

THE FINANCIAL CRISIS OF 2007-2009

CAUSES AND CONTRIBUTING CIRCUMSTANCES

TASK FORCE ON THE

CAUSES OF THE FINANCIAL CRISIS

BANKING LAW COMMITTEE

SECTION OF BUSINESS LAW*

AMERICAN BAR ASSOCIATION

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I. PREFACE

This report was prepared by a subgroup of and for the benefit of the Task Force on the Causes of the Financial Crisis (the “Task Force”) of the Committee on Banking Law, Section of Business Law, American Bar Association. The Task Force was established as a subgroup of the Task Force on Financial Regulatory Restructuring, which was organized by the Committee on Banking Law to address regulatory issues arising from the financial crisis of 2007-2009. The Committee on Banking Law is a committee of the Section of Business Law of the American Bar Association.

This report reflects the views of many Task Force members who served on the subgroup and contributed viewpoints and analysis that were helpful in understanding of the causes of the financial crisis. A number of members contributed written materials to the Task Force, some of which are included in a separate compilation of Background Papers which are available from the Banking Law Committee. The members who contributed substantively to the subgroup of the Task Force are as follows:

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Disclaimers

This report was prepared for the Banking Law Committee's Task Force on Regulatory Reform and members acting in their individual capacities and is to be used for information purposes only. This report has not been approved by the Committee on Banking Law, Section of Business Law, or American Bar Association and does not represent the official or unofficial position of the Association or any section or committee thereof. Not all members of the Task Force agree with all of the content and views in this subgroup's report.

Like others who have studied and commented on the causes of the financial crisis, this report is subject to the following disclaimer:

The causes of the financial crisis will be written about, analyzed and subject to historical revisions for decades. Any view that [we] express at this moment will likely be proved incomplete or possibly incorrect over time.¹

¹ Comments on the causes of the financial crisis by Jamie Dimon, Chief Executive Officer, J.P. Morgan/Chase & Co. in 2008 Letter to Shareholders, available at http://files.shareholder.com/downloads/ONE/691184500x0x283417/92060ed3-3393-43a5-a3c1-178390c6eac5/2008_AR_Letter_to_shareholders.pdf.

II. INTRODUCTION

The United States is emerging from the worst financial and economic crisis since the 1929 stock market collapse and the ensuing Great Depression. American households, businesses, state and local governments, pension funds, and other investors have lost trillions of dollars in wealth and savings. Unemployment has risen. The loss of confidence in the Nation's financial institutions has undermined the stability of major banks and the financial system as a whole. Short-term interest rates have been near zero and the credit markets at a standstill. The U.S. crisis has affected the global financial system and damaged economies around the world.

The U.S. government has undertaken extraordinary efforts to support financial institutions and bolster the credit markets. The Department of the Treasury ("Treasury"), Board of Governors of the Federal Reserve System ("Federal Reserve"), and other government agencies have used their legal authority to the fullest in responding to the crisis. Congress has authorized huge expenditures of taxpayer dollars to prop up the financial system and stimulate the economy. Yet, the financial system remains weak and full economic recovery seems months if not years away.

Little consensus exists about the causes of the crisis. Federal Reserve Chairman Ben Bernanke in March of 2009 said that the fundamental causes of the financial crisis "remain in dispute."² Treasury Secretary Geithner said the causes of the crisis are "many."³

Congress and other policymakers now are gathering information concerning the causes of the crisis. Congress recently authorized the creation of a Financial Crisis Inquiry Commission "to examine the causes, domestic and global, of the current financial and economic crisis in the United States."⁴ Congressional hearings have been held on many aspects of the financial crisis and concrete legislation likely will be forthcoming to prevent a similar crisis from arising in the future.

² Federal Reserve Board Chairman Ben S. Bernanke, Speech at the Council on Foreign Relations, Financial Reform to Address Systemic Risk, Washington, D.C., March 10, 2009.

³ Testimony of Treasury Secretary Timothy K. Geithner before the House Financial Services Committee, March 26, 2009.

⁴ Pub. Law No. 111-21, 111th Cong., 1st Sess. (2009). The Commission is required to submit a report of its findings and conclusions on the causes of the financial crisis no later than December 15, 2010.

The subgroup of the Task Force undertook to study the causes of the crisis in the hope of contributing to the process of assessing what went wrong in the financial system and why. This report was prepared to assist in that process. The broad scope of matters considered is evident in the report itself and in the discussion outline that was the basis for the report.

We have attempted to keep our report readable and not overburdened with footnotes. Many of the findings and conclusions are supported by materials prepared by Task Force members, some of which are included in a compilation of Background Papers that contain detailed analyses and references to source materials. The Background Papers, which are available from the Task Force and on the Task Force web site, include a useful timeline of crisis events and case studies that are particularly helpful in identifying how various causal elements affected individual institutions that failed.

Because we are lawyers, our study focused on the legal system governing the supervision and regulation of financial institutions. Because the crisis arose from significant non-legal factors, however, we considered those factors as well in order to provide a basis for understanding more fully how the crisis arose and how the legal aspects contributed—or did not contribute—to the calamitous events that occurred.

Because this report was written for the Task Force organized by the Banking Law Committee, it focuses on the causes of the financial crisis as they relate to banks and their affiliates. Because securities firms, mortgage brokers, and insurance companies are heavily implicated in the causes of the crisis, and because banking organizations engage in significant securities and insurance activities, it also examines the causal factors arising in those sectors and the financial system as a whole.

In the interests of obtaining a deeper understanding, we went back in time to review historical factors in the evolution of banking and the mortgage markets that may explain aspects of the crisis. We also considered government policies that contributed to the crisis in significant ways. Only by examining the full scope of the crisis did we feel that we could offer meaningful explanations of its causes.

We consulted many sources of information, including public laws, regulations, reports, and other official government documents; reports by Inspector General Offices and the Government Accountability Office; speeches, Congressional testimony and other public statements by federal and state regulators and government officials; news accounts of events; historical data and

reports; public company filings with the Securities and Exchange Commission (“SEC”); and analyses by economists, former financial regulators and supervisors, academic experts, and other individuals. Members of the Task Force’s subgroup contributed insights based on years of involvement in financial supervision and regulation.

Our report does not seek to assess blame for the crisis. We believe that blame can be laid in many quarters, including financial institution managers who pursued risky business practices with inadequate internal controls, federal supervisors who failed to reign in unsound practices and correct risk management weaknesses, federal and state regulators who failed to adequately regulate nonbank mortgage originators or supervise investment banks, government policies that created moral hazard, homebuyers who unrealistically assumed that housing prices would continue to rise indefinitely and incurred debt they could not realistically repay, credit ratings agencies that issued flawed credit ratings, lawmakers who perpetuated public policies that fueled the housing bubble, and investors who took irresponsible risks. Fraud appears to have had its place in the crisis as well.

We examined the causes and circumstances of the financial crisis and not its *consequences*. Accordingly, we did not seek to address the effects of the crisis on consumers, businesses, or investors or ways in which those effects may be ameliorated by government actions. Our report does not address the efficacy of responses by the Treasury, Federal Reserve, FDIC, or other government agencies in responding to the crisis. Finally, we considered the causes of the financial crisis as they arose only in the United States and not in other countries.

Our study confirmed that a complex interaction of many factors and occurrences resulted in the financial crisis. Pinpointing the most direct and consequential of the factors is difficult. No single ingredient alone can be said to have “caused” the crisis. We found many contributing circumstances and occurrences. We found it difficult at times to distinguish between causes, circumstances, and occurrences.

Our findings and conclusions highlight factors that were more causally significant than others and distinguish factors that, while implicated in the crisis, seem not to have causal significance. Our conclusions also underscore important lessons that can be drawn from the causes of the crisis.

III. HISTORICAL PERSPECTIVE

This report considers the financial crisis in a 30-year historical perspective in order to understand how it arose over time. The goal was to ascertain whether the crisis signifies a wholesale failure of history to produce a viable banking system or instead resulted from aberrations that can be repaired without discarding the system's inherent strong features.

A. Evolution of Banks in the Financial Markets

As reflected in the Discussion Outline and Background Papers, our historical view shows a dramatic evolution of banking organizations in response to competitive forces and technological innovations. These forces gave rise to very large and interconnected institutions transacting heavily in complex financial instruments in the capital markets while at the same time serving traditional banking customers alongside a large number of smaller banks. This evolution for the most part was a natural outcome of commercial bank responses to competitive challenges from securities firms and insurance companies that threatened to erode the banking industry's traditional customer base and sources of revenue.

Among other things, securities firms in the 1970's found ways of offering attractive alternatives to deposits and commercial loans.⁵ Insurance companies also broadened their offerings of financial products.⁶ These developments impelled banks to find ways of shedding old legal restrictions and offering more competitive products and services to retain their customers.

Banking regulators permitted banks to expand into broader securities and insurance markets with wider geographic reach, sometimes relying on new legal theories. The securities and insurance industries fought back, often in the courts, which generally sided with the banking industry.

Banks suffered a setback with the collapse of the thrift industry and real estate downturn in the early 1990's. A number of major banks failed. But the banking industry emerged strong after Congress and the regulators adopted a new

⁵ Securities brokers offered money market mutual funds and securities brokerage accounts with checking account features paying market rates of return whereas banks were prohibited from paying any interest on checking accounts or selling securities. The securities industry developed a secondary private placement market for commercial paper which allowed companies to raise operating funds directly in the capital markets more easily and cheaply than through bank loans.

⁶ Insurance companies offered fixed and variable annuities that became competitive with bank certificates of deposit as a means of savings.

risk-based supervisory framework relying on increased capital requirements. By the late 1990's, over 95 percent of all banks were well-capitalized.

