Testimony of Alan Greenspan

Financial Crisis Inquiry Commission

Wednesday, April 7, 2010

Thank you for the opportunity to share my views on the important issues raised in the Commission's invitation to appear today. I have previously provided the Commission staff with a copy of my paper entitled "The Crisis," which I prepared for the Brookings Institution earlier this month, and request that that paper be included in the record as part of my written testimony to the Commission.

The International Roots of the Financial Crisis

It was the global proliferation of securitized U.S. subprime mortgages that was the immediate trigger of the current crisis. But its roots reach back, as best I can judge, to 1989, when the fall of the Berlin Wall exposed the economic ruin produced by the Soviet system. Central planning, in one form or another, was discredited and widely displaced by competitive markets.

China, in particular, replicated the successful economic export-oriented model of the so-called Asian Tigers, and by 2005, according to the IMF, 800 million members of the world's labor force were engaged in export-oriented, and therefore competitive, markets, an increase of 500 million workers since 1990. Additional hundreds of millions became subject to domestic competitive forces, especially in Eastern Europe. As a consequence, between 2000 and 2007, the rate of growth in real GDP of the developing world was more than double that of the developed world.

The developing world's consumption restrained by culture and inadequate consumer finance could not keep up with the surge of income and, as a consequence, the savings rate of the developing world soared from 24% of nominal GDP in 1999 to 34% by 2007, far outstripping its investment rate.

Whether it was a glut of excess intended saving, or a shortfall of investment intentions, the result was the same: a fall in global real long-term interest rates and their associated capitalization rates. Asset prices, particularly house prices, in nearly two dozen countries accordingly moved dramatically higher. U.S. house price gains were high by historical standards but no more than average compared to other countries.

The rate of global housing appreciation was accelerated beginning in late 2003 by the heavy securitization of American subprime and Alt-A mortgages, bonds that found willing buyers at home and abroad, many encouraged by grossly inflated credit ratings. More than a decade of virtually unrivaled global prosperity, low inflation, and low long-term interest rates reduced global risk premiums to historically unsustainably low levels. (They remained "unsustainably low" for years, however.)

Growth of the U.S. Subprime Market

For years, subprime mortgages in the United States had been a small but successful appendage to the broader U.S. home mortgage market, comprising less than 2½% of total home mortgages serviced in 2000. The market served a relatively narrow part of the potential U.S. homeowner population that could not meet the 20% down payment requirement of prime mortgages, but could still support the monthly payment amounts and less stringent loan origination requirements of a subprime loan. In the 2000 time frame, almost 70% of such loans were fixed-rate mortgages, fewer than half of subprime originations had been securitized, and few, if any, were held in portfolios outside the United States. From its origins in the early 1990s to 2003, it was a well-functioning market. I supported such lending, which increased access to homeownership for minorities and other traditionally underserved populations, an important goal in a capitalist society.

With the price of homes having risen at a quickening pace since 1997, subprime lending was seen as increasingly profitable to investors. Belatedly drawn to this market, larger financial firms, starting in late 2003, began to accelerate the pooling and packaging of subprime home mortgages into securities. The firms clearly had found receptive buyers. Foreign investors, largely European, were drawn to the above-average yield on these securities and the seemingly below-average risk reflected in a foreclosure rate on the underlying mortgages that had been in decline for two years. At the peak of demand in 2006, according to trade reports at the time, a significant part of subprime securities were sold abroad (largely in the form of collateralized debt obligations), a fact confirmed by the recent heavy losses on U.S. mortgages reported by European investors.

