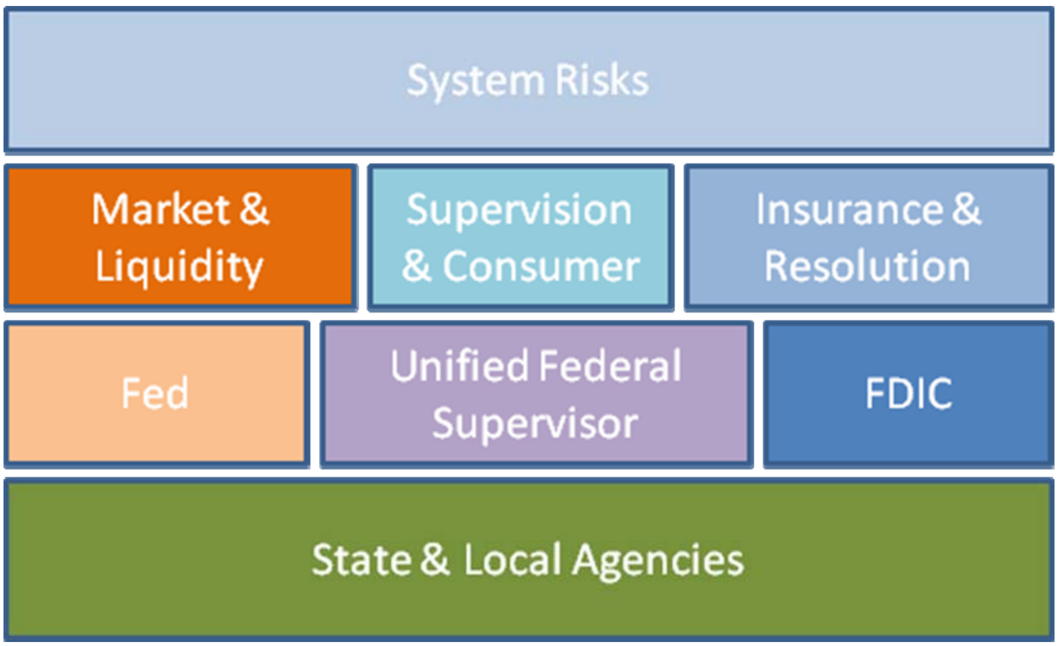
- Does the fact of twin budget and current account deficits by the U.S. add to the market/liquidity risk facing all global financial institutions? That is, is the heavily indebted U.S. economy inherently unstable and thus an engine for creating systemic events within the financial markets?

- Our nation's founders worried about the possibility of regional factionalism, but in the 21st century the problem facing America seems instead to be corporate statism, *à la* Italy and Southern Europe in the 1920s. If the GSE is the preferred business model in the U.S., as seems to be the preference of Secretary Geithner and Fed Chairman Bernanke looking at the bailouts of AIG and C, can Americans pretend to have a democratic, free market society?

Reforming Prudential Regulation

Our nation's founders tended to favor competition over monopoly, inefficiency and conflict, in the form of checks and balances, over efficiency and short-run practicality. Seen from this perspective, it serves the public interest to have multiple regulators sitting at the table in terms of managing what might be called "systemic risk," including both state and federal regulators. In the same way that the federal government has forced a cooperative relationship between local, state and federal law enforcement when it comes to anti-terrorism efforts, it seems reasonable for the Congress to end the competition between federal and state regulators illustrated by the legal battle over state-law preemption and instead mandate cooperation. In areas from prudential regulation to consumer protection, a rational approach to regulatory reform seemingly points to the federal government mandating broad standards to achieve policy objectives, then empowering or even compelling state and federal agencies to cooperate in making these goals a reality.

What makes no sense about the current system of regulation is having the various federal and state regulators compete amongst themselves over shared portions of the different components of risk as viewed from a public policy perspective, including market and liquidity risk, safety and soundness, and regulatory enforcement and consumer protection. Seen from a public interest perspective, the risks facing the financial system can be divided into three areas: a) market and liquidity risk management, b) regulatory enforcement and consumer protection, and c) deposit insurance and the resolution of insolvent institutions. Each area has implications for systemic stability.



Below are some comments on each of these buckets and the agencies this author believes should be tasked with responsibility for these areas in a restructured U.S. regulatory system.

Market and Liquidity Risk

As the bank of issue and lender of last resort to the financial system, it seems reasonable for the Fed to be given the lead with respect to providing market and liquidity risk management, and general *market* oversight and surveillance. After all, the Fed's chief area of competency is in the area of monetary policy and financial market supervision. But based on a review of the central bank's dismal record as a regulator of banks, it seems appropriate that the Congress strip the Fed of its current, direct responsibility for financial institution supervision and consumer protection to help the agency better focus on monetary and economic policy responsibilities, as well as on an enhanced market surveillance effort.

There also seems to be a growing consensus that the U.S. needs a single safety-and-soundness regulator for all financial institutions, even if they retain diversity in terms of charters and activities. Consider that virtually no other major industrial nation in the world gives its central bank paramount responsibility for bank safety and soundness, and for good reason. In virtually every industrial nation, supervisory authority for bank safety and soundness is housed in a unitary regulatory agency that works in concert with a given nation's monetary authority. Over the past decade or more, the Fed has demonstrated an inability to manage the internal conflict between its role as monetary authority and its shared responsibility for supervising bank holding companies and their subsidiary banks.

