The Financial Crisis and Government Bailouts: What's Next?

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Introduction

The United States began 2009 with arguably the worst economic scenario since the Great Depression. The S&P 500 declined nearly 40% in 2008, followed by another 20% decline during the first two months of 2009. Economic growth languished, as the gross domestic product fell during the last two quarters of 2008. Particularly alarming was the 6.2% drop in the fourth quarter of 2008, the largest decline in GDP since the first quarter of 1982. The nation's unemployment rate began 2008 at 4.9%, but skyrocketed to 7.2% by year's end, with no turnaround in sight. The housing market, which historically had provided homeowners with an increase in wealth through price appreciation, saw a continued slide in sales and prices. In 2006, nearly 6.5 million homes were sold in the U.S., with a median price of $221,000 and an average price of $268,200. In December 2008, the annualized rate of home sales was 4.7 million with a median price of $175,700 and an average price of $217,600[1].

The *magnitude* of the fall was particularly astounding. Although certainly not stellar in its performance, the U.S. economy actually grew in the first-half of 2008, with GDP increasing at modest rates of 0.9 and 2.8 percent in the first two quarters, respectively. However, the stock market began to reflect mounting problems in the housing and financial markets in late 2007. After beginning 2007 at 1416, the S&P 500 Index climbed over 10 percent to close at 1565 on October 9, the highest closing point of the year. In October, as financial problems at selected major financial institutions became apparent, the S&P 500 began a significant fall. From October 9, 2007 through the end of August, 2008 the S&P 500 declined 18%. Although significant, the fall had just begun. In September, 2008 as events in the U.S. housing market unfolded and the magnitude of problems with financial institutions became clearer to the financial markets, a precipitous decline began. In the last four months of 2008, the U.S. stock market lost 30% of its value. In the first two months of 2009, another decline of 20% occurred.

The United States began 2009 with a two-fold problem: 1) a credit crisis in the financial markets, and 2) a lack of consumer and investment demand. These problems, and the fall in the U.S. economy, can be traced to the housing market. The complex interaction between lenders, borrowers, mortgage brokers, the U.S. government, investors, and the financial markets, helped create the greatest financial crisis since the Great Depression. This paper will explore the crisis, reasons for the fall, government bailouts of troubled institutions, and what might be next.

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[1] www.realtor.org

Setting the Stage for the Problems – Changes in the Housing Market

Mortgage Financing Old School - The Good Old Days

The traditional, old school way of mortgage finance was for banks (and other financial institutions) to use customer deposits for lending to homebuyers. Conventional mortgages were offered by lenders who assumed the risk of loss. Traditionally, lenders usually required a down payment of 20% on the property, resulting in a loan-to-value ratio of 80%. Lenders, since they assumed the risk of loss, were generally diligent in their lending standards to assure the credit worthiness of the borrower. These standards may have provided a quality loan portfolio for financial institutions, but they did not provide for rapid growth of U.S. homeownership. According to the U.S. Census Bureau, home ownership rates generally floundered around 64 percent from 1970 through 1990.

Mortgage Financing - The Beginning of the New Days

In the 1970s and 1980s, changes in the housing market began paving the way for a new era in mortgage financing. The American dream of home ownership has generally been vigorously supported by politicians and the United States government. In some cases, legislation[2] was created to make mortgage financing more available and affordable to a variety of potential homeowners. In some cases, the structure of the mortgage finance market was altered to create greater liquidity and more capital. Overall, the legislation paved the way for growth in homeownership and expanded mortgage market financing – and provided the seeds for the economic downfall in 2008.

Legislation

The Community Reinvestment Act of 1977, with modifications in 1995, encouraged lenders to make loans to low and moderate-income borrowers, markets which may include borrowers with a weak credit history. The 1980 Depository Institutions Deregulation and Monetary Control Act (DIDMCA) effectively eliminated states' interest rate ceilings on home mortgages where the lender has a first lien. As a result, lenders could charge higher interest rates to borrowers with low credit scores. This allowed interest rates to go high enough to compensate the lender for the risk of lending to sub-prime borrowers. The variety of mortgages available was greatly expanded by the Alternative Mortgage Transaction Parity Act of 1982. Prior to this Act, banks could only make conventional, fixed rate amortizing mortgages. Adjustable rate mortgages, interest only mortgages, and balloon payments were all made possible by the Act. Although the Tax Reform Act of 1986 eliminated the interest deduction for consumer loans, tax benefits were continued for home owners through the allowable deduction of mortgage interest and property taxes. As a result, the Tax Reform Act gave consumers an incentive to shift from consumer borrowing to home equity borrowing. Collectively, these laws encouraged home ownership and paved the way for a greater variety of mortgage products to be offered by lenders.