The Role of the GSEs

Of far greater importance to the surge in demand, the major U.S. government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, pressed by the U.S. Department of Housing and Urban Development[1] and the Congress to expand "affordable housing commitments," chose to meet them in a wholesale fashion by investing heavily in subprime mortgage-backed securities. The firms purchased an estimated 40% of all private-label subprime mortgage securities (almost all adjustable rate), newly purchased,

[1] In October 2000, the U.S. Department of Housing and Urban Development (HUD) finalized a rule "significantly increasing the GSEs' affordable housing goals" for each year 2001 to 2004. In November 2004, the annual housing goals for 2005 and beyond were raised still further. (Office of Policy Development and Research, Issue Brief No. V and others).

and retained on investors' balance sheets during 2003 and 2004.[2] That was an estimated five times their share of newly purchased and retained in 2002, implying that a significant proportion of the increased demand for subprime mortgage backed securities during the years 2003-2004 was effectively politically mandated, and hence driven by highly inelastic demand. The enormous size of purchases by the GSEs in 2003-2004 was not revealed until Fannie Mae in September 2009 reclassified a large part of its securities portfolio of prime mortgages as subprime.

To purchase these mortgage-backed securities, Fannie and Freddie paid whatever price was necessary to reach their affordable housing goals. The effect was to preempt 40% of the market upfront, leaving the remaining 60% to fill other domestic and foreign investor demand. Mortgage yields fell relative to 10-year Treasury notes, exacerbating the house price rise which, in those years, was driven by interest rates on long-term mortgages.

In testimony before the Senate Banking Committee in February 2004, the Federal Reserve expressed concern "about the growth and the scale of the GSEs' mortgage portfolios, which concentrate interest rate and prepayment risks at these two institutions. Unlike many well-capitalized savings and loans and commercial banks, Fannie and Freddie have chosen not to manage that risk by holding greater capital. Instead, they have chosen heightened leverage, which raises interest rate risk but enables them to multiply the profitability of subsidized debt in direct proportion to their degree of leverage." The testimony goes on to say that, "[t]hus, GSEs need to be limited in the issuance of GSE

[2] FHFA Annual Report to Congress 2008, (Revised) Historical Data Tables 5b Part 2 and 14b Part 2. (Originally published May 18, 2009, updated to include a significant reclassification effective September 3, 2009.)

debt and in the purchase of assets, both mortgages and nonmortgages, that they hold." I still hold to that view.

Concerns About the Unsustainable Housing Boom

In 2002, I expressed concerns to the FOMC, noting that "…our extraordinary housing boom…financed by very large increases in mortgage debt – cannot continue indefinitely." It did continue for longer than I would have forecast at the time, and it did so despite the extensive two-year -long tightening of monetary policy that began in mid-2004.

By the first quarter of 2007, virtually all subprime originations were being securitized, and subprime mortgage securities outstanding totaled more than $900 billion, a rise of more than six-fold since the end of 2001.

The large imbalance of demand, led by foreign and GSE investors, pressed securitizers and, through them, mortgage originators, to reach deeper into the limited potential subprime homeowner population by offering a wide variety of exotic products. The newer products (most visibly, adjustable-rate mortgages (ARMs), especially payment option ARMs) lowered immediate monthly servicing requirements sufficiently to enable a large segment of previously untapped, high risk, marginal buyers to purchase a home.

The securitizers, profitably packaging this new source of paper into mortgage pools and armed with what turned out in retrospect to be inaccurately high credit ratings, were able to sell seemingly unlimited amounts of subprime mortgage securities into what appeared to be a vast and receptive global market. Subprime loan underwriting standards, as a consequence, rapidly deteriorated. Subprime mortgage originations accordingly swelled in 2005 and 2006 to a bubbly 20% of all U.S. home mortgage originations, almost triple their share in 2002.

The house price bubble, the most prominent global bubble in generations, was engendered by lower interest rates, but, as demonstrated in the Brookings paper I previously provided to the Commission, it was *long term* mortgage rates that galvanized prices, not the overnight rates of central banks, as has become the seeming conventional wisdom. That should not come as a surprise. After all, the prices of long-lived assets have always been determined by discounting the flow of income (or imputed services) by interest rates of the same maturities as the life of the asset. No one, to my knowledge, employs overnight interest rates—such as the Fed Funds rate—to determine the capitalization rate of real estate, whether it be the cash flows of an office building or the imputed rent of a single-family residence. As I note in the Brookings paper, by 2002 and 2003 it had become apparent that, as a consequence of global arbitrage, individual country long term interest rates were, in effect, delinked from their historical tie to central bank overnight rates.

