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Notes on the performance of prudential supervision in the years preceding the financial crisis by a former director of banking supervision and regulation at the Federal Reserve Board (1991 to 2006)

Introduction

This note describes observations and perspectives of a former senior career supervisor on factors that adversely affected supervision and regulation in the period leading up to the financial crisis. Although the note reflects the personal views of a former Federal Reserve official, some points also apply to the other federal agencies and to the regulatory process more generally. The discussion focuses on shortcomings of supervision and regulation; it does not address in any detail the range of causes of the financial crisis, the important steps taken by regulators under existing authority since mid-2007, the major reforms being pursued in this country and globally, or the actions taken over many years by regulators to modernize and enhance the supervisory process.

I was appointed director of the Federal Reserve Board's Division of Banking Supervision and Regulation (BS&R) in October 1991 and informed the Board in February 2006 of my plan to retire from the Federal Reserve after 30 years of public service. Over this period I served on numerous policy development and coordination committees with other regulators at the Federal and state levels and within the Federal Reserve System. I also served as the Federal Reserve Board's representative on the Basel Supervisors Committee, and from 2003 to 2006 as the chairman of the Association of Supervisors of Banks of the Americas (ASBA), a regional coordination and information-sharing group comprising supervisory authorities from 34 countries in the western hemisphere.

During my tenure at the Board of Governors, BS&R shared responsibility for the Fed's supervisory and regulatory policy with the Board's Legal and Research Divisions, exercised broad oversight and coordination responsibilities for the Reserve Banks' supervision departments, and monitored national supervisory conditions and financial trends in the banking system. Under delegated authority from the Board, the Reserve Banks carried out day-to-day supervision, which included the conduct of on-site examinations and inspections (principally of bank and financial holding companies, state member banks, and U.S offices of foreign banks), the initial identification of emerging supervisory problems, and the formulation of supervisory and enforcement strategies for individual institutions. While this note refers briefly to consumer protection oversight, BS&R did not have responsibility for that function, and my views pertain primarily to prudential (safety and soundness) supervision.

An underlying premise of this note is that senior supervisors and regulatory agency leaders in the 5-7 years preceding August 2007, myself included, bear responsibility for the performance of the supervisory process during this period. Decisions made and actions taken – or not taken – had consequences. Flawed policies and rules, regulatory gaps, and shortcomings in the execution of supervisory programs all played a role. But a number of more fundamental factors -- such as a general acceptance of specious conventional wisdom, a philosophical skepticism and ambivalence toward regulation, insufficient attention to the lessons of history, and organizational, cultural, and structural impediments -- affected the ability of the Federal Reserve and other regulatory agencies to recognize the severity of emerging problems in a timely manner and address them before they triggered a broader crisis.

Many of the observations and comments in this note are based on my best recollection of developments through the end of 2005, when I began to curtail my role in the supervision function in light of my decision to retire. At that time, the largest U.S. banking organizations (and their risk management systems) had 'strong' or 'satisfactory' supervisory ratings; and the banking industry was believed to be in sound financial condition – although it now seems clear that supervisors and policymakers did not fully appreciate the severity and significance of the risks and leverage building up within the financial system or the deficiencies in the risk management practices of many large firms.

I have been out of supervision for four years, and therefore do not have the insights that would have been gained by working in the public sector through this unprecedented period. For this reason, some of my observations may seem a bit dated; yet they are intended to reflect the climate and conditions **leading up to the crisis** in order to shed some light on why the supervision function did not work as well as it should have. Memories, of course, are not perfect; and while it's not possible to look back at this period without the benefit of hindsight, this note describes views of the regulatory process formed over three decades as a Federal bank supervisor. In preparing this note, I obviously did not have access to confidential banking agency documents, nor did I attempt to systematically talk to my former colleagues who played key leadership roles in supervision during my tenure at the Federal Reserve Board.

Over the last 2 and ½ years, the Federal Reserve and other regulators and policymakers have worked creatively, forcefully, and effectively to prevent a financial meltdown, restore confidence and stability, and improve the functioning of financial markets. Impelled by the exigencies of the crisis, and under extraordinarily challenging conditions, regulators have taken steps to enhance supervisory and regulatory programs, establish tougher prudential and consumer protection rules, and strengthen the financial infrastructure. Important legislative changes and additional regulatory reforms are clearly needed -- in this country and globally -- and appear to be well in train.

Greater use by supervisors of macro-prudential techniques, quantitative surveillance tools, a broader range of expertise, and horizontal and aggregate cross-firm assessments have the potential to improve the regulatory oversight of individual firms and the financial system as a whole. However, these are not entirely new and they are no panacea. The crisis also demonstrated the critical importance of robust micro-prudential supervision of individual firms -- involving "hands-on" scrutiny of governance and risk management and rigorous transaction and control testing – as well as timely and forceful supervisory action. In the past, "new and improved" supervisory approaches supported by a wider range of disciplines did not always meet expectations. Without substantive and permanent changes in the culture, policy and operating assumptions, and governance structures relating to the day-to-day conduct of supervision, including the supervisory activities of the Federal Reserve, regulatory reforms and enhancements will fall short of their important objectives.

The following discussion addresses the conduct of banking supervision leading up to the crisis, the role of flawed policies, considerations regarding the establishment of appropriate rules and standards, specific issues relating to the Federal Reserve's supervisory performance, and some concluding thoughts on striking the right balance in supervision and regulation in the years ahead.

Background and discussion of factors affecting the conduct of prudential supervision

The principal causes of, or factors contributing to, the financial crisis can be summarized as follows:

> i) Domestic and global macroeconomic imbalances and a prolonged period of exceptionally low interest rates.
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> ii) Flawed (and in some cases, socially useless) innovation and the originate-to-distribute model, combined with excessive leverage, opacity, and complexity.
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> iii) Risk management and control weaknesses and breakdowns in some large firms.
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> iv) Lapses, gaps and deficiencies in the supervisory and regulatory system.

Most financial crises in recent history involved a combination of common factors. These include: high concentrations in certain assets or activities that were believed, at least initially, to involve particularly low risks; rapid growth funded by short-term liabilities and excessive leverage; heavy involvement in some form of real estate lending; and a significant underestimation of risks – and an overestimation of firms' ability to control risk-taking -- by both firm management and financial supervisors. The crisis of 2007-09 was no different from this historical pattern.

Conduct of supervision

Going into this crisis, many banking organizations had higher capital ratios and stronger financial profiles than they had when they entered past banking downturns. This fact, due in part to regulatory and market pressures and in part to lessons learned in previous periods of instability, means that the recovery in banking conditions, absent unforeseen setbacks, can be quicker, and the costs of the financial crisis lower, than would otherwise have been the case.

That said, in the period leading up to the financial crisis, the capital positions, liquidity cushions, and risk management practices of a number of large firms were wholly inadequate to withstand the unprecedented stresses and financial disruptions that were to come. And prior to the crisis, career supervisors in the regions and at agency headquarters -- primarily at the Federal Reserve, Office of the Comptroller of the Currency (OCC), and SEC -- failed to adequately identify and prevent the build-up of extreme leverage and risk in the financial system, particularly in large financial institutions.

Evolution of continuous risk-focused supervision

The performance of supervision was disappointing for a number of reasons. Many senior supervisors in key leadership roles early in this decade had lived through past periods of financial turbulence and instability and had a profound appreciation for the accompanying economic, financial, and social costs and consequences. This included the 1985-92 period when thousands of saving and loans and commercial banks failed or experienced severe solvency problems due to lax lending standards, excessive concentrations, and poor risk management involving exposures to commercial real estate, less-developed countries, oil and gas, agriculture, and highly leveraged transactions (LBOs). Legislation intended to enhance supervision and regulation (The FDIC Improvement Act) was passed in 1991, including so-called “prompt corrective action” provisions, and from the early 90s policymakers and supervisors undertook a range of steps, both domestically and internationally, to strengthen prudential standards and the supervisory and regulatory process more broadly.

In particular, experienced bank supervisors spent many years (from the mid 1990s to mid 2000s) developing and working to improve continuous, risk-focused supervision programs for large complex banking organizations (LCBOs). While the term “systemically important” financial institutions was intentionally avoided when the Federal Reserve formally commenced its LCBO program in the late 1990s, the LCBO group comprised the 30 or so largest domestic and foreign banking organizations in the U.S., including major participants in important financial markets, whose performance and risk-taking could have a significant impact on the stability of financial markets or the economy more broadly.

The LCBO program, which represented a substantial departure from traditional supervisory approaches and techniques, employed teams of experienced examiners and risk experts (including economists, quantitative and risk modeling personnel, and capital and financial markets and payments system specialists). Each LCBO was to have a separate examination/supervision plan specially tailored to its size, complexity, activities, and principal risks and coordinated with the key regulators of all important components of the organization. The program’s focus was the LCBO’s major risks and the quality of its governance, risk management and monitoring practices, and internal risk controls, as well as its overall financial condition. In the case of the very largest LCBOs, the supervisory teams sometimes comprised 50 or more on-site, or resident, examiners (including personnel from both the OCC and Fed) and subject matter experts dedicated and assigned full-time to specific institutions. Resident examiners and supervisors had access to senior bank officials and risk managers, internal management and risk reports, and internal auditors and their reports and work papers.

