McDonald, Oonagh. "The End Cometh." *Fannie Mae and Freddie Mac: Turning the American Dream into a Nightmare*. London: Bloomsbury Academic, 2012. 283–315. *Bloomsbury Collections*. Web. 26 Apr. 2023. <<http://dx.doi.org/10.5040/9781780930039.ch-013>>.

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The End Cometh

This chapter will trace the changes in market and the events of 2007 and 2008, leading up to conservatorship. In the course of this account, the failure to grasp the dangers of subprime lending on the part of regulators and, above all, politicians will become clear, together with the disastrous effects of the continuing management failures and relentless pursuit of profit above all else on the part of Fannie and Freddie.

The year 2007

The mortgage market began to change in 2006, when house sales peaked in mid-year and began their steep decline thereafter. The price of an average home, which had increased by 124% between 1997 and 2006, began to drop. Interest rates, which had fallen from 6.5% to 1% between 2000 and 2003, began to rise, from 2.6% in December 2004 to 4.16% in December 2005, remaining at about 5% until December 2007, when rates began to fall again.

Other stresses in the mortgage market escalated sharply in the first quarter of 2007. There was a sharp increase in debt servicing and property liability tax for many borrowers, arising mainly from the “ARM reset” issue, leading to an equally sharp jump in mortgage delinquency and foreclosure rates, especially in subprime mortgages. The rise in foreclosures led to increases in the annual flow of housing inventory coming back into the housing market, further depressing prices. Commercial banks, reporting to the Federal Reserve, experienced a reduction in liquidity and funding sources in the mortgage credit supply markets, which had the greatest impact on subprime and Alt-A lenders.

At that time, the ARM reset and related affordability issues were probably the most important sources of stress. The share of ARM mortgages reached about a third of mortgage originations, increasing over the business cycle. These loans had become very popular, when short-term interest rates fell to historically low levels between 2002 and 2004 as the Federal Reserve sought to restart the economy from a long period of sub-potential growth, following the shocks to the financial system after Enron and Worldcom and then 9/11. Lenders also offered “teaser rates” that were below market-indexed rates, enabling more borrowers to enter the market (either subprime borrowers or home owners buying second properties for vacation, retirement or investment; often Alt-A

borrowers). The rate reset problem did not only apply to teaser rates, which had expired; market-indexed rates also rose during this period. Some of these loans had caps on the rate increment and might be reset over a relatively short period of time. Property taxes increased too. The sharp rise in delinquency rates, especially in the subprime market at the end of 2006, set off alarm bells in the mortgage credit and equity markets, and led to the tightening of credit by the commercial banks, followed by the disappearance of the subprime lenders from the market. Some took note of these signs, but the majority of regulators and politicians did not (perhaps choosing not to); this failure to understand the significance of these such events explains why the end seemed to come so abruptly for the GSEs.

The number of outstanding mortgages in some sort of foreclosure was 1.2m in 2006, up 83.6% from the previous year. It rose to 2,203,295 in 2007, a 73% increase from the previous year, and again to 3,157,806 in 2008, an increase of 43% over 2007. In other words, about 1 in 54 housing units received some sort of foreclosure notice in 2008.¹ As can be seen from these figures, the decline in mortgage lending and the increases in the housing inventory slowly gathered pace in 2006 and 2007, until the full-blown crisis struck in 2008.

Closure of subprime mortgage companies

Foreclosures were only part of the story. In February 2007, HSBC wrote down its holdings of subprime MBSs by \$10.5bn; a further 100 mortgage companies were closed, suspended their operations, or were sold. Lehman Brothers Holdings shut down its subprime mortgage unit, BNC Mortgage, bought in 2004 to expand lending to borrowers with weak credit. It became the first of Wall Street's five largest securities firms to close its subprime business. Until 2006, sales of mortgage companies fetched hundreds of millions of dollars, as illustrated by Merrill Lynch's \$1.3bn purchase of First Franklin on December 30, 2006. The industry slump pushed shares of mortgage companies down by 58% from June 2005, with over half of the top twenty subprime lenders, as ranked by Inside Mortgage Finance, trying to sell themselves or leaving the business.²

Congress only gradually realized what was happening

The dangers of the subprime market only slowly dawned on Congress and on the Administration during 2007, partly due to the fact that they were unaware of the size of the problem. It was only when the "media frenzy" hit them that Congress began to take action. Even then, the first move was the blame game, with the Chairman of the Senate Banking Committee repeatedly accusing "our nation's regulators" of "being spectators for far too long." He stated that, "By the spring of 2004, the regulators had started to document the fact that lending standards were easing. At the same time, the Fed was encouraging

lenders to develop a market alternative, adjustable rate mortgages, just as it was embarking on a long series of hikes in interest rates (17 in all). In my view these actions set the conditions for an almost perfect storm that is sweeping over millions of American homeowners in this country.”³ In an interview after the hearing, Greenspan made it plain that his previous comments referred to a small segment of borrowers, who could indeed save money by using adjustable rate mortgages, rather than the American standard loan of fixed-rate 30-year mortgages.

Congress eventually stopped blaming the Federal Reserve, and both spent the next few months more constructively in examining ways to curb market abuses in the subprime market. This led to the introduction of a further statement issued by the Federal Financial Regulatory Agencies on subprime lending, following the guidance on non-traditional mortgage risks which had been issued the previous year.⁴ The 2006 guidelines were insufficient; the 2007 guidelines, which took effect on July 10, were an improvement, but unfortunately far too late.

In September 2007, James Lockhart issued a press release commending Fannie and Freddie for their implementation of the new guidelines: “The application to private-label securities further demonstrates the leadership role of the Enterprises in establishing standards for the secondary mortgage market. The extension of these standards will help to prevent the abuses of the past from recurring ... The Enterprises have also pledged their continued support of subprime borrowers. Freddie Mac said that it will purchase \$20bn of subprime loans and Fannie Mae ‘tens of billions’ of subprime loans over the next several years,”⁵ which was an astonishing statement in view of the GSEs’ inability to manage risks or hold sufficient capital of suitable quality. However, OFHEO’s Director sought to reassure his audience by saying that Fannie Mae and Freddie Mac’s programs for subprime borrowers would serve the “cream of the market,” relying on the federal regulatory agencies’ new guidelines and to considering how to apply these to the GSEs’ bond portfolio holdings.⁶

In May, Chairman Bernanke made a speech to which reference has already been made, in which he explained that the serious delinquencies in subprime ARMS were due to a variety of factors, but, most importantly, house prices had begun to fall after increasing at an annual rate of 9% between 2000 and 2005. Interest rates on both fixed rate and adjustable rate mortgages also increased, reaching levels unknown for many years in mid-2006; many who had hoped to refinance were unable to do so because they had insufficient equity or may simply have walked away from the property (so-called “no recourse” mortgages were available in many states). The Chairman expected to see further increases in delinquencies and foreclosures in 2007 and 2008 as many adjustable rate loans faced interest-rate resets, but “we do not expect significant spillovers from the subprime market to the rest of the economy or to the financial system.”

Given the fundamental factors in place that should support the demand for housing, we believe that the effect of the troubles in the subprime sector on the broader housing market will likely be limited ... The vast majority of mortgages, including even subprime mortgages, continue to perform well. Past gains in house prices have left most homeowners with significant amounts of home equity, and growth in jobs and incomes should help keep the financial obligations of most households manageable.⁷

Congress continues to miss the point

Two Bear Stearns hedge funds filed for Chapter 15 bankruptcy on July 31, as the company effectively wound down the funds and liquidated all of its holdings. These funds were significant since they depended on high leverage to purchase CDOs, consisting of AAA-rated tranches of subprime, mortgage-backed securities, using credit default swaps, as insurance against movements in the credit market. The substantial increases in delinquencies meant that the hedge funds required more capital as the value of the CDOs they owned was falling. They had to sell bonds to raise more cash, but as their predicament became known, competitors moved in to drive down the value of their bonds. It was a real indicator of what was really happening in the subprime market, and what was to come.

Christopher Dodd and Barney Frank continued to blame the Federal Reserve for its inaction, claiming that they and their colleagues had insisted that the Federal Reserve had a clear duty to provide extensive protection to subprime borrowers. Barney Frank warned Governor Kroszner at the hearing on Consumer Protection, “If the Fed doesn’t start to use that [HOEPA, the Home Ownership and Equity Protection Act], then we will give it to somebody who will use it ... Use it or lose it.”⁸

Bernanke had already responded to the challenge a few days earlier in a speech to the IMF conference. The “patchwork nature of enforcement authority in subprime lending poses a special challenge ... rules issued by the Federal Reserve under HOEPA apply to all lenders but are enforced – depending on the lender – by the Federal Trade Commission, state regulators, or one of five regulators of financial institutions ... We are committed to working closely with other federal and state regulators to ensure that the laws that protect consumers are enforced ... We undertake that effort with the utmost seriousness because our collective success will have significant implications for the financial well-being, access to credit and opportunities for home ownership of many of our fellow citizens.”⁹ That was a step forward. In July, Congressmen Bachus and Gillmor together with Congresswoman Bryce introduced a bill (H.R.3012) to create a national licensing and registry system for mortgage brokers, which also required very minimal training in loan rules, laws and ethics, a move which was long overdue. A similar bill was introduced in the Senate.