While the Glass-Steagall Act law dividing banking and commerce has been repealed, the Bank Holding Company Act of 1956 which embodies the separation between banking and non-banking companies is still in effect, albeit in a greatly watered-down form. Congress should delete this statute in its entirety as part of any new financial services legislation that eliminates the bank supervisory role of the Fed.[21] Given the size of the capital deficit facing the larger players in the banking industry, AIG, and the GSEs, it seems inevitable that the Congress will be compelled to allow industrial companies to enter the U.S. banking sector as and when Washington's willingness or even ability to fund the banking industry's capital needs ends. Every dollar of funds injected into AIG, the housing GSEs, GMAC, etc., must be borrowed in the bond markets and it seems likely that the cost of such borrowing will increase dramatically in the months and years ahead.

The Fed's Conflict of Visions

The Fed's internal culture is dominated by academic economists whose primary focus is monetary policy and who view bank supervision as a troublesome, secondary task.[22] The particular Fed economists mentioned in this paper believe that markets are efficient, that investors are rational, and that encouraging speculative, opaque products such as subprime securitizations and OTC derivative contracts are consistent with bank safety and soundness. The same Fed economists believe that big is better in the banking industry, even though the overwhelming data and statistical evidence suggests otherwise. Look at transactions such as BAC's purchase of Merrill Lynch and the WFC acquisition of Wachovia, and it quickly becomes obvious that the Fed does not know how to say "No" to large bank combinations. Both of these transactions arguably made the successor banks less stable, yet somehow, as with the GMAC example, the applications function of the Board of Governors was able to rationalize a recommendation of approval.[23]

Critics of the Fed are right to say that, under Alan Greenspan, the central bank helped cause the subprime mortgage debacle, but not for the reasons most people think. Yes, the expansive monetary policy followed by the Fed earlier this decade was a big factor, but equally important was the active encouragement by Fed staff and other global regulators of over-the-counter derivatives and the use by banks of off-balance-sheet vehicles such as CDOs and special purposes entities (SPEs) for liability management.

The combination of OTC derivatives, risk-based capital requirements championed by the Fed and authorized by Congress, and favorable accounting rules for off-balance sheet vehicles blessed by the SEC and the Financial Accounting Standards Board (FASB), enabled Wall Street to create a *de facto* assembly line for purchasing, packaging, and selling unregistered, high-risk securities, such as subprime collateralized CDOs, to a wide variety of institutional investors around the world. These illiquid, opaque securities now threaten the solvency of banks in the United States, Europe, and Asia – this despite moves by the FASB to modify fair value accounting rules in early April 2009.[24]

Observers describe the literally thousands of structured investment vehicles created during the past decade as the "shadow banking system." But few appreciate that this deliberately opaque, unregulated market came into existence and grew with the direct approval and encouragement of the Fed's leadership and the academic research community from which many Fed officials are drawn to this day. Yet the results of the policy choices made by these very Fed economists are disastrous.

Consider the example of Wells Fargo, which now boasts some $1.3 billion in assets following the merger with Wachovia, a transaction that broke all of the rules of the bank supervisory process and, significantly for researchers, left the FDIC's data for 2008 missing all of the revenues and charge-offs for the Wachovia organization! But thanks to the astute policy decision by the Fed and FASB over many years, Wells Fargo has hundreds of billions in off-balance sheet (OBS) exposures from special investment vehicles (SIVs). This is one reason why many observers expect to see the FASB soften requirements that banks like Wells Fargo and other money centers bring OBS vehicles such as SPEs back on-balance sheet before the end of 2009.

But even if the FASB relents and does not force banks to repatriate these OBS vehicles back on balance sheet, the falling cash flows in many of these vehicles may force the issue in any event. For example, as this paper was being finalized, Advanta Corporation announced that their credit-card securitization trust would go into early amortization and that they will shut down all of the accounts in the trust due to rising losses in the portfolio, a pattern that may become widespread in the banking sector. Other issuers of securitizations are being forced to explicitly provided financial assistance to these vehicles and disclose the events in filings with the SEC. The collapse of the securitization market is one of the most egregious examples of how regulators allowed the banks to take risks that were concealed from investors and the banking public. [25]

Simply stated, monetary economists are not competent to supervise financial institutions nor to set policy for regulating these institutions, yet successive Presidents and

Congresses have populated the Fed's board and senior staff with precisely such skilled professionals. People who actually believe that markets are or can be efficient and complete are simply too optimistic to make good safety and soundness supervisors! While the more conservative bank supervision personnel at the twelve regional Federal Reserve Banks and within agencies such as the Office of the Comptroller of the Currency (OCC), Office of Thrift Supervision (OTS) and FDIC often opposed ill-considered liberalization efforts such as OTC securitizations and derivatives, and the abortive Basel II accord that is a derivative of these retrograde market initiatives, the Fed's powerful, isolated Washington staff of academic economists and their colleagues at the Bank for International Settlements almost always had their way – and the Congress supported and encouraged the Fed even as that agency's policies undermined the safety and soundness of our financial markets.[26]

The result of the overly generous tolerance by the Congress for economist dabbling in the real world of banking and finance is a marketplace where some of the largest U.S. banks are in danger of insolvency, because their balance sheets are laden with illiquid, opaque and thus toxic OTC instruments that nobody can value or trade – instruments which the Fed's Washington staff actively encouraged for many years. The models and methodologies that pollute the regulatory framework of U.S. regulators and the banks which they supervise are so poorly constructed in mathematical terms as to be laughable, yet the Fed's staff to this day continues to defend the Basel II framework and the OTC products this mindset was meant to enable.