The lifting of geographic restrictions on interstate banking in the early 1990's resulted in a major consolidation in the banking industry. Large banking organizations combined and grew even larger. These organizations were well-capitalized and well-positioned to acquire securities firms and insurance companies, which they did in increasing numbers as they converged into these financial sectors.

Following two decades of dramatic change, a more "level playing field" emerged, with banks and other financial service firms competing to meet every financial need in every financial market. Congress endorsed this change when it enacted the Gramm-Leach-Bliley Act in 1999. The Act removed additional legal obstacles and created a framework for affiliations between banks, securities firms, and insurance companies through financial holding companies.⁷ The result was a more efficient financial system capable of supporting widespread economic growth and better access to financial services for customers across-the-board.

The system went seriously astray in recent years due to excesses at various points. These were caused largely by forces outside the banking system, but were absorbed and magnified by the system in adverse ways. Among other things, financial institutions became overly leveraged and involved with complex products they misused or misunderstood. They failed to develop adequate risk management systems for new types of risk. Technological innovations and ongoing competitive pressures led to sophisticated financial engineering and intricate investment products, but these were so complex that they ultimately obscured risk.

Many excesses—by financial institutions, borrowers, and investors alike—contributed to the buildup of an unsustainable housing bubble. When it burst, weaknesses throughout the system proved incapable of withstanding the shock and a cascade of failures occurred at many levels.

The defects in the banking system have been largely identified and are being addressed by federal banking regulators. Many of these defects appear sufficiently discrete that they can be remedied on a targeted basis to ensure that they do not remain a source of weakness going forward. In many cases, banking

⁷ The Act repealed Glass-Steagall Act provisions that had restricted such affiliations but kept the Act's prohibitions on direct securities underwriting and dealing by banks and deposit-taking by securities firms.

organizations will need to fundamentally revise their operations and business practices to meet future supervisory requirements and expectations. As more fully discussed below, a need exists for comprehensive systemic risk oversight, which presently does not exist in any single regulatory authority. The process of repairing the damage and developing a more resilient banking system will continue for many months and years. Whether the sweeping reform proposals being considered by Congress will help or hinder this process remains to be seen.

Viewed in a historical perspective, the financial crisis suggests that banking regulators were overly optimistic about the ability of banking organizations to manage the transformation from traditional banking functions to sophisticated, full-service financial institutions operating broadly in nontraditional markets. Yet, we found no reason to suggest that the evolution of the banking system to its present form should—or can—be reversed to an earlier time.

The crisis arose from the most fundamental of traditional banking activities—lending. While it is beyond the scope of this paper to delve into the history of other financial crises, it is well-documented that real estate lending has been a persistent source of financial turmoil over the years. Indeed, in an earlier time, mortgage lending was deemed too risky for commercial banks and they were not active participants in the home mortgage markets.⁸ In the current crisis, nonbank participants in the mortgage markets played a key role in causing the crisis.

The crisis arose during an evolution of the banking system in tandem with the evolution of the mortgage markets, to provide an expansion of home financing through innovative products that made it possible for more Americans to own homes. This evolution was stimulated by government homeownership policies and is not easily reversed.

B. Evolution of the Mortgage Markets

Because the causes of the crisis are so interrelated with housing finance, we reviewed the evolution of the mortgage markets to understand key causal elements there. This evolution too shows dramatic changes, highlighted by the

⁸ For example, national banks were barred from offering any mortgage loans until 1913, when the Federal Reserve Act permitted loans of up to 5 years secured with a 50% loan to value ratio for farm property. Loans secured by nonfarm property were barred for national banks until 1916, when one-year mortgages were authorized. Five-year mortgages were permitted in 1927, 25-year mortgages in 1964, and 30-year mortgages not until 1970.

securitization of mortgages and the replacement of the traditional “originate-to-hold” model with the “originate-to-distribute” model.

The old model relied on the holding of 30-year, fixed-rate mortgages primarily by savings and loan associations which funded these long-term assets with short-term liabilities—a formula that ended in disaster with the collapse of the thrift industry in the late 1980’s. The new model avoided this problem primarily by separating mortgage origination from mortgage risk and by offering mortgage products with more flexible maturities and other terms.

The new model was based on the securitization of loans. Securitization developed as a means by which banks could transfer loans and other assets off their balance sheets to trusts or other vehicles which then issued units of interest or “securities” to investors. That way, banks freed up their capital for more loans and assets. Securitization essentially transferred the risk of mortgage lending from banks to investors. Many banks thus moved toward a fee-based business model in lieu of the traditional “originate and hold for income” model.

Securitization also provided a new source of fee income for banks and other companies that participated in the lending process. Securitization depends on the performance of distinct functions by the same or separate entities – origination, credit underwriting, securitizing, servicing, and selling to investors. Each level creates incentives to increase loan volume for greater fee generation.

The securitization process transformed mortgage finance and greatly expanded the sources and supply of funding for home mortgages. The process created new opportunities for nonbank mortgage companies to participate in the mortgage markets and gave rise to the “originate-to-distribute” model. Under this model, nonbank mortgage brokers earned loan origination fees without bearing the risks of the mortgages they created, which were transferred to purchasers of the mortgages.

The emergence of the new origination model was accompanied by the development of new mortgage products designed to reduce the risks of mortgages for lenders while making mortgages more readily available. These included the adjustable rate mortgage, home equity loans, and payment option and other mortgages with flexible terms.

The new mortgages and method of mortgage origination dramatically increased the availability of housing credit and the number of mortgages made. This growth was fueled by government policies that encouraged homeownership through various tax subsidies and home finance programs. Government-sponsored enterprises (“GSEs”) were created to purchase mortgages and to create,

syndicate, and purchase mortgage-backed securities, and they supported a strong secondary market for mortgage loans.

As explained below, the new method of mortgage finance collapsed largely of its own weight. The future shape of the mortgage markets is uncertain due to the bursting of the housing bubble and the failure of the GSEs, which caused the securitization markets to dry up. Nevertheless, the historical evolution of the mortgage markets, like that of the banking system, seems unlikely to be reversed, at least not in any way that would significantly reduce the availability of mortgages to credit-worthy homebuyers.

One aspect of the mortgage markets probably will change, namely, the absence of an overriding framework for the regulation of non-bank mortgage providers, processes, or products. Until now, that sector has evolved largely free of federal regulatory oversight or meaningful state supervision. That likely will change.

IV. FINDINGS

The crisis emerged from a complex interaction of government economic and social policies, evolution of the financial markets, opportunistic business practices, and undue leveraging and risk taking by American consumers, investors, private financial institutions, and GSEs alike. These factors gave rise to destabilizing forces that engulfed the entire financial system.

A. Complex Interactions Occurred

The causes of the financial crisis are manifold. No one “cause” can be singled out as the main culprit. Rather, the crisis was the result of a continuum of interrelated causes and contributing circumstances that evolved and interacted in complex ways over time.⁹

The crisis generally is considered to have begun in 2007, reached a critical point in 2008, and continues in 2009. Different factors played a role at different stages of the crisis. Some may be considered root causes while others only aggravating circumstances. At times, the crisis seemed to ebb and flow and had various cascading effects, engulfing otherwise healthy institutions and revealing

⁹ Treasury Secretary Timothy Geithner has stated, “No crisis like this has a simple or single cause.” Wall St. J., March 23, 2009. Geithner added, to sum up the situation, “but as a nation we borrowed too much and let our financial system take on irresponsible levels of risk.”

weaknesses in the system that were not perceived as such earlier. Different phases of the crisis challenged institutions and their regulators in different ways.

Some experts have blamed the financial crisis on “subprime lending.”¹⁰ Yet, absent low interest rates and government policies that subsidized the housing market, the supply and demand for subprime lending and exotic mortgages might have remained on a scale inconsequential to the larger financial system. Absent securitization as a means of selling mortgages to banks and investors, mortgage originators might have applied more prudent credit underwriting standards and not made so many loans dependent on questionable sources of repayment. Absent the ability to sell mortgage-backed securities to investors, securitizers might not have purchased the loans or would have been more cautious in doing so. Absent credit default swaps and triple-A ratings by credit ratings agencies, investors might not have purchased the mortgage-backed securities and the “toxic assets” might not have spread so widely through the financial system. This causal chain of events is oversimplified and incomplete, but illustrates the difficulty of isolating any one cause as the main perpetrator.

Other factors contributed to the financial collapse, including excessive leveraging by financial institutions and American consumers, a global credit imbalance, the size and interconnectivity of financial institutions, regulatory gaps and lapses in supervisory oversight, flawed risk management and corporate governance within individual financial institutions, and overly strict application of mark-to-market accounting rules that distorted bank balance sheets in a pro-cyclical way. Underlying all of this were government economic and social policies and political pressures that contributed to the build-up of causal forces.

The following narrative highlights the immediate causes and occurrences of the crisis. This narrative generalizes the chain of events that occurred. More detailed information is available in the Background Papers accompanying this report.

1. Too Many Loans With Flawed Credit Standards

The most central cause of the crisis was the making of too many mortgages to too many borrowers based on flawed credit underwriting standards

¹⁰ See Paul Krugman, *Revenge of the Glut*, New York Times, March 2, 2009 (“Remember the good old days, when we used to talk about the “subprime crisis”. . .? Today we know that subprime lending was only a small fraction of the problem.”). While “small fraction” may be an overstatement, it is true that limited down payment mortgages in various forms (Alt-A’s, payment option, and even highly leveraged prime mortgages) were significant contributors to the crisis.

and unrealistic assumptions about the likelihood of repayment and rising home values.