Some of America's major lenders began to make substantial changes in their home loan standards and mortgage offerings, including raising their rates and imposing stricter standards. These included National City Corps, Wachovia and Wells Fargo, partly in response to the federal guidance, but also because investors were unwilling to take on riskier loans. Wachovia stopped offering Alt-A mortgages through brokers, and Wells Fargo ceased to provide 2/28 loans. IndyMac said that the secondary mortgage market had ground to a halt in July and that the bank had "very strong liquidity, a good amount of excess capital ... [but] we cannot continue to fund \$80-100bn of loans through a \$33bn balance sheet ... unless we know that we can sell a significant portion of these loans into the secondary market."¹⁰

Red lights continued to flash in the markets: a national survey found that 57% of mortgage broker customers were unable to finance their adjustable rate mortgages in August, because many loan programs were no longer available. The survey also found that a third of home purchase closings were cancelled in August, 64% of subprime closings, and 21% of prime borrower closings.¹¹ Originators specializing in refinancing or nonconventional lending were "hurting terribly" and no "subprime loans [were] being done and little Alt-A."¹²

A flurry of initiatives

The blame game in Congress came to an end, leading to a flurry of initiatives, such as a hearing on subprime lending before the House Financial Services Committee, the introduction of another bill by Barney Frank, and Senator Schumer's efforts to increase the GSEs' portfolio limits (despite the fact that Fannie Mae's retained mortgage portfolio shrank by an annualized 8% in September, 2007).

Fannie Mae and Freddie Mac lobbied to increase their portfolio caps so that they could help ease the credit crunch. In fact, Freddie Mac sold more mortgages (\$19.1bn) in September 2007 than in any other month during the previous four years. Fannie Mae had reduced just its portfolio of mortgage-related investments by \$5.1bn, leading James Lockhart to suggest that discussions about increasing the portfolios were "a sort of red herring," as mortgages were always being paid off. They could buy up to \$30bn of mortgages per month or up to \$180bn over the next few months. But OFHEO would prefer to be able to insist on higher capital reserves and better risk management techniques first.¹³

The Mortgage Reform and Anti-Predatory Lending Act of 2007 (H.R.3915) set national standards for mortgage originators and imposed "assignee liabilities" on securitizers. If lenders did not conform to the standards, they had 90 days in which to bring the mortgage up to standard or had to adopt a policy against purchasing questionable loans. The bill was passed in the House of Representatives on a roll call vote, went to Senate, where it was read twice, and was referred to the Senate Committee on Banking, but it did not become law.

Senator Schumer, Chairman of the US Congress Joint Economic Committee, issued a report on subprime lending. It set out to analyse the effects of the “the current tidal wave of foreclosures,” which soon turned into a “tsunami of losses and debt for families and communities.” This report concluded that there would be 2 million foreclosures in 2008, in contrast to the GAO’s estimate of 1.1 million foreclosures in the following six to seven years.¹⁴ Neither Congress nor the Administration, with such widely varying estimates based on different data, was in a position to grasp the extent of the problem they were facing.

President Bush announced the HOPE plan (Homeowner Protection Effort) at the end of August. As part of HOPE, the Treasury Department and HUD began working on foreclosure prevention initiatives, helping consumers to understand their financing options so that they could stay in their homes.¹⁵ Community organizations, mortgage servicers, the FHA and the GSEs were involved in developing “mortgage products that borrowers can use to refinance existing obligations.”¹⁶ Secretary Paulson stressed that without a proper regulatory framework for the GSEs it would be “unreasonable and irresponsible” to expand their businesses. The Administration was clearly considering raising the “conforming” loan limits to allow for jumbo loans and to assist more borrowers who represented a significant credit risk. The GSEs “would have to re-evaluate their own underwriting standards and develop new products that can help reach troubled homebuyers.”¹⁷ Chairman Bernanke took up the issue of jumbo mortgages in November, and suggested that liquidity in this market could be improved by allowing Fannie and Freddie to securitize them and then have the federal government act as “guarantor” to these products. He regarded this as being only a very temporary measure, and, in addition, pressed for legislation to modernize the FHA.¹⁸ The Democrats warmly welcomed the proposal, and Senator Schumer immediately offered to draft a bill to that effect, with a second version in October. The aim of the bill would be to make higher-cost loans available for purchase by Fannie and Freddie, bringing liquidity to metropolitan areas where the median price for a single family-home was above the conforming limit of \$417,000. It was meant to be a temporary bill, allowing an increase in portfolio caps for that time. It was referred to Committee, but did not become law.¹⁹

It was just as well that none of Congress’s efforts to use Fannie Mae and Freddie Mac to handle the increasing problems of subprime loans came into being. The regulator and the Administration made it quite clear that neither increasing the size of the portfolios nor raising the conforming loan limit would be acceptable. The risks of the former to the financial system have already been spelt out; the cost of higher jumbo rates was not thought to be worthwhile, given the risk to the federal government of the implicit federal guarantee supporting the GSEs. All of these reservations disappeared the following year, as the market continued to deteriorate.

The year 2008

The collapse of Countrywide

The Bank of America rescued the embattled mortgage lender, Countrywide Financial Corporation, with a \$4bn all-out stock deal in January. For Angelo Mozilo, it was the destruction of 40 years' work in which he had made Countrywide the largest home-loans lender in America, specializing in subprime loans. It was the business that he and his co-founder, David Loeb, had started in a New York storefront. At its zenith, Countrywide was worth \$599bn. By 2007, it had originated \$408bn in mortgages and serviced about 9 million loans worth about \$1.5 trillion.

During 2007, Countrywide had struggled to deal with rising delinquencies and defaults, especially among subprime mortgages given to customers with poor credit history. It had announced its first quarterly loss in the third quarter, of \$1.2bn. As it teetered on the edge of bankruptcy, the Bank of America stepped in, with the aim of extending its operations in the mortgage market. The deal was brokered by the then CEO, Mr Lewis, and it is one which the Bank has regretted ever since; even the current CEO has hinted that the purchase of Countrywide took place "just when you shouldn't have done it." The Bank's real-estate division has lost over \$17bn mostly from assets inherited from Countrywide, as well as further costly settlements with investors in Countrywide's mortgage bonds, lawsuits, foreclosure snarl-ups and writing-off the value of its mortgage business.

According to a *Wall Street Journal* article, the previous CEO had had his eye on Countrywide for more than a decade, when the Bank was searching for market share in every part of the US banking industry.²⁰ He should have kept a closer eye, since Angelo Mozilo made his views about lending standards very clear, especially in his Harvard lecture of 2004. Here he advocated the removal of the down-payment barrier, stating that it "must be eliminated by offering customized programs to those borrowers who cannot meet current down-payment requirements." He then criticized the automated underwriting process, which he claimed "kicked far too many applicants down to the manual underwriting process, thereby implying that these borrowers are not creditworthy," which means back to FICO scores. "The system should say 'No' only to those deemed unwilling to make their mortgage payments."²¹

The no-down-payment policy was hastily abandoned in an e-mail to brokers telling them not to offer such mortgages after March 12, 2007, thereby abandoning one of Mozilo's key commitments.²² Many borrowers were badly damaged as a result, as all too often the bank had not honored their commitment to house purchase by completing the process so that they could prove ownership. It emerged in February 2008 that Fannie Mae had acquired

\$203.3bn in mortgages from sellers and servicers in the fourth quarter, about 30% of their business.

The Economic Stimulus Act

Awareness of the deepening crisis was expressed in the Economic Stimulus Act, which was signed into law by President Bush on February 13, 2008, a package that was expected to cost \$152bn in that fiscal year and a further \$16bn in 2009, and amounted to 1% of the US economy. The Act was designed to give tax rebates to individuals and to businesses to encourage investment. When signing the bill at the White House ceremony, President Bush announced that “we have come together to put the people’s interests first,” and that the package was a “booster for the economy.”

The bill increased the conforming loan limits for Fannie and Freddie to \$729,500 based on median area prices for mortgage originations between July 1, 2007 and December 31, 2008. The FHA conforming loan limit was increased from \$367,000 to \$729,750 for mortgages for which the agency’s credit approval was issued before December 31, 2008. This bill was negotiated with the House, but the Senate sought to introduce another bill with the Democrats there planning a somewhat more expansive stimulus; however, the final bill signed into law was the House bill.

The OFHEO Director said, “We are very disappointed in the proposal to increase the conforming loan limit, as we believe it is a mistake to do so in the absence of comprehensive GSE regulatory reform. To restore confidence in the markets we must ensure that the GSEs’ regulator has all the necessary safety and soundness tools.”²³ He also made it clear that the 30% capital surcharge at both companies would remain, especially since they were stretched very thin. Lockhart made it clear that he was still hoping Senator Dodd would complete legislation reforming the regulation of the GSEs during 2008. “I’m an advocate of the GSEs. We’re going to get the bill done.”²⁴

When he appeared before the Senate Banking Committee on February 7, Lockhart continued to press for a single regulator with powers of receivership, independent litigation and budget authority, and especially the flexibility to adjust capital requirements, both the statutory minimum and the risk-based capital requirements, which “are not even working at the moment.”²⁵ In his testimony, he pointed out that the GSEs “had been reducing risk in the market by concentrating risk on themselves ... During 2007, the housing GSEs’ debt and guaranteed MBS outstanding grew 16% to \$6.3 trillion, which is larger than the \$5.4 trillion debt of the US with Fannie and Freddie’s debt equal to that of the US and the FHLBs’ accounting for the rest. House prices are weak, and the Enterprises have provided stability and liquidity to the conforming mortgage market, securitizing about almost \$100bn per month in mortgages, which has led to a dramatic reversal in their market share, from 38% to 76%,

so they are effectively the mortgage market, and it might be 90% if you added in the FHLBs.” He added that the “jumbo loans would present new risks to the already challenged GSEs. Underwriting them successfully will require new models, systems and tough capital allocation decisions.”