The Deflation of the Bubble

The bubble started to unravel in the summer of 2007. All asset bubbles, by definition, deflate at some point. But not all bubble deflations result in severe economic contractions. The dotcom bubble and the stock price crash of 1987 did not. Leverage, as Reinhart and Rogoff data demonstrate, is required to set off the serial defaults that foster severe deflation. Thus, unlike the debt-lite deflation of the earlier dotcom boom, heavy leveraging during the housing bubble set off a series of defaults that culminated in what is likely to be viewed, in retrospect, as the most virulent global financial crisis ever. The withdrawal of private short-term credit, the hallmark of severe crisis, on so global a scale, I believe, is without precedent. (The unemployment rate in the Great Depression, of course, was far higher, and economic activity far lower, than today.)

The Inadequacy of Existing Risk Management Systems to Address Increasingly Complex Financial Instruments and Transactions

For almost a half century, we have depended on our highly sophisticated system of financial risk management to contain such market breakdowns. That paradigm was so thoroughly embraced by academia, central banks, and regulators that by 2006 it became the core of global regulatory standards (Basel II).

The risk management paradigm nonetheless harbored a fatal flaw. In the growing state of euphoria, managers at financial institutions, along with regulators including but not limited to the Federal Reserve, failed to fully comprehend the underlying size, length, and potential impact of the so-called negative tail of the distribution of risk outcomes that was about to be revealed as the post-Lehman Brothers crisis played out. For decades, with little to no data, almost all analysts, in my experience, had conjectured a far more limited tail risk. That led to more than a half century of significantly and chronically undercapitalized financial intermediaries, arguably the major failure of the private risk management system.

The financial firms counted on being able to anticipate the onset of crisis in time to retrench. They were mistaken. They believed the then seemingly insatiable demand for their array of exotic financial products would enable them to sell large parts of their portfolios without loss.

Only modestly less of a problem was the virtually indecipherable complexity of a broad spectrum of financial products and markets that developed with the advent of advanced mathematical models to evaluate risk and the large computation capacity to implement them. In despair, an inordinately large part of investment management was subcontracted to the "safe harbor" risk designations of the credit rating agencies. But despite their decades of experience, the rating agencies proved no more adept at anticipating the onset of crisis than the investment community at large.

Even with the breakdown of private risk-management and the collapse of private counterparty credit surveillance, the financial system would have held together had the second bulwark against crisis—our regulatory system—functioned effectively. But, under crisis pressure, it too failed.

U.S. commercial and savings banks are extensively regulated, and even though for years our largest 10 to 15 banking institutions have had permanently assigned on-site examiners to oversee daily operations, many of these banks still were able to take on risky assets that brought them to their knees. The heavily praised U.K. Financial Services Authority was unable to anticipate or prevent the bank run that threatened Northern Rock. The venerated credit rating agencies bestowed ratings that implied Aaa smooth-sailing for many a highly toxic derivative product. Even the IMF noted as late as April 2007 that ". . . global economic risks have *declined* since . . . September 2006.. . . [T]he overall U.S. economy is holding up well . . . [and] the signs elsewhere are very encouraging." The Basel Committee on Banking Supervision, representing regulatory authorities from the world's major financial systems, promulgated a set of capital rules that failed to foresee the need that arose at the height of the crisis for much larger capital and liquidity buffers.

Bubble emergence is easy to identify in narrowing credit spreads. But the trigger point of crisis is not. A financial crisis is descriptively defined as an abrupt, *discontinuous* drop in asset prices. If the imbalances that precipitate a crisis are visible, they tend to be arbitraged away. For the crisis to occur, it must be *unanticipated* by almost all market participants and regulators.

Over the years, I have encountered an extremely small number of analysts who are *consistently* accurate at discontinuous turning points. The vast majority of supposedly successful turning point forecasts are, in fact, mere happenstance.