Some members of the financial services and economics research communities may consider such views offensive, but consider for a moment how the mathematical techniques widely accepted in the world of financial economics would be accepted by researchers and professionals working in hard sciences such as physics or chemistry. The conversation should end right there. There is no room for "what if" or whimsical assumptions about the efficiency levels of dynamic systems in the realm of aircraft design or nuclear reactors or civil engineering, yet this type of sloppy, even reckless methodology is accepted and even encouraged in the world of finance and economics, and has been imported *en masse* into the management of financial institutions. Indeed, we give the most skillful practitioners of the economists' black art Nobel prizes!

Professor Dick Richardson of the University of Texas wrote in 2001:

> Science is a process of formulating models that predict outcomes ***in a natural system*** under certain conditions, and then testing them to see if the future predictions agree. However, the goal is to find how the model is inadequately representing the natural system. When the model is refuted, it is adjusted to form a new model from what is learned about the system. Since there is an underlying system that is being approximated by the models, there is an "objective reality" (exists independently of human conceptualization) to be described by conceptual models. The models evolve representations of the relationships and features that are defined by the system. Models are useful to humans. Models are respected when they better reflect the nature of the system… **On the other hand** economics is an artifact of human imagination, and the agreement among certain humans who "play the games" together -- thereby it is a social technology. There is no underlying physical reality other than what is identified by the players to be components. Granted, the interactions within the system may be complex, and the economic properties are determined by what people study. Nevertheless, in . . . economic[s] ***properties are determined by and limited only by the beliefs of the "players."*** To build economic models one must assume certain features, and the models become part of the generators of the results. Since they are not inherently tied to the physical and biological realities, they may fail arbitrarily as the physical and biological world view of humans change -- or as people believe the physical and biological world exists. Economics in large part reflects human belief systems. When physical and biological constraints become seriously constrained for humans, economics becomes irrelevant. The game ends.[27]

Unfortunately, there is no way to "fix" the flaws in financial economics. Because the basic assumptions of economics deal in expectations, that is, emotions, there is no way to reconcile economics with the rules of scientific method. As with systemic risk, there is no way to scientifically measure expectations, thus economists substitute guess work and subjective consumer and business surveys, liberally peppered with their own biases and suppositions about the trends of same, upon which to base their theories. While such musing may be acceptable as part of the social sciences, when they cross over into the world of finance and are connected with the issuance of securities and the regulation of financial institutions, the legal and financial implications are decidedly negative and are, as yet, unrecognized in the debate over financial services reform.

The point regarding the difference between economics and true science is important in a discussion of the regulation of financial institutions because the embrace of financial economics has led to abominations like CDSs and CDOs, derivative instruments that now threaten the global economy. Remember that comments by Fed officials made over the years, to the Congress and in other venues, lauding nonsensical regulatory frameworks such as Basel II and markets such as OTC cash and derivative instruments, are a matter of public record. Given the Fed's failure to differentiate between the fantasy world of economics and the tangible world of bank safety and soundness, the Congress needs to rethink the role of the Fed and reject any proposal to give the Fed more authority to supervise investment banks and hedge funds, for example, not to mention the latest economist policy infatuation, “systemic risk.”

Consumer Protection in the Age of OTC Markets

We can place considerable blame on the Fed for the subprime crisis, but it must be said that an equally important factor was the tendency of Congress to use financial regulatory and housing policy to raise money and win elections. Members of Congress in both parties have freely used the threat of new regulation to extort contributions from the banking and other financial industries, often with little pretense as to their true agenda.

Likewise, the Congress has been generous in providing new loopholes and opportunities for regulatory arbitrage, enabling the very unsafe and unsound practices in terms of mortgage lending, securitization and the derivatives markets that has pushed the global economy into a deflationary spiral. The regulatory arbitrage that is at the heart of the financial services crisis begins with the Washington power game and the way in which industries compete for regulatory advantage in the American political system. When the regulated can write campaign contribution checks to those who make the laws, any hope of effective regulation seems illusory.[28]

The subprime housing bubble that began the present crisis came about with the active support of the Congress, two different political administrations, the GSEs, the mortgage, real estate, banking, securities and homebuilding industries, and many other state and local organizations. It should also be recalled that the 1991 amendment to the Federal Reserve Act (FRA),which allowed Secretary Geithner and the Board of the Fed of New York to make the ill-advised bailout loans to AIG and other companies, was added to the FDICIA legislation in the eleventh hour, with no debate, by members of this Committee and at the behest of officials of the Federal Reserve. The Federal Deposit Insurance Corporation Improvement Act (FDICIA) legislation, let's recall, was intended to protect the taxpayer from bailouts for large financial institutions.[29]

So what is to be done in terms of both enforcing prudential regulations and also protecting consumers from predation by banks and non-banks in areas like mortgage origination and credit cards for consumers and complex structured assets for institutional investors? One suggestion would be that, in addition to focusing on product-level regulation of consumer products like mortgages and credit cards, the Congress and the policy community consider placing protections on what type of securities may be sold to state and local agencies.

That's right, public pension funds and other "non-professional" but still institutional investors, such as Orange County, California, and more recently the Wisconsin school districts, are consumers. They are frequently non-professionals in terms of the financial services industry and thus often get the short end of the stick from Wall Street dealers who employ deceptive products and practices. Over the past several years, many public sector agencies have learned the hard way that "total return swaps" often mean that your money is not going to be totally or even partially returned.

We need to acknowledge that the same lobbying effort that brought private investors and banks the benefits of SIVs, subprime debt, CDOs, CDSs and all other manner of OTC derivative securities was also focused on the states and giving the large dealer firms access to state pensions and cash management funds. If you inspect the state lobbying records of jurisdictions where structured assets are causing serious losses to state and local agencies, you will see that the securities industry has been actively lobbying state legislatures for over a decade to permit the use of structured assets and OTC derivatives by state and local agencies, and pension funds.