The advice given by Lockhart was overruled by the Treasury Secretary, Henry Paulson, in his determination to secure a deal with the Democrats on the Economic Stimulus Act, which the Administration urgently required. A second and final hearing on the proposed legislation took place on March 6, in which the Chairman, Christopher Dodd, although in favor of legislating for a more effective regulator of the GSEs, wanted the “GSEs to do more to help subprime borrowers to get out of abusive subprime loans into safer, more affordable and stable markets. As Fannie and Freddie successfully address their accounting and management problems, I think it would be very helpful for them to devote a portion of the surplus capital they have been required to provide for purchase and work-out of these troubled loans.”²⁶ This illustrates the lack of understanding of Lockhart’s response to a similar question about the possibility of using the GSEs’ surcharge (\$17-18bn) into subprime rescues, when he said, “My recommendation is that we need to be very careful when we take this off the added risk these companies have ... I would be much more comfortable taking this [surcharge] off if I had the regulatory power to look at capital. At the moment, I really don’t. They were only imposed because of the consent agreement. I think what we need is to give the regulator power to look at minimum capital.”²⁷

Losses at Fannie and Freddie

Meanwhile attention elsewhere was focussed on the huge losses posted by Fannie Mae and Freddie Mac for the fourth quarter: \$3.6bn and \$2.5bn respectively. The loss for Fannie Mae was triple the Wall Street analysts’ estimates, and over 60% more than their estimates for Freddie Mac. For the 2007 financial year as a whole, Fannie Mae recorded losses of \$2.05bn for 2007 (compared with \$4.1bn profit for 2006); Freddie Mac reported a \$3.1bn loss for 2007 (compared with \$2.3bn profit for 2006). In its Investor Summary, Fannie Mae said its 2007 results “accurately reflect the most severe housing dislocation in decades ... Our primary focus is protecting our capital, mitigating losses, and taking steps to emerge from the crisis on a solid footing.”

In his statement, Richard Syron said that, “Throughout 2007, Freddie Mac had worked tirelessly to protect distressed homeowners by stabilizing the conforming mortgage market and reducing mortgage foreclosures. In addition to leadership on behalf of homeowners, we are keenly focussed on managing our business through this difficult cycle towards a stronger future. As a clear sign of our progress, we are gratified that today’s release marks Freddie Mac’s return to timely financial reporting ... We remain extremely cautious as we

enter 2008. If the economy weakens substantially from here, a possibility for which we need to be prepared as a company, it will have a further negative effect on homeowners across the country and drive credit costs higher. However, we have taken steps to add capital, tighten our management of credit risk and institute pricing policies that are more consistent with the risks we bear.”²⁸

The collapse of Bear Stearns

In mid-March, there was another blow to confidence in the market-place: the bail-out of Bear Stearns. The crisis for the company had begun in earlier in the month, when the share price fell by about 20% over the previous ten days. Despite the fact that Bear was paying its counterparties and trades were clearing, customers and counterparties were losing their faith in the bank, and that in itself undermined its ability to continue. After the collapse of its hedge funds in the summer of 2007, the company saw itself as recovering from that episode and strengthening its capital base. Others did not see the recovery and restoration of its capital base, which Bear Stearns claimed was taking place, following the closure of its two hedge funds. Instead, they focussed on the fact that the closures had brought nearly \$1.6bn of subprime assets onto Bear’s books, contributing to a \$1.9bn write-down on mortgage-related assets in November. That prompted a scrutiny of the company’s assets.

A major bank refused a short-term loan for \$2bn, after which credit gradually dried up completely within a few days, and Bear turned to JP Morgan, probably because the bank was already one of the investment firm’s main lenders and hence had an interest in it staying in business. By March 13, liquidity was plummeting, falling to \$2bn. To address these needs and to ensure that Bear Stearns would be able to meet its obligations for that day, the Federal Reserve Bank of New York was authorized to make a \$12.9bn loan to Bear Stearns through JP Morgan on March 14, but the markets apparently viewed this as a sign of terminal weakness and, after they closed on Friday, Henry Paulson and Timothy Geithner informed Bear that the loan would not be available until after the weekend. A buyer had to be found.²⁹

JP Morgan informed the New York Fed and the Treasury that it was interested in a deal if there was financial support from the Fed. This took the form of placing mostly mortgage-related securities, other assets and hedges from Bear’s mortgage trading desk to the tune of \$28.82bn under the management of the New York Fed, and to which JP Morgan contributed a \$1.15bn subordinated loan. On the Sunday, JP Morgan announced a deal to buy Bear Stearns for \$2 a share, later increased to \$10 to get shareholder approval.

The collapse of the company was less sudden than it appeared; after the closure of its two hedge funds in July 2007, its exposure to the mortgage market was of the order of \$56bn, including \$13bn in ARMS, which was reduced to \$46.1bn in the fourth quarter. It also reduced its unsecured commercial

paper when one of the major money-market fund managers dropped it as an approved counterparty, and replaced it with secured repo borrowing, which reached \$102bn by the end of 2007. Bear became increasingly reliant on JP Morgan and BNY Mellon: by the end of January 2008, it reported an internal accounting error, which showed the company had less than \$5bn in liquidity, which again led to daily reporting to the SEC. By mid-February, lenders and customers were less willing to deal with the company, which then had \$36.7bn in mortgages, mortgage-backed securities and asset-backed securities on its balance sheet, of which almost \$26bn were subprime, or Alt-A mortgage-backed securities or CDOs. The risks were there, but insufficiently recognized, and the company was too highly leveraged to withstand the market pressures and rumors.

Chairman Bernanke defended the Fed's decision to bail out Bear Stearns to the Senate Committee on Banking, Housing and Urban Affairs, pointing out the complexity and interconnectedness of the financial system. "Bear Stearns participated extensively in a range of critical markets. The sudden failure of Bear Stearns would have led to a chaotic unwinding of positions in those markets and could have severely shaken confidence. The company's failure could also have cast doubt on the financial positions of some of Bear Stearns' thousands of counterparties and perhaps of companies with similar businesses. Given the exceptional pressures on the global economy and financial system, the damage caused by a default by Bear Stearns could have been severe and extremely difficult to contain."³⁰

The action taken with regard to Bear Stearns could be seen as in line with the concerted action by the central banks of the G10 countries to increase liquidity in the markets. The Federal Reserve announced that it was making \$200bn available to financial institutions to ease the crisis of confidence in the market place. The press release stated that it would increase the amounts the banks could borrow at the Term Auction Facility to \$100bn in March (up from \$60bn in January and February); thereafter it would make another \$100bn available through term repurchase agreements, collateralized by Treasury, agency debt or agency-backed mortgage securities. Again on March 11, the Federal Reserve announced that it would swap \$200bn worth of Treasury bills for \$200bn of mortgage-backed securities held by major banks which are members of the "prime broker" network on Wall Street. Many in the market took this to mean that the implicit government guarantee for Fannie Mae and Freddie Mac's bonds was being strengthened.³¹

By 2008, the combined GSE market share rose to 72.6% of all mortgage originations, up from 54.5% the previous year. The rapid decline in the value of the mortgage securities which they had bought, especially subprime and Alt-A, combined with mark-to-market accounting rules, forced both Fannie Mae and Freddie Mac to take vast write-offs. The net income losses for the GSEs were \$108,826bn by the end of the year.

The focus of Congressional action shifted from regulating the GSEs to bills to prevent foreclosures. Even when faced with the crisis, the bills were passed either by the Senate Banking Committee or the House Financial Services Committee, but not by both. The Congressional Budget Office evaluated the policy options, concluding that “if the objective is to assist homeowners in distress, some of the policies seem likely to succeed at least to some degree. Many policies intended to help homeowners may produce significant benefits for lenders as well. Avoiding some unintended effects will be virtually impossible because it is difficult to distinguish between ... those who were victims of their poor judgment or predatory lenders, those who overstretched their finances for purchasing investment properties, and those who exploited poor underwriting standards.”³²

In conclusion, the CBO noted that most of the proposals under discussion involved modest federal subsidies and would probably affect several hundred thousand homeowners. It was a Presidential election year, and politicians were unlikely to carefully evaluate policy options in the face of the desire to be seen to be Doing Something. The bills kept coming during April and May. The Senate Banking Committee passed a manager’s amendment, which encapsulated its housing rescue bill, to the Federal Housing Finance Regulatory Relief Act. Barney Frank foresaw problems over the bill because it diverted money from the affordable housing fund, but before that and other issues could be settled, the Senate Bill stalled in early July. Congress, once again, had failed to legislate on its own initiative to deal with the crisis, which was growing steadily worse.

House prices and the mortgage market

House prices peaked in mid-2006. The S&P Case-Schiller national price index for single-family homes was down by 9% in the fourth quarter of 2007 as compared with the third quarter of the same year: a fall of about 12% in real terms. A further fall of 10.7% was recorded for January 2008, according to S&P Schiller index for 20 cities reported monthly. Rapid declines continued throughout 2008, until by the year end house prices had fallen by 20% from the peak.³³ National delinquency and foreclosure rates rose both for prime and subprime loans, especially for adjustable rate loans. For subprime ARMS, 20% were delinquent in the fourth quarter of 2006. The share of subprime ARMS entering foreclosure more than tripled, increasing from an average of 1.5% in 2004 and 2005 but rising to 5.3% in the fourth quarter of 2007, based on the Mortgage Bankers Association’s delinquency survey. By the third quarter of 2008, delinquencies reached 6.99% but foreclosures seemed to have levelled off, because of the various moratoria on foreclosures and the mortgage companies holding mortgages for 90 days or more during the modification or work-out process.³⁴ Such figures did not reveal the full extent of the fragility of home ownership for many people.