2. Subprime and Unconventional Mortgages

Many loans were made to borrowers with subprime credit or without appropriate credit analysis or documentation to support the loan. Unconventional mortgage products appeared in the marketplace to accommodate a wide range of borrowers. Mortgage loans were made to borrowers for first-time home purchases as well as for second homes and recreation properties. Some mortgages were structured so that they would require refinancing after a few years and could not realistically be repaid absent a steady increase in home values to support refinancing. During 2000-2007, subprime mortgages grew by 800 percent and, by the end of this period, 80 percent of these mortgages were being securitized.¹¹

3. Unregulated Mortgage Originators

Many of the mortgage companies that originated these loans operated free of federal oversight and engaged in practices generally not permitted for federally regulated bank lenders. For these originators, little was done to prevent abusive and/or unsound lending practices. In contrast, Federal banking regulators discouraged commercial banks from making subprime mortgages, but some national banks, such as Countrywide, made large numbers of unsound loans.¹² Many banks bought loans from unregulated mortgage originators, mainly for the purpose of packaging and securitizing them, but also for investment and trading purposes.

4. Originate-to-Distribute Model

Many mortgage brokers and lenders operated under the “originate-to-distribute” model whereby they originated loans solely for the purpose of selling them. This model allowed them to earn loan origination fees without bearing the ultimate credit risk. Sometimes they retained servicing rights to the mortgages, allowing them to take additional fees for collecting loan payments, escrowing and

¹¹ Gary B Groton, *The Subprime Panic*, Nat'l Bureau of Economic Research Working Paper No. 14398 at 3 (Oct., 2008).

¹² Countrywide was a national bank until it converted to a thrift charter in March of 2007. It began imploding in August of 2007. Funding for Countrywide (and presumably other mortgage companies) came from Bank of America and other regulated lenders. See Chris Isidore, Countrywide forced to turn to banks for help, August 16, 2007, available at <http://money.cnn.com/2007/08/16/news/companies/countrywide/index.htm>.

making payments for property taxes and insurance premiums, and responding to customer inquiries. Their economic incentive was to originate as many loans as possible and they had weak incentives for credit quality.

5. Securitization of Mortgages

The “originate-to-distribute” model was made possible by the securitization of loans. The securitization process transferred most of the risk of mortgage lending from loan originators to investors who bought securities backed by the loans. Securitization shifted a major source of risk out of the banking system, but the risk came back into the system when banks and other financial institutions purchased mortgage-backed securities for themselves and their customers or warehoused yet-to-be-securitized loans.

6. Government Policies Encouraging Borrowing

Borrowers were encouraged to take out mortgages by government policies designed to expand homeownership and subsidize the availability of mortgage credit. These included tax incentives, government-sponsored housing finance programs, and consumer education that promoted home buying on credit.

State “anti-deficiency” laws enabled borrowers to default on their home loans without fear of personal liability when the loan amount exceeded the value of the home (*i.e.*, no equity was left).

7. Mortgage Fraud and Abuse

Instances of mortgage fraud occurred by borrowers who falsified their credit qualifications and by mortgage originators who engaged in fraudulent and predatory lending practices in violation of consumer protection laws.

8. Global Credit Imbalance and Low Interest Rates

Borrowing and refinancing by homebuyers and homeowners was encouraged by low interest rates, resulting largely from excess credit flows into the U.S. economy from developing nations and oil exporting countries with excess savings. Monetary policy actions of the Federal Reserve failed to counterbalance the effect of excess credit.

9. Excessive Consumer Debt

Consumer protection laws made consumers comfortable with consumer loans while government programs made consumer credit more accessible,

encouraging increased levels of consumer spending and debt. High consumer debt and low savings meant that consumers had reduced ability to repay their mortgages or withstand an economic downturn and decline in home values.

10. Fannie Mae and Freddie Mac

Among the largest purchasers of mortgages were the government sponsored entities—Fannie Mae and Freddie Mac (the “GSEs”). They fueled rapid growth in the mortgage markets by purchasing an increasing volume of home loans and relaxing the limits and standards for loans they would buy. Government regulations allowed them to operate with little capital (less than two percent of assets). But they were privately owned and operated with the objective of growing in size and earning profits for their shareholders. Because they carried an implicit government guarantee, they could raise funds cheaply by selling debt and equity in the markets and by packaging mortgages and selling mortgage-backed securities to investors.

11. Demand for Mortgage-Backed Securities

Mortgage-backed securities were in demand by investors because they carried a yield higher than what was available on Treasury bills in the low interest rate environment and they were considered safe. Subprime mortgage-backed securities were the most sought after because they promised a higher yield based on higher interest rates and cash flow. Their safety seemed assured either by the implicit government guarantee on mortgage-backed securities issued by the GSEs, or by high ratings issued by nationally recognized statistical ratings organizations (“NRSROs”). Investors believed that American homeowners would not risk forfeiture of their homes by defaulting on their mortgages. Few investment products were available with this degree of yield and assumed safety.

Investor demand for these securities became aggressive and stimulated mortgage originations, particularly of subprime mortgages that were easy to produce. The securities were bought by individual investors, commercial banks, broker-dealers, investment banks, insurance companies, money market funds, hedge funds, pension funds, and a variety of investment vehicles. Foreign investors purchased these securities in large amounts.

12. Complex Products that Obscured Risk

New investment products emerged that invested heavily in subprime and other mortgages and catered to investor demand for mortgage-backed securities. These included structured investment vehicles or “SIVs” and collateralized debt obligations or “CDOs” with tranches of packaged subprime mortgages given

varying credit ratings. They were highly complex, often leveraged, and tended to obscure the degree to which investors were exposed to the risks of the underlying collateral. They were offered by large commercial banks and investment banks primarily to sophisticated investors.

13. Flawed Credit Ratings

Investors in mortgage-backed securities, SIVs, CDOs, and related investment products relied heavily on investment grade ratings assigned to the securities by NRSROs. The ratings typically were paid for by the issuer of the securities, which created an incentive to give high ratings, and were not backed by an appropriate level of due diligence. The rating agencies relied largely on mathematical risk models and assumptions that later proved erroneous, and did not adequately account for liquidity risk. The flawed credit ratings contributed to widespread mispricing of the risks of mortgage-backed securities.

14. Investor Complacency

Otherwise sophisticated investors uncritically relied on the credit ratings and failed to conduct their own credit analysis and due diligence. They became complacent and took investment risks that seem irresponsible in retrospect.

15. Excessive Leveraging

Investment banks were among the largest purchasers of mortgage-backed securities and the most leveraged. The largest firms—including Bear Stearns and Lehman Brothers—leveraged their capital 30 to 1 or more. Leveraged hedge funds also invested heavily in mortgage-backed securities. Bank capital requirements limited bank leveraging to approximately 10 to 1, but some large banks leveraged through off-balance sheet activities that ultimately ended up back on the bank's books. Excessive leveraging magnified the potential impact of losses to these institutions. Many of the highly leveraged firms relied on the overnight repurchase (repo) market as a source of funding for their activities, which made them more vulnerable to liquidity pressures.

16. Risk-Rewarding Compensation Practices

Compensation practices at many financial institutions rewarded excessive risk taking. Executives and employees were compensated based on their generation of short-term gains without regard to longer-term losses. Executives were under pressure to manage institutions to meet earnings estimates by financial analysts who monitored their stock performance.

17. Bursting of the Housing Bubble

The abundance of mortgage finance fed an unsustainable housing bubble that, when it burst, resulted in a flood of loan delinquencies and foreclosures on American homes.

18. Devaluation of Mortgage-Related Assets

The growing tide of mortgage defaults resulted in a rapid devaluation of mortgage-related assets and exposures held by financial institutions and investors. Hedge funds, SIVs, CDOs, and other vehicles that invested in mortgage-related securities imploded. Some lenders took big write downs for the loss of servicing rights on defaulted loans. Some institutions took back devalued mortgage-backed securities they had sold to their customers through SIVs in order to mitigate reputation and litigation risk, but at the expense of their own solvency and the interests of uninsured depositors and bank shareholders.

19. Mark-to-Market Accounting

Mark-to-market accounting standards created pressure for recording losses on mortgage-related assets, many of which were still performing as agreed. These accounting writedowns depleted the capital position of banks and other financial institutions that held these assets.

20. Bank Failures

The collapse of the mortgage market left many large mortgage lenders and securitizers holding mortgages they had warehoused but not yet sold into the secondary markets, which had collapsed. The GSEs were on the brink of insolvency and ultimately were placed into conservancy by the government. Some mortgage lenders had funded their loan activities with short-term commercial paper and brokered deposits which quickly evaporated. Countrywide, IndyMac, Washington Mutual, Wachovia, and a number of other institutions ultimately were acquired as failed or troubled institutions in 2008 due to their home mortgage operations.

21. Uncertainty and Panic

Uncertainty and panic in the financial markets was widespread and engulfed counterparties of large financial institutions with substantial exposures to mortgage-related assets. These counterparties cancelled or refused to extend short-term credit lines to exposed institutions (including credit obtained through repurchase agreements), creating liquidity pressures on the vulnerable institutions.

In the case of Bear Stearns and Lehman Brothers, the liquidity pressures caused the institutions to become insolvent even though they met existing regulatory capital standards.

22. Moral Hazard

The government rescued Bear Stearns in March of 2008 by arranging for its purchase by J.P. Morgan Chase & Co. with Federal Reserve backing. This action created an expectation that the government would do the same with Lehman Brothers and other firms, thereby adding a new element of moral hazard to the financial system. The government's rescue and subsequent takeover of Fannie Mae and Freddie Mac generated uncertainty and further moral hazard.

23. Lehman Brothers Failure

The failure of Lehman Brothers in mid-September of 2008 without a government rescue shocked the financial markets and ignited a series of market reactions that went spiraling out of control.