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[2] See Smith (2007)

Changes in Mortgage Market Structure – Financial Innovation and the Mortgage-Backed Security

To address perceived liquidity deficiencies in the mortgage market, the federal government created three different organizations to help potential homeowners obtain mortgage financing[3]. The Federal National Mortgage Association ("Fannie Mae"), the Federal Home Loan Mortgage Corporation ("Freddie Mac"), and the Government National Mortgage Association ("Ginnie Mae") enhanced liquidity by allowing lenders to sell various types of mortgage loans and in turn use the proceeds to make new mortgage loans. Established by Congress in 1938[4], Fannie Mae originally provided liquidity to the housing market by purchasing only loans insured by the Federal Housing Administration. In 1968, Fannie Mae was essentially divided into two organizations. Fannie Mae became a private stockholder-owned corporation and was authorized to buy a broader range of loans. Ginnie Mae, an offshoot of the original Fannie Mae, remained a wholly-owned government corporation.

The market for mortgage financing began to significantly change in 1970. The origination of the mortgage-backed security occurred in 1970 when Ginnie Mae first guaranteed a pool of mortgage loans. The initial and primary purpose of mortgage-backed securities was to increase liquidity in the mortgage market and make more funds available for lenders and borrowers.

The general process of mortgage-backed security financing is as follows: A bank makes a loan to a homebuyer. This mortgage is sold to an issuer of mortgage-backed securities, who in turn buys more mortgages. The entire mortgage pool is split into several slices through the issuance of mortgage-backed securities. These mortgage-backed securities are sold to investors and represent an interest in the entire pool of mortgages for a given risk class. The cash flow from the mortgages is used to pay investors a coupon, with the underlying real estate acting as collateral. Mortgage-backed securities are commonly referred to as "pass-through" certificates because the principal and interest of the underlying loans is "passed through" to investors. Figure 1 shows the change in the mortgage market following the financial innovation of mortgage-backed securities.

Ginnie Mae does not buy or sell loans or issue mortgage-backed securities; however, it guarantees payment on mortgage-backed securities that are backed by federally insured or guaranteed loans[5]. Ginnie Mae mortgage backed securities are created when eligible mortgage loans (those guaranteed or insured by government issuers) are pooled by issuers (approved by Ginnie Mae) and then sliced into mortgage-backed securities. Ginnie Mae began issuing mortgage-backed securities in 1981.

In 1970, Congress also established the Federal Home Loan Mortgage Corporation (Freddie Mac) to be a secondary market in mortgages for the savings and loan industry. Freddie Mac was initially authorized to purchase conventional mortgages from federally insured financial institutions. Freddie Mac expanded the market for mortgage-backed securities, and issued its first mortgage-backed participation certificate in 1971. Freddie Mac became privatized in 1989.

Thus, Fannie Mae, Ginnie Mae, and Freddie Mac provided the mechanism for the creation of mortgage-backed securities. In essence, Ginnie Mae was a guarantor of government insured mortgages, with Fannie Mae and Freddie Mac providing a secondary market for conventional mortgages. The objective was to provide a greater flow of funds into the mortgage market and in turn make homeownership more available and affordable.

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[3] See Securities and Exchange Commission Staff Report (2003).

[4] See Kolev (2004)

[5] www.ginniemae.gov

There was little private issuance of mortgage-backed securities from 1977 until the early 1980s. In 1977, Bank of America became the first private issuer of interests in a trust that held single-family mortgages.

Mortgage-backed securities played an important role in increasing liquidity in mortgage markets by providing more funds to lenders. Banks could sell mortgages, and in turn use the proceeds to offer more mortgages to potential borrowers. The pooling of mortgages and issuance of mortgage-backed securities converted non-rated, illiquid loans (mortgages) into highly liquid securities, generally viewed as having little credit risk and competitive rates of return. Relative to Treasury bonds, they offered additional return with little perceived additional risk. The offering of mortgage-backed securities created liquidity for the mortgage market and the infusion of capital from investors around the world.

The Development of the Sub-prime Mortgage Market

The sub-prime mortgage market consists of risky home loans made to borrowers with high credit risk. Although the exact specifications and definition of the sub-prime market may vary across institutions and agencies, the general characteristics of sub-prime loans are consistent. Whereas prime loans are typically made to borrowers with a strong credit history and demonstrated capacity to repay loans, sub-prime mortgages are made to borrowers who have a relatively high probability of default or who lack a strong credit history. In addition, characteristics of the mortgage itself may place it into the sub-prime category such as a high loan amount relative to the market value of the home.