In my view, the recent crisis reinforces some important messages about what supervision and examination can and cannot do. Regulators who are required to forecast have had a woeful record of chronic failure. History tells us they cannot identify the timing of a crisis, or anticipate exactly where it will be located or how large the losses and spillovers will be. Regulators cannot successfully use the bully pulpit to manage asset prices, and they cannot calibrate regulation and supervision in response to movements in asset prices. Nor can they fully eliminate the possibility of future crises.

Capital- and Collateral-Based Solutions to Supervisory Inadequacies

What supervision and examination *can* do is promulgate rules that are preventative and that make the financial system more resilient in the face of inherently *unforeseeable* shocks. Such rules would kick in automatically, without relying on the ability of a fallible human regulator to predict a coming crisis. Concretely, I argue that the primary imperatives going forward have to be (1) increased risk-based capital and liquidity requirements on banks and (2) significant increases in collateral requirements for globally traded financial products, irrespective of the financial institutions making the trades. Sufficient capital eliminates the need to know in advance which financial products or innovations will succeed in assisting in effectively directing a nation's savings to productive physical investment and which will fail. A firm that has adequate capital, by definition, will not default on its debt obligations and hence contagion does not arise. All losses accrue to common shareholders.

I believe that during the past 18 months, there were very few instances of serial default and contagion that could have not been contained by adequate risk-based capital and liquidity. I presume, for example, that with 15% tangible equity capital, neither Bear Sterns nor Lehman Brothers would have been in trouble. Increased capital, I might add parenthetically, would also likely result in smaller executive compensation packages, since more capital would have to be retained in undistributed earnings.

In addition to the broad issues of capital and liquidity, I also argue that the doctrine of "too big to fail" (or, more appropriately, "too interconnected to be liquidated quickly") can not be allowed to stand. The productive employment of the nation's scarce saving is being threatened by financial firms at the edge of failure, supported with taxpayer funds, designated as systemically important institutions. I agree with Gary Stern, the former President of the Federal Reserve Bank of Minneapolis, who has long held the position that ". . . creditors will continue to underprice the risk-taking of these financial institutions, overfund them, and fail to provide effective market discipline.

Facing prices that are too low, systemically important firms will take on too much risk."[3] These firms absorb scarce savings that needs to be invested in cutting-edge technologies, if output per hour and standards of living are to continue to rise.

One highly disturbing consequence of the taxpayer bailouts that have emerged with this crisis is that market players have come to believe that *every* significant financial institution, should the occasion arise, would be subject to being bailed out with taxpayer funds. Businesses that are bailed out have competitive market and cost-of-capital advantages, but not efficiency advantages, over firms not thought to be systemically important.

The existence of systemically threatening institutions is among the major regulatory problems for which there are no good solutions. Early resolution of bank problems under the Federal Deposit Insurance Corporation Improvements Act of 1991 (FDICIA) appeared to have worked for smaller banks during periods of general prosperity. But the notion that risks can be identified in a sufficiently timely manner to enable the liquidation of a large failing bank with minimum loss has proved untenable during this crisis and I suspect in future crises as well.

The solution, in my judgment, that has at least a reasonable chance of reversing the extraordinarily large "moral hazard" that has arisen over the past year is to require banks and possibly all financial intermediaries to hold contingent capital bonds—that is, debt which is automatically converted to equity when equity capital falls below a certain threshold. Such debt will, of course, be more costly on issuance than simple debentures, but its existence could materially reduce moral hazard.

[3] Statement before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, Washington, DC, May 6, 2009.

However, should contingent capital bonds prove insufficient, we should allow large institutions to fail, and if assessed by regulators as too interconnected to liquidate quickly, be taken into a special bankruptcy facility. That would grant the regulator access to taxpayer funds for "debtor-in-possession financing." A new statute would create a panel of judges who specialize in finance. The statute would require creditors (when equity is wholly wiped out) to be subject to statutorily defined principles of discounts from par ("haircuts") before the financial intermediary was restructured. The firm would then be required to split up into separate units, none of which should be of a size that is too big to fail.