24. Run on Money Market Funds

Despite warnings of troubles at Lehman Brothers, many investors did not expect its bankruptcy. These included the Reserve Fund, a money market mutual fund that held a large amount of Lehman commercial paper which suddenly became worthless, causing the fund to “break a dollar” and close. The failure of this fund, which had a credit rating of AAA when it closed, sparked a run on other money market funds by fund shareholders who redeemed their shares. A number of fund sponsors were forced to purchase fund assets or otherwise provide financial support for their funds. In order to reverse the run on money market funds, the Treasury established a temporary money fund guarantee program and the Federal Reserve initiated money fund liquidity facilities. Additionally, the Federal Reserve initiated a purchase guaranty program for commercial paper—an important component of the portfolios of many major money market funds.

25. Pressure on the Commercial Paper Market

The money market fund redemptions forced the funds to suspend their purchases of commercial paper and other short-term debt, putting liquidity pressure on major U.S. corporations that had no ready source of alternative funding to meet short-term operational needs. Major banks by this time were tightening their balance sheets and curtailing their commercial lending operations. The financial crisis began to have a widespread economic impact.

26. Liquidity Crisis at AIG—Credit Default Swaps

Simultaneously with Lehman’s failure, a liquidity crisis engulfed AIG, Inc. (“AIG”), then the world’s largest insurance holding company. AIG Financial Products Corp., a London-based non-insurer affiliate, had issued credit default swaps collateralized by AIG protecting purchasers of bonds and commercial paper issued by Lehman Brothers and other vulnerable financial institutions, and also had entered into speculative swap agreements. The credit rating agencies, which had not done adequate due diligence on AIG’s activities, downgraded AIG after Lehman’s failure. This action entitled the counterparties in the swap contracts to demand that AIG post additional collateral to support the contracts, which AIG could not do because of the magnitude of the collateral requests and its failure to set aside adequate capital for its swap obligations. The federal government initially signaled that it would not rescue AIG. But fears of cascading losses and failures by AIG’s swap counterparties—which included many “too-big-to-fail” banks—prompted the government to intervene with an unprecedented rescue package, ultimately totaling nearly \$200 billion.

27. Implosion of Wall Street Firms

At the same time, Merrill Lynch faced a liquidity crisis. Fearing a fate similar to that of Lehman Brothers, it quickly sold itself to Bank of America Corporation, which later needed government assistance to close the deal. The two remaining major Wall Street investment banks—Goldman Sachs and Morgan Stanley—converted to bank holding companies to gain access to liquidity under the supervisory auspices of the Federal Reserve. As a result, by the end of October 2008, no major bracket investment bank remained on Wall Street.

28. Mixed Message from Congress

With the financial system in a state of collapse, the Treasury and Federal Reserve sought emergency legislation from Congress to authorize \$700 billion for the purchase of “toxic” mortgages and related assets from financial institutions. With a U.S. presidential election just weeks away, political pressures were in full play. The House of Representatives unexpectedly voted down the legislation on the initial vote. This action caused a plunge in the already volatile stock market. The Dow Jones Industrial Average fell by nearly 800 points, a record one day decline. Congress subsequently approved the emergency legislation on October 3, 2009, but the markets remained confused as to how to interpret Congressional ambivalence regarding the crisis.

29. Freezing of Credit Markets

By this time, the financial markets were so panicked that the credit system froze, disrupting the flow of funds into the economy. Banks refused to lend to each other in the overnight federal funds markets and began cancelling or limiting previously approved credit lines to customers. Money market funds and other investors were exceedingly cautious in purchasing commercial paper and municipal bonds. Investors rushed to buy government securities, driving yields on short-term Treasury bills to below zero.

30. Government Rescue and Relief

The government took a series of extraordinary measures to avoid a catastrophic collapse of the financial system. The Federal Reserve instituted liquidity facilities for banks, nonbank financial institutions, money market funds, and commercial paper issuers. The FDIC increased the level of deposit insurance, provided unlimited coverage for previously uninsured business checking accounts, and guaranteed bank debt. These and other programs helped to unfreeze the credit markets and stabilize the financial system. The total program capacity was \$6.8 trillion by the first quarter of 2009 with the ability to expand capacity to \$13 trillion.¹³

While the long-term efficacy of this extraordinary intervention is beyond the scope of this paper, it can be said that, without aggressive government intervention, the entire financial system and U.S. economy might have collapsed. The financial system appears embarked on recovery as of September 2009, but the economic effects of the crisis appear to be long-term.

B. Major Regulatory Gaps Existed

The above narrative shows that certain key causal factors and occurrences implicated institutions, practices, or products that were not subject to adequate federal oversight.

1. Nonbank Mortgage Originators

Nonbank mortgage originators played a significant role in the mortgage market leading to the financial crisis but were not substantively regulated at either the federal or state level.

¹³ Federal Deposit Insurance Corporation, A Year in Bank Supervision: 2008 and a Few of its Lessons, Issues Summer 2009.

According to one report, the number of mortgage brokers in the U.S. increased from 7,000 in 1987 to 53,000 in 2006.¹⁴ Their share of mortgage originations increased from 20 percent in 1987 to 68 percent in 2003 before declining to 58 percent in 2006. As of 2008, state regulators reported that they had licensed 85,000 mortgage companies with 68,000 branches and over 407,000 loan officers and other professionals.¹⁵

Nonbank mortgage originators were a major source of subprime lending. According to the Government Accountability Office, in 2006 all but four of the top 25 originators of subprime and other nonprime loans (which accounted for more than 90 percent of the dollar volume of all such originations) were nonbank lenders, accounting for 81 percent of origination by dollar volume.¹⁶

Notwithstanding their significant role in the mortgage market, nonbank mortgage originators and lenders operated free of federal supervisory oversight and with little or no state supervision and regulation. They generally were (and are) subject to state licensing requirements, but most state licensing standards appear to have been minimal and not backed by a strong system of prudential supervision.¹⁷

Among other things, employees of licensed mortgage lenders were not licensed. Underwriting standards applied by nonbank mortgage lenders generally were not monitored by state government authorities, and underwriting standards set by government-sponsored enterprises such as Fannie Mae and Freddie Mac did not apply to loans sold directly to banks and other investors.

Significantly, the Federal Reserve did not fully exercise its authority to regulate abusive lending practices by nonbank mortgage originators as mandated by Congress. Congress in 1994 directed the Federal Reserve to prohibit acts or practices in connection with mortgage loans found to be unfair or deceptive or

¹⁴ James R. Barth, Tong Li, Triphon Phumiwasana, and Glenn Yago, *A Short History of the Subprime Mortgage Meltdown*, Jan. 2008 (Milken Institute).

¹⁵ Thomas B. Gronstal, Testimony before the Committee on Banking, Housing and Urban Affairs of the United States Senate (Mar. 4, 2008), on behalf of the Conference of State Bank Supervisors.

¹⁶ U.S. Gov't Accountability Office, *Financial Regulation: A Framework for Crafting and Assessing Proposals to Modernize the Outdated U.S. Financial Regulatory System* 23 (2009).

¹⁷ Some of these companies were affiliated with banks, but generally were not within the supervisory jurisdiction of federal banking agencies. To the extent their activities threatened the safety and soundness of an affiliated bank, the supervisors could have addressed these activities. The Secured and Fair Enforcement for Mortgage Lending Act of 2008 (SAFE Act) soon will require state supervision of these mortgage companies to meet specified minimum training and licensing requirements, but does not mandate any mortgage underwriting standards.

designed to evade the provisions of the Home Owner Equity Protection Act, or in connection with the refinancing of mortgages found to be associated with abusive lending practices or not in the interest of the borrower. The Board did not adopt regulations for this purpose until 2008.¹⁸

2. Credit Rating Agencies

The credit rating agencies contributed significantly to the financial crisis by issuing flawed investment grade ratings to subprime mortgage-backed securities that rapidly declined in value when the housing market deteriorated. The ratings were based on risk models and assumptions that proved erroneous, including inadequate consideration of liquidity, and in many cases were paid for by the issuers of the securities. The ratings were relied on by a wide range of investors and were instrumental in the spread of “toxic” assets throughout the financial system.¹⁹

Had the credit rating agencies issued credit ratings supported by better due diligence, the ratings might have more accurately reflected the risks of mortgage-backed securities and led to more caution among investors. A recent SEC report based on an examination of the credit rating agencies found numerous deficiencies.²⁰ Among other things, the report stated that none of the rating agencies examined had specific written procedures for rating mortgage-backed securities or CDOs and none had had specific policies or procedures to identify or address errors in their models or methodologies.

The credit rating agencies acquired a unique status in the financial system in 1975 when they were designated as “nationally recognized statistical rating organizations” or “NRSROs” for purposes of SEC rules. Since then, NRSRO ratings have been used in a wide range of laws and regulations as an eligibility criteria for lawful investments by pension funds, banks, money market funds, and government entities. They also became a significant criteria in determining how various assets should be risk-weighted for bank capital adequacy purposes and were a critical component of the Basel I and Basel II capital rules. The NRSROs issue credit ratings on nearly every type of instrument in the financial markets.

¹⁸ Former Chairman Alan Greenspan is reported to have said that the Federal Reserve was “ill-suited to investigate deceptive lending practices.” *See* *Feds Shrugged as Subprime Crisis Spread*, *New York Times* (Dec. 18, 2007).

¹⁹ The agencies’ ratings of other securities also appeared flawed. For example, the Reserve Primary Fund was rated triple AAA when it failed, even though it was known to have large holdings of Lehman Brothers’ commercial paper.

²⁰ Securities and Exchange Commission, *Summary Report of Issues Identified in the Commission Staff’s Examinations of Select Credit Rating Agencies* (July 2008).