During this period, supervisors of LCBOs increasingly employed targeted in-depth inspections of key risks and management practices in individual institutions, as well as horizontal on-site reviews that looked at the same risk management practices or risk-bearing activities in a consistent fashion across a peer group of large firms. These programs were designed to focus attention on high risk areas at particular institutions, gain a better understanding of emerging industry best practices, and identify outlier firms whose risk management capabilities were deficient and required management or supervisory action. They also served as the basis for the development of sound practice supervisory guidance that both informed individual firms of regulatory expectations and had the macro-prudential benefit of promoting sounder management practices across the industry. Considerable time and effort were also devoted to fostering coordination and cooperation between the bank holding company supervisor (the Fed) and the primary supervisors of the subsidiary banks (OCC , FDIC, and the states) and the supervisors of the functionally-regulated nonbank holding company affiliates (SEC, CFTC, and the states).

In 2005-06, the Federal Reserve's LCBO program was modified to strengthen and better coordinate the supervision and vetting (assessment) of the 11 largest and most complex financial holding companies in the U.S. Another important goal was to enhance the Board of Governor's involvement in the oversight of these critical firms. The key change was the creation of a joint Reserve Bank/Board committee of senior supervisors and risk specialists. While the banking organizations were assigned the anodyne and nondescript label 'large financial institutions', or LFIs, the objective of the LFI committee was to assure consistency and an appropriate degree of rigor -- and the ability to draw upon the full range of central bank expertise -- in the Fed's supervision of firms that were clearly of major importance to the financial system and the economy. The LFI committee comprised senior Board staff and supervisors from each Reserve Bank that had day-to-day oversight responsibilities for an LFI. The committee was chaired by a senior official at the New York Reserve Bank, largely because some Reserve Bank presidents strongly opposed having the process managed by the Board in Washington. This governance structure acknowledged the fact that most LFIs were based in New York, the importance of New York as a financial center, and the Reserve Bank's and its president's traditional role of monitoring developments in financial markets.

The evolution of the Federal Reserve's LCBO program and the supporting risk-focused continuous supervision processes (including greater contributions from a broad range of disciplines and some macro-prudential elements) were believed by those who designed and managed them, as well as by many career supervisors and agency leaders, to be a marked improvement over traditional "point-in time" examinations and an appropriate regulatory response to the rapid changes taking place in banking and financial markets. Some senior Board supervisors, myself included, endorsed many elements of the program, but felt that the governance structure further blurred already-fuzzy lines of responsibility and accountability within the Fed's supervision function (as discussed below).

Numerous factors have been cited or suggested to explain the shortcomings of supervision leading up to the crisis. These include: the absence of appropriately robust rules and standards; lack of attention to macro-prudential factors affecting the financial system as a whole; insufficient input from specialists, such as economists and capital and financial markets experts; and a failure of financial regulation to adapt to dramatic changes over time in the structure and activities of the financial system. All of these factors played some role, but they do not fully explain the shortcomings of supervision.

Existing standards

Although some regulatory standards were clearly inadequate or lacking prior to August 2007, there existed at the time numerous substantive prudential policies and supervisory guidance documents describing regulators' expectations relating to many of the factors that contributed to the crisis. For example, written supervisory materials addressed safety and soundness considerations regarding: i) the need for strong capital positions, including the expectation that firms have internal capital assessment processes and operate well above regulatory minimums in light of total on- and off-balance sheet risks; ii) liquidity and liquidity risk management practices; iii) risk management, capital, funding and liquidity considerations associated with complex securitizations, OTC derivatives, and off balance sheet exposures; iv) underwriting and risk management standards for residential (including subprime) and commercial real estate and leveraged lending; v) market and credit risk stress testing; vi) asset and funding concentrations; vii) interagency planning, information-sharing, and coordination; viii) enterprise-wide risk management, governance, and the role of boards of directors; and ix) policies on regulatory meetings and communications with boards of directors. As already noted, the continuous risk-focused supervision program for LCBOs constituted an improvement over traditional point-in-time examinations. In addition, elements of macro-prudential supervision (though they were not called that at the time) and input from a broader, multidisciplinary range of experts (including capital markets and payments specialists, economists, and accountants) played an increasing role in the supervision of LCBOs in the period leading up to the crisis.

Economists and specialists

At the Federal Reserve and the OCC, economists and other market and risk specialists were particularly involved in evaluating LCBO risk models, capital and financial market risk-bearing activities, and derivatives and other structured products. Supervisors at all of the agencies looked to economists for information and insights on the national and regional economies, significant economic or financial trends, and the emergence of financial imbalances, such as asset bubbles. Supervisors at the Fed, while not traditionally sharing the philosophical belief in self-correcting markets held by many economists, felt particularly advantaged in light of the breadth and depth of the economic, payments system, and financial market expertise within the central bank.

In late 2005, economists generally held that while some regional or local problems may exist, nationwide house prices were broadly consistent with fundamentals, such as rising incomes and employment, low interest rates, and prevailing demographic trends. As late as mid-2007, Fed policymakers were not acknowledging a national housing bubble, and troubles in the subprime sector were not expected to spill over into the broader financial system or the economy. In mid-2008, macroeconomic policymakers, while expecting growth to slow, were not projecting a recession. Of course, supervision should not be, and is not, based on economic forecasts (which are admittedly imprecise). Nevertheless, sound economic intelligence and insights can help to focus supervisory efforts and identify activities in need of more intense supervisory scrutiny – important putative benefits to supervision from being part of the central bank.

Conventional wisdom and conduct of supervision

While many of the policies and standards in use in the period leading up to the crisis need to be (and are being) substantially enhanced, in my judgment, if existing supervisory and regulatory tools had been rigorously employed in the conduct of on-going supervision, they might well have reduced the likelihood, or at the very least mitigated the enormous costs, of the financial crisis. To be sure, many of the existing policies referred to above pertain to commercial banking organizations – not the so-called shadow banking system more broadly. However, effective application and enforcement of these policies and standards at commercial banks would have made this critical core segment of the financial system much stronger and, consequently, the overall financial system more resilient and less susceptible to contagion.

Therefore, a major question remains: in the period leading up to mid-2007, what factors affected the **actual day-to-day conduct** of on-site examinations and supervision and discouraged a rigorous application of the then-existing supervisory standards and guidance?

One major determinant, in my view, of the effectiveness of on-site supervision and the timeliness of the supervisory response to emerging risks was the broad acceptance within the supervisory and regulatory community of certain **shared beliefs** or **conventional wisdom** that turned out to be wrong. This is not a reference to the view that markets are efficient or that market discipline is the optimal approach to "regulate" risk-taking – while some influential agency leaders and economists subscribed to this, few working supervisors were guided by this principle. Rather, operating assumptions and beliefs that did prevail more broadly at the time and affect the conduct of supervision held that:

> i) While business and credit cycles remained an important risk, **extreme** volatility in economic activity (i.e., a depression or severe recession) and a significant nationwide decline in house prices were highly unlikely due to improvements in macroeconomic and monetary policymaking (what some leading economists called the Great Moderation).
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> ii) Financial innovation, while involving increased complexity, was helping large firms to hedge, manage, diversify, and spread risks – and making the overall financial system more resilient.
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> iii) Risk management and controls in large financial firms, while not perfect, were good overall and getting better with time.
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> iv) Regulators' risk focused supervision programs and techniques, particularly those for large firms, while continuing to evolve, were generally effective and expected to continue to improve.

Although not accepted by everyone, these assumptions were held by enough policy makers and supervisors (and often reiterated by agency leadership) to affect the perceptions, findings, and conclusions of examiners and supervisors in carrying out day-to-day supervisory responsibilities. The generally 'satisfactory ' (or in some cases better) supervisory ratings assigned to LCBOs' risk management practices and financial conditions in the period leading up to the crisis -- when presumably significant risks were building and risk management systems were underperforming -- were consistent with, and indeed tended to reinforce, the overall favorable view and conventional wisdom pertaining to the banking industry.

This was both unfortunate and ironic since the banking agencies had been placing greater emphasis on risk management from the mid 1990s; and the Fed formally revised its bank holding company rating system in 2004 to **underscore and reinforce** the paramount importance it placed on risk management as a key factor in assessing overall financial soundness. (The consolidated bank holding company rating, "R-F-I/C ", reflects supervisory assessments of **R**isk management, **F**inancial strength, **I**mpact on the insured depository and overall **C**omposite condition.) The underlying premise of these steps was that weaknesses in risk management practices should serve as the basis for more **timely, proactive,** and **forward-looking** supervisory downgrades of banking organizations' conditions, **before** these weaknesses affected financial performance and at an early enough stage to forestall larger problems and reduce risks to the financial system and the FDIC insurance fund. But the predominant overall positive view of financial conditions and prevailing conventional wisdom precluded significant supervisory downgrades in the years before 2008.

Consequently, in a period when risks were increasing and risk management systems were under considerable pressure, supervisors did not use the enhanced tools they developed **precisely for the purpose** of delivering more forceful and earlier messages to senior management and boards of directors. Deficiencies in risk management practices that were identified by examiners and supervisors – and indeed some were detected -- were seen as relatively minor, especially when taken in the broader context of an industry that was perceived as financially strong with generally sound and improving risk management capabilities. Weaknesses identified by supervisors were seen as manageable in the normal course of business, not as indicative of more serious flaws in a particular business model or in a firm's overall risk management capabilities. And, importantly, as noted above, these weaknesses generally did not prompt regulators to downgrade bank or holding company supervisory ratings or pursue particularly strong or public enforcement actions – steps that are designed to elicit considerable attention from boards of directors and strong remedial action by senior bank management.