Sub-prime mortgage lending began to blossom in the 1990s[6], but exploded in the mid-2000s. The Federal Reserve estimates that from 1994 to 2003, sub-prime lending increased at a rate of 25% per year. According to the National Mortgage News, sub-prime lending exploded in volume after the turn of the century. Sub-prime residential lending volume was $35 billion in 1995, slightly over 5% of total residential lending volume. By the turn of the century, sub-prime volume increased to $134 billion. However, by 2005 sub-prime lending exploded to $795 billion and accounted for nearly 25% total residential lending volume. As the financial crisis unfolded in 2007, sub-prime volume plummeted to just $182 billion and accounted for only 6.95% of residential production[7].

After the turn of the century, the dominance of the mortgage-backed securities market by government sponsored agencies was greatly reduced by the growth of private sector issued mortgage-backed securities[8], which contributed to the growth in sub-prime mortgage financing. Table 1 shows the growth in mortgage related bond issuance. According to the Securities Industry and Financial Markets Association, private sector issued mortgage-backed securities accounted for approximately 11% of the mortgage bond market in 1996 and rose to nearly 38% in 2006.

Legislation promoting home ownership, financial innovation bringing increased liquidity to the mortgage markets, and aggressive lending and borrowing practices lacking accountability and standards, combined with an absence of market contributed to the emergence and development of the subprime mortgage market.

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[6] See Bernanke (2007)
[7] thetruthaboutmortgage.com
[8] BBC News, "The U.S. Sub-prime Crisis in Graphics"

What Could (and Did) Go Wrong

The decades of the 1970s, 1980s, and 1990s, were geared toward making housing more accessible and affordable for potential homeowners. Legislation encouraged home ownership spurring the creation of a greater variety of mortgage products to be offered by lenders. Fannie Mae, Freddie Mac, and Ginnie Mae paved the way for the development of mortgage-backed securities, which created greater liquidity and a flow of capital into the mortgage market that increased the available pool of funds available for lending by financial institutions. A primary purpose of favorable housing legislation and increasing liquidity in the mortgage markets was to increase homeownership. Coinciding with the growth in sub-prime lending and the development of mortgage-backed securities, homeownership increased from 63.9% in 1990 to 68.1% in 2007. The American dream of ownership was becoming more attainable and affordable, or so it seemed.

At the crux of the upcoming problems in the housing and financial markets were mortgage-backed securities. Mortgage-backed securities allowed the transfer of risk from lender to investor. If risk is appropriately measured, monitored, and understood this transfer of risk is not a problem. On the contrary, mortgage-backed securities accomplished the objective of bringing liquidity and funds into the mortgage market. However, the transfer of risk created with pass-through securities, such as mortgage-backed securities, can create problems if there becomes a lack of accountability in its measuring, monitoring, and understanding of risk.

Mortgage Financing – Risk, Return, and Greed

The traditional, old school way of mortgage finance was for banks (and other financial institutions) to use customer deposits for lending to homebuyers. The risk of loss was assumed by the lender which encouraged strict standards of verification and documentation. Traditionally, lenders usually required a down payment of 20% on the property, resulting in a loan-to-value ratio of 80%. The return on the loan and the risk stayed with the lenders.

The development of mortgage-backed securities allowed the transfer of risk and the potential for the link between risk and return to be broken. Consider the general process of mortgage financing that includes the financial innovation of mortgage-backed securities. A bank makes a loan to a homebuyer. The transaction may include a mortgage broker acting as an intermediary to facilitate the transaction. The mortgage broker may arrange a fee or get paid a commission if mortgage financing is successfully arranged. The mortgage broker is paid, and he or she walks away without risk of loss from the transaction. The financial institution providing the loan in turn can sell the mortgage to an issuer of mortgage-backed securities, such as a government agency like Fannie Mae or Freddie Mac, or a private issuer of mortgage-backed securities, like an investment banking firm. The lender receives a fee for financing the mortgage, and in turn walks away without risk of loss as the mortgage is sold to the mortgage-backed security issuer. Issuers of mortgage backed securities receive commissions and fees on the securities sold. The risk of the mortgage is transferred to the investors who purchase mortgage-backed securities, as the cash flow from the mortgages is used to pay investors a coupon, with the underlying real estate acting as collateral. Although the securities could have different risk classes, nearly 80% of these bundled securities were rated “investment grade” by the rating agencies[9]. Consequently, sub-prime mortgage lenders could sell their risky debt, in turn generating more capital to originate additional mortgages. Rating agencies received a fee for providing a default rating on the

[9] See Barnes (2007)

bonds; investors may not understand the technicalities of the securities, but they typically rely on rating agencies for guidance as to the risk of the bonds.

Thus, mortgage brokers, lenders, issuers of mortgage-backed securities, and rating agencies could all reap the fees and benefits from mortgage financing without risk of loss. The losses were pinned on investors, who in many cases relied on investment advisors and the rating agencies for guidance on risk rather than their own analysis. Homebuyers could also aggressively borrow as the pass-through of risk from lenders to investors made financing standards less stringent, which in turn created incentive for borrowers to borrow more and lenders to lend more.