Nevertheless, despite their importance in the financial system, the credit rating agencies were not subject to federal regulatory oversight until 2007 when the SEC adopted final rules under the Credit Rating Agency Reform Act of 2006.²¹ The purpose of that Act was to subject the NRSROs to regulatory oversight in order to “improve ratings quality for the protection of investors and in the public interest by fostering accountability, transparency, and competition in the credit rating industry.”²² The Act empowered the SEC to establish a registration and regulatory program for credit rating agencies whose credit ratings qualify for purposes of laws and rules using the term “nationally recognized statistical rating organization.”

The credit rating agencies now are required to register with the SEC, make public information available to help assess their credibility, make and retain certain records, furnish the SEC with certain financial reports, implement policies to manage conflicts of interest, and abide by certain prohibitions against unfair, coercive, or abusive practices. Ten credit rating agencies had registered under the rules as of September 2009.

In light of the role the credit rating agencies played in determining credit ratings for subprime mortgage-backed securities, the SEC earlier this year adopted rules addressing concerns about the quality of credit ratings and the integrity of credit rating procedures and methodologies used in rating structured finance products²³

Had these rules been in place earlier, it is possible that the risks of subprime mortgages and related investment products might have been better appreciated and not become such a pervasive source of risk in the financial system. Even so, more comprehensive reform of the credit ratings process may be needed. Additional rules also may be worthy of consideration. For example, one proposed solution would mitigate conflict of interest by requiring at least one rating on each issue by an IOCRA (an Investor Owned Credit Rating Agency). Other proposed solutions include: (1) post ratings performance disclosure based on a material decline in value of the rated obligation; (2) an obligation to continually rate obligations after issuance; and (3) eliminating NRSRO designations from all regulatory rules.

²¹ Pub. L. No. 109-291 (2006).

²² Report of the Senate Committee on Banking, Housing, and Urban Affairs to Accompany S. 3850, Credit Rating Agency Reform Act of 2006, S. Report No. 109-326, 109th Cong., 2d Sess. (Sept. 6, 2006).

²³ 74 Fed. Reg. 6456 (Feb. 9, 2009).

3. Credit Default Swaps

The lack of regulation and transparency in the credit default swap market allowed AIG to accumulate liability on its swap contracts that vastly exceeded its ability to pay in the event of underlying defaults. When counterparties demanded collateral to support the contracts after AIG suffered a credit rating downgrade, AIG was unable to provide it and would have been forced to declare bankruptcy without government intervention. AIG's difficulties created disruption in the financial markets and required a government commitment of nearly \$200 billion to honor its credit default swap obligations and remain solvent.

The existence of a clearinghouse or other regulatory mechanism for swaps might have prevented AIG from accumulating so much risk without appropriate capital and provided greater transparency in the market.

A credit default swap allows a party to transfer the credit risk of certain investments (such as commercial paper or mortgage-backed securities, for example) by paying a fee to another party that is willing to assume the risk in the event of default. The parties typically are financial institutions or institutional investors. These instruments are useful risk management tools, but also can be used to assume price risk in order to increase investment yields or to speculate on price changes. A large portion of AIG's swap contracts were "naked" or speculative in nature where the buyer of credit protection did not actually own the underlying credit risk. These naked swaps resembled an insurance contract entered into by a party who had no "insurable interest," and thus may have been prohibited had they been subject to state insurance laws.²⁴

Over 95 percent of all credit derivative transactions are in the form of credit default swaps.²⁵ The notional value of credit default swap contracts outstanding grew to over \$60 trillion in 2008.²⁶

²⁴ See, Lynn Stout, *How Deregulating Derivatives Led to Disaster, and Why Re-Regulating Them Can Prevent Another*, July 6, 2009, available at <http://www.finreg21.com/lombard-street/how-deregulating-derivatives-led-disaster-and-why-re-regulating-them-can-prevent-anot>.

²⁵ See Testimony of Robert Pickel, International Swaps and Derivatives Association, before the Senate Subcommittee on Securities, Insurance and Investments, July 9, 2008. Pickel testified that 90 percent of Fortune 500 companies, 50 percent of mid-sized companies, and thousands of other, smaller companies use swaps and other derivatives to manage financial risks, including currency and interest rate risk.

²⁶ Source: International Swaps and Derivatives Association. The notional value of currency swaps in 2008, by comparison, exceeded \$460 trillion outstanding. Notional value does not represent actual exposure to liability.

Attempts over the years to regulate swaps and other over-the-counter derivative contracts have met with strong opposition. The Commodity Futures Trading Commission in 1993 created a safe harbor exemption for the contracts from regulation under the Commodity Futures Trading Act.²⁷ In 1998, the CFTC issued a concept release in which it proposed to reconsider the exemption.²⁸ The CFTC noted explosive growth in the swap market and the need to consider the nature of the products and counterparty relationships, price discovery mechanisms, and a clearing system, among other things. But Treasury, Federal Reserve, and SEC strongly opposed any regulatory action by the CFTC and persuaded Congress to leave these instruments unregulated.

In the Commodity Futures Modernization Act of 2000, Congress prohibited the CFTC or the states from regulating credit default swaps.²⁹ Had the CFTC been permitted to regulate credit default swaps, the crisis at AIG might not have occurred and the potential taxpayer cost of the financial crisis might have been less.

4. Large Investment Banks

Large investment banks and their affiliates were a source of institutional risk leading up to the crisis but were not subject to comprehensive supervision like that applied to bank holding companies. Among other things, the SEC did not engage in adequate risk management oversight at these firms. The risks posed to the financial system by the activities of these firms thus was not recognized or managed until their problems reached crisis proportions.

The SEC conducted a consolidated-supervised entity (“CSE”) program for investment banks from 2004 until 2008. The program was voluntary and designed mainly to enable investment banks to have a comprehensive consolidated supervisor in order to operate in Europe, as required by a European Directive.³⁰ CSEs enjoyed reduced net capital requirements under the program. The SEC in 2004 exempted these firms from the normal broker-dealer net capital

²⁷ See Exemption for Certain Swap Agreements, 58 Fed. Reg. 5587, 5589 (Jan. 22, 1993). The safe harbor was not available for transactions that were subject to a clearing system where the credit risk of individual counterparties to each other is effectively eliminated, but did not discourage parties from entering into bilateral collateral, margining or netting arrangements.

²⁸ 63 Fed. Reg. 26114-26127 (May 12, 1998).

²⁹ Commodity Modernization Act of 2000, P.L. No. 106-554.

³⁰ See Directive 2002/87/EC of the European Parliament and of the Council of 16 December 2002. The five largest investment banks participated in the program, to include Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley.

rules, allowing them to use risk models that increased their leverage from 15-1 to 30-1 or higher.

An SEC Inspector General Report on the CSE program found a number of deficiencies in the program, particularly as they related to the failure of Bear Stearns.³¹ Among the deficiencies cited were: (i) the SEC applied Basel II standards to the major investment banks even though Basel II failed to appropriately account for secured lending transactions, such as repo transactions, and placed undue reliance on credit ratings, (ii) the SEC failed to recognize the significant concentration of risk in mortgage securities, (iii) investment bank leverage was excessive and needed to be limited through a leverage ratio, (iv) Bear Stearns' mortgage business had numerous risk management shortcomings, and (v) regulatory oversight was deficient.

C. Banking Supervision Had Deficiencies

Deficiencies in the supervision of banking organizations exacerbated the financial crisis. These weaknesses have come to light as a result of internal reviews by the banking agencies themselves, inspector general investigations, and oversight by the Government Accountability Office ("GAO") and Congress. This process of accountability is ongoing and is a positive feature of the banking regulatory system.³²

The deficiencies in banking supervision were caused in part by the speed of innovation and developments in the marketplace that outpaced the risk management processes of financial institutions and their supervisors.³³ Supervisors have said they did not predict the magnitude of risks at play. Former Federal Reserve Chairman Greenspan has testified that he was in a state of

³¹ Securities and Exchange Commission, Office of Inspector General, SEC's Oversight of Bear Stearns and Related Entities: The Consolidated Supervised Entity Program, Report No. 446-A (Sept. 25, 2008).

³² The federal banking agencies have stated that they are "actively engaged in a number of efforts to understand and document the risk management lapses and shortcomings at major financial institutions revealed during the current crisis." *See* Testimony of Roger T. Cole, Director, Division of Banking Supervision and Regulation, Federal Reserve Board, before the Senate Subcommittee on Securities, Insurance, and Investment, March 18, 2009.

³³ Treasury Secretary Geithner has stated: "Financial innovation produced products whose complexity escaped the understanding of both our regulators and our most sophisticated institutions." Speech by Timothy K. Geithner before the Council on Foreign Relations, March 25, 2009, TG-68. "[I]nnovation and complexity overwhelmed the checks and balances in the system." Testimony by Secretary Timothy K. Geithner before the House Financial Services Committee, March 26, 2009, TG-71.

“shocked disbelief” that the crisis developed so severely.³⁴ The complex interaction of causal factors undoubtedly obscured the supervisor’s ability to foresee the crisis until it was too late. Also, banking supervisors have noted the difficulty of reigning in aggressive activities of banking organizations that are well-capitalized and profitable.³⁵

1. Risk Management Deficiencies

Banking supervisors adopted a new risk management approach to supervision in the 1990’s as new risk management tools became available. The new approach focused on the adequacy of internal risk management controls at banks and relied increasingly on institutions to supervise their own activities, even though on-site examiners were on the premises of large organizations at all times. The supervisors issued a steady stream of supervisory guidelines on risk management issues rather than strict rules, affording individual institutions flexibility in devising their own internal risk management control and compliance systems.

The GAO found that significant risk management deficiencies existed at large, complex banking organizations but that examiners did not always detect the weaknesses or their magnitude.³⁶ Moreover, examiners did not always take prompt and forceful corrective actions. Examiners reported that these organizations had a strong financial position and were in the process of implementing changes when the crisis occurred.³⁷

Moreover, banking regulators reported that weaknesses in oversight of credit and market risk management were not of the same magnitude prior to the crisis as they were in late 2007 and 2008, and examiners found it difficult to identify all of the potential weaknesses in risk management until the system was stressed by the financial crisis.³⁸

The reported weaknesses included the following:

³⁴ Statement by Alan Greenspan before the House Committee of Government Oversight and Reform, Oct. 23, 2008.