The deliberate, calculated effort by Wall Street to spread the disease of derivative securities to the public sector paralleled similar efforts to, for example, make the world safe for OTC derivatives in the banking and institutional fund sectors, both in the U.S. and around the world. In each case, Wall Street firms large and small have deliberately sold securities to investors that neither the clients nor often times the bankers themselves are able to value or even describe. The fact that OTC derivatives such as CDSs and CDOs frequently lack a visible cash market or "basis" may explain why they are so difficult to value!

What is to be done with the product level regulation of financial markets in the face of this deliberate attack on public sector investment funds by Wall Street? Let me make some suggestions:

First, given the relative inexperience and lack of financial savvy evidenced time and again by public sector agencies, it seems to me prudent for the states to impose (or restore) draconian restrictions and limits on the types of securities and derivatives that a public agency may purchase as an investment. Instruments such as CDOs, CDSs, instruments using the words "swap" or "total return," or requiring the use of a contract approved by the International Swaps and Derivatives Association (ISDA), should be prohibited for purchase by any public sector agency.

Second, state pension as well as private mutual funds should be prohibited by law from investing in any securities that are not registered with the SEC and either traded on an exchange or in a formal, standardized OTC market. These changes would literally force the extinction of the private-label securitization and OTC derivatives markets as we know them today and compel a level of disclosure that at least gives public sector investors a fighting chance to understand that which they buy on behalf of their citizens. If private investors and hedge funds want to traffic in the financial detritus that Wall Street touts seem to favor, so be it, but we must take action to protect state agencies and pensions from the predations of Wall Street's "yield to commission" culture.

Third, Congress should strip the protection of arbitration from all securities firms in their dealings with public agencies and pensions. Let us never forget that state and local agencies and pension funds represent all of our citizens, virtually all of whom are not competent to make investment decisions. When a securities firm preys upon public agencies legally charged with acting as fiduciaries for the public, they are attacking our entire society. The individuals and firms who are involved in these activities should be vulnerable to all forms of civil and criminal claims.

Speaking as someone who worked as an investment banker and supervised other bankers as a general securities principal, the author believes that all securities claims by public agencies should by law be excluded from NASD arbitration. Securities firms found to have defrauded a state agency, and every registered person working for that dealer, should be banned from the investment world permanently. Do that and you may begin to get Wall Street's attention. And remember that the group of large dealers in OTC instruments is now populated entirely by regulated banks.

Fourth, Congress should amend the securities laws to allow for claw-backs of all commissions paid to individuals involved in fraudulent activities targeting public agencies, pensions as well as private investors. If a broker or investment banker defrauds an investor but then changes his or her place of employment, the damaged parties should have the right to pursue these individuals in the courts and not in arbitration. Again, individuals found to be involved in defrauding a public agency or pension should be permanently banned from the securities business.

By making clear that the securities industry will not countenance fraud or other deceptive activities, the vast majority of individuals on Wall Street who follow the rules and try to serve the best interest of their customers would benefit. But more than simply rooting out dishonest individuals, the large securities dealers need to do some considerable soul searching as to whether selling toxic waste in the form of CDOs and other complex structured assets is really in their own self interest. One need only review the failure of Bear Stearns and the slow motion liquidation of Lehman Brothers to appreciate that the leading firms in the OTC derivatives business are slowly being destroyed by the very monster the industry worked so hard and so long to create.

The author Martin Mayer put the world of OTC instruments and bank supervision in perspective in a commentary earlier this year:

> Credit-default swaps were always a bad idea, because they rest on the false premise that statistical sampling from historical evidence can replace knowledge of the borrowers in the creation of bank loan portfolios. Among the lessons taught but not yet learned in the ongoing horror story at the banks is that the insurance of financial instruments is an activity that can be safely conducted only by governments. In the meantime, these derivatives severely complicate the necessary task of creating a market where private bidders (with some government help) can price the paper that now clogs the plumbing of finance. Separating debt securities from the swaps that were written theoretically to protect them will take ingenuity and persistence (and ruthless exploitation of well-known defects in the systems that trade derivatives), but it doesn't have to be done all at once. No plan to recapitalize the banks can work unless it lifts the fog of uncertainty from the credit-default swaps.[30]

Insurance and Resolution

The Congress does not need to disturb existing state law regulation on insurance or mortgage origination in order to ensure that the unified federal regulator and FDIC have the power to reorganize or even liquidate the parents of insolvent banks. What is needed is a systemic rule so that all participants know what happens to firms that are mismanaged, take imprudent risks and become insolvent.

Firms that are identified as being “too big to fail” should be taxed in the same way that risky banks are forced to pay higher insurance premiums. So long as the Congress fashions a clear, unambiguous systemic rule regarding how and when the FDIC can act as the government's fully empowered receiver to resolve financial market insolvency, the markets will be reassured and the systemic stresses to the system reduced in the process.[31]

The primary responsibility for insuring deposits and other liabilities of banks, and resolving troubled banks should remain with the FDIC and should be expanded to financial services companies and their affiliates. Whereas the unified federal regulator will be responsible for oversight and supervision of all institutions, the FDIC should be given authority to:

- Publicly rate all financial institutions via the pricing of liability risk insurance,
- Determine the insolvency of an insured depository institution, and
- Reorganize any organization or company that is affiliated with an insolvent insured depository or that has become a "systemic" risk to the financial system.