Government oversight was also lacking. The Federal Reserve set the stage for extremely attractive mortgage financing. In response to declining economic activity and September 11, the Federal Reserve decreased the fed funds rate an unprecedented 11 times in 2001 from 6.50% at the start of January to 1.75% by the end of the year. Rates fell again in 2002 and 2003. In June 2003, the fed funds rate was at a then historical low of 1.00%. The rate reductions contributed to a general decline in mortgage rates (Figure 2), further increasing the attractiveness of borrowing and refinancing[10]. Homebuyers could now borrow with little or no money down and the historically low rates also encouraged refinancing. Given rising housing prices, refinancing often increased the amount of the mortgage loan. Adjustable rate mortgages offered ever lower rates than fixed rate mortgages, placing homebuyers in the position of betting on future declines in interest rates. The mortgage market was ripe for taking advantage of risky low-interest rate mortgage loans arranged by mortgage brokers and lenders, and high rated mortgage-backed securities were sold to investors aware of the risks. The mortgage market provided an opportunity for players to maximize profits without following prudent lending and borrowing standards. Although future business may be lost by lenders, as a result of bad deals, millions could be made before consequences materialized. The negative consequences also would be borne by investors and the American taxpayer.

The Beginning of the End

In 2007, the euphoria in the mortgage market and bubble in the housing market came to an end. As long as home prices increased, sub-prime debt and mortgage-backed securities could be aggressively utilized to finance mortgage market growth. Any problems encountered by homeowners in meeting mortgage payments could be solved by selling into a hot housing market. However in 2007, the overleveraging of homebuyers, an up-tick in interest rates, and developing overcapacity caused the bubble to burst in the housing market.

According to the National Association of Realtors[11], existing homes sales declined nearly 13% in 2007 to 5.65 million units, down from 6.48 million units in 2006. The mean sales price of existing homes fell from $257,300 in January 2007 to $217,600 in December 2008, a decrease of over 15%. The median sales price of existing homes declined nearly 17% over the period, from $210,900 in January 2007 to $175,700 in December 2008. The monthly supply of housing inventory rose from 6.5 in 2006 to an average of 10.5 in 2008, an increase of over 60%. Homeowners struggling to make mortgage payments faced declines in the value of their homes as well as increases in the time it takes to sell the home. This contributed to an increase in foreclosures. According to RealtyTrac[12], U.S. foreclosure activity increased

[10] See Bahr and Maas (2008)
[11] www.realtor.org
[12] www.realtytrac.com

81% in 2008 over 2007, to a total of 3,157,806 filings. This followed a 75% increase in foreclosures in 2007. In 2008, 1.84% of all U.S. housing units (one in 54) received at least one foreclosure filing during the year, up from 1.03% in 2007.

The Financial Markets and Sub-prime Losses

As the sub-prime mess unfolded, the stock market began to take notice. After beginning 2007 at 1416.60, the S&P 500 Index climbed over 10% to close at 1565.15 by October 9, the highest closing point of the year. As concerns grew with sub-prime mortgage debt, the housing market, and energy prices, the toll on the stock market began. In October, Federal Reserve chairman Bernanke warned that the sub-prime crisis and housing slump would be a significant drag on the US economy. This warning became clear when several financial institutions began reporting significant losses on sub-prime mortgages[13] including Citigroup, Merrill Lynch, UBS, Morgan Stanley, HSBC, Wachovia, Bank of America, and Bear Stearns. In January 2008, Bank of America acquired the country's biggest mortgage lender and key player in the sub-prime mortgage market, Countrywide Financial for approximately $4 billion. In March 2008, J.P. Morgan, with the support of the Federal Reserve, acquired Bear Stearns, an investment bank headed for insolvency[14]. The Federal Reserve took the unusual and extraordinary step of intervening in the free market by providing up to $30 billion of financing for the less liquid assets of Bear Stearns, in effect subsidizing the acquisition of Bear Stearns by J.P. Morgan. Bear Stearns' assets, most notably its portfolio of mortgage-backed securities, had dramatically declined in value as the sub-prime mortgage mess unfolded. The reason for the Federal Reserve intervention was to increase liquidity in the mortgage market. The fear was that decreased liquidity in the mortgage market, caused by the write down of mortgage securities and consequently bank assets, would dry up funds available for banks to lend. By August 2008, banks' losses from the U.S. sub-prime crisis and the ensuing credit crunch crossed the $500 billion mark[15]. A total of 25 bank failures occurred in 2008[16], capped by the largest bank failure in U.S. history, Washington Mutual, in September. It should also be noted that the sub-prime market and mortgage-backed securities had a rippling effect – investors who bought securities of financial institutions that had bad loans and investments, could also face significant losses. In September 2008, this contributed to the Treasury temporarily guaranteeing money market mutual funds in an effort to restore confidence to a traditionally safe investment market.