³⁵ See, e.g., Testimony of Roger T. Cole, *supra*.

³⁶ Review of Regulators’ Oversight of Risk Management Systems at a Limited Number of Large, Complex Financial Institutions, Testimony of Orice M. Williams, Director, Financial Markets and Community Investment, Government Accountability Office, before the Senate Committee on Banking, Housing and Urban Affairs, March 18, 2009.

³⁷ *Id.* The GAO’s report did not identify specific institutions or regulators.

³⁸ *Id.*

- The lack of an enterprise wide framework for overseeing risk. An institution assessed risks (such as market or credit risks) on an individual operating unit basis, and was not able to, or did not, effectively assess risks on an organization-wide basis.
- A lack of common definitions of risk types and of corporate policy for approving new products, which might have ensured that management reviewed and understood potential risks.
- An institutional tendency to give earnings and profitability growth precedence over risk management.³⁹

2. Difficulty in Assessing New Risks

The GAO reported that banking regulators in some cases relied on bank management's assessment of risk rather than arriving at an independent risk assessment, particularly in the case of new mortgage products. Among the examples cited were (i) with respect to subprime mortgages, underlying assumptions that relied on the lack of historical losses and the geographic diversification of the product issuers, (ii) a failure to understand that the size of risk was not necessarily correlated to size on the balance sheet, (iii) a failure to challenge management's model testing and validation.⁴⁰ Similar weaknesses were found by the SEC and FINRA in 2007 with respect to broker-dealers' valuation models.⁴¹

3. Inadequate Stress Testing

Banking supervisors require financial institutions to engage in stress testing as a risk management tool for assessing risk tolerance and capital and liquidity needs. Banking supervisors found weaknesses in stress testing at large financial institutions before the financial crisis but the GAO concluded that they did not require sufficient remedial actions.

Among the weaknesses cited in the GAO Report were (i) a lack of integrated stress testing programs that incorporated all major financial risks

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ *Id.*

enterprise wide, (ii) a too narrow focus in bank stress tests that assessed impact only on individual product and business lines rather than on the whole institution, (iii) a failure to properly evaluate counterparty risk, particularly in the case of solvency-threatening, worst-case scenarios, and (iv) overconfidence by senior bank managers in their practices and who questioned the need for further testing, especially for implausible worst-case scenarios.

4. Difficulties of Enterprise-Wide Supervision

The complexity of large banking organizations made it difficult for banking supervisors to fully assess risks within such organizations on an enterprise wide basis. Such organizations typically have hundreds of subsidiaries and the interaction of risks among them was not always fully appreciated, making overall systemic risk oversight difficult. Banking supervisors developed special supervisory approaches and programs for large, complex banking organizations which helped to focus supervisory resources on issues unique to them. But some banking organizations were so large and complex that they were unable to adequately manage risks at all levels on an enterprise-wide basis, leading to the risk management deficiencies noted above.

5. Deficient Supervision of Mortgage Banks

The Treasury's Office of Inspector General examined the failure of IndyMac Bank, a federal savings association which had been a national bank, and concluded that the principal causes of its insolvency were a high risk business strategy and aggressive growth, lack of core deposits, inadequate loss reserves, and unsound underwriting practices.⁴² Its report found that examiners did not identify or sufficiently address these weaknesses until it was too late.⁴³

6. Inadequate S&L Holding Company Oversight

While non-financial companies are not permitted to own banks, they are permitted for historical reasons to own savings associations subject to oversight by the OTS. The OTS' holding company supervision is designed principally to protect the safety and soundness of the subsidiary savings association rather than regulate the parent holding company.

⁴² Office of Inspector General, U.S. Treasury Department, Safety and Soundness: Material Loss Review of IndyMac Bank, FSB (OIG-09-032) (Feb. 26, 2009).

⁴³ The report found that regulators were slow to downgrade IndyMac's CAMELS rating, which was a "2" from 2001 until 2007 when it was downgraded to a "3". It was not until June 2008 that OTS issued its first informal enforcement action against the thrift, and not until July 2008 (the same month IndyMac failed) that OTS issued its first formal enforcement action.

AIG owned a small savings association and thus was subject to OTS oversight. The Acting Director of OTS testified that “OTS did not foresee the extent of the risk concentration and the profound systemic impact CDS products caused within AIG.”⁴⁴

There is no indication, however, that AIG’s difficulties caused safety and soundness problems at its subsidiary savings association.

7. Flawed Capital Standards

Bank capital standards may have contributed to weakness in the banking system by allowing banking organizations to operate with less capital than was needed to absorb losses. Treasury Secretary Geithner has cited flawed, pro-cyclical capital standards as a contributing factor in the crisis:

Regulated institutions held too little capital relative to the risks to which they were exposed. And the combined effects of the requirements for capital, reserves and liquidity amplified rather than dampened financial cycles. This worked to intensify the boom and magnify the bust.⁴⁵

The CEO of J.P. Morgan Chase & Co. has commented that the Basel II capital framework was “highly flawed” for the following reasons:

It was applied differently in different jurisdictions, allowed too much leverage, had an over-reliance on published credit ratings and failed to account for how a company was being funded (i.e., it allowed too much short-term wholesale funding). In 2004, the five independent U.S. investment banks adopted Basel II under the jurisdiction of the Securities and Exchange Commission (this was not allowed by the banks regulated by the Federal Reserve or the OCC, which remained under Basel I). The investment banks jettisoned prior

⁴⁴ See Statements and Testimony of Scott M. Polakoff, Acting Director, Office of Thrift Supervision, “American International Group: What Went Wrong, Government Intervention, and Implications for the Future” March 5, 2009. See also Polakoff testimony before the Senate before the Committee on Banking, Housing and Urban Affairs, March 19, 2009.

⁴⁵ Testimony of Treasury Secretary Timothy K. Geithner before the House Financial Services Committee, March 26, 2009.

conservative net capital requirements and greatly increased their leverage under Basel II.⁴⁶

The President's Working Group on Financial Markets also has noted weaknesses in the capital rules:

Minimization of regulatory capital requirements by banks is an important driver of bank behavior. The limited risk sensitivity of Basel I encouraged banks to securitize low-risk assets and to support securitizations through facilities having low mandated capital charges. The securitization framework in Basel II is a more risk-sensitive approach that addresses many (but not all) of Basel I's shortcomings in that area. Existing capital requirements are not designed to address non-contractual exposures such as those arising from sponsorship of SIVs or mutual funds that firms may assume for reputational reasons.

Once firms experienced losses, their desire to maintain a capital buffer above regulatory levels significantly increased the risk that they would restrict credit availability and thereby add to stress in credit markets, with the potential for feedback on the real economy.⁴⁷

D. Comprehensive Systemic Risk Oversight Was Lacking

1. An Integrated Focus Was Missing

While Federal banking supervisors were attentive to a number of potential systemic risks preceding the crisis, they lacked an integrated focus that might have enabled them to detect and act on the convergence of risks that ultimately proved systemically catastrophic. They issued supervisory guidance (in lieu of regulations) on many matters, including those that became causal factors in the crisis, such as subprime lending, the use of derivatives and other complex

⁴⁶ Comments by Jamie Dimon, Chief Executive Officer, J.P. Morgan/Chase & Co. in 2008 Letter to Shareholders, available at http://files.shareholder.com/downloads/ONE/691184500x0x283417/92060ed3-3393-43a5-a3c1-178390c6eac5/2008_AR_Letter_to_shareholders.pdf.

⁴⁷ See President's Working Group on Financial Markets, Policy Statement on Financial Market Developments, March 2008. Basel II turned out to be ineffective as Bear Stearns and Lehman failed and the other major investment banks experienced great difficulties, notwithstanding the application of Basel II.

financial instruments, complex financial transactions, concentrations of risk, and business continuity planning, among other things.

But no single regulatory authority existed for systemic risk oversight encompassing the entire financial system.⁴⁸ The Federal Reserve, with broad authority over financial holding companies and monetary policy, did not have reporting or other jurisdiction over all components of the financial markets, including large investment banks, mutual funds and other securities firms, insurance companies, credit default swaps, or the credit rating agencies.⁴⁹

The lack of a supervisory focal point at the systemic level meant that no single regulator saw the complex interaction of forces or the totality of emerging risks that undermined the financial system.

2. Umbrella Supervision Was Inadequate

The Federal Reserve was designated as the “umbrella” supervisor of financial holding companies by the Gramm-Leach-Bliley Act in 1999. But the Act limited the Federal Reserve’s focus and examination authority to the holding company and any subsidiary that could have a materially adverse effect on the safety and soundness of a depository institution subsidiary. Moreover, the Federal Reserve was required to defer to the “functional regulator” of securities and insurance subsidiaries of financial holding companies. Thus, the Federal Reserve was not positioned as a true systemic overseer that might have seen and given stronger warning of the emerging risks. The Federal Reserve also lacked regulatory authority over S&L holding companies, and had no jurisdiction over AIG.

3. Functional Regulation Interfered

The functional regulation provisions of the Gramm-Leach-Bliley Act tended to discourage systemic oversight. Those provisions retained the traditional

⁴⁸ The OCC’s 2005 Annual Report stated that its supervisory program included activities to “identify, analyze, and respond to emerging systemic risks and trends that could affect an individual national bank or the entire national banking system.” But the OCC lacked authority outside the national banking system.