In 2006, 17.7 million households (about 15.8%) were spending more than half their income on housing, a huge increase (3.8 million) since 2001. Even 34% of those with incomes one or two times the federal minimum wage, and 15% of those with incomes two to three times the minimum wage, spent more than half of their incomes on housing. These figures were unlikely to have changed for the better by 2008. They show that as the economic situation worsened, many households had very little leeway to help them hold on to their homes. “Sky-rocketing house prices fed many dreams and papered over many ills.”³⁵ The decline in house prices removed the safety valve of selling the property or refinancing. It was also this which led to the general economic decline and recession, rather than the usual sequence of economic decline followed by job losses leading to delinquencies and foreclosures.

Fannie and Freddie providing liquidity to the market

In April 2008, Fannie Mae and Freddie Mac began to purchase “jumbo” loans, (officially) mortgages valued at up to \$729,750, in an attempt to stimulate lending in high-cost regions, where the interest rate cuts had failed to increase investors’ demand for jumbo loans.³⁶

At the same time, OFHEO released its annual report to Congress, in which it reiterated its “significant supervisory concerns.” These ranged from the fact that Freddie Mac faced a deterioration in asset quality and a resulting increase in credit risk because of its “strategic decision” to buy and guarantee higher-risk loans over the previous two years. Its accounting problems remained. Fannie Mae’s risks included interest rate risks owing to the lack of hedging of its portfolios and related funding. Both Fannie and Freddie pursued policies throughout that inherently exposed the firms to an extreme asset liability mismatch. They held long-term mortgages and MBSs financed by short-term liabilities. Given this strategy, they had to engage extensively in the derivative markets to create synthetically a duration match on the two sides of the balance sheet. These operations exposed the firms to great, but unseen, risks unless their positions were measured at mark-to market value, thus making the extent of the risks more transparent. Counterparty risk for both companies was high, as a significant deterioration in the financial condition of a top counterparty would adversely affect them.³⁷

In his Remarks to the Chicago Conference in May, Lockhart outlined the steps he had taken so that Fannie Mae and Freddie Mac would be able to fulfil their mission. “OFHEO recently took several steps that enhanced the ability of Fannie Mae and Freddie Mac to expand their retained portfolios in a prudent manner ... in the light of each Enterprise’s considerable progress in remediating accounting, control and other management weaknesses. This involved removing the regulatory caps, after they produced timely annual financial statements for the first time for four years for Fannie Mae and six years

for Freddie Mac. In response to the market, we lowered their minimum capital requirements from 30% to 20% above the 2.5% statutory minimum, and then with the lifting of the consent order to 15% above the minimum on Fannie Mae's sale of at least \$6bn in equity and \$5.5bn in equity for Freddie Mac. This allowed the GSEs to add as much as \$200bn of MBS to their portfolios. In addition to raising capital through stock options, they have tightened their underwriting standards, increasing the fees they charge for guaranteeing MBS and lowering the prices they pay to purchase whole mortgages."

All this in spite of the fact that "Fannie Mae and Freddie Mac have continued to be a point of vulnerability for the financial system as a whole because they are so highly leveraged relative to their risks. Each Enterprise's core capital ... represents less than 2% of the sum of its mortgage assets and guaranteed MBS ... With that leverage, the Enterprises could pose significant risk to the taxpayers as well as to other financial institutions."³⁸ The figures involved had grown even further. At the end of March, the two housing GSEs had credit outstanding of \$5.3 trillion, including debt of \$1.6 trillion and guaranteed MBSs of \$3.7 trillion. Little was said about the quality of the capital they held.

Fannie and Freddie could not cope

A few weeks later, Secretary Henry Paulson proposed emergency provisions after concerns that the GSEs were grossly undercapitalized, technically insolvent and may require a government bailout. Turbulence hit their stocks after the publication, ironically enough, of a Lehman Brothers research report, suggesting that proposed accounting rule changes might leave Fannie and Freddie "grossly undercapitalised." Although the report considered that the outcome was unlikely, it speculated that the two Enterprises might need as much as \$75bn in new capital between them. This spooked the stock market, sending the shares to 16-year lows. Fannie Mae's shares fell by more than 16% and Freddie's by nearly 18% in value.

Lockhart set out to reassure the markets the following day. On July 8, in an interview with CNBC, he stated that "Both of these companies are adequately capitalized, which is our highest criterion. They have been very active in the mortgage market, and they are continuing to be. And, in fact, Congress has put on them the requirement to do jumbo mortgages and they have been doing those as well." Lockhart also commented that OFHEO was working with the Financial Accounting Standards Board on the revision of FAS 140, since the Board was considering rule changes which would force companies to account for securitized assets such as MBSs on their balance sheets. If that were to happen, then Fannie and Freddie would indeed need a combined \$75bn in capital. Since investors had already suffered huge losses, a combined \$89bn

since August, 2007, the prospect of further losses did indeed shock the markets. Shares rallied to some extent after Lockhart's reassurances, but fell again the following day, as a result of heavy selling and further anxieties. Fannie's shares fell by 13% and Freddie's by nearly 24%.

July 10, 2008

Some attributed further falls to remarks made by William Poole, the former President of the St Louis Federal Reserve, but his comments only confirmed what many in the market had already concluded; namely that under mark-to-market accounting rules, Freddie Mac was technically insolvent. In an interview with Bloomberg, he pointed out that Freddie Mac owed \$5.2bn more than its assets were worth in the first quarter, making it insolvent under fair value accounting rules, and the fair value of Fannie Mae's assets fell 66% to \$12.2bn and may be negative in the second quarter. Poole had issued many warnings over the years about the GSEs' capital positions as far back as 2003, when he pointed out that they "exposed the US economy to substantial risk, because their capital positions are thin, relative to the risks these firms assume."³⁹ His remarks were, not surprisingly, followed by another bout of selling; not only of shares, but also of their bonds, in spite of the long-held belief in the government guarantee.

Friday July 11, 2008

Panic sales of shares continued, even although Fannie Mae and Freddie Mac insisted that they were adequately capitalized. Reuters reported late in the afternoon that the Federal Reserve had offered an assurance of access to Fed money if that was required. The Office of Thrift Supervision closed the doors of Indymac in Pasadena at 3 p.m., so that it was taken over by the Federal Deposit Insurance Corporation in what was then one of the most expensive bail-outs at between \$4bn and \$8bn. The bank specialized in low-doc residential mortgages. No doubt it added another layer of anxiety to the negotiations between the US Treasury Department and the U.S. Federal Reserve which went on over the weekend.

According to the *New York Times*, "government officials said that the Administration had also considered calling for legislation that would offer an explicit guarantee on the \$5 trillion of debt owned or guaranteed by the companies. But that is a far less attractive option, they said, *because it would effectively double the size of the public debt* ... Officials have also been concerned that the difficulties of the two companies, if not fixed, could damage economies world-wide. The securities of Fannie and Freddie are held by numerous overseas financial institutions, central banks and investors."⁴⁰ These did not only hold MBs, but also bonds issued by Fannie Mae and Freddie Mac, which often equalled or exceeded US government bonds issued in any one year and over which issuance, the US Treasury exercised very little oversight.

Sunday July 13, 2008

Secretary Paulson announced the GSE initiatives as follows:

- As a liquidity back stop, the plan includes a temporary increase in the line of credit the GSEs have with the Treasury, which will determine the terms and conditions for accessing the line of credit and the amount to be drawn.
- To ensure the GSEs have access to sufficient capital to serve their mission, the plan includes temporary authority for the Treasury to purchase equity in either of the two GSEs if needed.
- The use of either the line of credit or the equity investment would carry terms and conditions necessary to protect the tax payer.
- To protect the financial system from systemic risk going forward, the plan strengthens the GSE regulatory reform legislation currently moving through Congress by giving the Federal Reserve a consultative role in the new GSEs' regulator's process for setting capital requirements and other prudential standards.⁴¹

Monday July 14, 2008

Freddie Mac conducted an auction of \$3bn short-term Freddie Mac debt, which reassured fixed-income investors but not shareholders, who were still unclear about what would happen to them in the event of a government bailout. Fannie's shares fell by 27% and Freddie's by 26%.

July 14 to July 23, 2008

The Administration won some key support for the rescue passage, and stocks in general rose by about 30% on July 17, helped by Wells Fargo's quarterly earnings, which beat analysts' expectations. Freddie Mac filed with the SEC, so that it could register shares in order to raise capital at a later date. It also managed to hold another successful debt sale. The SEC restrictions on short selling took effect. By the July 23, and after further fluctuations in their share prices, Fannie's shares closed at \$15 and Freddie's at \$10.80, which was the highest price since July 9. This was in response the House's approval of the rescue package bill, which then went to Senate, where it was approved by 72 votes to 13. The bill was signed into law by the President on July 30 as the Housing and Economic Recovery Act.

The Housing and Economic Recovery Act (HERA)

The Act included the proposals set out by Treasury Secretary Henry Paulson; that is, the explicit government backing of Fannie Mae and Freddie Mac through government purchase of the GSEs' debt and equity securities, if that was necessary, in order to stabilize the financial markets, to prevent the disruption

of the availability of mortgages in the market place, and to protect taxpayers. The Treasury's increased authority, which was set to expire on December 31, 2009, was limited by the federal debt ceiling (increased from \$9.8 trillion to \$10.6 trillion in the Act). In exercising this authority, the Treasury Secretary was to take the following considerations into account:

- The need for preferences or priorities regarding payments to the government;
- Limits on maturity or disposition of obligations or securities to be purchased;
- The GSEs' plan for the orderly resumption of private market funding or capital market access;
- The probability of the GSEs fulfilling the terms of any such obligation or security, including repayment;
- The need to maintain each GSE's status as a private company;
- Restrictions on the use of GSE resources, including limitations on the payment of dividends and executive compensation.