Significant regulatory criticisms in the absence of an accompanying and reinforcing supervisory downgrade, or enforcement action when warranted, often lose a good deal of their force and impact Well into the crisis, when the severity and depth of some large banks' problems were well-known, it appears (based upon FDIC's published aggregate problem bank assets) that none of the very largest commercial banks, including those that received exceptional government assistance during the crisis, had their bank supervisory (CAMELS) ratings downgraded to problem bank status – a surprising situation that can only be explained by concern over the impact this could have had on financial markets. Related issues are: at what point were financial holding company (FHC) risk management and financial condition supervisory ratings downgraded to less than satisfactory; and even now, whether such ratings reflect the depth and severity of the FHCs' current problems.

To fully understand the effectiveness of supervision and regulation leading up to the crisis it is necessary to understand how certain ideas and accepted beliefs can take hold in groups of professionals and broadly affect how they assess, interpret and respond to developments in their environment. The dynamics of group-think – a phenomenon present in other examples of government failures – are as important in understanding the performance of supervisors in this crisis as is an assessment of the substance of supervisory programs. To be sure, as noted above, not everyone accepted the positive consensus, and some individuals worried about the perennial challenge faced by regulators in keeping pace with rapid industry change. Many career supervisors were of the view that after years of generally stable and benign markets, a financial shock or disruption of some kind was increasingly likely to occur. And while many supervisors expected some significant but manageable repercussions in the residential housing market, others, myself included, were more concerned about rising bank concentrations in commercial real estate loans.

Overall, though, the predominant view held that regulators were appropriately adapting their advanced oversight techniques, as reflected in: the evolution of continuous, risk-focused LCBO supervision; the increased reliance within supervision on a broader range of expertise and risk specialists; and Basel II's embrace of sophisticated risk management, measurement and modeling. And these supervisory enhancements were believed to be occurring in the context of a stronger and more resilient financial system. Indeed, the aggressive advocacy and pursuit of Basel II's advanced internal ratings-based approach, at least in the first half of this decade, could not have been justified **unless it was grounded** on the assumption that banking organizations' risk management and measurement capabilities (including internal risk models and estimates) were generally effective and with the right incentives would continue to improve. Many senior supervisors, myself included, broadly shared the positive view regarding the evolution of LCBO supervision techniques, but harbored serious reservations about the highly questionable Basel II premises (discussed below).

The dominant conventional wisdom prevailed for a number of reasons. First, financial institutions had indeed successfully weathered a number of financial stresses from the mid 90s to the early 2000s, so there was an empirical basis for optimism. Even some skeptical career supervisors were pleasantly surprised at banks' ability to navigate the events surrounding the Asian and Latin American financial crises, LTCM, the Russian government default, Y2K, the dot-com bust, the tragedy and disruptions of September 11, the 2001 recession, the Enron and WorldCom accounting scandals, and geopolitical turmoil and war in the middle east. Second, continual improvement in bank risk management and supervision seemed to be based on what some key policy makers saw as the advancing sophistication and precision of quantitative risk metrics and modeling. For these policy makers, including senior economists with considerable influence in the policy process, this seemed to become "enlightened thinking", and those (including many career supervisors) who did not share this view were considered ill-informed at best or wholly devoid of the most fundamental powers of human cognition and imagination at worst. Third, the positive conventional wisdom was endorsed by some influential agency leaders. All these considerations -- together with higher capital positions and the preceding 4-5 years of relatively low volatility and stable financial markets – seemed to lend considerable credence to the view that the financial system was highly resilient to any conceivable financial shocks or economic disruptions. In a sense, this amounted to the regulatory version of the "this time is different" syndrome.

Going forward, regulatory agencies will need to establish a climate that is more welcoming and conducive to challenging conventional wisdom and deeply-ingrained agency positions. This will require sufficient time, resources, information, and analytical capability to support the necessary analysis. Consideration should be given to establishing multidisciplinary groups comprising a broad range of competencies whose specific mission is to actively question and challenge prevailing assumptions and conventional wisdom and to explore a wide variety of worst case scenarios that, however unlikely, could pose significant risks to the financial system. The proposed national financial research agency to be set up within the Treasury Department to support the work of a systemic risk council may satisfy this need, although I suspect all regulatory agencies will want to think about doing something like this as well. But like a risk manager in a financial institution, in addition to requiring adequate resources, information and independence, this group will need to interact closely with line supervisors (to avoid becoming an "ivory tower") and have the stature, experience, and credibility necessary to be taken seriously within the regulatory community and to have a meaningful impact on supervisory practices and policies.

Micro- and macro-prudential supervision and the evolution of supervisory approaches

As some have observed, well-designed macro-prudential supervisory techniques (focused on financial interconnectedness and risks to the financial system as a whole) and more multi-disciplinary horizontal exams and aggregate cross-firm assessments, such as the successful spring 2009 capital stress test, have the potential to significantly strengthen supervisors' ability to detect and evaluate emerging vulnerabilities in the financial system. However, they are no panacea, and history offers some sobering lessons regarding the implementation of "new and improved" supervisory methodologies.

Over the last four decades, new approaches to supervision – believed when they were adopted to involve more modern and sophisticated techniques – have been formulated, applied, and, in some respects, found wanting. In the late 1970s/early 80s, the OCC developed the so-called "top-down" approach. Its essence was spending less time reviewing credit files and loans (an important aspect of transaction testing for credit risk) and relatively more effort evaluating management policies and procedures – with the meritorious goal of better understanding how well the firm would be managed over time. This approach, which also placed greater reliance on internal bank-generated numbers, contrasted with the more traditional ("bottom up" or full-scope) approach of evaluating a higher percentage of the loan portfolio, including assessing the quality of a large sample of individual loans and collateral – the source at that time of most bank problems and bank failures. During this period, the Federal Reserve also increased its focus on policies and procedures, but did not go as far as the OCC in employing the top-down methodology. The Federal Reserve continued to conduct "full-scope" examinations and devoted considerable resources to assessing a relatively high percentage of the loan portfolio. The Fed also continued to perform annual examinations at a time when other agencies were substantially lengthening the time between exams based on a belief that a bank's policies and procedure were sound. Experience during the turbulent period of 1985-92 (when over 1200 commercial banks failed and at one point 27 of the top 50 bank holding companies had less than satisfactory supervisory ratings) suggests that the Fed's caution in this regard resulted in relatively better performance – a conclusion that seemed to be supported by a study of the impact of bank losses on the FDIC insurance fund done by the House Banking Committee for the period 1985-91.

There is, of course, no single prescribed best way to conduct ongoing supervision – supervisory techniques and methodologies must continually adapt and requisite skills will change over time. And the oversight of individual institutions should be tailored to the size and particular activities of the banking organization, the nature and complexity of its operations, its role in banking and financial markets, and the risks the organization poses to the financial system. But adoption of new, more advanced and sophisticated approaches can have unintended consequences or fail to meet expectations. In addition to the top-down approach, other more recent examples of this include: "supervision by risk" (also referred to as risk-focused supervision); supervision grounded on bank's internal models and advanced credit risk metrics (as embodied in Basel II); functional and "Fed-lite" supervision (discussed below); and greater reliance on market and counterparty discipline – all methodologies that were seen by some regulatory leaders as appropriate supervisory adaptations or important advances in the 1990s and 2000s.

In fact, these approaches did introduce a number of supervisory enhancements; however, in some cases, they were implemented by the Fed and other regulators in a way that put greater emphasis on understanding how an organization's processes were supposed to work, or how they were described by management or the firm's written manuals, without adequate "hands-on" scrutiny of risk management and controls and without sufficiently robust testing to determine how well in reality the processes did work or would work in a prolonged period of high stress.

In the years preceding the crisis of 2007-09, supervisors and risk specialists at some large banking organizations spent too much time on "big picture" issues – with an ersatz macro-prudential slant – and too little time on **micro**-prudential scrutiny of enterprise-wide risk management and controls at individual institutions. Deficient micro-prudential supervision (caused by some of the factors discussed above) was of equal, or perhaps greater, importance than macro-prudential considerations in determining the regulatory response to this crisis. Deficiencies in the supervision of individual firms included: insufficient scrutiny of risk management, governance, and controls; inadequate questioning and challenging of management assertions, assumptions, and systems; insufficient internal control and transaction testing; and lack of rigor regarding stress-testing and scenario analysis. Supervisors in some cases were too willing to accept management explanations and commitments to take future remedial action, without forceful questioning, adequate verification, or control and transaction testing. In the positive financial climate of the times, these seemed like appropriate adaptations to prevailing conditions and a reasonable way to free up supervisory resources for other priorities. These shortcomings to some degree were present in the supervision of banks of all sizes, but were particularly evident in the oversight of some large institutions in the years preceding the financial crisis.

The lesson is that greater emphasis on macro-prudential supervision and other enhancements should not come at the expense of strong and intensive micro-prudential oversight of individual firms.

Flawed policies

In addition to shortcomings in the execution of supervision programs, flawed policies and the failure to establish robust rules and standards in certain areas contributed to the crisis, made it more difficult to identify and address problems in a timely manner, or diverted resources from more intensive prudential oversight. Policy mistakes were based to a considerable extent on two philosophical beliefs and related operating premises. First, some agency leaders and key policymakers had a high degree of faith that financial markets were largely efficient and self-correcting and, therefore, that counterparty and market discipline were generally more effective "regulators" of risk-taking and improper practices than government rules and supervisors. The second held that the rationale for government regulation of banks was principally to offset the moral hazard and subsidy stemming from the support banks received from the federal safety net (primarily deposit insurance and access to the Fed's discount window). This support meant that bank funds providers had less incentive to restrain excessive bank growth and risk-taking. A corollary of these views was that other objectives of regulation -- such as promoting overall financial stability, protecting consumers from certain abusive practices, or regulating entities **not supported** by the safety net -- could be accomplished by a less stringent form of supervisory oversight or left largely to public disclosure, counterparty vigilance, and market discipline.