⁴⁹ The Federal Reserve has described its mission as including “maintaining the stability of the financial system and containing systemic risk that may arise in financial markets.” “Federal Reserve System Purposes and Functions,” 9th edition (June 2005), at 1. But the Federal Reserve has no express or clear statutory mandate for systemic risk oversight. The Federal Reserve Act authorizes the Federal Reserve “to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.”

regulatory structure for securities and insurance activities with the SEC and state insurance commissioners, respectively, as the “functional regulators” of securities firms and insurance companies that were subsidiaries of financial holding companies. Although the SEC and banking agencies coordinated on some systemic risk matters (for example, though the President’s Working Group), no statutory mechanism required a joint systemic risk focus among the functional regulators.

4. Systemic Risk Was Hidden by Complexity and Credit Ratings

Systemic risk was hidden to an extent by the complexity of financial products and services which made it difficult for supervisors to grasp the magnitude of their growing risks.⁵⁰ Supervisors, along with institutions and investors, placed undue reliance on the credit rating agencies to assess risks in the credit ratings process. As noted, the credit rating agencies failed in this process, and so the build-up of risks at the systemic level was not adequately anticipated.

E. What Did Not Cause the Crisis

In addition to examining factors that caused the financial crisis, we considered what factors did not cause the crisis. Among these are the following.

1. Bank Regulatory Structure

We did not find any fundamental flaws in the bank regulatory structure that could be said to have caused the financial crisis. As noted above, there were weaknesses in the prudential oversight of banking organizations that, along with other factors, undoubtedly contributed to the severity of the crisis. The lack of systemic oversight encompassing all sectors of the financial system hampered the regulators’ ability to anticipate and respond to the crisis effectively. But it cannot be said that weaknesses in the bank regulatory system caused the crisis.

Not all of the causal forces underlying the crisis came within the purview of federal banking regulators. To the extent they did, the regulators took actions

⁵⁰ See Statements and Testimony of Scott M. Polakoff, Acting Director, Office of Thrift Supervision, “American International Group: What Went Wrong, Government Intervention, and Implications for the Future” March 5, 2009. For another example, securities regulators lacked the analytical skills to understand the Madoff ponzi scheme when it was presented to them by a whistleblower. See Assessing the Madoff Ponzi Scheme and Regulatory Failures, Hearing Before the House Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises (Feb. 4, 2009).

to address them, although their actions (such as the promulgation of real estate lending “standards”)⁵¹ were not effective or timely in hindsight. Many of the forces that drove the crisis were generated by Congressional policies over which banking supervisors had no control. Similarly, banking supervisors had no control over competitive factors in the marketplace or global economic forces at work. The Federal Reserve had control over monetary policy decisions, but that is not a bank regulatory function.

2. Regulatory Arbitrage

Regulatory arbitrage might have occurred when Countrywide converted to a savings association from a national bank. But Countrywide’s basic business model—aggressively funding mortgages with short-term commercial paper and bank credit lines—developed and became systemically damaging before it converted to a savings association charter.

As the Task Force’s case study of Countrywide shows, beginning in 2004, when Countrywide was still a national bank, it began to diversify its product offerings toward more risky models and became heavily involved in subprime lending.⁵² Countrywide converted from a national bank charter to a thrift charter in March of 2007.⁵³ It began to implode in August of 2007.

Arbitrage did not cause Countrywide’s failure or the financial crisis. Many other banks have converted from state bank or thrift charters to national banks in recent years. In 2006, for example, Citigroup converted \$174 billion in assets from two of its thrift subsidiaries into its national bank.

⁵¹ The Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. § 1831(p); *see also*, 12 U.S.C. § 1828(o)) required the banking regulators to adopt rules for bank real estate lending but the regulators adopted standards instead. The standards did not apply to mortgages for sale. *See, e.g.*, 12 CFR, Part 34, App. A (OCC); Part 208, App. C (Federal Reserve); Part 365, App. A (FDIC); § 560.101, App. (OTS).

⁵² Countrywide’s adjustable rate mortgages, which had accounted for 21 percent of the company’s loan production in 2003, accounted for 52 percent of loans made in 2004. Origination of subprime loans jumped from 4.6 percent in 2003 to 11 percent in 2004. The subprime loans were much more profitable to the company, with profit margins on subprime loans of 3.64 percent versus 0.93 percent for prime loans in 2004. The introduction of these new products, along with relaxed lending standards, enabled Countrywide to become the nation’s largest mortgage lender by the end of 2004, originating 12.7 percent of all mortgage loans; by 2006 its market share had increased to 16 percent.

⁵³ *See* OCC Conditional Approval No. 900 (April 23, 2009) at n. 4 (OCC approval of conversion of Countrywide Bank FSB to a national bank and merger with Bank of America, N.A.).

3. Gramm-Leach-Bliley Act

Enacted in 1999, the Gramm-Leach-Bliley Act partially repealed the Glass-Steagall Act and facilitated bank affiliations with securities firms and insurance companies.⁵⁴ But this legislation was not responsible for unsound and risky practices at banks or their affiliates. The most elemental causes of the financial crisis had nothing to do with securities brokerage or underwriting and dealing, or insurance activities. Rather, they signal a failure in the most basic of banking functions—lending and credit underwriting. The securitization of loans was not an activity prohibited by the Glass-Steagall Act.⁵⁵

4. Community Reinvestment Act

While we recognize that there are differing opinions on this issue,⁵⁶ we do not believe, based on our experience, that the Community Reinvestment Act can be said to have caused the crisis. It is true that the Act required banks to make home mortgages to low- and moderate-income borrowers and thereby contributed to increased lending activity which undoubtedly helped to fuel the housing bubble. However, the federal banking agencies in Congressional testimony have stated that the act did not cause the crisis.⁵⁷

5. Money Market Mutual Funds

Money market mutual funds also did not cause the financial crisis. They were temporarily destabilized by the crisis and required government liquidity assistance as well as sponsor support, including Federal Reserve support of the commercial paper held in their portfolios. But money funds remained strong and provided a means of injecting liquidity into the commercial paper market during the crisis. Investors in the Reserve Primary Fund that “broke a buck” ultimately received 99 cents on the dollar.

⁵⁴ The Glass-Steagall Act prohibitions on bank investments in equity securities and underwriting and dealing in such securities were not repealed and remain applicable to banks. Likewise, the Glass-Steagall prohibition on deposit-taking by securities firms remains in place.

⁵⁵ Federal courts ruled in the 1980’s that the securitization of bank assets is part of the business of banking and not a securities activity prohibited by the Glass-Steagall Act. *Securities Industry Association v. Clarke*, 885 F.2d 1034 (2d Cir. 1989), *cert. denied*, 110 S. Ct. 1113 (1990).

⁵⁶ See *e.g.*, Thomas Sowell, *The Housing Boom and Bust*, Basic Books, First Edition (2009).

⁵⁷ See Testimony of Sandra F. Braunstein, Director, Division of Consumer and Community Affairs, Federal Reserve Board, before the Subcommittee on Financial Institutions and Consumer Credit of the House Financial Services Committee, March 11, 2009; statements of the federal banking agency heads during testimony before the Financial Services Committee, Sept. 23, 2009 in response to the question “Did CRA cause the crisis?”.

6. Insurance Activities

Insurance activities did not play a causal role in the crisis, although some insurance companies (notably AIG) engaged in credit default swaps activity without adequate capital and supervision. This activity (not insurance) is widely viewed as having exacerbated the crisis.

F. What Might Have Averted the Crisis

It is impossible to say whether any particular action by the government could have prevented the financial crisis. With the benefit of hindsight, we can suggest the following as areas where greater legal and regulatory protections, or more timely government action, might have resulted in a different outcome.

We note, however, that a number of potentially countervailing forces were at work in the U.S. financial economy that were outside the purview of federal financial regulators. These included monetary policy actions, government policies designed to promote homeownership, high levels of irresponsible borrower and investor behavior, as well as a variety of political considerations. These external factors might have made ameliorative financial regulatory measures impractical or blunted their effectiveness.

1. Comprehensive Systemic Oversight

A more comprehensive systemic oversight mechanism encompassing the financial system as a whole might have been able to provide more effective warnings and promote more timely responsive measures. As it was, no single overseer had the statutory responsibility or authority for systemic oversight. No single government entity had the ability to collect timely information from the full spectrum of financial service firms and to analyze it on a consolidated, systemic basis.

A more focused mechanism for comprehensive systemic risk oversight might have been able to better anticipate the crisis and aid regulators in taking more timely and effective remedial actions. In retrospect, such an authority might have served as an important early warning system and bulwark against the buildup and eventual impact of excessive systemic risk within the financial sector.

Yet, even the Federal Reserve, which considered systemic oversight part of its responsibility, failed to anticipate the scale of the housing bubble or the looming consequences for the global financial system. The Federal Reserve and other banking regulators issued advisories on emerging risks in the months and years leading up to the crisis. Because the operative forces at work were largely

outside the banking system, however, they had limited ability to foresee or prevent the crisis from occurring.

2. Stricter Credit Underwriting Standards

More effective regulation and enforcement of mortgage credit underwriting standards might have done more than any other factor to prevent the crisis by stopping it at its source. Banks and other mortgage originators would not have been able to make so many loans based on overly optimistic repayment assumptions or inadequate documentation, and borrowers would not have had so many opportunities to enter into loans they ultimately could not repay. The housing bubble might not have been so large. Fewer mortgages and home equity loans would have been made, also fewer foreclosures would have occurred.

Nonbank mortgage originators were not federally regulated, however, and state licensing standards typically did not impose loan underwriting standards or meaningful lender capital requirements. Stricter underwriting standards also might have conflicted with federal government homeownership policies and programs.