Abolishing OFHEO

At long last, but too late for any advantage in terms of the oversight of Fannie Mae and Freddie Mac, the Act abolished OFHEO and created a single housing regulator, the Federal Housing Finance Agency. It had taken eight years and a crisis to reach this point. The legislation included a number of the proposals about which the members of the House and the Senate committees had haggled for years.

The key features of the legislation are familiar enough. It created a single housing regulator, the Federal Housing Finance Agency (FHFA), independently funded through assessments of the GSEs and no longer subject to the annual appropriations process. Its Director would be appointed by the President and confirmed by the Senate to serve a five-year term; three deputy directors would be appointed by the Director. There would be a five-member Housing Finance Oversight Board, an entirely advisory board consisting of the agency's director, as the board chairman, the Secretaries of the Treasury and HUD, and a further two members appointed by the President and confirmed by the Senate to advise the director on overall strategies and policies. Presidential authority to appoint directors to the boards of Fannie Mae and Freddie Mac was abolished and the number of the GSEs' board members was reduced.

What still remained, however, was the notion that the GSEs had a role in bringing about "affordable housing." The housing missions were altered, and the goals were to be set by the FHFA for single- and multi-family home

purchasers in low-income or very low-income areas. These would be defined as 50% of area median income, using three-year averages from HMDA. Both GSEs would be required to serve underserved markets, such as manufactured housing, affordable housing preservation and rural areas. The FHFA may also establish housing goals for the FHLBs, after taking into account the structural and overall mission differences between the FHLBs and the GSEs. The conforming loan limit was raised to the lesser of 125% of an area's median price or \$625,000. The loan limit would be allowed to increase in markets where the median house price exceeded the general conforming loan limit, but could not exceed 75% of the area's median home price; the loan limit would be adjusted annually, based on its house price index. Finally, as part of its oversight duties, the FHFA would ensure that the GSEs fostered a healthy national housing finance market that minimized the cost of housing finance.

The legislation was also designed to deal with the issue of the portfolio size of the GSEs, about which lawmakers had been repeatedly warned over the years. The FHFA was now required to measure the portfolio holdings of the GSEs, taking account of the size and growth of the mortgage market; the liquidity needs of Fannie Mae and Freddie Mac, and any other factors the regulator considered appropriate. The regulator could then require the GSEs to dispose of or acquire any asset deemed to be inconsistent with its aims. The FHFA would establish a capital classification system, according to which the GSEs would be rated as (1) adequately capitalized; (2) undercapitalized; or (3) significantly undercapitalized. (2) triggers the development of capital restoration plans by the agency and possible operational restrictions on the GSEs' activities as set out by the FHFA. (3) mandates the election of a new board, selection of executives by the agency, and restrictions on payment of bonuses or salary increases unless approved by the FHFA.

The last condition on which the FHFA could act was if the GSE was critically undercapitalized. Even here, the Congress could not agree on the need for receivership, but instead introduced a compromise. In the FHFA's view, if one or more of the GSEs was judged to be critically undercapitalized, then the FHFA had the power to place it in conservatorship, or receivership with a view to reorganizing, rehabilitating or closing the entity. Finally, a GSE's Charter could be revoked. The Act also contained a temporary provision, requiring the FHFA to consult with the Federal Reserve before issuing any proposed or final regulations, orders or guidelines regarding prudent management, safe and sound operations, capital requirements and portfolio standards at the GSEs.

Senators Richard Shelby and Christopher Dodd issued a joint press release, stating "It is unfortunate that it took the near collapse of Fannie Mae and Freddie Mac to convince a number of colleagues that these entities do indeed pose a systemic risk to the US and global economies. Nevertheless, I am pleased that this legislation now acknowledges and addresses that reality in statute by giving the Federal Reserve a role in advising the new regulator on risks to our

financial system. Although the Fed's role is temporary, it now well-established that the systemic risks the GSEs pose are permanent. That debate is now over. The only question now is to whom the Congress assigns that responsibility in eighteen months ..."⁴²

The Hope for Homeowners Act

This Act (which is in fact Title IV of HERA) established a new FHA program that would guarantee up to \$300bn of loans used for refinancing at-risk mortgages into viable mortgages for a three-year period, ending September 30, 2011. To qualify for participation, all subordinated liens must be extinguished through negotiations with the first lien holder. Borrowers would be required to share the equity and appreciation equally with HUD, until the borrower sold or refinanced the mortgage. Loan servicers were encouraged to participate in the new program through the Act's safe harbor provisions.

The FHA modernization provisions also provided an increase in the loan limits of FHA-insured loans as well as an increase in the loan limits in high-cost real estate markets. The terms of single-family mortgages were extended from 35 years to 40 years. The Act also allowed the FHA to vary the terms of insurance premiums charged to borrowers, based upon their credit risk and a modification of disclosure requirements; and banned sellers or other third parties, other than family members, from providing funds for the purchaser to use as a down payment for an FHA loan. That practice led to fraud and corruption in so many cases, it is surprising it took so long for the lawmakers to ban it.

August 2008

The Administration must have hoped that the bail-out arrangements and the new legislation would calm the markets during August. But once again, the month which politicians and the media regard as the "silly season" turned out to be anything but. All too often, governments find that August is fraught with danger, and so it was for Fannie Mae and Freddie Mac; the measures the Administration had taken had no effect whatsoever on the stock or bond markets: if anything, the anxieties of bond holders were increased. As Professor Lawrence Summers pointed out in an article just after the short-term measures had been introduced: "No one should suppose, however, that the issue is now satisfactorily resolved, even for the short-term. Emergency legislation was necessary because market participants were unwilling to buy Fannie's and Freddie's debt; investors doubted that the GSEs were healthy enough to repay it and did not draw sufficient reassurance from the implicit guarantee of federal support ... A major concern is that receivership would endanger the financial health of the US by taking on the federal government's balance sheet all the liabilities of the GSEs ... Recent statements by the Treasury and the Fed have

removed any doubt that the US will stand behind the senior debt of the GSEs. Surely everyone will have learned by now that keeping liabilities off balance sheet does not make them smaller or less real.”⁴³

A week after the July measures, Fannie Mae announced a larger-than-expected loss for the second quarter and slashed its dividend by over 85% in an effort to preserve capital, as the housing market continued to deteriorate. Its losses totalled \$2.3bn before preferred dividend statements, bringing the cumulative loss over the previous twelve months to \$9.44bn (before preferred dividends). Fannie Mae also announced that it had already reduced its holdings and purchases of Alt-A mortgages by 80% from peak levels, but then far fewer such loans were originated, owing to tighter lending standards. Its core capital, \$47bn as of June 30, was \$14.3bn above its statutory minimum capital requirement and \$9.4bn over its 15% surplus requirement. Fannie Mae also added that it “may from time to time raise capital opportunistically,” having raised over \$7bn in additional capital in the second quarter, and assured investors that it had not sought access to the Treasury line of credit. The news of Fannie’s results came only two days after Freddie Mac’s larger-than-expected loss of \$821bn.

By August 21 the GSEs’ shares dropped in value, as investors feared a government bail-out which would wipe out the shareholders, and then rose as investors made short-term plays with the stocks.⁴⁴ Their shares had fallen in value by 72% (Fannie Mae) and 77% (Freddie Mac) between the end of 2007 and August 1, 2008, and were then facing a further hammering in the stock markets. A close watch was also being kept on the companies’ ability to access the debt markets, given that they would need to roll over \$225bn of debt by the end of September. It was not just the losses that they had incurred or the need to rollover debt, but also the widespread rumors that government officials may have no choice but to effectively nationalize Fannie and Freddie.

The following day, Warren Buffet claimed that Fannie Mae and Freddie Mac were “too big to fail” but that shareholders could lose a lot of money. “The game is over. They were able to borrow without any of the normal restraints. They had a blank cheque from the federal government,” and “they do not have any net worth.”⁴⁵ A few days later, shares of Fannie Mae and Freddie Mac rose again after Freddie completed a \$2bn debt sale, although Freddie had to sweeten the terms of the offer in order to create the demand. That led some analysts to take the view that a government bail-out may not be inevitable, but regional banks with significant holdings in Fannie and Freddie’s preferred stock “followed the market down.” The potential impact of the collapse of Fannie and Freddie on the rest of the market can be seen from JP Morgan’s disclosure that it held \$1.2bn of Fannie and Freddie preferred shares, which it reckoned had lost \$600m since the start of the quarter on July 1.⁴⁶

During August, rumors again abounded that the decision to take the companies into conservatorship was driven, not by the failures of the US

mortgage market, but by foreign central banks, sovereign wealth funds and foreign investors throughout the world. They were becoming increasingly reluctant to purchase Fannie and Freddie's debt. The main concern for the Treasury was the \$5.2 trillion in Fannie and Freddie's agency debt, of which more than \$1.3 trillion was held by foreign investors. At that time, of China's foreign currency reserves, as much as 70% was held in dollar denominated assets. Of that, \$376bn was in agency debt, making China the largest holder of their bonds.