In this context, major regulatory and supervisory policy mistakes included:

i) Failure to write in a timely manner certain consumer protection rules (that would have addressed a wider range of abuses and covered a broader universe of nonbank lenders) and failure to conduct on-site consumer protection inspections in nonbank lenders, including affiliates of holding companies.

ii) Unwillingness to directly regulate the over-the-counter (OTC) derivatives market, relying instead on counterparty and market discipline and on supervisors' assessments of regulated entities' risk management practices.

iii) Acceptance of the premise that laws (e.g., Section 23 A of the Federal Reserve Act), rules, and rigorous oversight focused on a holding company's subsidiary **bank** (the entity supported by the safety net) could largely protect the bank from risks in the nonbank holding company affiliates, limit risks to the FDIC insurance fund from the activities in these affiliates, and prevent the extension of the safety net protections beyond the bank to the other holding company affiliates.

iv) Endorsement in the late 1990s of the Gramm-Leach-Bliley Act's (GLBA) version of functional and umbrella regulation, which focused principally on the condition of the holding company's subsidiary **bank(s)**; imposed certain constraints on the consolidated (umbrella) supervisor of the financial holding company; and required the umbrella supervisor (the Fed) to avoid duplication and overlap by relying to the "fullest extent possible" on the information and analysis of the primary regulators of the holding company's bank and nonbank affiliates, who remained responsible for the supervision and regulation of these legal entities.

v) Acceptance of Basel II premises (the framework itself has not yet been implemented in the U.S.) comprising an excessive faith in internal bank risk models, an infatuation with the specious accuracy of complex quantitative risk measurement techniques, and a willingness (at least in the early days of Basel II) to tolerate a reduction in regulatory capital in return for the prospect of better risk management and greater risk-sensitivity.

vi) Excessive reliance on credit rating agencies and a serious underestimation of the risks of off balance sheet exposures and vehicles.

Functional supervision and “Fed-lite”

These policies and their philosophical underpinnings justified in the eyes of some Fed leaders a “lighter”, i.e., less bank-like, approach to umbrella supervision of financial holding companies, an approach in the late 90s dubbed Fed-lite. By design this involved less intrusive and stringent oversight of those components of the holding company which did not have access to the safety net; greater reliance on public information, market discipline, and the work of the holding company’s functional regulators; and eschewing the routine application of bank supervisory standards and techniques to the nonbank components of the holding company. The policy objective was to avoid extending bank-like supervision and regulation to the nonbank components of the holding company -- and thereby avoid extending the government safety net, undermining market discipline, and increasing moral hazard.

Support for this approach in the late 90s was perhaps understandable, given the prevailing strong economic and financial conditions and heightened concerns about regulatory burden. However, the Fed-lite moniker – in particular, the “lite” reference -- was unfortunate and disturbing even then. It conveyed the wrong message and seemed to devalue the importance of strong consolidated supervision. Moreover, history had repeatedly shown that it is not possible to fully insulate a bank from risks in its nonbank holding company affiliates, and that such risks had been the cause of many past bank failures. It was for this reason that since the late 1970s the Federal Reserve had been a strong proponent of comprehensive consolidated supervision of bank holding companies and banking groups – something it advocated both domestically and internationally and that became an international standard with the adoption by the Basel Supervisors Committee in 1992. In the late 90s and early 2000s, Fed supervisors endeavored to avoid an excessive dilution of core consolidated supervision programs and techniques. Nevertheless, the public policy on financial holding company supervision and functional regulation embodied in the GLBA and Fed-lite – that is, not to extend intrusive bank-like supervision to the nonbank elements of the holding company; not to duplicate, but instead rely on, the work of the primary and functional regulators of holding company subsidiaries; and not to extend the safety net beyond the insured depository – seemed clear and unambiguous at the time.

GLBA’s fragmented version of umbrella and functional regulation -- with regulatory agencies narrowly focusing on their separate legal entities and sensitive to overstepping their bounds – was not particularly conducive to effective assessment of enterprise-wide risks and controls or to robust oversight of the consolidated entity. The notion that a large, complex and diversified financial holding company was a simple aggregation of discrete legal entities or silos -- or that it could be understood through separate inspections of its various pieces by disparate regulatory agencies utilizing varying techniques at different points in time -- was at considerable variance with the integrated manner in which such firms had long been organized and managed. Regulators were, in a sense, working “against the grain” with respect to how firms actually managed their risks in business lines that cut across legal entities. At various times earlier in this decade, some bank regulators complained about the Fed (as umbrella holding company regulator) going “into the bank”; and the Fed was sensitive to other regulators engaging directly with the holding company. In addition, all banking agencies were wary about information they provided to the regulators of certain nonbank subsidiaries, whose principal mission was enforcement, not prudential supervision. Prior to the crisis, discussions among the banking agencies and the SEC about greater cooperation and information-sharing were controversial and did not proceed smoothly due to differences in supervisory approaches and concern over how information might be used. In 2008, of course, after the crisis had commenced, the Fed and the SEC reached agreement on a cooperation and information-sharing MOU.

Senior career supervisors erred by acquiescing in, or not being more forceful in opposing, these policy mistakes and free market views, especially when they led to regulatory positions or actions that seemed to ignore the lessons of history. While it is highly unlikely that career supervisors could have fundamentally altered these policies – especially in light of the strong prevailing banking conditions, widespread concerns about regulatory burden and duplication, and free market orientation of agency leaders -- more should have been done. For example, the Fed (as the umbrella supervisor of the FHC) should have invoked the authority in GLBA (based upon material risks to a subsidiary bank) to directly inspect the risk management and controls of certain holding company affiliates regulated by other agencies. This would have enabled the umbrella supervisor to integrate its "hands-on" findings regarding the affiliate into its **overall** assessment of the consolidated firm's enterprise-wide risk management systems. However, this seemed politically unacceptable at the time. The other agencies clearly did not believe the legal entities they regulated posed undue risks, and the agencies were extremely sensitive to incursions onto their "turf" by the Fed, which had just been designated by GLBA to be the umbrella supervisor of FHCs. Moreover, such a step at the time would have appeared to be burdensome, duplicative, and a violation of the spirit, if not the letter, of the GLBA. There certainly were no guarantees, and, as note below, this would not have prevented the crisis; but by taking this step the Federal Reserve, as umbrella supervisor, might have established a workable precedent and procedures for a more robust and **integrated** assessment by a **single agency** of the consolidated FHC's enterprise-wide risk management practices.

Supervisors working with lawyers were more successful in other respects. GLBA based FHC status (and therefore eligibility for broader powers) primarily on the condition of the holding company's subsidiary **bank**(s), not on the condition of the consolidated holding company or its nonbank affiliates, and not on the holding company's potential impact on financial stability more broadly. At one point during the legislative discussions, consideration was being given to eliminating the Fed's regulatory authority to establish capital standards for consolidated holding companies, requiring instead that the holding companies' subsidiary banks be well capitalized and well-managed. This step would have been clearly at odds with core principles of effective consolidated supervision and with the supervisory experience of the previous two decades. Concerns voiced by supervisors and supported by lawyers helped to head this off, and when all was said and done, the Fed's umbrella oversight authority for FHCs was complemented by the critically important statutory authority to set minimum consolidated capital standards.

In the end, though, and to be sure with the benefit of hindsight, what seemed possible to some at the time turned out to be true. Fed-lite supervision and certain provisions of GLBA emphasized the Fed's umbrella oversight **responsibility** for diverse FHCs, while imposing some restrictions on the umbrella supervisor's **authority** to "drill down" to the risk management infrastructure of the FHCs' subsidiaries, which remained the province of the other regulators. As noted above, this situation precluded a robust and integrated hands-on evaluation of **enterprise-wide** risk management and controls by a single regulator and contravened fundamental principles of effective and comprehensive consolidated supervision.

One lesson from history may be that legislating regulatory changes in the midst of a crisis can lead to an overreaction or to the "pendulum swinging too far" in one direction. In this regard, some have pointed to the passage of the Sarbanes-Oxley Act in the midst of the accounting scandals earlier this decade. On the other hand, a clear lesson from the GLBA period in the late 90s is that scaling back or "modernizing" supervisory programs when the economy seems strong and resilient, and financial risks appear distant and well-contained, can also be a serious public policy mistake.

This is not to suggest that the GLBA limits on the conduct of consolidated supervision were the cause of the crisis, or that without them regulators, or the Fed, would surely have identified emerging weaknesses earlier. It does seem indisputable to me, however, that the limits and the Fed-lite mentality were impediments, and that without them the odds of detecting enterprise-wide risk management and control problems would have been better; not certain, perhaps not even more likely than not, but clearly higher than they were with the impediments. Regulatory reform and legislative changes will have to correct this situation.

It is a bit sad and ironic that U.S. policy makers and regulators, who collectively worked hard over many years to encourage global supervisors to make comprehensive consolidated supervision a major international standard, failed to ensure that a robust form of consolidated supervision was in place in this country.

Basel II

In my judgment, Basel II was another significant policy mistake, particularly with respect to the period 2002-06. Basel II's objectives of greater risk sensitivity and better risk management were laudable; and supervisors favored updating the original 1988 Basel capital accord to accommodate significant changes in the banking system -- including the rapid growth of securitization, greater bank involvement in capital markets, and increased capital arbitrage. As time went on, however, some senior supervisors grew increasingly concerned about the proposed framework's analytical soundness, workability, complexity, vulnerability to gaming, and appropriateness as a minimum prudential capital standard.