I assume that some of the newly created firms would survive, while others would fail. If, after a fixed and limited period of time, no viable exit from bankruptcy appears available, the financial intermediary should be liquidated as expeditiously as feasible.

Oversight of Consumer Protection Risks: Federal Reserve Initiatives To Monitor Unfair, Deceptive, "Abusive," and Discriminatory Practices

The Commission's invitation also asks about the Federal Reserve's regulation and oversight of both consumer protection issues and safety-and-soundness issues relating to subprime mortgages. Let me respectfully reiterate that, in my judgment, the origination of subprime mortgages – as opposed to the rise in global demand for securitized subprime mortgage interests – was not a significant cause of the financial crisis. It is also important to note that institutions subject to regulation by the Federal Reserve or other federal banking regulators were not the primary players in the subprime loan origination business; the data show that, in 2004 and 2005, more than half of subprime loans were originated by independent mortgage companies subject to consumer protection enforcement by the Federal Trade Commission and various state agencies.

That said, the Federal Reserve, often in partnership with the other federal banking agencies, was quite active in pursuing consumer protections for mortgage borrowers. One of the Commission's questions asks specifically about the Federal Reserve's consumer protection initiatives under the Homeownership Equity Protection Act of 1994 (HOEPA). HOEPA creates special rules for certain high-cost loans, and also delegates to the Federal Reserve authority to prohibit "unfair," "deceptive," and "abusive" mortgage lending practices. The concepts of "unfairness," "deception," and "abusiveness" are not defined in the statute, and I do not believe there was any prevailing sentiment within the Federal Reserve – and it was certainly not my view – that entire categories of loan products should be prohibited as "unfair" or "abusive."

For example, adjustable-rate mortgages that might be inappropriate for one borrower might be the most suitable option for another; low-down-payment loans to borrowers with limited savings but adequate income to support the monthly payments might be perfectly appropriate, while the same loans to borrowers who cannot document their income may not be. In short, these and other kinds of loan products, when made to borrowers meeting appropriate underwriting standards, should not necessarily be regarded as improper, and on the contrary facilitated the national policy of making homeownership more broadly available.

HOEPA, as originally enacted by Congress, applies to a very limited category of mortgage loans – principally, those with annual percentage rates that exceed the yield on Treasury securities of comparable maturity by more than 10 percentage points, and those with points and fees exceeding 8 percent of the loan amount. HOEPA loans thus comprised a relatively small percentage of the subprime mortgage market. The Federal Reserve nonetheless thought the issue exceptionally important to many American families. In 2000, the Board held hearings in Charlotte, Boston, Chicago, and San Francisco to consider approaches it might take in exercising its regulatory authority under HOEPA, focusing on expanding the scope of mortgage loans covered by HOEPA, prohibiting specific acts or practices, improving consumer disclosures, and educating consumers. The Board also received comments on a proposed rule from consumer advocacy groups and other interested parties.

As a result, we adopted a final rule that took effect in October 2002. The final rule expanded the scope of HOEPA by lowering the rate-based trigger for first-lien mortgage loans by two percentage points. It also added specific consumer protections, including a prohibition on repeated refinancings of HOEPA loans over a short period of time when the transactions are not in the borrowers' interest. In short, my colleagues at the Federal Reserve were aware of their responsibilities under HOEPA and took significant steps to ensure that its consumer protections were faithfully implemented.

The Federal Reserve devoted significant staff resources in the area of consumer protection, not limited to HOEPA. During my tenure, the Federal Reserve maintained a Division of Consumer and Community Affairs staffed by approximately 100 full time professionals. The Federal Reserve also has long maintained a Consumer Advisory Council consisting of consumer advocates and other experts from around the country. In addition, all 12 Reserve Banks maintain a Community Affairs office. And, of course, the consumer protection activities of the Federal Reserve itself were overseen by a Board committee on consumer and community affairs, chaired by a governor with expertise in consumer affairs. The practice of the committee was to appraise consumer issues and bring their recommendations to the Board of Governors. I personally participated in a large number of meetings on consumer affairs, sessions in which HOEPA was often on the agenda.