September 2008: Announcement on September 7

James Lockhart, Director of the FHFA, announced that a decision had been reached after senior mortgage credit experts from the Federal Reserve and the OCC joined the FHFA teams in countless hours spent reviewing each company's forecasts, stress tests, projections, evaluating the performance of their internal models, discussions with senior management about loss projections, asset valuations and capital adequacy. Not only were their capital reserves too low, but the capital itself was of low quality. Fannie counted \$20.6bn in so-called deferred tax credits towards its \$47bn of regulatory capital as of June 30, and Freddie applied \$18.4bn in deferred tax assets towards its \$37.1bn in the second quarter in the second quarter.⁴⁷

This was the "thin" capital held against the \$1.46 trillion, or about 47% of the high-risk mortgages purchased by Fannie and Freddie, although it is doubtful that FHFA was aware of the extent of the bad debts that the government was taking on through conservatorship.⁴⁸ The companies could not continue to operate safely and soundly and fulfil "their critical public mission" without placing them into conservatorship. The decision was taken after consultation with the Chairman of the Board of Governors of the Federal Reserve System and the Secretary to the Treasury. Conservatorship meant that the FHFA took control of the GSEs, and as such, the powers of the Board of Directors, officers and shareholders were transferred to the FHFA, which in turn meant that both Chief Executives were removed from office. The FHFA's new powers included the power to cancel certain contracts. The purpose of conservatorship was to preserve the GSEs' assets and return them to a sound financial condition that would allow the conservatorship to be ended. This was one of the options, the other being receivership, under the Housing and Economic Recovery Act of 2008, and was one of the outstanding issues which Congress had failed to resolve over the years. Conservatorship may have been the best option, not only for handling Fannie Mae and Freddie Mac's financial problems, but also for speed and ease of acceptance by Congress; the Presidential election was, after all, just over two months' away. It also had the advantage of leaving open any final decision regarding the future of the GSEs.

Between them, the Enterprises had \$5.4 trillion of guaranteed mortgage-backed securities (MBS) and debt outstanding, which was equal to the

publicly held debt of the United States at that time.⁴⁹ Conservatorship meant that the Treasury would buy mortgage-backed securities from the GSEs and raise funds for them. Each GSE gave Treasury \$1bn in senior preferred stock and warrants to acquire, at nominal cost, 80% of each GSE of the common stock at a nominal price. In return, Treasury announced that it had signed contracts to make short-term collateralized loans to the GSEs with interest rates set at LIBOR (London Inter Bank Offer Rate) plus 50 basis points (0.5%). Treasury also agreed to purchase new GSE MBS on the open market, and to buy senior preferred stock from the GSEs if their liabilities exceeded their assets.

If the GSEs are unable to sell new MBSs, the Treasury has agreed to purchase them using the Federal Reserve Bank as its fiscal agent, the only limit being the debt ceiling. In fact, Treasury announced almost immediately after conservatorship that it had begun to purchase MBSs, but did not announce the volume of these purchases, presumably to minimize the risk by acquiring collateral for loans and obtaining first claim on any funds available for dividends. Conservatorship may affect their portfolios, because it gives them access to a new source of funds, the Government-Sponsored Enterprise Facility. This assures Fannie and Freddie access to relatively inexpensive source of funds and a ready market for MBSs if they decide to sell them.

As part of the conservatorship, the FHFA raised portfolio limits to \$850bn on a temporary basis; in fact, until December 31, 2009. They would then be gradually reduced by at least 10% annually until each portfolio came to less than \$250bn. It *was* an increase, since at the end of August 2008 Fannie Mae reported that its portfolio was \$760bn and Freddie Mac, that its portfolio was \$761bn. Fannie's portfolio grew at a relatively slow 4.4% annualized rate in August, but Freddie's decreased at an annualized rate of 56.2%. Both GSEs seemed to have been slowing their portfolio growth rates since February 2008, but it had not been a steady decline. Delinquency rates on mortgages had steadily increased between July 2007 and August 2008; if the Enterprises were reducing their portfolio size, it may have been to reduce the need for capital as a cushion against delinquency and losses. Capital requirements have been eliminated and the GSEs can increase their mortgage portfolios by about \$90bn very inexpensively.

The temporary increase in portfolio limits would allow the GSEs to provide more liquidity to the mortgage markets during the financial crisis, but the limits would then be reduced to address concerns about systemic risk. This, of course, was the risk which too many members of the House Financial Services Committee and the Senate Banking Committee refused to recognize or address, and about which Alan Greenspan had warned them so often.

Treasury pledged to invest up to \$100bn in each GSE, and was committed to invest more if necessary.⁵⁰ In July, the Federal Reserve made it possible for Fannie and Freddie to borrow directly from the discount window, a privilege

normally available only to primary securities dealers and banks, which are members of the Federal Reserve System. The SEC issued an emergency order restricting short selling of Fannie and Freddie's stock. The July measures had not achieved the objective of calming the markets or of reassuring those overseas investors who held their debt. By contrast, the mortgage bail-out was greeted with relief, especially by non-US investors, who held \$1.479 trillion of the debt out of \$7,397 trillion at the end of 2007. Other large investors were US commercial banks (\$929bn), life insurance companies (\$388bn), state and local government retirement funds (\$317bn), mutual funds (\$566bn), asset-backed securities issuers (\$378bn) and the GSEs themselves (\$710bn). Later in 2008, GSE reports indicated that over 40% of certain debt issues were being held by foreign central banks.

The mortgage bail-out was greeted with relief, especially by "nervous foreign finance officials," who had "barraged Treasury Secretary Henry Paulson and Federal Reserve officials to find out what was happening with the mortgage giants." Foreign central banks had been steadily reducing their holdings of debt in the two firms in view of the increasing turmoil. China's four largest commercial banks had pared back their holdings in agency debt, with the Bank of China Ltd, the largest holder of Fannie and Freddie's securities out of the four, stating that it had sold or allowed to mature \$4.6bn of the \$17.3bn it held since June 30.⁵¹ A spokesman for the Bank of China commented, "We think this is good for Fannie and Freddie because the US government used to be 'invisibly' guaranteeing them, but now it is taking explicit action to [tacitly]⁵² guarantee them."

After Japan, China was the second-largest holder of US securities in June 2008, but probably became the largest foreign holder in late 2008 or early 2009. Its main holdings were in LT government agency securities (including Fannie Mae and Freddie Mac), estimated at \$527bn, with Japan at \$270bn out of \$1.5 trillion agency debt. The Chinese government was probably pursuing what it considered a relatively low-risk investment strategy, which would explain its heightened anxiety about the special measures for Fannie Mae and Freddie Mac. Its holdings of US agency debt increased between June 2007 and June 2008 by \$151bn (all in asset-backed securities), which was larger than any other foreign country over this one-year period. China was by far the largest holder of US agency debt, accounting for 36% of total foreign holdings as of June 2008, up from 29% as of June 2007.

The extent to which China's investments were exposed to US subprime mortgage securities is unclear, although the *South China Morning Post* (September 25, 2008) estimated that Chinese banks held \$9.8bn in US subprime at the end of 2007. The Bank of China reportedly had the largest exposure to US subprime mortgage-backed securities among any banks in Asia when the financial crisis began. Despite the September conservatorship, it appears that China sharply reduced its holdings of US agency debt since June 2008. Overall,

China's net purchases of long-term (LT) agency debt fell by \$34bn from June 2008 to March 2009.⁵³

By purchasing senior preferred stock, the Treasury effectively destroyed the stock value of the common shareholders and the remaining preferred shareholders. Treasury protected all the debt holders, even those holding junior subordinated debt, as the Treasury Senior Preferred Stock Purchase Agreement stated. Given the above figures and the events of August, it is hardly surprising that the Treasury bailed out existing creditors to make explicit the "implicit government guarantee" of Fannie and Freddie, and to make good their "nod and wink" selling practices. As James Lockhart pointed out a year later, the "Senior Preferred Stock Purchase Agreements have given investors confidence that there is an effective guarantee of GSEs obligations, as any negative equity balance at either Enterprise will be offset by the Treasury Department's investment. This support will continue indefinitely into the future subject to the commitment limit of \$200bn per Enterprise."⁵⁴ Clearly, the Administration needed China, Japan and other foreign investors to continue to buy its debt to finance the deficit, and indeed, to finance the continuing role of Fannie Mae and Freddie Mac in serving the market. Both banks in the US and throughout the world had also invested in the GSEs' bonds as part of meeting their capital requirements.

Conditions leading to the crisis. Why did the market collapse in 2008?

The impact of the collapse of the Bear Stearns hedge funds

In mid-August 2007, the market suddenly denied funding to several financial institutions. This was in fact due to the uncertainties aroused by Bear Stearns' announcement that their two hedge funds, which invested heavily in subprime mortgages, were in difficulties. The securities were estimated to have lost 28% of their value since the beginning of the year. Although Bear only held about \$600m in investors' capital, a relatively small amount in terms of the size of the mortgage market, the announcement about the funds created many uncertainties. Hedge funds commonly use leverage to boost returns (borrowed funds or derivatives); as neither the funds nor the derivatives markets were regulated, this led to the belief that many more hedge funds were also in difficulties, and to doubts about which lenders, brokers and derivative dealers might be at risk.

Furthermore, the MBSs held by the funds had been classified as very safe and low-risk by the bond-rating agencies, so the fact that they had lost so much so quickly led to fears about the safety of the ratings of similar bonds.