The cost of membership to the financial services club must be to either maintain the safety and soundness of regulated bank depositories or submit unconditionally to prompt corrective action by the FDIC to quickly resolve the insolvency. The founders placed a federal mechanism for bankruptcy in the U.S. Constitution for many reasons, but chief among them was the overriding need for finality to help society avoid prolonged damage due to insolvencies. By focusing the FDIC on its role as the insurer of deposits and receiver for failed banks, and expanding its legal authority to restructure affiliates of failed banks, the Congress could solve many of the political and jurisdictional issues that now plague the approach to the financial crisis.

For example, in the case of C, the government has been hamstrung by the inability to restructure the parent holding company, including the mandatory conversion of preferred equity and debt to common equity. If the FDIC had the power to unilaterally convert one third of C's $700 billion in debt into equity, the institution's financial troubles could be resolved overnight and the need for continuing public subsidies would end.

If the FDIC had the legal authority to direct the restructuring of all of the units of Citigroup, the agency could collapse the entire Citigroup organization into a single national bank unit, mark the assets to market, wipe out the common and preferred equity, convert all of the parent company debt into new common equity, and contribute new government equity funds as well. The resulting bank would have 40-50% TCE vs. assets and would no longer be a source of systemic risk to the markets. Problem solved.

By giving the FDIC the primary authority to determine insolvency and the legal tools to restructure an entire organization in or out of formal receivership, situations such as the problems at Citigroup or AIG could more easily be resolved or even avoided. And by ending the doubt and ambiguity as to how insolvency is resolved, an enhanced role for the FDIC would reduce perceived systemic risk.

While the FDIC probably has the moral and legal authority to compel Citigroup to restructure along these lines (or face a traditional bank resolution), Congress needs to give the FDIC the power as receiver to make these type of changes unilaterally. In the case of a bankruptcy by AIG, the FDIC could play a similar role, managing the insolvency process and assisting as the state insurance regulators take control of the company's insurance units. The remaining company would then be placed into bankruptcy.[32]

In addition to giving the FDIC paramount authority as the guardian of safety and soundness and thus a key partner in managing the factors that comprise systemic risk, the Congress should give the FDIC the power to impose a fee on all bank liabilities, including foreign deposits and debt issued by companies that own insured depository institutions. All of the liabilities of a regulated depository must support the Deposit Insurance Fund and the Congress should also modify its market share limitations to include liabilities, not merely deposits, for limiting size and thus the ability of a single institutions to destabilize the global financial system.

Risk Management

In terms of risk management priorities, the financial services industry, the research community, and the Congress must take steps to resolve the market structure and bank activities problems highlighted earlier in this paper. Specifically, we should re-examine the entire range of regulation and disclosure, including:

- Require that all OTC derivatives be traded on organized exchanges, that the terms of most contracts be standardized, and that the exchange act as counterparty to all trades and enforce all margin requirements equally on dealers and end users alike. The notion that merely creating automated clearing solutions for CDS contracts, for example, will address the systemic risk issues is mistaken. The key thing for the public and the Congress to understand is that the "profits" earned from these unregulated derivatives markets are illusory and do not cover the true risk of OTC derivatives. Put another way, on a systemic basis, risk-adjusted profits from OTC derivatives are not positive over time. As with the current crisis, the net loss from the periodic collapse of what is best described as gaming activity gets off-loaded onto the taxpayer, thus OTC derivatives must be seen as any other speculative activity, namely a net loss to the economy and society. But unlike taking a punt on a pony at the racetrack, bank dealings in OTC derivatives vastly increase systemic risk, make all banks unstable and threatens the viability of the real economy.[33]

- Require that all structured assets such as mortgage securitizations be registered with the SEC. It is worth noting that an affiliate of the NASDAQ[34] currently quotes public prices on all of the covered mortgage bonds traded in Denmark. Such a system could be easily adapted for the U.S. markets and almost overnight create a new legal template for originating private mortgage securitizations.

- In terms of "originate to distribute" lending, the covered bond model may be the only means to "distribute" mortgage paper for some time to come. The key issue for the future of securitizations is whether regulators can craft an explicit recognition of the legacy risk involved in "good sales." It may be that, when actually described accurately, the risks involved in securitization outweigh the economic rewards.

- In terms of mark-to-market accounting, the fact that markets have focused on bank TCE, which like EBITDA is not a defined accounting term, illustrates the folly of trying to define and thereby constrain the preferences of investors and analysts via accounting rules. We need to spend less time, in my view, trying to achieve "completeness" in terms of prescriptive accounting rules and instead look for dynamic disclosure regulations that give regulators and investors several different, consistent perspectives. Using harsh measures such as TCE and credit "spreads" implied by CDSs as valuation indicators, the market concludes that all large banks are insolvent. This is not just a matter of being "pro-cyclical" as is fashionable to say in economist circles, but rather of multiplying the already distorted, "market efficiency" perspective on value provided by mark-to-market into a short sellers bonanza via derivatives and mark-to-market accounting. As my colleague Sylvain Raynes, a professor at Baruch College in New York and one of the leading authorities on structured finance in the U.S., likes to remind me: "The Chicago School is wrong; short-term price is not equal to value."[35]

- If you make every financial firm on the planet operate under the same rules as a broker-dealer for market risk positions, then capital levels must rise and leverage ratios for all types of financial intermediation must fall. While the changes just adopted by the FASB to mark-to-market accounting may give financial institutions some relief in terms of rules-driven losses, falling cash flows behind many assets classes are likely to force additional losses by banks, insurers and other investors.