In 2000, when the Federal Reserve's HOEPA reviews were underway, I viewed egregious lending as subject to standard prudential oversight, not the precursor of the bubble that was to arise several years later. Remember that the dollar volume of subprime lending 2000 was less than a fifth of its volume four years later.[3]

On the broader subject of the Federal Reserve's approach to consumer protection in subprime lending, it is important to keep in mind that the subprime mortgage market evolved and changed dramatically over the past decade – and the Federal Reserve, together with the other banking agencies, carefully monitored those developments and adjusted our supervisory policy to meet the evolving challenges in the marketplace. In March 1999, for example, we issued our first "Interagency Guidance on Subprime Lending." In that guidance, we warned regulated institutions of the increased risk of default associated with subprime loans, warned about the importance of reliable appraisals for loan collateral, and advised institutions on the need to obtain credit file documentation for subprime loan applicants. Over the following decade, the Federal Reserve and the other banking agencies released numerous other guidelines designed to identify and rein in potentially risky lending practices. For instance:

- In October 1999, we issued our "Interagency Guidance on High LTV Residential Real Estate Lending," which addressed the specific risks associated with making

[3] *Inside Mortgage Finance, The 2009 Mortgage Market Statistical Annual,* vol. I, p. 4.

low-down-payment mortgage loans.

- In 2001, we issued our “Expanded Guidance for Subprime Lending Programs.” This guidance warned regulated institutions that loans designed to serve borrowers with impaired credit “may be prone to rapid deterioration in the early stages of an economic downturn,” and imposed requirements for internal controls to protect against such risks.

- In 2004, the Federal Reserve and the FDIC jointly released their guidance on “Unfair or Deceptive Acts or Practices by State-Chartered Banks,” and expressly addressed two issues that have received significant attention from consumer advocates – the advent of adjustable-rate mortgages with low introductory-rate features, and the use of prepayment penalties.

- In October 2006, after I had the left the Federal Reserve, the Board and the other banking agencies issued their “Interagency Guidance on Nontraditional Mortgage Product Risks,” which addressed a variety of emerging loan structures, including “interest-only” mortgages, “payment option” ARMs, and 100%-financing arrangements.

- In July 2007, the Federal Reserve and the other agencies issued their “Statement on Subprime Mortgage Lending,” to address such risk issues as “stated-income” loans, loans likely to result in frequent refinancing, loans involving “risk layering” or piggyback features, and others.

For the convenience of the Commission, I have attached to my testimony at Exhibit A a chart that summarizes the Federal Reserve’s initiatives to address potentially risky mortgage lending practices. The supervision of the federal banking agencies, including the Federal Reserve, is an important reason why regulated institutions – meaning banks and bank holding company affiliates – were not as significant a contributor to the origination of the most controversial loan products as non-bank-affiliated companies that operated outside the jurisdiction of Federal bank regulators.

The Federal Reserve’s Limited Enforcement Capability

As indicated previously, the Federal Reserve engaged in real-time assessment of developing risks in the subprime and non-traditional mortgage sectors, and endeavored to adjust to ever-evolving market behavior. We began issuing detailed guidance on these emerging risks as early as 1999. But it is one thing to promulgate rules, and quite another to successfully implement them. Rules to prevent fraud and embezzlement have failed as often as not. Parenthetically, in the years ahead, we will need far greater levels of enforcement against misrepresentation and fraud than has been the practice for decades.

In any event, the underwriting practices of 2000 were localized and, as best I can judge, were not an important factor in the far more debilitating further breakdown in lending standards that emerged in 2003 and 2004 in the wake of rapid securitization.

In this respect, it is important to remember that the Federal Reserve is not an enforcement agency. It is not like the SEC, the FTC or the Justice Department. It has no enforcement division, for example, as does the SEC. The distribution between supervision and enforcement is illustrated, for example, in the fair lending area. The Federal Reserve promulgated enhanced reporting regulations under the Home Mortgage Disclosure Act in 2004 as part of its bank supervision function. When some lenders reported data that suggested possible discrimination, those lenders were referred to a separate enforcement agency – the Department of Justice – for investigation and possible enforcement.