Fannie Mae and Freddie Mac

Although public companies, Fannie Mae and Freddie Mac were viewed as government sponsored agencies since their establishment by Congress. Both play a central role in the purchase of mortgages and issuance of mortgage-backed securities. In 2008, they purchased about 80% of all new home mortgages in the U.S[17]. After suffering billions of dollars in losses related to sub-prime loans and plummeting stock prices, in September 2008, the U.S. government placed Fannie Mae and Freddie Mac in conservatorship, in effect taking over the firms and the $5 trillion in home loans they back. The mortgage giants which were government sponsored agencies, failed to implement the required standards for prudent mortgage financing.

The Government Bailout - TARP

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[13] BBC News, "Timeline – Sub-prime Losses"
[14] See Sidel, Berman, and Kelly (2008)
[15] See Onaran (2008)
[16] www.fdic.gov
[17] See Jickling (2008)

The current crisis has made bailouts an increasing problem for a variety of reasons. First, there is the moral hazard issue. By intervening in the financial markets, the fear is that the bailout encourages the irresponsible behavior that caused the problems, to happen again. Second, by selectively intervening in the market, the federal government presents a biased approached to the free market system. The "too big to fail" policy can offer larger firms and institutions an opportunity to be saved from mistakes and economic downturns, an opportunity not generally offered to smaller firms. Third, bailouts by the government place the burden on taxpayers – many parties financially benefited from the housing and sub-prime market booms, including borrowers, financial institutions, mortgage brokers, rating agencies, and investment advisors. Taxpayers are left to clean up the mess, without any forfeiture of previously made gains by parties that benefited. Fourth, government bailouts can promote management inefficiency. Unless management inefficiencies are changed, throwing money at a problem won't solve it. Bailouts do not guarantee appropriate spending and avoidance of management excesses.

As a result of the significant economic downturn resulting from bad loans the government announced a plan to help financial institutions increase liquidity through government funding. On October 3, 2008, the Emergency Economic Stabilization Act of 2008 was signed into law, and authorized the Troubled Asset Relief Program (TARP)[18]. The act provides the Treasury with broad and flexible authority to buy or guarantee up to $700 billion in "troubled assets," including mortgages and mortgage-related instruments, and any other financial instrument whose purchase the Treasury determines is needed to stabilize the financial markets. The overall objective of TARP was to encourage U.S. financial institutions to build capital to increase the flow of financing to U.S. businesses and consumers to support the U.S. economy.

The lack of bank liquidity is the result of bad loans and investments in mortgage-backed securities that turn out to be "non-performing" or worthless. This reduces the actual value of bank assets, which would also lower bank equity. As a result, financial institutions may become undercapitalized; meaning that capital is too low relative to deposits. A "credit crunch" results, with financing for firms and individuals drying up.

TARP - Round 1, through January 23, 2009

TARP included four distinct programs: 1) CPP – Capital Purchase Program, 2) Targeted Investment Program, 3) Systematically Significant Failing Institutions, and 4) Automotive Industry Financing Program.

The Capital Purchase Program

The Capital Purchase Program (CPP) was a voluntary program to encourage U.S. financial institutions to build capital to increase the flow of financing to U.S. businesses and consumers. In October 2008, the Treasury announced that it would purchase up to $250 billion in financial firms preferred stock via the Capital Purchase Program (CPP). The program is intended to provide capital to those institutions than can demonstrate overall financial strength and long-term viability. Initially, the Treasury approved $125 billion in capital purchases of nine of the largest public financial institutions that the Treasury considered to be systemically significant to the operation of the financial system. The initial nine participants included Bank of America, Goldman Sachs, Morgan Stanley, Citigroup, JP Morgan Chase, Wells Fargo, Bank of New York Mellon, State Street, and Merrill Lynch. At the time, these nine institutions held about

[18] General Accounting Office, Troubled Asset Relief Program, January 2009.

55% of U.S. banking assets. Subsequent purchases were made in qualified institutions of various sizes (in terms of total assets) and types[19].

The Treasury has continued to rely on CPP as the primary vehicle under TARP for attempting to stabilize financial markets. As of January 23, 2009, the Treasury had disbursed more than 75 percent of the $250 billion it had allocated for CPP, by providing more than $194 billion and receiving equity interests through preferred shares and warrants of 317 qualified financial institutions. The purchases typically ranged from about $1 million to $25 billion per institution.