- Finally, regarding credit ratings, the U.S. and European Union (EU) should remove from law any language suggesting or compelling a bank, agency or other investor to utilize ratings from a particular agency. There is no public policy good to be gained from creating a government monopoly for rating agencies. The best way to keep the rating agencies honest is to let them compete and be sued when their opinions are tainted by conflicts.[36]

Conclusion

It is difficult to be writing about reform and regulation of an industry where both concepts have failed so miserably in practice. The irony of the collapse of Wall Street beginning just as the Basel II accord was ratified is so rich as to be funny, were the implications not so dreadful. The financial crisis is a failure not just of management systems, but of the promise of government to safeguard the soundness of the financial system. But even more, the collapse of the house of cards known as financial economics has reminded us all that the ability to discern and react to risks, especially in relation to managing large financial organizations, is a mirage.

Jonathan Raulston Saul wrote in his classic book, *Voltaire's Bastards: The Dictatorship of Reason in the West*:

> Among the illusions which have invested our civilization is an absolute belief that the solutions to our problems must be a more determined application of rationally organized expertise. The reality is that our problems are largely the product of that application.[37]

My friend and colleague Timothy Dickinson, one of Washington's keenest observers and one of the city's resident polymaths, expanded upon that concept in an interview in July of last year:

> The discovery of equilibrium and, incidentally, the discovery by anthropologists that the most apparently irrational actions in fact work to long term purposes and

> so on, served to rationalize an awful lot of attitudes and activities. What appears to be the working of the system, its institutions, is simulated to make things look as if they were planned and deliberate, with operating procedures, etc., etc. This appearance of design is meant not just to reassure the investor but to caution the journalist, for example, from daring to suggest that anything is amiss with the system lest they be subject to ridicule... But back to the systemic issue, democracy is after all an allowance made by the sheer complexity of things. No one is in charge because no one is genuinely informed enough to be in charge. There is absence of government by default.[38]

As it turns out, the illusory promise of speculative gains in the financial markets were more powerful than the promise of regulation, so powerful in fact that they literally overwhelmed the political systems around the globe. So complete is the subversion of American political and legal systems by our financial services industry that the financial managers of the largest Wall Street dealers continue to extract subsidies from the U.S. government even though it is now clear that a majority of both houses opposes further subsidy payments. Yet somehow the pillage continues unchecked by our elected representatives.

The financial crisis in the U.S. banking system reflects a number of issues that are addressed in a cursory fashion in this overview, and many which are not addressed at all. This area of research demands new perspectives and this process will hopefully consume a great deal of time and attention as the aftermath of the crisis is dissected in detail. But the overriding theme for such investigations must be, in my view, a consideration of how to reconcile the incentives in the markets with the promise of risk management and safety made to our citizens by governments when it comes to our financial institutions.

The ability of private obligors to underwrite all of the risks we would like to transfer probably exceeds the real risk shifting capacity many times over. This fact lies at the heart of the crisis. Perhaps the real road to reason in emerging from the financial crisis is that the promise of safety, the promise of low risk, may be an illusion and a particularly dangerous mirage when placed into the hands of an ambitious politician.

Appendix A

Bank Stress Index Distribution – 2006-2008

Below is a table showing the distribution of letter ratings for all U.S. bank units as of year-end 2008. Notice the way in which the banking industry has shifted from a skew in favor of "A+" rated bank units at the start of 2006 – those with stress levels below the 1995 benchmark in the Stress Index – to a situation today where the number of "A+" rated banks has been cut in half and over 2,000 bank units now are rated "F".

IRA Bank Stress Index
Grade Distribution – 2006-2008
(FDIC insured units)

Period	A+	A	B	C	D	F
2008-12	3,918	1,705	119	390	98	2,003
2008-09	4,498	1,325	283	356	63	1,793
2008-06	4,884	1,248	404	326	66	1,458
2008-03	5,167	1,042	578	334	68	1,233
2007-12	5,556	610	884	315	70	1,029
2007-09	5,931	395	950	274	37	902
2007-06	6,056	354	972	273	60	824
2007-03	6,075	304	1,057	284	63	795
2006-12	6,370	134	1,165	204	39	697
2006-09	6,666	29	1,108	198	44	628
2006-06	6,729	0	1,155	194	35	613
2006-03	6,752	2	1,131	187	39	608

Source: FDIC/The IRA Bank Monitor

These ratings represent a CAMELS type analysis. Factors include:

- Profitability
- Lending Default Experience
- Capital Adequacy
- Loan and Unused Commitment Exposure
- Operational Efficiency

Each factor is weighted equally and is brought together into a overall index where the average on December 31, 1995 = 1.0. Grading is based on a census of active FDIC reporting institutions each quarter.[39]

Being rated "D" or "F" does not mean that the institution will fail, but it does mean that the bank's current performance in Q4 2008 was far above the industry's elevated stress levels and thus the bank gets a poor grade for this period. In many cases institutions with relatively high levels of stress could be excellent value for investors -- either before or after a resolution.

Notice too the large cluster of institutions in the "F" category, compared with the 2006 period. In many cases, the Stress Index factor driving these poor scores is a sharply negative return on equity (ROE), which in turn is almost always driven by a) mark-to-market write-downs against income and b) increases in provisions, in that order of importance. If you want a visible description of the damage caused by the return to mark-to-market accounting, look no farther that the U.S. banking industry.

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[1] Dyson, Freeman, "The Need for Heretics," *Edge: The Third Culture*, August 9, 2007, http://www.edge.org/documents/archive/edge219.htm#dysonf.

[2] See statement by Christopher Whalen, Committee on Banking, Housing and Urban Affairs Subcommittee on Securities, Insurance, and Investment, United States Senate, June 22, 2009, http://www.rcwhalen.com/pdf/StatementbyChristopherWhalen_SBC_062209.pdf.