Suspensions grew that many more financial institutions holding subprime MBSs might be suffering undisclosed losses. This resulted in liquidity drying up for firms and securities with links to subprime mortgages, but it also affected other firms as well, both in the US and elsewhere. The turmoil in the debt markets was quickly reflected in the stock markets, as to investors and creditors, the sequence of events seemed more like contagion. Central banks throughout the world had to act in concert, and the Fed had to purchase billions of Treasury securities in order to keep the rate at its target and then reduce the discount rate to provide further liquidity.

In mid-September 2007, the Fed began to cut its main policy interest rate, the federal funds rate, which had stood at 5.25% from June 2006 to mid-August 2007. The first reduction in September was by 50 basis points, instead of the usual 25, and, as the financial strains grew and the economy gradually weakened, the Fed continued to reduce its Fed Funds target rate, down to 3% by late January 2008.

Even though the Fed may have been successful in stemming the worst of the panic, the housing market continued to deteriorate as the rate of default on subprime mortgages rose to 16% and looked set to increase. That was part of a process that had begun in the late spring of 2006, when nationwide, house prices peaked in April and the market downturn started. In October 2006, Moody's chief economist, Mark Zandi, had reached the conclusion that "Nearly 20 of the nation's metro areas will experience a crash in house prices; a double-digit, peak-to-trough decline in house prices. The sharpest declines in house prices are expected [in parts] ... of Florida, metropolitan areas of Arizona and Nevada California, throughout the broad Washington D.C. areas, and in and around Detroit." He expected the declines in various markets to continue into 2008 and 2009, with the odds in favor of national house-price declines in 2007.⁵⁵ But it was not until July and then more particularly in the autumn, though into the following year, that the rating agencies began to downgrade their ratings.

A series of downgrades

On July 10, 2007, Moody's downgraded 399 subprime mortgage-backed securities which had been issued in 2006, and put an additional 32 securities on watch. The securities in question, totalling \$5.2bn, had all been rated as Baa or lower in 2006. This was attributed to "aggressive underwriting combined with prolonged, slowing home price appreciation," and it was noted that about 60% of the securities involved were originated by Fremont Investment and Loan, Long Beach Mortgage Company, New Century Mortgage Corporation and WMC Mortgage Corps. A few days later, S&P downgraded 498 similar tranches. Both reduced them by an average of 4 notches per security, where 2 notches would be more usual.

In March 2007, Moody's reported that CDOs with high concentrations of subprime mortgage-backed securities could incur "severe" downgrades. Five days after the report, Yuri Yoshizawa, Group Managing Director of US Derivatives, sent an internal e-mail, explaining to Moody's Chairman McDaniel that one of the managing directors at Credit Suisse First Boston "sees banks like Merrill, Citi and UBS still furiously doing transactions to clear out their warehouses ... He believes that they are creating and pricing CDOs in order to remove assets from the warehouses, but they are holding on to the CDOs ... in the hopes that they will be able to sell them later." This was noted later in Moody's "Climbing the Wall of Subprime Worry," but they still rated the newly issued CDOs on their existing assumptions. In July, Chairman McDaniel gave a slide presentation to the Board on the 2007 strategy with titles such as "Mortgage Payment Resets are Mounting" and "1-3 m mortgage defaults forecast 2007-2008". Despite all the evidence, Moody's did not make any substantial adjustments to its CDO ratings assumptions until late September, hoping that rating downgrades would be avoided by mortgage adjustments.⁵⁶ But as far as Moody's was concerned, it was because it had updated its rating methodology, following the review it had announced early in August. Brian Clarkson, head of the structured finance unit, had replaced Raymond McDaniel as CEO by the time the results of the review were announced in mid-August, as a result of which the analysts saw the severity of the mortgage crisis.⁵⁷ Fitch and Standard & Poor's started downgrading MBSs and CDOs as rapidly and extensively as Moody's did from October onwards.

Throughout the autumn, one set of downgrades followed another, often in rapid succession as the rating agencies followed each other's lead. On October 8, Fitch downgraded \$18.4bn of MBS, then on October 11 Moody's followed suit with \$33.4bn in MBS. Five days later, Standard & Poor's joined in by cutting the ratings on \$23.25bn of subprime securities; three days later they downgraded a further \$22bn. Then the CDOs came in for downgrades: on October 23, Standard & Poor's announced that it would cut the ratings on \$21bn of CDOs. The company also stated that it would continue to monitor its rated CDO transactions and take rating actions when appropriate: "Additionally, Standard & Poor's will continue to review its current criteria assumptions in the light of the recent performance of RMBSs and CDOs."⁵⁸

Moody's made a similar announcement concerning \$33.4bn on October 26, and on Oct 29 Fitch stated that it was reviewing ratings on all \$300bn of CDOs. Moody's then announced that it would review 500 CDO deals by the following day. By the beginning of November, it was clear that the rapid series of downgrades had led to the crash of the main tracker indices of asset-backed securities. Nor was it just the downgrades, but the extent of them that caused the severity of the shock; for example, Moody's reduced the Aaa rated tranche of a CDO issue called Vertical 07-01, issued by a company called Vertical Capital, by 14 notches to B2 in one decision. The problem for investors was

their reliance on the ratings agencies for their investment decisions, given the opacity of CDOs and their generic nature. What is interesting is the fact there were so many downgrades announced in comparatively small batches, prompting Josh Rosner's comment that "Moody's should have aggregated information about the downgrades. It suggests that they're understaffed and under-automated if they have to do this in such small batches."⁵⁹ The number of downgrades continued remorselessly throughout November, and many of them were even more severe, with 500 tranches being downgraded by more than 10 notches. More than 11,000 of the downgrades affected securities which had AAA ratings. Tranches that were rated only by one agency, and those that were rated by S&P in particular, were more likely to be downgraded by the end of January, 2008.⁶⁰

The role of the rating agencies

In 2007 through 2008, the frequency of downgrades of RMBSs and CDOs reached record levels, far outstripping any such rating changes on corporate bonds. Throughout 2006 and the first half of 2007, Moody's had continued to rate large volumes of new CDOs and RMBSs, despite market events suggesting a continued rise in delinquency and foreclosure rates and mass downgrades of CDOs and RMBSs. About mid-2007, when the first downgrades began, the number of new issuances began to decline, but Moody's still gave Aaa ratings to billions of dollars of new CDOs and MBSs, even then. Out of a total of \$119bn in RMBSs rated since the downgrades of July 10, 2007, 90% were rated Aaa; and out of a total of \$51bn in CDOs, Moody's rated 88% Aaa.⁶¹ By mid-2009, virtually all of these RMBSs originally rated Baa as well as Aaa had been downgraded.

The analysis provided by Benmelech and Dlugosz found that 64% of all structured finance downgrades in 2007 and 2008 were linked to securities that had home equity loans or first mortgages as collateral. CDOs with asset-backed securities (ABS CDOs) accounted for a large share of the downgrades, and some of the most severe. ABS CDOs accounted for 42% of the total write-downs of financial institutions around the world. By October 2008, Citigroup, AIG and Merrill Lynch took write-downs totaling \$34.1bn, \$33.2bn and \$26.1bn respectively, because of ABS CDO exposure.⁶²

It is also interesting to see how the rating agencies treated some of the financial institutions which played key roles in the financial crisis, in spite of their own warnings of October 2006 and their own downgrades in July 2007. They did not re-evaluate these companies, which held or insured those securities, until November 2007 at the earliest, apart from Lehman Bros, which two of the agencies had downgraded in June. Not for the first time, the ratings changes proved to be a lagging indicator. In the case of Bear Stearns, the firm had investment-grade ratings just days before JP Morgan acquired it with the

help of the US Treasury. The credit ratings of the other major firms at the time of bankruptcy, acquisition or bail-out were as follows:

1. AIG, September 16, 2008. Received an \$85bn loan from the Federal Reserve. Moody's A2, S&P A, and Fitch A.
2. Citigroup, November 23, 2008. Received \$20bn in equity and guarantees on \$300bn of its assets from the US Treasury. Moody's Aa3, S&P AA, and Fitch AA-.

In November 2007, it was announced that Charles Prince, the head of Citigroup, would resign after the bank announced a \$5.9bn write-down and a sharp fall in profits. Losses continued throughout 2008, following a Q4 loss of \$9.83bn. Chuck Prince had once infamously dismissed fears about an early end to debt frolics in July 2007, when he told the *Financial Times*, "When the music stops [in terms of liquidity], things will get complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing."⁶³ The complications were left to his successor as CEO, Vikram Pandit.

When Citigroup announced further losses, following the resignation of Chuck Prince in November, Moody's and Fitch lowered their ratings to their third-highest investment grade and S&P warned that it might cut its AA rating. Much of Citigroup's trouble related to \$43bn of CDOs linked to lower-quality mortgages, the very ones to which they had awarded high investment grade ratings.