The Targeted Investment Program

The Targeted Investment Program (TIP) is designed to prevent a loss of confidence in financial institutions that could result in significant market disruptions, threaten the financial strength of similarly situated financial institutions, impair broader financial markets, and undermine the overall economy. Institutions will be considered for approval on a case-by-case basis based on the threats posed by the potential destabilization of the institution, the risks caused by a loss of confidence in the institution, and the institution's importance to the nation's economy. In TARP, Part 1, two institutions received funding through TIP.

Citigroup, which already had received $25 billion on October 28, 2008, under CPP, was the first participant in this program. On November 23, 2008, the Treasury announced it would invest $20 billion in senior preferred shares of Citigroup under TIP. On January 16, 2009, Treasury announced that Bank of America would receive $20 billion under TIP. Under CPP, Bank of America had previously received $15 billion on October 28, 2008, and $10 billion on January 9, 2009.

Systemically Significant Failing Institutions

The Systemically Significant Failing Institutions program is designed to provide stability in financial markets and prevent disruption caused by the failure of an institution of significant size that is deemed to be important to the financial system. The Treasury will consider participation by institutions on a case-by-case basis, and consider a variety of factors when assessing an institution for participation, including: 1) the extent to which the institution's failure could threaten the viability of its creditors and counterparties because of their direct exposure to the institution; 2) the number and size of financial institutions that investors or counterparties see as situated similarly to the failing institution, or that they believe would otherwise be likely to experience indirect contagion effects from the institution's failure; 3) the institution's importance to the nation's financial and economic system; and 4) the extent and probability of the institution's ability to access alternative sources of capital and liquidity from either the private sector or other sources.

In November 2008, American International Group, Inc. (AIG) became the first institution assisted under this program. Treasury's concerns about AIG predated the establishment of TARP, with concerns about viability already arising in mid-September 2008.
An important component in the problems at AIG was the use of credit derivatives. A credit derivative is basically an insurance contract. A firm, like AIG, creates and sells a credit derivative contract, for a fee, to another financial institution. The credit derivative basically provides insurance to the bank for loans, mortgage-backed securities, and other debt. AIG was on the hook for billions of dollars when the

[19] http://www.treas.gov/initiatives/eesa/transactions.shtml

housing market and mortgage-backed securities went bad. By September 2008, the financial derivatives unit at AIG had over $18 billion in losses[20].

The Automotive Industry Financing Program

Although the weak economy accelerated the financial distress for General Motors and Chrysler, incorrect strategic decisions and inefficiencies plagued both companies long before the current financial and economic crisis. In December 2008, the *Wall Street Journal* reported hourly labor costs including benefits were $73.21 for Detroit manufacturers compared to $44.20 on average for the non-Detroit producers[21]. In 1995, a GM car took 46 hours to make, Chrysler 43 and Toyota 29.4. By 2006, GM had moved it to 32.4 hours per vehicle and Chrysler 32.9 – both were still behind Toyota at 29.9. GM was overleveraged, saw a consistently declining market share from 35% in 1991 to less than 20% in 2008, had negative equity, and lost billions of dollars since 2005. Chrysler was owned by Cerberus Capital Management, one of the largest private equity firms in the United States. Cerberus also owns a controlling interest in GMAC, the financing arm of General Motors.

The Automotive Industry Financing Program was established in December 2008 in response to business plans that General Motors and Chrysler submitted to congressional committees indicating immediate federal financial assistance was needed to remain solvent. On December 19, 2008, Treasury announced it had agreed to lend up to $18.4 billion under this program—including $13.4 billion to GM and $4 billion to Chrysler. Fears of "too big to fail" and the impact of the economy overshadowed past mistakes by the auto manufacturers.

In late March, the Obama Administration announced plans to provide up to $5 billion in financial assistance to troubled auto-parts suppliers.

The Federal Reserve

In November, 2008 the Treasury announced an allocation of $20 billion to back the Term Asset-backed Loan Facility (part of TARP), a $200 billion lending facility for the consumer asset-backed securities market established by the Federal Reserve of New York. The consumer asset-backed securities market provides liquidity to financial institutions that provide small business loans and consumer lending such as auto loans, student loans, and credit cards. While asset backed security issuances in these categories were roughly $240 billion in 2007, issuance declined precipitously in the third quarter of 2008 before essentially coming to a halt in October.

Separate from TARP, the Federal Reserve implemented a variety of actions to reduce interest rates and improve liquidity in the financial markets in an effort to foster economic growth. In December 2008, the Federal Reserve reduced its target for the fed funds rate to a historical low range of 0.00 – 0.25%. Given this rate, the Fed's traditional monetary policy of reducing the fed funds rate to stimulate the economy was no longer an option. As a result, the Fed turned to creative, alternative actions to promote economic growth. In January 2009 the Fed announced that it would purchase up to $500 billion in mortgage-backed securities to help improve credit market liquidity and the financial position of banks. In March, the Fed announced plans to purchase up to an additional $750 billion of mortgage-backed

[20] See Browning (2008)
[21] America's Other Auto Industry, *Wall Street Journal*, December 2008.

securities, bringing its total purchases up to $1.25 trillion for the year. The Fed also announced its intention to purchase up to $300 billion of long-term Treasury bonds[22].