The Governors divide up areas of responsibility at the Board. These include Committees on Board Affairs, Board Activities, Supervision and Regulation, Consumer and Community Affairs, and Economic Research. Responsibilities and chairmanships are divided among Board members and we each worked in areas that reflected our expertise.

I, for example, devoted the significant portion of my time to monetary policy. But all Governors had the obligation and opportunity to bring any, and all, issues forward, especially from their areas of focus that they believed commanded attention. I consistently voted in favor of consumer protection initiatives when they were brought before the Board, and supported the positions reflected in the various guidelines we issued over the past decade. Regulations and guidelines, however, do require enforcement, and the structure of the Federal Reserve during my tenure was much more focused on regulation and supervision than on enforcement.

The Future of Subprime Lending

It remains to be seen what type of private subprime market emerges from the ashes of the old. There have been virtually no private subprime originations or securitizations since the beginning of 2008, despite the recovery during the past year in other less-than-investment-grade debt. It is an open question whether investors will be attracted back to a private subprime market anytime in the foreseeable future. The new subprime lending rule initiated by the Fed in 2007 appears reasonable to address future prudential problems when, and if, private lending resumes.

Between 1994 and 2003, when subprime lending was still a niche business and before the explosion in subprime securitization that began in late 2003, minority homeownership increased by approximately 14 percent, a rate of increase not quite double that of whites.[4] A substantial part of that increase was financed with subprime mortgages. Increased foreclosure rates have erased some of those gains, particularly

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[4] Georgetown University Credit Research Center Seminar, *Ensuring Fair Lending: What Do We Know about Pricing in Mortgage Markets and What Will the New HMDA Data Fields Tell Us?*, March 14, 2005,

those achieved late in the cycle, but homeownership rates for minorities remain well above their 1994 levels.[5] The withdrawal of affordable housing finance, including for borrowers with subprime credit histories, will surely lower the minority homeownership rate still more. Many recent consumer protection laws in such an environment become moot.

Aside from the setting of the federal funds rate and the management of its investment portfolio, the Board has always had a responsibility to address systemic risk. But recognizing that neither regulators nor economists can predict the timing of future crises or their severity, it is important to have authorities in place to mitigate their impact. In 1991, Congress, at the urging of the Board, modernized section 13(3) of the Federal Reserve Act that granted virtually unlimited authority to the Board to lend in "unusual and exigent circumstances." Section 13(3) is the legal authority for much of the actions taken by the Federal Reserve during this crisis.

Conclusion

In closing, let me reiterate that the fundamental lesson of this crisis is that, given the complexity of the division of labor required of modern global economies, we need highly innovative financial systems to assure the proper functioning of those economies. But while, fortunately, much financial innovation is successful, much is not. And it is not possible in advance to discern the degree of future success of each innovation. Only adequate capital and collateral can resolve this dilemma. If capital is adequate, by

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available at https://www.chase.com/ccpmweb/chf/document/HMDA2_Staten_Intro.pdf.

[5] Rakesh Kochhar, Ana Gonzalez-Barrera, and Daniel Dockterman, *Through Boom and Bust: Minorities, Immigrants and Homeownership*, May 12, 2009, available at http://pewhispanic.org/reports/report.php?ReportID=109.

definition, no debt will default and serial contagion will be thwarted.

We can legislate prohibitions on the kinds of securitized assets that aggravated the current crisis. But investors have shown no inclination to continue investing in much of the past decade's faulty financial innovations, and are unlikely to invest in them in the future. The next pending crisis will no doubt exhibit a plethora of new assets which have unintended toxic characteristics, which no one has heard of before, and which no one can forecast today. But if capital and collateral are adequate, and enforcement against misrepresentation and fraud is enhanced, losses will be restricted to equity shareholders who seek abnormal returns, but in the process expose themselves to abnormal losses. Tax payers will not be at risk. Financial institutions will no longer be capable of privatizing profit and socializing losses.