[3] See "New Hope for Financial Economics: Interview with Bill Janeway," *The Institutional Risk Analyst*, November 17, 2008. http://us1.institutionalriskanalytics.com/pub/IRAstory.asp?tag=323

[4] For a discussion of the OTC markets, see Whalen, Christopher, "Yield to Commission: Is an OTC Market Model to Blame for Growing Systemic Risk?," *Journal of Structured Finance*, Summer 2008.

[5] See Pollock, Alex J., "The Housing GSEs," American Enterprise Institute, May 2009. http://www.aei.org/outlook/21042.

[6] See Kane, Edward J., "Incentive Roots of the Securitization Crisis and Its Early Mismanagement," *Yale Journal on Regulation*, February 2009.

[7] CAMELS refers to: Capital adequacy, Asset quality, Management quality, Earnings, Liquidity, and Sensitivity to market risk.

[8] See excerpts from the Press Release issued by IRA regarding the 2008 Stress Index results for the U.S. banking industry in Appendix A.

[9] As of year-end 2008, the FDIC reported more than 250 troubled institutions. My firm and others in the bank ratings and analytics community would put the true number of troubled banks closer to 800 as of the end of 2008.

[10] Despite the fact that both Secretary Geithner and Fed Chairman Bernanke have indicated that the immediate crisis facing financial institutions has passed, the Fed shows no signs of unwinding these loans.

[11] The emergency loans to AIG were made under Section 13(3) of the Federal Reserve Act. With approval of the appropriate number of governors, a Reserve Bank can lend to any person, provided the Reserve Bank is "adequately secured." Given the questions regarding the role of then-FRBNY President Timothy Geithner in the rescue of AIG and the tens of billions in payments made to AIG counterparties such as Goldman Sachs, it seems reasonable to ask whether in fact the Reserve Bank is secured on its loans to AIG and other entities.

[12] "Participants in Government Investment Plan." *Wall Street Journal*, April 22, 2009. http://online.wsj.com/public/resources/documents/st_BANKMONEY_20081027.html

[13] The details of the loans by the Fed are potentially quite significant and may shed further light on the role of then-FRBNY President Geithner in rescuing AIG. On April 28, 2009, the FRBNY published summary financial information for the three Maiden Lane LLC vehicles created following the Bear Stearns rescue but has still not disclosed the full scope of its loan operations. See http://www.newyorkfed.org/newsevents/news/markets/2009/ma090428.html.

[14] See William K. Black's *Huffington Post* blog at http://www.huffingtonpost.com/william-k-black.

[15] See Black, William K., "Why Is Geithner Continuing Paulson's Policy of Violating the Law?," *Huffington Post*, February 22, 2009. http://www.huffingtonpost.com/william-k-black/why-is-geithner-continuin_b_169234.html.

[16] See De la Merced, Michael, "GMAC Receives More Aid as Treasury Gets Board Seats," *The New York Times*, May 21, 2009.
[17] The classical definition of Tangible Common Equity, or "TCE," used in the mergers and acquisitions community is Total Capital less Preferred Stock less all Intangibles plus Loss Reserves. In the Stress Test conducted by U.S. regulators during Q1 2009, the adjusted TCE measure also reflected net revenues less provisions for losses. The entire Stress Test process was rendered irrelevant, however, when regulators then compared TCE with Risk Weighted Assets, which is a subset of total and tangible assets. The classical approach used by investors is to compare TCE with Tangible Assets, which is defined as Total Assets less all Intangibles plus Loss Reserves.
[18] See my comments on "Modernizing Bank Supervision and Regulation, Part II," Tuesday, March 24, 2009, 538 DSOB, before the Committee on Banking, Housing and Urban Affairs, United States Senate. My comments start around 0:50 on the webcast.
http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=e7f6e704-ad36-4870-b3bb-ba301df361c8
[19] My personal view is that systemic risk is a political concept akin to fear and not something measurable via scientific methods. See also " What is To Be Done With Credit Default Swaps?" American Enterprise Institute, February 23, 2009. See: http://www.rcwhalen.com/pdf/cds_aei.pdf. For a discussion of the origins of "Too Big To Fail," see "Gone Fishing: E. Gerald Corrigan and the Era of Managed Markets," The Herbert Gold Society, February 1993, http://www.rcwhalen.com/pdf/fishing.pdf.
[20] In classical terms, a legal contract recognized as such under common law requires the exchange of value between parties, but a credit default swap (CDS) fails this test. Instead, a CDS is better viewed as a "barrier option" in insurance industry terms or a gaming instrument like the New York Lottery. Because the buyer of protection does not need to deliver the underlying asset to collect the insurance payment, the parties may settle in cash and there is no limit on the number of open positions written against this basis – save the collateral requirements for such positions, if any. Because the effective collateral posted by dealers of CDSs heretofore was low compared to effective end-user collateral requirements, the dealer leverage in the system was almost infinite and thus the systemic risk increased by an order of magnitude. In economic terms, since CDSs equate renters with owners, risk is increased exponentially and regulation is rendered, at best, irrelevant.
[21] See "A Change in Bank Control: Interview With Ernest Patrikis" *The Institutional Risk Analyst*, July 9, 2008. Mr. Patrikis is the former general counsel of the FRBNY and AIG and now privately practices law with respect to banking institutions.
[22] The author was a management trainee at the FRBNY and worked in the Bank Supervision function of that Reserve Bank. In addition, my view of the Fed's internal culture is informed by dozens of conversations and interviews over the past two decades with current and former Fed staff, including a number of members of the Herbert Gold Society.
[23] Given the magnitude of the losses incurred over the past several years due to financial innovation, it is worth asking if economists or at least those economists involved in the securities industry and financial economics more generally should be licensed and regulated in some way. Several observers have suggested that rating agencies ought to be compelled to publish models used for rating OTC structured asset, thus it seems reasonable to ask economists and analysts to stand behind their work when it is used to create securities.
[24] In the case of Germany, for example, losses from investments in CDOs and other subprime securitizations could cost the public sector in excess of €200 billion according to private estimates. The German government has so far refused to place an official estimate of the cost of cleaning up the losses to a number of landesbanks GSEs in that country.
[25] See Mason and Higgins, "Advanta and the Fiction of True-Sale," *Empiris Market Commentary*, May 19, 2009.
[26] See Whalen, Christopher, "Viewpoint: Expanding Fed's Power is Wrong Plan," *American Banker*, April 4, 2008. http://www.rcwhalen.com/pdf/ab_040408.pdf.
[27] See: http://www.sbs.utexas.edu/resource/onlinetext/Definitions/economicsNOTscience.htm. Emphasis in original.
[28] See Kane, Ed, "Accelerating Inflation, Technological Innovation, and the Decreasing Effectiveness of Banking Regulation," *The Journal of Finance*, Vol. 36, No. 2, Papers and Proceedings of the Thirty Ninth Annual Meeting American Finance Association, Denver, September 5-7, 1980.