Table 2 shows TARP program funding levels and apportioned amounts as of January 23, 2009.

TARP - Round 2

The $700 billion TARP implementation would continue under the Obama Administration. The most notable TARP - round 2 bailout to date provided an excellent example of the problem of bailouts. In September 2008, the U.S. government effectively seized control of American International Group (AIG)[23], one of the world's biggest insurers. The Federal Reserve arranged for an $85 billion loan to AIG, in exchange for an 80% equity stake. In November, the arrangement was restructured to provide AIG with $150 billion rather than $85 billion. In March 2009, after receiving $170 billion in federal bailout money with another $30 billion pending, AIG announced a $165 million bonus payout to executives. Despite the bailout and the U.S. government having ownership control, AIG management thought it was prudent to pay executive bonuses in a financially struggling company. The U.S. government lacked the oversight to assure efficient use of taxpayer bailout funds. Although an executive compensation restriction was added to the fiscal stimulus bill, the provision specifically exempted contractually obligated bonuses agreed on before Feb. 11, 2009, in effect allowing the AIG bonuses[24]. Another problem at AIG, a significant amount of the $182.5 billion that US taxpayers paid out through March 2009 went to meet the firm's obligation on credit derivatives. Three European banks received substantial payouts — France's Societe Generale at $11.9 billion, Germany's Deutsche Bank at $11.8 billion, and Britain's Barclays PLC at $8.5 billion[25].

Disbursements under TARP continued to grow, totaling $300.5 billion as of March 5, 2009[26]. Treasury disbursements under the Capital Purchase Program totaled almost $197 billion to 467 qualified financial institutions. This was approximately 80% of the $250 billion allocated for CPP. Auto Industry Financing Program disbursements stood at $23.7 billion. In February, the auto industry outlook grew bleaker, as GM and Chrysler asked for an additional $21.6 in bailout funds. This brought GM's request to a total of $30 billion and Chrysler's to $9 billion.

Since January, the Treasury has taken additional steps to implement TARP and strengthen the economy. On February 10, the Treasury announced the Financial Stability Plan, which focused on resolving the credit crisis by restarting the flow of credit to consumers and businesses, strengthening financial institutions, and providing aid to homeowners and small businesses. On February 25, the Treasury provided the guidelines for Capital Assistance Program (CAP) involvement by eligible financial institutions. A key component of the Financial Stability Plan, CAP is designed to ensure that, in severe economic conditions, the largest U.S. bank holding companies have sufficient capital to support lending to creditworthy homeowners and businesses. To assure this, a capital assessment or "stress test" will be conducted on the balance sheets of the 19 largest bank holding companies with assets exceeding $100 billion by federal banking regulators. The capital assessment was expected to be completed by April 30, 2009. On March 4, 2009, the Treasury introduced the Making Home Affordable program. This program will use TARP funds and attempt to strengthen the housing market. Approximately $75 billion will be

[22] www.Forbes.com, "US FED: Fed To Purchase $300 Bln Long Term Treasuries, $750 Bln MBS"
[23] see Karnitschnig, M., D. Solomon, L. Pleven, J. Hilsentrath, September 2008.
[24] see Edson, March 2009.
[25] "AIG Rescue Bailed Out Banks at Home, Abroad," *International Herald Tribune*, March 2009.
[26] General Accounting Office, Troubled Asset Relief Program, March 2009.

used to modify the mortgages of up to 3-4 million homeowners to avoid potential foreclosure. The Treasury will share the cost of restructuring the mortgages with financial institutions and investors. The Treasury will provide refinancing support for approximately 4-5 million homeowners with loans that are owned or guaranteed by Freddie Mac and Fannie Mae. Without this support, refinancing may not be an option, because the declining value of homes has left some homeowners with little or no equity. Finally, the Treasury's support of Fannie Mae and Freddie Mac is increased with a $200 billion funding commitment based on authority granted to the Treasury under the Housing and Economic Recovery Act of 2008.

On March 23, the Treasury rolled out its plan to take toxic assets off the balance sheets of banks and alleviate the credit crunch. The toxic assets, also known as legacy assets, are real estate loans or mortgage-backed securities on the balance sheets of banks which have seen a loss in value since the financial crisis began. The decline in asset value decreases bank capitalization, which dries up available financing. The Treasury's plan to address this problem, the Public-Private Investment Program for Legacy Assets, will use $75 to $100 billion in TARP capital and capital from private investors, with additional funding from the Federal Deposit Insurance Corporation. Initially, the program is expected to generate $500 billion in purchasing power to buy legacy assets, with the potential of eventually growing to $1 trillion[27].