I thank the Commission for the opportunity to submit these thoughts, and look forward to answering your questions.

EXHIBIT A

FEDERAL RESERVE INITIATIVES TO ADDRESS "ABUSIVE" PRACTICES

Practice	Date Addressed	Document In Which Addressed	Fed Guidance
Predatory pricing; discriminatory "steering"	March 1, 1999	Interagency Guidance on Subprime Lending[1]	• Warning subprime lenders that high loan fees or interest rates combined with compensation incentives can foster predatory pricing or discriminatory "steering" of borrowers to subprime products for reasons other than creditworthiness. • Advising subprime lenders to adopt compliance programs to identify and monitor associated consumer protection risks.
100% financing	October 8, 1999	Interagency Guidance on High LTV Residential Real Estate Lending[2]	• Warning that high LTV loans pose higher risks for lenders that traditional mortgage loans, including: (1) increased default risk and losses; (2) inadequate collateral; (3) longer term exposure; and (4) limited remedies in event of default. • Advising lenders that any loan exceeding 90% LTV, and which lacks adequate credit support, should be included in the institution's calculation of loans subject to the 100% of capital limit. • Directing lenders to implement risk management programs that specifically address inherent risks of high LTV lending.

1 Available at http://www.federalreserve.gov/boarddocs/srLETTERS/1999/sr9906a1.pdf
2 Available at http://www.federalreserve.gov/boarddocs/srLETTERS/1999/sr9926a2.pdf

"Teaser" rate ARMs	March 11, 2004	Unfair or Deceptive Acts or Practices by State-Chartered Banks[3]	• Encouraging state-chartered banks to clearly disclose all material limitations on the terms or availability of service, including the expiration date for terms that apply only during an introductory period, as part of an overall strategy of managing risks related to unfair or deceptive acts or practices.
	Oct. 4, 2006	Interagency Guidance on Nontraditional Mortgage Product Risks[4]	• Warning lenders that a wide spread between initial and subsequent monthly payments makes borrowers more likely to experience negative amortization, severe payment shock, and an earlier-than-scheduled recasting of monthly payments. • Directing lenders to "minimize the likelihood of disruptive early recastings and extraordinary payment shock when setting introductory rates."
Prepayment penalties	March 11, 2004	Unfair or Deceptive Acts or Practices by State-Chartered Banks	• Encouraging state-charted banks to "pay particular attention" to ensure that consumer disclosures are clear and accurate with respect to loan with prepayment penalties, as part of an overall strategy of managing risks related to unfair or deceptive acts or practices.
Interest-only mortgages	Oct. 4, 2006	Interagency Guidance on Nontraditional Mortgage Product Risks	• Warning that interest-only mortgages can carry a significant risk of payment shock and negative amortization that may not be fully understood by consumers.

3 Available at http://www.federalreserve.gov/boarddocs/press/bcreg/2004/20040311/attachment.pdf

4 Available at http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20060929a1.pdf

Payment option ARMs	Oct. 4, 2006	Interagency Guidance on Nontraditional Mortgage Product Risks	• Warning that payment-option ARMs can carry a significant risk of payment shock and negative amortization that may not be fully understood by consumers.
Stated-income loans	March 1, 1999 Oct. 4, 2006	Interagency Guidance on Subprime Lending Interagency Guidance on Nontraditional Mortgage Product Risks	• Advising subprime lenders to adopt formal lending policies that include credit file documentation requirements. • Directing lenders to verify and document borrower income and debt reduction capacity as credit risk increases. • Advising lenders to accept stated income ***only if*** there are mitigating factors that minimize the need for direct verification of repayment capacity.
Risk layering/piggyback loans	Oct. 4, 2006	Interagency Guidance on Nontraditional Mortgage Product Risks	• Warning of risks associated with mortgage loans that combine nontraditional features, such as interest only loans with reduced documentation or a simultaneous second-lien loan. • Directing lenders to demonstrate that mitigating factors (*e.g.*, higher credit scores, lower LTV) support the risk layering decision and the borrower's repayment capacity.