3. Regulation of Mortgage Markets

The crisis might not have occurred had there been a coordinated national scheme to regulate and supervise all sectors of the mortgage markets. Such a regulatory scheme could have imposed stricter credit underwriting standards on all classes of mortgage originators and purchasers (including the GSEs). It also could have more uniformly regulated mortgage banking sales practices and required greater transparency in identifying and disclosing the risks associated with securitization of mortgage loans. A national mortgage regulatory scheme also could have mitigated subprime lending and other forms of unconventional lending not appropriate for certain borrowers.

Nevertheless, to the extent that such actions interfered with government homeownership policies, it is likely they would have encountered resistance from Congress and the Administration. The Federal Reserve, economists, academics, and other experts warned Congress about the moral hazard created by the mortgage activities of the GSEs and the build up of a housing bubble prior to the crisis.⁵⁸ But their warnings were to no avail.

⁵⁸ See, Systemic Risk: Fannie Mae, Freddie Mac and the Role of OFHEO, OFHEO Report, February 4, 2003. See also, Secretary John W. Snow, Testimony Before The U.S. House Financial Services Committee, April 13, 2005.

4. Greater Transparency and Investor Discipline

Greater transparency as to the nature and location of risks of mortgage-backed securities and related products might have led to better risk assessment and more restrained investor demand for subprime mortgages. It also might have improved overall investor discipline and forestalled much of the panic that unsettled the markets and caused runs on institutions that failed.

In this regard, earlier and more robust regulation of the national credit rating agencies might have led to improved credit ratings by requiring a more rigorous analysis and disclosure of the bases for ratings assigned to mortgage-backed securities and other complex structured securities. Greater investor discipline might have followed. Had banks and other financial institutions also conducted their own more rigorous credit analysis, they might not have purchased risky securities for their customers and themselves so readily.

V. CONCLUSIONS

A. Factors Outside the Banking System Were Major Causes of the Crisis

Major factors causing the crisis originated outside the banking system. Significant government economic and social policies contributed to the build up of the housing bubble, excessive debt by consumers, imprudent investor behavior, and other factors that weakened the financial system and resulted in crisis. Significant gaps occurred where the failure to subject *nonbank* institutions to appropriate supervision and regulation contributed to the crisis, as in the case of nonbank mortgage originators, the credit rating agencies, credit default swaps, and investment banks.

The banking system absorbed and helped to magnify the impact of these causes and was affected in profound ways. Weaknesses in the banking system made the crisis exacerbated, but did not cause, the crisis.

B. The Basic Bank Regulatory System is Sound

The basic system of banking supervision and regulation is sound. Banking supervisors have all of the tools they need to appropriately supervise and regulate banking organizations. They have broad examination authority, enforcement powers, and rulemaking ability under a host of laws that give them discretion to address virtually every aspect of a banking organization's activities and operations. The agency staffs have a high degree of expertise, professional

commitment, and integrity. The division of federal regulatory jurisdiction among the Federal Reserve, OCC, FDIC, and OTS did not cause the financial crisis.

The crisis indicates that the banking agencies need to use their supervisory tools more effectively in the future to address weaknesses in risk management at banking organizations and to prevent unsound banking practices from arising. But it is not the role of banking supervisors to guarantee that banking organizations will never fail. Risk is an inherent part of the business of banking. Banks are in the business of assuming credit and other financial risks. The role of supervisors is to establish appropriate parameters of risk tolerance and to ensure that banking organizations operate within those parameters. While a more resilient banking system is an appropriate public policy goal, a risk-free banking system is not. Nevertheless, comprehensive systemic oversight, stricter credit underwriting standards, and the other regulatory enhancements would help to mitigate a future crisis.

1. Deficiencies Can Be Addressed

Banking supervisors have acknowledged that deficiencies in the supervision of certain institutions and flawed supervisory approaches contributed to the financial crisis. In particular, banking supervisors had too much toleration for weaknesses in the risk management function at major banking organizations and did not anticipate the magnitude of risks that were mounting within the system as a whole. Capital standards placed too much reliance on the credit rating agencies and risk models that were not adequately tested, and too little reliance on funding and leverage requirements.

The banking agencies are using their many supervisory tools to correct these and other weaknesses in the banking system. Among other things, they are working with the Basel Committee on Banking Supervision to revise the bank capital standards and to modify supervisory guidance on liquidity and other risks.⁵⁹

Still, it may be premature to draw conclusions as to how the banking agencies should change their supervisory approaches and processes going forward. The banking agencies arguably are best equipped to understand the deficiencies that occurred and to develop remedial actions or proposal. The following statement seems apt:

⁵⁹ See Federal Deposit Insurance Corporation, Funding and Liquidity Risk Management Proposed Interagency Guidance, FIL-37-2009, June 30, 2009.

While it is too early to draw conclusions about how the events of 2008 may change the way federal banking agencies do business, there appears to be a consensus on at least one central lesson. The role of financial regulation and supervision going forward will be more important, not less, than it has been in the past.⁶⁰

2. Wholesale Re-Engineering Is Uncalled For

Nothing in the foregoing suggests that the banking system needs to be fundamentally overhauled or re-engineered. It may be desirable at some point to redesign the regulatory structure to make it more rational and efficient. But lawmakers should not make the mistake of thinking that consolidating or rearranging the federal regulatory agencies or revoking the legal powers of banking organizations will address the problems that gave rise to the current financial crisis.

In particular, the idea that we can solve our financial problems going forward by turning back the clock to a time when banking organizations could not affiliate with securities firms and insurance companies is misguided. Moreover, an attempt to consolidate the regulatory agencies amid a crisis might be unduly disruptive to the industry and overtax agency staffs.

3. Inherent Strengths Should Be Preserved

The bank regulatory system has inherent strengths that we believe should be preserved and not lost in a rush to make changes for the sake of change. Even though certain banking activities and practices played a role in the crisis, they should not necessarily be eliminated.

For example, although the securitization of home mortgage loans allowed the risks of subprime and exotic mortgages to spread widely through the financial system, securitization in and of itself, with appropriate regulation, should be a beneficial means of increasing banks' capacity to serve legitimate credit needs and diversify risk. Similarly, credit default swaps, when appropriately used, can be an important risk management tool providing greater liquidity in the financial markets.

⁶⁰ Federal Deposit Insurance Corporation, *A Year in Bank Supervision: 2008 and a Few of its Lessons, Supervisory Insights*, Summer 2009.

4. Banking Evolution is Inevitable

A historical review of the evolutionary background of the financial crisis suggests that the banking system will continually evolve in response to competitive forces, evolving financial needs, and changes in public policies. The financial crisis itself has generated evolutionary forces that will change the banking system in unforeseen ways. For the most part, evolution in the banking system has resulted in a stronger banking system and the system has proved resilient over time.

Because evolutionary forces come from unexpected sources and operate in ways that are not immediately perceptible, it is important that banking and other financial supervisors be alert to both rapid and accretive changes that may be systemically damaging.

C. Careful Systemic Risk Oversight is Required

Many important lessons can be learned from the financial crisis. One is the need for a more effective mechanism to oversee systemic risk in the financial system as a whole. In addressing this need, the following are important considerations.

1. Systemic Risk Has Many Sources

Systemic risk can arise from within the banking system as well as from other quarters in the financial system. Systemic risk also can result from forces outside the financial system altogether, such as from terrorism, cyber-attacks, pandemics, natural disasters, and global warming, for example. Financial supervisors need to be alert to both familiar and unfamiliar risks.

2. Moral Hazard is a Systemic Risk

Moral hazard is created by implicit government guarantees and other expectations that the government will prop up financial institutions and can lead to undue risk-taking and potentially adverse economic behavior. Systemic risk management itself can lead to moral hazard if it is perceived as a government guarantee of individual financial institutions or the financial system as a whole.

3. Government Policies Can Create Systemic Risk

Government policies can sometimes create system risk. Such action may create artificial incentives that undermine normal market discipline. In the current crisis, the government policy of expanding homeownership through various

means created incentives for both homeowners and financial institutions to take credit risks that proved irresponsible in hindsight.

4. Not All Systemic Risks Can Be Prevented

Government supervisors are not capable of guaranteeing the financial system against all systemic risks. Nor should they be expected to do so. It would be an unfortunate result of the current crisis, and unhealthy in a capitalistic economy for the government to seek to avoid every potential systemic risk and intervene at the first hint of trouble. Not all systemic risks necessarily should be mitigated. Risk mitigation actions can create potential competitive imbalances, stifle innovation and distort natural market cycles that are healthy over the long term. Financial markets go through natural cycles of growth, destruction, and re-growth.⁶¹

5. Multiple Perspectives Are Beneficial

To be most effective, systemic risk oversight must reflect multiple perspectives that can identify risks at discrete levels coupled with interdisciplinary insights that can put together the pieces of a systemic risk puzzle and provide overarching awareness of systemic risks. Bank examiners and supervisors of securities firms generally were not trained in mortgage finance and the mortgage markets. They did not see how forces in the mortgage markets and securitization markets interacted and generated systemic risk. Multidisciplinary training and awareness are needed.

6. Standards for Systemic Risk Mitigation Are Needed

In addition to identifying systemic risks, such risks must be appropriately assessed and judgments made about whether and how to address them. Standards will be needed to govern the initiation of systemic risk avoidance and mitigation measures. Such standards should take into consideration not only the potential destabilizing effects of systemic risks but also the effect of risk avoidance actions on innovation and growth in the industry. Reliance on market discipline also should be an important factor in developing standards for systemic risk mitigation. But financial regulators should not hesitate to take appropriate corrective actions when needed to avert a systemic crisis of the magnitude we

⁶¹ Some commenters have said that the government's failure to allow Long-term Capital Management—a private hedge fund—to fail in 1999 interfered with this process and made the current crisis much worse. In that case, the government arranged a private resolution of the fund by securities and banking firms but did not directly intervene.

have just seen. Finding the right balance of action and restraint will be one of the most significant challenges for financial regulators in the future.