3. Merrill Lynch, September 14, 2008. Struck deal to be acquired by Bank of America. Moody's A2, S&P A, and Fitch A+.
4. Wachovia, March 14, 2008. Offered a \$25bn loan for 28 days by the Federal Reserve. Moody's A2, S&P A, and Fitch A+.
5. September 29, 2008. Announced a government-forced sale to Citigroup (later Wells Fargo). Moody's A1, S&P A, and Fitch A+.
6. Bear Stearns, March 16, 2008. Purchased by JP Morgan Chase with the help of a government guarantee on the firm's most toxic securities. Moody's Baa1, S&P BBB, and Fitch BBB.⁶⁴

The downgrading continued with the result that 91% of AAA subprime RMBS securities issued in 2007 and 93% of those issued in 2006 were eventually downgraded to junk status. The numbers for Option Arms were even worse. On January 30, 2008, S&P Rating Services announced that it had either downgraded or placed on serious credit watch 6,389 from US residential mortgage backed securities with first lien subprime mortgage collateral rated between January 2006 and June 2007. At the same time, it placed on credit watch negative 1,953 ratings from 572 global CDOs of asset-backed securities

and CDO of CDO transactions.⁶⁵ These reflected an issuance amount of \$270.1bn or approximately 46.6 % of the par amount of US RMBS backed by the first lien subprime mortgage loans rated by S&P during 2006 and the first half of 2007. For the CDOs this represented \$263.9bn or 35.2% of S&P's rated CDO of ABS and CDO of CDO issuance worldwide. S&P stated that these actions "reflected our expectations of further defaults and losses on the underlying mortgage loans and the consequent reduction in credit support from current and projected losses."⁶⁶ Indeed, over 18 months, Moody's and S&P downgraded more securities than they had done over their entire 90-year histories.⁶⁷

Criticisms of the rating agencies

In a memorandum to the members of the Permanent Subcommittee on Investigations, Senators Carl Levin and Tom Coburn set out the main problems with the rating agencies, resulting from an inquiry into their activities based on over 100 interviews and depositions, millions of documents, and consultations with a broad range of experts. Their conclusions were that between 2004 and 2007, the agencies had relied on inaccurate rating models, given in to competitive pressures to obtain market share, and failed to re-evaluate existing RMBS or CDO models, even though they knew by 2006 that their models were inaccurate, and revised them.

They then delayed thousands of rating downgrades, allowing those securities to carry inflated ratings that could mislead investors. Between 2004 and 2007, Moody's and S&P knew about the increased credit risks due to mortgage fraud, lax underwriting standards and unsustainable housing price appreciation, but failed to incorporate these adequately into their credit rating models. Not only that, but despite record profits from 2004 to 2007, they failed to assign sufficient resources to rate new profits adequately and test the adequacy of existing ratings.⁶⁸

The SEC report also focussed on the "issuer pays" conflict of interests, clearly manifested in the e-mails which both reports quote and emphasize. Agency personnel are encouraged by clients to provide them with favorable ratings, and "ratings shopping" is an inevitable consequence. The new regulations required agencies to establish and maintain policies and procedures to manage those conflicts, although in the end, they may be irresolvable.⁶⁹ Each agency must compete for business, as Moody's Chief Credit Officer told the Subcommittee, "What happened in '04 and '05 with respect to subordinated tranches is that our competition, Fitch and S&P, went nuts, Everything was investment grade."⁷⁰

The Senate Committee report claimed that the endless downgrades from July 2007 through 2008 "helped cause the collapse of the subprime market, triggering sales of assets that had lost investment grade status and damaged holdings of financial firms world wide, contributing to the financial crisis."⁷¹

However, a better point would be that the subprime market ought not to have been allowed to grow as it did, and that the assets should not have been awarded investment grade status in the first place. The stronger point is the extraordinary incompetence and carelessness, bordering on negligence, with which MBSs and RMBSs were “rated” by the agencies. It is not possible to record all the e-mail traffic here, so only a few examples have been given (showing once again how so many seem to believe that e-mails are a heavily encrypted means of communication, known only to themselves and the person(s) to whom they have been sent!). This selection shows that the shortcomings arose from a variety of sources:

- (i) S&P employee 8/17/2004
“We are meeting with your group this week to discuss adjusting criteria for rating CDOs of real estate assets because of the ongoing threat of losing deals ... Lose the CDO and lose the base business – a self-reinforcing loop.”
- (ii) Moody’s BES employee survey 2005
“We are overworked. Too many demands are placed on us for administrative tasks ... and are detracting from primary workflow ... We need better technology to meet the demand of running increasingly sophisticated models.”
- (iii) Internal S&P emails 3/23/2005
“Version 6 [a new version of the S&P ratings model] could have been released months ago and resources assigned elsewhere if we didn’t have to massage the subprime and Alt-A numbers to preserve market share.”
- (iv) S&P employee 3/21/2006
“The official Moody’s line is that there is no ‘grandfathering’ and that old transactions are reviewed using the new criteria. However, the truth is that we do not have the resources to review thousands of transactions, so we focus on those that we feel are more at risk. Interestingly, Olivier Dufour from Fitch said they ‘grandfathered’ otherwise it would be unfair.”
- (v) Moody’s employee 5/1/2006
“I am worried that we are not able to give these complicated deals the attention they really deserve and that they [CS] are taking advantage of the ‘light’ review and a growing sense of ‘precedent’.”
- (vi) Morgan Stanley banker to Moody’s employee 8/19/2006
“Since there are no published criteria outlining the change in methodology, how are we supposed to find out about it?”

- (vii) S&P employee 12/29/2006
 “We ran our staffing model assuming that analysts are working 60 hours a week and we are short of resources ... The analysts on average are working longer than this and we are burning them out.”
- (viii) S&P employee 1/17/2007
 “Can anyone give me a crash course on the ‘hidden risks’ in CDOs of RMBS?”
- (ix) S&P employee 5/08/2007
 “No body gives a straight answer about anything round here ... how are we supposed to come out with [new] criteria or a new stress and actually have clear cut parameters on what the hell we are supposed to do?”
- (x) S&P 18/07/2005
 “I have been a mortgage broker for the past 13 years and I have never seen such a lack of attention to loan risk.” (E-mail from Resources Realty re Washington Mutual)

Had the serious faults with the rating agencies been known at an earlier stage, then all the downgrades might not have had such a detrimental effect on the financial institutions. But that is to blame the agencies for the effects of the ever-increasing rates of delinquencies and foreclosures. Highly significant financial institutions announced large write-downs. These included Merrill Lynch, which reported its largest ever quarterly loss in its 93-year history on October 24, 2007, after taking \$8.4bn write-downs on subprime mortgages, asset-backed securities, and leveraged loans which led to a third quarter loss of \$2.24bn, six times more than it had estimated on October 5. Its stock fell sharply, its credit rating was cut and the perceived risk on the company’s bonds rose after the CEO, Stanley O’Neal, said that the company had misjudged the severity of the decline in the debt markets after July.⁷² He was later forced to retire. In the same month, UBS downgraded the value of some of its assets by over \$3.4bn because of losses linked to the US mortgage crisis, and anticipated a loss for 2007.⁷³

The rating agencies’ failures were a significant contribution to the crisis

The registration of rating agencies and the insistence on procedures for managing conflicts of interest, the latter being irresolvable, would not deal with the problem. In September 2006, Congress enacted the Credit Rating Agency Reform Act, P.L.109-291, to strengthen SEC oversight of the industry. It took effect in June 2007, when the SEC issued the implementing regulations. The law required the SEC to designate Nationally Recognized Statistical

Rating Organizations (NSROs) and defined that term for the first time. It also prohibited the SEC from regulating the substance, criteria or methodologies used in credit rating models. That would obviously create difficulties, given the extent to which the SEC and other regulators relied on the ratings. However, bearing in mind the evidence of incompetence, negligence and lack of resources, it is clear that the rating agencies do require an independent regulator (perhaps national statistical authorities) to continually check their competence, skills, models and resources, or lack thereof. Inflating ratings due to a lack of competence may well be more important than inflating them because of the fees involved. The big three (Moody's, Fitch, and Standard & Poor's) issue about 98% of the total credit ratings and collect 90% of the total credit rating revenue in the US.

From subprime lending to the financial crisis

The rating agencies were a contributory factor, but their downgrades, belatedly indeed, reflected the quality of the banks' lending practices and their structured financial instruments. Chairman Bernanke identified the basis for the turmoil in the financial markets as increasing anxieties about the credit quality of mortgages, especially subprime mortgages with adjustable interest rates, and spelt out the link between the two elements. "The rising rate of delinquencies of subprime mortgages threatened to impose losses on holders of even [supposedly] highly rated securities, investors were led to *question the reliability of the credit ratings* for a range of financial products, including structured credit products and various special purpose vehicles. As investors lost confidence in their ability to value complex financial products, they became increasingly unwilling to hold such instruments."

Banks came under pressure to take these back onto their balance sheets, which then swelled with nonconforming mortgages, leveraged loans and other credits which brought large losses. Banks responded by protecting their own liquidity, including lending to other banks, so lending became more restrictive and more expensive. That was Chairman Bernanke's analysis at the beginning of 2008, a year which was only going to get worse.⁷⁴

Subprime mortgages. A trigger or a cause?

In September, 2010, in response to the Financial Crisis Inquiry Commission, Chairman Bernanke provided an analysis of the causes of the financial crisis. In it, he described subprime mortgage losses as the "most prominent trigger of the crisis, but by no means the only one. Another, less well-known triggering event was a 'sudden stop' in June 2007 in syndicated lending to large, relatively

risky corporate borrowers. Funding for these ‘leveraged’ loans had migrated in recent years from banks to special purpose vehicles; these vehicles funded themselves by issuing collateralized loan obligations (CLOs), a type of asset-backed security ... As in the case of subprime mortgages, the perceived losses on leveraged loans in the late summer of 2007 were significant, although not large enough by themselves to threaten global financial stability. But they damaged the confidence of short-term investors and, consequently the functioning of the money markets and the broader financial system.”

The subprime mortgage market was more than a trigger. It was the root cause of the crisis, with many other factors contributing to the collapse of the mortgage market and its consequences for the global financial system. Unless all of these are understood and acknowledged, then the right policy decisions will not be taken. In the next chapter, the impact of the size of the subprime market and the way in which its effects were transmitted to so many financial markets will be outlined, to clear the way for the political decisions yet to be taken: the future of Fannie Mae and Freddie Mac.