The early Basel II proposal was (and remains) extraordinarily complicated and was based on key risk parameters that at the time were difficult for the agencies' quantitative experts and economists to precisely define (e.g., stressed loss given default metrics) and far ahead of the industry's ability to reliably provide. Also of great concern to career supervisors were the mind-numbingly complex mathematical formulas; the implied, albeit unjustified, regulatory imprimatur conferred on sophisticated mathematics and risk models; and the willingness of some senior policymakers leading the effort to accept a decline in regulatory capital in return for the *ignis fatuus* of scientifically precise risk metrics. All of these were key aspects of the proposal which largely reflected the central developmental role played by the agencies' (mostly Fed) research economists and statistical experts. The Basel II effort earlier this decade also required a considerable resource and reputational commitment that made it difficult for the proposal's high level Board and Reserve Bank supporters, who played key Basel II leadership roles in the U.S and globally, to objectively recognize the framework's serious flaws, step back and undertake a much needed mid-course correction, and reestablish the Fed's credibility as a strong advocate of prudent capital regulation.

Quantitative impact studies in the middle of this decade suggested that Basel II, even after five years of development, would still allow a huge decline in regulatory capital. This sobering reality, together with actual experience and lessons learned during the financial crisis, further highlighted Basel II's fundamental, deep-seated, and systemic flaws. In the years preceding the crisis, efforts to establish limits on how much regulatory capital would be allowed to decline under Basel II, some proposed by the FDIC, were initially denigrated and dismissed by Basel II advocates within the Federal Reserve. Some senior career supervisors, myself included, supported such limits and many supported retention of the leverage ratio, which would maintain a meaningful floor below which capital could not fall. The Federal Reserve historically supported a leverage standard, and Fed supervisors also argued for its retention in the U.S. in 1988 when the original Basel accord was adopted.

As a major goal early in this decade, Basel II, as then designed, was at best highly premature and an unhelpful distraction; at worst it consumed enormous resources and diverted attention from other important supervisory priorities. Senior career supervisors, especially those who had worked directly with problem banks in the past, should have done more earlier to highlight the proposal's obvious shortcomings and offer meaningful alternatives, but they were strongly advised in early 2002 by the Board member leading the Fed's Basel II effort, who also played a leadership role in international regulatory forums, to stop exploring options or fallback positions to Basel II. Basel II was viewed by its most ardent Fed devotees with a quasi-theological reverence and as a *sine qua non* for assuring financial stability in an increasingly complex global financial system. The Basel II development process did provide regulators with insights and information on evolving risk management practices in the industry, as well as on widespread weaknesses in industry risk metrics, analytics, and information systems – insights that seemed to come at a high price and that were not always heeded.

The Basel II concerns of some supervisors, including me, were mitigated by the presumption that the capital-to-total asset (leverage) ratio, which historically had proven to be a reliable prudential constraint, would be retained in the U.S. Supervisors' anxieties were also assuaged by the understanding that the Basel II framework, which was continuing to be tested, would not win final approval until it had been modified to assure a credible and robust level of regulatory capital. This has turned out to be the case, and the modification process continues.

Time will tell whether the multi-year Basel II process, as it was managed earlier in this decade, will have been worth the costs, and whether Basel II eventually becomes a credible and workable capital standard. Despite the proposal's numerous early flaws, many outstanding career regulatory personnel – here and abroad -- have worked diligently over many years to render the framework sensible and acceptable from a prudential standpoint. This effort is still underway both domestically and internationally, with extensive revisions to Basel II adopted in mid 2009 and further major enhancements proposed at the end of last year. These far-reaching and substantial enhancements, dubbed "Basel III" by some observers, appear to be making the framework much more credible from a prudential and financial stability perspective.

While the "jury is still out" on Basel II as an effective global standard, aspects of the Basel II development process in the U.S. not open to question are the extent to which it: divided and sowed distrust among the banking agencies; undermined the perception and reputation of the Federal Reserve on Capitol Hill (historically, the Fed was viewed as a conservative, common sense regulator, favoring strong leverage and capital standards); and distracted and diverted a large number of very talented and capable people from fundamental and important safety and soundness responsibilities. At one point around 2003 or 04, Board supervision staff considered taking a closer look at how umbrella supervision (as established by the GLBA in 1999) was working in practice, but decided that this should be deferred given the enormous resources being tied up in Basel II. There is an important lesson here for policy makers and supervisors, whose dimensions remain to be fully appreciated, on how the good intentions and ideas of the "best and the brightest" can become derailed and have substantial and enduring unanticipated adverse consequences.

Off balance sheet exposures

Another major supervisory mistake, of course, was excessive reliance on external credit ratings in assessing the risks associated with off balance sheet vehicles and the so-called "shadow banking system." Much has been written and said about this, and it won't be repeated here. Supervisors were not unaware of these off balance sheet exposures and related liabilities; and based on historical experience, there was an understanding of the potential risks. Moreover, considerable supervisory guidance existed describing and cautioning bankers and regulators about the complexities and risks associated with securitizations and off balance conduits, including the possible return of exposures to banks' balance sheets. However, the putative stronger, less volatile, and more resilient banking system, together with the comfort derived from triple A ratings and some safeguards designed to limit banks' credit exposures, suggested a very low probability of the worst case scenario. Supervisors were not naïve enough to believe that external ratings were perfect, and they understood that downgrades were always possible – but going from triple A or super- senior to "junk " status or worthless overnight was simply never given serious consideration. Obviously, reliance on external ratings was an egregious error; but not only was it attuned to the prevailing doctrine of making greater use of market indices, it also freed up analytical resources needed for other regulatory priorities, including Basel II.

Early in the 1990s, the Board's Legal and BS&R Divisions developed a proposal to define certain bank-sponsored off balance sheet vehicles as "bank affiliates" for the purpose of Section 23A (of the Federal Reserve Act). This would have put an upper limit on the amount of exposure from these vehicles in relation to a sponsoring bank's capital. The proposal was motivated in part by supervisory experience in the mid 1970s with bank-sponsored REITs (real estate investment trusts). These entities, while legally separate from their sponsoring banking organizations, created significant reputational risks and consequently were bailed out by the banks who assumed the REITs' outstanding debts when financial markets lost confidence the REITs' ability to repay. The 23A proposal was never adopted by the Board, nor do I believe it was ever issued for public comment. Supervisors should have pushed harder for this idea. If such limits had been imposed, they would have sharply curtailed the amount of bank securitization, with the attendant adverse impact on credit availability. (To the best of my recollection, the likely impact on credit and a desire not to impede market innovation were the main reasons for not pursuing this proposal.) Such relatively simple and straightforward limits, however, might also have greatly reduced or substantially mitigated the huge off balance sheet bank conduit problem that contributed so enormously to the financial crisis.

Regulatory rules and standards

Comprehensive regulatory reform should involve a rethinking of the costs and benefits of flexible prudential (principles based) rules and guidelines that were increasingly employed by supervisors in the 1990s and in the years leading up to the crisis to minimize burden and avoid stifling innovation. This trend toward flexibility was reflected, for example, in Basel II's utilization of internal risk estimation models; in supervisory guidelines on the composition of regulatory capital, loan-to-value ratios for real estate loans, and underwriting standards for residential and commercial mortgages; and in policies regarding liquidity, the use of complex structured financial transactions, and asset concentrations. All of these to one degree or another either failed, or were not adequately enforced, in the years leading up to the crisis.

Simple rules and quantitative standards

This experience strongly suggests the desirability in appropriate instances of **simple** and **non risk-based** (i.e., not based on banks' own internal estimates of risk) standards that are straightforward, clear, and not subject to wide interpretations. Such standards should be calculable, consistently enforceable, and less amenable to gaming. The adoption globally of a relatively simple leverage constraint (a leverage standard is already in place in the U.S.) as a complement to the risk-based capital requirement is a very positive step. A regulatory capital regime that encompasses both a properly designed and calibrated risk-based standard **and** a robust leverage constraint (that factors in off balance sheet risks) will be an essential tool in assuring safety and soundness and financial stability in the years ahead. A simple leverage ratio, to be sure, is not a panacea – indeed it did not prevent the crisis in the U.S, as foreign supervisors continue to point out. However, experience has shown that it often served as a more effective and binding constraint on asset growth in problem institutions than the risk-based standard. And there are times when it is both desirable and prudent for the leverage constraint to override the risk-based capital standard.

Clear, non-circumventable rules or **straightforward quantitative** standards regarding the composition and quality of core capital (including a minimum tangible common equity standard), liquidity cushions, asset concentrations, and loan-to-value ratios are now being given, or should be given, very serious consideration. Simple rules are not appropriate or possible in all circumstances; but they clearly can be important supervisory tools in some situations. Such rules have been (and will continue to be) criticized by those with great confidence in quantitative risk metrics as blunt, crude, too "one-size-fits-all" in nature, and not risk sensitive (i.e., not based on someone's imperfect estimates of risk). But these are precisely the reasons why, in some situations, they are appropriate risk mitigants.