[29] When the amendment to Section 13 of the FRA was adopted by the Senate, Fed Vice Chairman Don Kohn, then a senior Federal Reserve Board staffer, reportedly was present and approved the amendment for the Fed, with the knowledge and support of Gerry Corrigan, who was then President of the Federal Reserve Bank of New York and Vice Chairman of the Federal Open Market Committee. See Todd, Walker, "FDICIA's Emergency Liquidity Provisions," *Economic Review*, Federal Reserve Bank of Cleveland, Q III, 1993.
http://www.google.com/url?sa=t&source=web&ct=res&cd=1&url=http%3A%2F%2Fwww.clevelandfed.org%2Fresearch%2FReview%2F1993%2F93-q3-todd.pdf&ei=1d0aSpzpEs2EtwfytvXkDA&usg=AFQjCNG9Ssm2uEAWlighyzs_I8NATHYRvA&sig2=EVetpmWveAxDjXmBMD6evw

[30] See Mayer, Martin, "Pricing CDS and Other Illiquid Assets," *The Institutional Risk Analyst*, February 23, 2009. http://us1.institutionalriskanalytics.com/pub/IRAstory.asp?tag=342.

[31] While the commercial banking industry is required to provide extensive disclosure to the public, insurance companies have long dragged their feet when it comes to providing data to the public at a reasonable cost. Whereas members of the public can access machine-readable financial information about banks from portals such as the FDIC and the Federal Financial Institutions Examination Council, in real time, comparable data on the U.S. insurance industry is available only from private vendors and at great cost, meaning that the public has no effective, direct way to track the soundness of insurers.

[32] It is interesting to note that, during his Senate testimony, former AIG CEO Hank Greenberg said that the windup of AIG would not have been a systemic event and he criticized the payments made to AIG's counterparties and called for AIG to be placed into bankruptcy.

[33] See Pirrong, Craig, "The Clearinghouse Cure," *Regulation*, Winter 2008-2009, http://www.cato.org/pubs/regulation/regv31n4/v31n4-1.pdf. See also "Kabuki on the Potomac: Reforming Credit Default Swaps and OTC Derivatives," *The Institutional Risk Analyst*, May 18, 2009, http://us1.institutionalriskanalytics.com/pub/IRAstory.asp?tag=360.

[34] See http://www.nasdaqomxnordic.com/obligationer/danmark/?languageId=1.

[35] See the comments by Professor Raynes: "The Subprime Crisis & Ratings: PRMIA Meeting Notes," *The Institutional Risk Analyst*, September 24, 2007, http://us1.institutionalriskanalytics.com/pub/IRAstory.asp?tag=240.

[36] See "Reassessing Ratings: What Went Wrong, and How Can We Fix the Problem?," *GARP Risk Review*, October/November 2008, http://www.rcwhalen.com/pdf/GARP_Ratings_Whalen_Mason.pdf.

[37] See Saul, Jonathan Raulston, *Voltaire's Bastards: The Dictatorship of Reason in the West*, The Free Press, 1992.

[38] See "The Tyranny of Reason: Interview with Timothy Dickinson," *The Institutional Risk Analyst*, July 30, 2008.

[39] IRA Letter Grading System: (A+) Overall Bank Stress less than 1995 1.0 index baseline. Banks with this grade tend to exhibit strong metrics across the board; (A) Stress slightly less than the industry average. Bank business practices are much more varied than people realize. Institutions in this category exhibit business model choices that allow them to operate with improved cushion against current systemic threats. Average Industry Stress Index Breakpoint. (B) Stress slightly above the industry average. These banks begin to show sensitivity to systemic stresses but still have a business model that offers a some degree of flexibility to resist crisis forces. (C) Stress levels moderately above industry average. In these banks, one or more key metric areas begin to show degradation(s) indicating a need for active attention by officers and directors. (D) Stress indicators well above the industry average. These institutions tend to show significant degradation in one or more of the key areas of measurement. Concern has likely begun to garner the attention of parties outside the bank. (F) Stress levels at the extreme range above industry average. At this degree of stress, one or more of the key elements of the business model has reached failure mode. What concerns exist are probably already public.