Rule-writing

The prevailing conventional wisdom and mistaken policy assumptions described above, not surprisingly, affected the prudential standards-setting and rule-writing process. Development of regulatory requirements often got bogged down, sometimes over a period of years, due to concerns about interfering with free markets, a desire not to stifle innovation, an obsession with regulatory burden, the allure of principles-based regulation, and strong pressure from the industry and, at times, Congress. These are all important considerations that need to be carefully thought through; but they must be weighed against the objectives and expected benefits of the proposed standard. Prior to the crisis, these factors affected the timing and substance of prudential standards on residential and commercial real estate, regulatory capital, securitization, and complex structured financial transactions. Risks associated with securitization, of course, played a major role in the crisis. The banking agencies began working in the early 1990s to revise risk-based capital standards pertaining to off balance recourse (i.e., the risk that off balance sheet exposures could come back onto the balance sheet), guarantees, and other risks related to securitizations. A final rule was belatedly adopted in late 2001 – a rule that, after 10 years in the making, turned out to be inadequate.

Commercial real estate and systemic risk

Commercial real estate (CRE) is a classic example of the difficult challenges supervisors face in trying to proactively forestall the build-up of potentially systemic risks in the banking system. And if there were ever one sector that should **never again** have been allowed to be a source of systemic risk, it was commercial real estate, given that this asset class has been at the center of many, perhaps most, banking crises here and abroad – in recent years and historically.

Supervisors saw the emerging CRE concentrations in community and regional banks in the early 2000s; this was not a surprise that suddenly came to light during this crisis. Earlier this decade, strict quantitative concentration limits were considered briefly, but were not believed feasible for a number of reasons: i) lending standards were seen by examiners as far superior to those of the last banking crisis in the late 80s and early 90s; ii) banks making these loans felt that they knew their local banking markets well and that this was one of the few remaining asset classes in which they had a competitive advantage; iii) the regulatory agencies' quantitative risk experts felt that the available loss data (which covered a 10-year period of strong economic performance) did not support the argument that CRE loans as **an asset class** were high risk assets; and iv) some in Congress were concerned about inflexible restrictions, or hard-and-fast limits, being imposed on their banking constituents. In Basel and in this country some banks and regulatory agency personnel inexplicably, in my view, argued for favorable capital risk weights for certain "low volatility" CRE loans. Arguments here and abroad for higher capital generally for CRE loans were not well received.

None of this excuses supervisors and policymakers, who had considerable experience with CRE concentrations in the past, for not fighting harder for stricter rules. In 1991, in the aftermath of the last banking (and S&L) crisis, Congress enacted the FDIC Improvement Act, which, among other things, required the agencies to modify their risk based capital guidelines to take explicit account of asset concentrations. Regulators were unable to develop adequate definitions and risk metrics, and consequently simply mandated that concentrations be taken into account (presumably subjectively) in assessing a firm's overall capital adequacy. In the strong economic climate earlier in this decade – during the heyday of risk-focused, principles-based, burden-sensitive regulation -- it is inconceivable that regulators could have imposed stringent quantitative limits (or significantly higher capital requirements) for CRE exposure, without an explicit legislative mandate. The same, of course, could be said for subprime mortgages and other asset classes. Nevertheless, it is clear now that supervisors should have tried.

Legislation and regulation

Conventional wisdom holds that legislation is not a good place to establish detailed regulatory and supervisory requirements. While this still seems generally valid, going forward it will make sense, **in certain cases**, for Congress to be more specific and explicit in drafting legislation and leave less to regulatory discretion. It is relatively easy and self-gratifying to enact "tough but flexible" standards and avoid the repercussions by making their implementation contingent upon the case-by-case judgments of others. It is often extremely difficult, if not impossible, to impose those flexible standards when the economy is strong and vibrant, financial markets are seen as resilient, and financial firms are profitably (and seemingly safely) meeting the critical credit needs of their customers -- who are also voters and constituents with good access to policymakers and the legislative process.

Range of Reforms

Regulators can continually strive to improve their tools and procedures; but effective financial oversight involves human judgment – it is not a science; and it would be folly, as has been made painfully clear, to rely solely on economists' forecasts or regulators' ability to predict the next crisis. Changes to regulatory policies, rules and processes can **improve the odds** that supervisors will identify and address emerging financial weaknesses in a timelier manner, but there are, of course, no guarantees. Consequently, critical components of comprehensive reform must include i) strengthening the financial system as a whole, by improving the resilience of individual institutions and the broader financial infrastructure, and ii) establishing a credible nonbank financial institution resolution regime for the orderly wind down of systemically important firms.

The key components of comprehensive reform currently under consideration by domestic and international policymakers and legislators -- including stronger prudential standards (capital, leverage, liquidity and risk management); a more effective consumer protection framework; closing regulatory gaps and arbitrage opportunities; a systemic risk oversight framework; analytically sound macro-prudential techniques; an effective nonbank resolution regime; robust OTC derivatives regulation; and improved corporate governance and compensation practices – are, of course, critically important.

Aside from legislative changes and new rules and standards, a number of other regulatory improvements are necessary. These include: i) upgrading and enhancing the skills, professional status, compensation, techniques and methodologies of supervisors; ii) enlisting the involvement of economists and financial and capital markets experts who combine real world understanding and experience with a commitment to strong prudential standards where appropriate; iii) fostering an environment that would encourage supervisors, researchers, and policymakers to more intensively question conventional wisdom and accepted beliefs; iv) encouraging supervisors to take strong, forward-looking actions to address management weaknesses before these problems have an adverse impact on an institution's financial performance; and v) supporting supervisors when they do take early and strong pre-emptive action.

Forward-looking measures

Policymakers have long endorsed the principle of strong, pre-emptive, and forward-looking supervisory actions, including supervisory downgrades of risk management before weaknesses are reflected in significant financial problems. But prior to the crisis this proved to be extraordinarily difficult. Prompt corrective action (PCA) legislation, adopted in the early 90s, required increasingly stringent supervisory sanctions in response to financial losses and the resulting decline in regulatory capital. However, PCA was not successful because capital and financial factors are usually **lagging** indicators. Supervisors will need to develop more forward-looking measures and techniques. Proactive (i.e., earlier) supervisory rating downgrades, better surveillance tools, and robust stress tests under alternative projected economic scenarios could be the basis for more pre-emptive and stronger supervisory action to address weaknesses at individual firms and in the financial system as a whole.

Properly-designed and well-executed stress tests, such as the capital stress test performed in the spring of 2009, are an important supervisory tool and can provide considerable insight into the condition of individual firms and the financial system more generally. Yet the detailed individual firm disclosures made in connection with that stress test – which are widely credited with helping to reduce uncertainty and stabilize financial markets – may create powerful market expectations that could be difficult to satisfy over time. That the capital deficiencies in this case were manageable and that the government stood ready to provide whatever capital was needed are circumstances that may not always be present. Greater public disclosure in the future of findings and judgments historically deemed to be confidential supervisory information is certainly consistent with the important goal of strengthening market discipline and may be good public policy in the long run. However, such a step has significant implications for the effective conduct of on-site supervisory assessments; runs the risk under different circumstances of disappointing and destabilizing markets, as well as inspiring confidence; and could make financial markets **more reliant** on **government** judgments and information, not less. Policymakers – both economists and senior supervisors – will need to give this question careful thought.

Supervisors are also focused on developing enhanced quantitative surveillance mechanisms designed to combine market indicators, such as stock prices, options prices and credit spreads, with firm-specific information and supervisory findings in a way that can generate earlier warnings of emerging problems in systemically important firms and markets. This is a potentially fruitful exercise and hopefully progress will be made. It is important to understand; however, that supervisors, economists, and researchers have spent decades trying to develop improved surveillance tools, early warning systems, and better predictors of future bank performance. During my career, the evidence suggested that surveillance tools, even those that incorporated market information, were useful in reflecting a bank's current condition; but were not necessarily good predictors of future performance. And experience also suggested that examination findings and supervisory judgments consistently identified problems before they were reflected in market indices, which tended to be lagging indicators.

Earlier this decade, in connection with an effort to explore ways to make greater use of public information in the supervision process, an attempt was made to find examples of where the market identified problems before they were noted in supervisory examinations. To the best of my recollection, no examples were found. This, of course, is not to suggest that market information is not an important complement to supervision, or that serious efforts should not continue to strengthen transparency and the role of market discipline. It's critical that going forward market discipline play a larger role. But history and experience suggest that the "holy grail" of early warning surveillance systems have their limits; and that, in any event, the challenge for supervision is not the failure to identify weaknesses within firms. Rather, it is the failure to understand their severity and implications and to take forceful supervisory action early enough to prevent further deterioration or threats to the financial system. The search for better surveillance tools should not divert attention from undertaking strong, timely, and proactive supervisory action based on judgments, findings and conclusions from the ongoing supervisory and examination process. The course of this crisis highlights a puzzling irony: some senior policymakers and regulators who in response to the crisis called for action that was early, swift, and forceful did not always seem to be guided by the same policy prescriptions when they had oversight authority for major global banking organizations.

Formulating robust forward-looking indicators will not be easy, but the large increase in public enforcement actions in the last two years may suggest an increased willingness to take more forceful, if not earlier, supervisory action. Everyone agrees in principle on the benefits of more pre-emptive and forward-looking supervisory action, but success in this regard will require the strong support and encouragement of regulatory agency leaders and the imprimatur of Congress.

Observations regarding the Federal Reserve

With respect to the Federal Reserve, cultural, organizational and governance changes, some of which appear to be already under way, could substantially strengthen the supervision function. To avoid concentration of power in New York and Washington, the Federal Reserve System was originally designed and has operated over the years as a decentralized organization. While the Board of Governors is by law ultimately responsible for the Fed's supervision program, and historically has exercised broad oversight of the function, it has delegated the day-to-day conduct of examinations and supervision to the Federal Reserve Banks.

Timeliness and forcefulness of supervision

The Reserve Banks have many highly skilled supervisors and economists who have a solid understanding of the banking organizations, as well as the economic and financial conditions and trends, in their regions. Reserve Banks also have close contact with the banking organizations in their districts; have over time vigorously guarded their traditional autonomy within the Federal Reserve System; and have not always welcomed active oversight or direction from the Board in Washington. Having bankers on Reserve Bank boards of directors by itself did not appear to affect the supervision of individual institutions. However, from the Board staff's perspective, the objectivity of Federal Reserve supervision in some cases did seem to be affected by a Reserve Bank's proximity to the banks, a history of working closely with bank management, or a desire not to disrupt what was considered to be a constructive or cooperative relationship with management.

Historically, when supervisory views of individual firms differed within the Federal Reserve, the Board staff generally favored more forceful, earlier, and sometimes more public supervisory actions than those preferred by Reserve Banks. This was not because people in Washington were any smarter, but rather because Board staff had a broader perspective on national conditions; a responsibility to monitor and promote nationwide consistency in Fed supervision; a fuller understanding of the Board of Governor's concerns, policies and expectations; and a more acute appreciation for commitments and intentions communicated by the Board to Congress through legislative recommendations, briefings, and testimony.

Normally, this tension – between Reserve Bank supervisors who were closer to and generally more knowledgeable about the specific circumstances of a particular bank and the Board staff who worked to promote national consistency with Board policies and had less invested in a relationship with the bank's management – produced a balanced and well-calibrated regulatory response. Sometimes, it did not.

Over the years, some Reserve Banks have been reluctant to downgrade supervisory ratings, or take public enforcement actions, before problems were clearly reflected in weak financial results. This was generally true during my 30-year career and was frequently observed by many senior supervisory officials in Washington. This has been a particular issue, at times, with respect to large banking organizations and has detracted from the effectiveness and forcefulness of Fed supervision. To be sure, a more measured or gradual approach to supervision is sometimes appropriate; often, however, it can lead to unnecessary and costly delay. For example, in the late 80s/early 90s, some Reserve Banks were initially very reluctant to require large banking organizations to cut their dividends fearing an adverse market reaction. Dividends were eventually reduced or eliminated at Board staff insistence and this became an important step in preserving or rebuilding bank capital. In the mid 90s, a Reserve Bank's strong opposition to taking **public** enforcement action against a large global institution engaged in highly questionable derivatives sales practices was overcome only after the matter went to the full Board of Governors. This public enforcement action represented a major departure from the traditional treatment of large institutions; but regrettably it did not establish a lasting precedent.

Reserve Bank initial opposition to taking public enforcement action earlier this decade against the large banking organizations involved in complex financing arrangements and derivatives with Enron was surmounted only when it became clear that the SEC was planning such public action against the firms' securities affiliates. In 2005, a Board staff-mandated supervisory rating downgrade (to less than satisfactory) of the risk management practices of a very large, systemically important global financial holding company that had experienced significant compliance risk management breakdowns was strongly and, to me, inexplicably opposed by the Reserve Bank president and supervision staff. While in this case, the holding company's risk management was eventually downgraded, the company's lead bank regulator declined to downgrade the subsidiary bank's overall management rating. Once the crisis hit, it was clear that this organization had significant financial and risk management problems that were underestimated by all regulators.

These examples epitomized a certain ingrained or cultural reluctance to deliver a timely and forceful message to bank management and directors -- through earlier supervisory ratings downgrades and public enforcement actions -- **before** significant weaknesses were clearly apparent in poor operating results. And, to be sure, this situation was not unique to the Federal Reserve. Although examinations often contain numerous criticisms, as noted above, if such criticisms are not underscored and reinforced when appropriate with supervisory downgrades or strong enforcement actions, the impact on and message to senior management and directors are substantially diluted. An ongoing issue is to what extent **current** supervisory ratings of some large firms accurately reflect their obviously weakened financial conditions. Timely supervisory downgrades or actions are not a matter of following some bureaucratic routine; rather, they are a reflection of how willing supervisors are to forcefully insist that meaningful corrective action be undertaken by boards of directors.

In the past, the reluctance to pursue strong public enforcement actions or pre-emptive supervisory downgrades resulted from: a belief that the traditional, nonpublic ("behind-the-scenes") approach to supervision was less confrontational and more likely to induce bank management to cooperate; a desire not to inject an element of contentiousness into what was felt to be a constructive or equable relationship with management; and a fear that financial markets would overreact to public actions, possibly causing a run. All of these factors need to be carefully considered; however, at times they can impede effective supervision and delay the implementation of needed corrective action. One of the lessons of this crisis (learned again) is that the working presumption should be earlier and stronger supervisory follow up. And this appears to be happening -- the number of enforcement actions in 2009 was twice or three times what it was in the prior year, depending on the agency. Presumably, this is a function of both the large number of problem banks and a greater willingness to use supervisory tools in a more forceful and timely manner. One important policy question that remains, based upon the low number of public enforcement actions against large firms, is the regulators' willingness and commitment to publicly sanctioning systemically important firms and large complex banking organizations.

Culture, governance and accountability

The Federal Reserve's history, internal culture, and governance have at times discouraged robust oversight by the Board and its staff of the quality and consistency of the Reserve Banks' supervision programs. Federal Reserve leaders have historically sought to make decisions on a consensus basis. Within supervision, considerable deference has traditionally been shown to the wishes of Reserve Bank presidents (and senior officers in charge of supervision), and compromises were sometimes struck in lieu of imposing an unwanted course of action – even if it was viewed as the optimal course of action -- on a dissenting Reserve Bank. Reserve Bank heads of supervision, who oversee the day-to-day conduct of supervision in the districts, have historically reported directly to their presidents, with something of a dotted line to senior supervisors in Washington. Board staff supervisors, including the head of BS&R, have had broad oversight **responsibility** for the performance of the supervision function, but lacked clear and unambiguous **authority** to make final decisions – a position that was not always a comfortable one.

Board staff did, when appropriate, mandate certain supervisory actions and criticize Reserve Bank performance. This occurred with greater frequency in the period 2002-06 -- when both Reserve Banks and state banking authorities chafed under what they saw as more decisions being "driven" by Washington -- but generally this process was contentious and unpleasant. And while mandates from the Board staff might address the particular problem at hand, they also threatened to undermine the collegiality and cooperation that -- given the lack of clarity on who was really in charge -- were critically necessary to get things done within the Federal Reserve. This meant that any decision by Board staff to over-rule a Reserve Bank, mandate a particular course of action, or criticize a Reserve Bank's performance had to be evaluated against the immediate costs in terms of time and energy expended, or operations disrupted, and against the longer-term implications for Board-Reserve Bank relations and cooperation. The lack of clarity on accountability within the Fed's supervision function meant that differences on certain supervisory matters sometimes got compromised in a way that preserved collegiality within the Federal Reserve at the possible expense of the Board's over-riding interest in strong and consistent nationwide supervision.

The Board and its staff should in some cases have been more critical and tougher in evaluating Reserve Banks' conduct of supervision. Yet for many of the reasons outlined above, the supervision function did appear to be adapting to changes in financial markets, shortcomings seemed correctable with additional resources and expertise, which were normally obtained when a need was identified, and the overall condition of the industry seemed to belie the notion that the supervision function was less than fully effective. Oversight of the Reserve Banks' performance was influenced by some of the same factors that adversely affected the rigor of supervision more generally in the period leading up to the crisis.

Past efforts to clarify accountability within the supervision function, which involved establishing or refining internal coordination structures, or creating new task forces and working groups, sometimes had the opposite effect of further clouding lines of authority and accountability. More recently, the Fed appears to have made some internal changes in an attempt to enhance the quality, structure, and governance of the System's supervision function. It is essential that the Board formulate a successful strategy to restructure the supervisory function, clarify the Board's ultimate accountability for supervision within the Federal Reserve System, and upgrade the authority, stature and influence of the head of the supervision function. The Board should clearly identify who has operational responsibility for supervision, give that person the authority and resources to do the job, and then hold that person accountable for the performance of the function. If the past is any guide, creating another joint

Board/Reserve Bank committee, a multi-layered or multi-divisional task force, or a new working group to manage or coordinate the supervision function will not be sufficient.

Proposals to designate a Board member (e.g., a vice chairman), who is also a presidential appointee, as the head of Federal Reserve System-wide supervision would be a positive step. This would help to clarify ultimate accountability, promote more consistent supervision across the Fed, and afford a higher profile to **supervisory** concerns within an organization whose principal role in normal times is the conduct of **monetary policy**. In addition, the Board of Governors should have a **formal** role in choosing the Reserve Bank senior officer in charge of supervision, a decision that historically has been made by the Reserve Bank president. The Board also needs a mechanism (clearly accountable to the Board) to conduct independent, objective, and robust quality assessments of Reserve Bank supervisory programs that does not depend on a peer evaluation process, which to some degree involves Reserve Banks judging each other.

Properly designed structural, governance, and operational changes within the Federal Reserve's supervision function, together with other supervisory and regulatory reforms being implemented, can mitigate the objectivity and quality concerns noted above, while retaining the benefits of the Fed's district-based supervision.

Systemic risk oversight

There is a compelling public policy case for affording the Federal Reserve a key role in supervising systemic institutions, given its responsibilities and duties as a central bank, its involvement in financial markets and payments systems, and the quality and expertise of its staff. For this to work, however, it is particularly important that the Federal Reserve Board assert strong oversight of, and clarify its accountability and responsibility for, the supervision of systemically important financial institutions. Around the middle of this decade, as noted above, a plan was developed to increase the Board of Governors' role in overseeing the supervision of large, systemically important firms; however, a failure to lay the necessary groundwork and very strong opposition from some Reserve Bank presidents actually resulted in greater delegation of authority to a Reserve Bank. It is difficult to judge from the outside whether execution of this plan improved the Fed's oversight of large institutions; but it seems unlikely that it could have improved the Board's understanding of what was going on in these firms compared to what would have been the case if the original plan had been prudently designed and implemented. At the end of the day, it must be clear both internally and to the firms involved that the supervision of systemically important firms is the responsibility of the Board, not an individual Reserve Bank. Active Board staff involvement and leadership in the supervision of these firms – a longstanding idea that is being increasingly implemented – will be essential. Strong quality control and coordination measures overseen by the Board will also be necessary to ensure that the intensity, content, and consistency of systemic risk oversight by the Fed is commensurate with the risks posed by systemically important firms and markets.

Making the president of the New York Reserve Bank a Presidential appointee, whatever the merits for other policy reasons, would undercut efforts to clarify roles and ultimate responsibility for large institutions within the Federal Reserve. And taking the Federal Reserve entirely out of the supervision of regional and community banking organizations would weaken its understanding of and connection to an important segment of the financial system; narrow its orientation and perspective to mostly large institutions (one of the reasons for its early and excessive commitment to Basel II); and eliminate a real-life, hands-on forum in which Fed examiners and supervisors gain critical experience and knowledge in the conduct of on-site examinations and risk assessments.

Some observers have criticized the Federal Reserve's regulatory performance leading up to the crisis, but have acknowledged that it did not have an explicit statutory mandate to be a systemic risk overseer. This is literally true -- the central bank clearly did not have the requisite statutory authority or tools to assess all aspects and dimensions of the enormously complex U.S. financial system. However, Fed supervisors long believed that financial stability was a critical goal of the Federal Reserve (or any central bank for that matter) and made promoting financial stability an explicit goal in the supervision strategic plan early this decade. While the Fed's authority and tools may not have matched its mission, it cannot be argued that financial stability was not one of its major and long-standing goals. Looking ahead, receiving a statutory mandate to promote financial stability and oversee all systemically important financial institutions under financial reform legislation will pose extremely complex operational and daunting intellectual challenges – and will almost guarantee future disappointment since history makes clear that financial crises cannot be eliminated. Yet the Fed's role as a central bank, its historical experience supervising large complex financial institutions, and its longstanding interest in financial stability should facilitate its assumption of broader responsibilities in a revamped supervisory and regulatory system.

Supervision, the central bank, and market discipline

The Federal Reserve values its supervisory role, especially in times of financial turmoil and instability. It enhances the Fed's understanding of the economy and the financial system, broadens its insights into the nature and potential severity of emerging financial risks and vulnerabilities, and strengthens its ability to promote financial stability and manage crises. Supervisors at the Board and Reserve Banks have contributed much over the years to the Fed's conduct of its macroeconomic responsibilities; and the Fed's supervisory and regulatory programs have benefitted from the Fed's expertise in economics, research, capital and financial markets, payments systems, and the law. Nevertheless, the Fed fundamentally – and at its core -- is an economics institution (central bank); and historically in normal times, the monetary policy makers and the economists have played a pre-eminent role, supervisors largely a secondary role. Of course, the financial crisis has highlighted, once again, that effective monetary policy and strong financial supervision are two sides of the same coin – both are absolutely essential for assuring financial and economic stability.

In the years leading up to this crisis, the culture of the Federal Reserve -- an agency dominated by professional economists whose mindset and intellectual biases were to enhance the workings of free markets, not to design regulations -- was reinforced by a Chairman who had a strong, deep, and abiding philosophical belief that market and counterparty discipline were more effective in controlling risks than governmental regulation and oversight. This strong institutional orientation toward self-correcting markets and skepticism regarding the efficacy of regulation, often reinforced by industry, public or Congressional expressions of concern regarding regulatory burden, sometimes prevented or slowed the adoption of needed standards or resulted in less robust regulatory requirements. As suggested above, examples include: consumer protection rules on unfair and abusive lending practices, supervisory guidance on nontraditional mortgages and commercial real estate lending, the policy statement on complex structured financial transactions, and capital requirements for a range of activities, including securitization, operational risk, and merchant banking and equity holdings.

The overarching commitment to free market principles generally did not directly interfere with the supervisory oversight of individual firms, and sometimes it prevented hasty and ill-thought-out policy actions. Over the years, a constant concern of economists involved in regulatory policymaking was that regulation could "stifle innovation" and interfere with the effective working of financial markets. This is a legitimate issue, and one that has to be and was continually weighed.

On the other hand, the strong institutional bias in favor of counterparty and market discipline, repeated expressions of skepticism regarding the efficacy of regulation, and an acute sensitivity to regulatory burden did have an effect. Supervisors understood that forceful and proactive supervision, especially early intervention before management weaknesses were reflected in poor financial performance, might be viewed as i) overly-intrusive, burdensome, and heavy-handed, ii) an undesirable constraint on credit availability, or iii) inconsistent with the Fed's public posture. A supervision staff presentation to the Board in 2003 or 04 on the role of large banks engaged in complex structured financial transactions with Enron was received coolly by some Board members who seemed clearly unimpressed by staff findings, presumably because, despite the banks' questionable behavior and risk management lapses, it appeared that no laws were broken and related losses were manageable. The message to some supervisory staff was neither ambiguous nor subtle. In the late 90s, when supervisors were developing policies and regulatory expectations for certain derivatives transactions, senior Board economists (who were actively involved in policymaking and skeptical of the need for additional regulation) cited Enron as an example of a prominent player in the derivatives market that was successfully "regulated" by counterparty discipline, without needing bank-like government oversight. (To be fair, of course, Enron impressed a lot of knowledgeable observers at the time and did not fail until late 2001.)

These reactions and attitudes and the related "body language" were intangible factors. While by definition they cannot be measured, they did foster a climate and tone that were not always conducive to rigorous supervision. Neither the mistakes of supervisors, nor the financial crisis, can be blamed on these intangible factors, but they did have an impact.

Concluding remarks

Questions relating to what caused or contributed to the financial crisis of 2007-09, and what affected the government's response, will be debated and studied for years; and there is room for differing views and perspectives. Human nature being what it is, it is not surprising that the professional economists who run the Federal Reserve and are responsible for monetary policy have cited supervision and regulation as important factors, not excessively low interest rates, the conduct of monetary policy, or some of the other considerations described in this note. Clearly there were significant supervisory and regulatory deficiencies and lapses. However, a more balanced and nuanced explanation -- than simply focusing on supervisory and regulatory shortcomings – seems more consistent with the facts and would appear necessary in order to develop the right policy prescriptions going forward.

Role of economists

Over the last 15 years, professional economists have played an increasingly important role in the Fed's supervision function – with respect to both policy formation and program execution – and it seems clear that this role will expand further in the years ahead. The knowledge and expertise of economists and other risk specialists -- seasoned by real world experience and combined with well-designed macro-prudential techniques -- can broaden the critical skills and tools necessary for monitoring systemic risk and responding to the dramatic changes in banking and financial markets.

It should be noted, however, that economists' overarching intellectual commitment to the ideal of efficient and self-correcting markets, abiding faith in counterparty and market discipline, inherent skepticism of supervision and regulation, and penchant for solutions based on complex modeling or arcane quantitative risk measurement methodologies were significant contributing factors to some of the major regulatory policy errors since the mid 1990s.

Going forward, it will be important to structure and manage supervision in a way that garners the important benefits of economists' perspectives, techniques, and expertise -- without diluting the quality of hands-on, micro-prudential financial oversight; without basing policies on philosophical aspirations or theoretical constructs at odds with the realities of risk management or the lessons of history; and without diverting supervisory resources from critical safety and soundness priorities. The extensive disruption and enormous costs associated with the most severe financial crisis since the 1930s appear to have concentrated the minds of **all** those involved in supervision and regulation, and together with the enactment of comprehensive regulatory reforms, will have a profound positive impact on the conduct of financial supervision for years to come.

Agency leadership and other factors

Implementation of a wide array of legislative reforms, policy enhancements, and changes in the conduct of supervision will likely have significant implications for the cost and availability of credit and other financial services and for the performance and profitability of financial firms. For example, higher capital and liquidity cushions, less leverage, and tighter constraints on risk-taking will reduce profitability and raise the cost of credit and other services to both businesses and consumers. And earlier, pre-emptive supervisory intervention, especially before losses emerge, will sometimes appear to be premature or excessive bureaucratic meddling. However, regulatory reforms that are properly designed and implemented in a balanced and consistent fashion can produce societal benefits that exceed the costs and reduce the financial and personal hardships associated with financial crises.

New laws and rules, broader skills, and enhanced procedures are necessary but not sufficient. Critical to the lasting success of regulatory reform will be an **environment** and **agency leadership** strongly committed to questioning conventional wisdom and taking more timely (and often unpopular) supervisory action. Among other things, this will involve a change in culture and different attitudes toward regulation. Effective leadership will also involve withstanding considerable public, industry and, at times, political pressure – not only during bad times (as we have seen), but also (and especially) when hard decisions must be made in good times. Many necessary and important changes, of course, are already under way; and critical additional steps await enactment of comprehensive regulatory reform legislation. Long term success will also require major changes in the attitudes, expectations, actions, and reactions of the public, the financial industry, and the Congress.