The basic substance of the plan is as follows: Banks will initiate the process by identifying which assets they would like to pool and sell, with approval from the government. Potential investors will bid on the loans, with the highest bidder (also approved by the government) having access to the Public-Private Investment Program to fund 50% of the equity requirement of the purchase. The highest bidder, upon acceptance of the purchase price, will receive financing by issuing debt guaranteed by the FDIC. The amount of debt financing guaranteed by the FDIC is not to exceed a debt-to-equity ratio of 6 to 1. For example, an investor buying assets with a face value of $100 for a purchase price of $84 would receive FDIC guaranteed loans of $72, use their own equity of $6, and receive $6 in Treasury equity. Fund managers must be pre-qualified to raise money and jointly participate in the program with the Treasury.

What Might be Next

The United States began 2009 with a two-fold problem: 1) a credit crisis in the financial markets, and 2) a lack of consumer and investment demand. These problems resulted in a sinking stock market and a fourth quarter of 2008 decline in GDP that was the worst quarterly decline since the recession of 1982. To revive the economy, *both* of these problems must be addressed.

To offset the lack in consumption and investment, the Obama Administration and Congress passed an $800 billion fiscal stimulus in early 2009 to kick start an ailing economy. The $800 billion stimulus is more than the $600 billion deficit in fiscal year 2008, and will add to the $6 trillion of U.S. government debt held by the public. The fiscal stimulus is projected to grow the government deficit to over 10% of GDP[28], the highest level since World War II. According to the Congressional Budget Office, approximately 15-20% of the stimulus is expected to be spent in 2009 with 40-50% spent in 2010.

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[27] "Treasury Releases Details on Program to Buy Troubled Assets," *Wall Street Journal Online*, March 2009.

[28] Weisman, J., G. Hitt and N. Bendavid (2009)

Based on the magnitude of the spending, the fiscal stimulus should provide short-term economic growth. However, ultimately the key to long-term economic growth is through personal consumption which comprises nearly two-thirds of GDP and private investment. As the government spending from the fiscal stimulus eventually subsides in four years, it is the private sector through consumption and investment that must drive economic growth. Once the current stimulus subsides, the government cannot afford to continue borrowing in an effort to revitalize the economy. Expanding deficits and growing U.S. debt create the potential for future tax increases, higher interest rates, inflation through debt monetization, a weakened U.S. dollar, and ultimately, a lower standard of living. Increased deficits can also have political ramifications. China currently holds more U.S. debt than any other foreign country, owning more that 10% of U.S. debt held by the public[29].

The credit crisis is the other link to the weak economy. The objective of the TARP program is to help financial institutions replace toxic loans and investments with increased liquidity through government funding. Through the Treasury implementation of the TARP program, and actions of the Federal Reserve which included reducing the fed funds rate to historically low levels and actively buying mortgage securities and Treasury bonds, liquidity will increase in the financial markets. The financial markets welcomed the Treasury's announcement of the Public-Private Investment Program for Legacy Assets, a plan to buy toxic assets and increase liquidity and bank capitalization. However, increasing liquidity to revitalize the economy will only work in the long-run if it is complemented with an increase in consumption and private investment. In 2009, capacity utilization in the United States was reduced to levels not seen since the recession in the early 1980s. Companies didn't need loans to expand – they needed someone to buy their products. The private sector must rebound to reduce the debt burden created by current funding to fix the economy and financial markets.

TARP includes the controversial nature of government bailouts and the inherent associated problems. As 2009 progresses, there will likely be more companies needing and requesting financial aid. Picking and choosing which ones to help in an attempt to use taxpayer funds efficiently is wrought with difficulties. There are political conflicts of interest, difficulties in oversight, and the potential support of inefficient management and inappropriate strategic decisions.

A potential question on the horizon will be the impact of credit derivatives on the financial crisis. The use of credit derivatives has created a complex web of insurance between financial firms. The total market for credit derivatives dwarfs the sub-prime market and is estimated at over $60 trillion[30]. Credit derivatives create exposure for companies selling the contracts, and companies buying the contracts. The top five commercial banks for credit derivatives in the United States are 1) JPMorgan Chase, 2) Bank of America, 3) Citibank, 4) Wachovia, and 5) HSBC Bank USA[31].

Regulation of the financial markets, particularly the mortgage industry, must also increase. The system in place did not work – it provided an opportunity for gain without risk. Underwriting standards need to be strengthened, and there must be a link of risk and reward for both lenders and borrowers. The creditworthiness of borrowers needs to be verified and accurately stated. The risk of financial institution assets should be accurately assessed, monitored, and limited. Government agencies should purchase and guarantee financially sound mortgages. There should be accountability by all parties:

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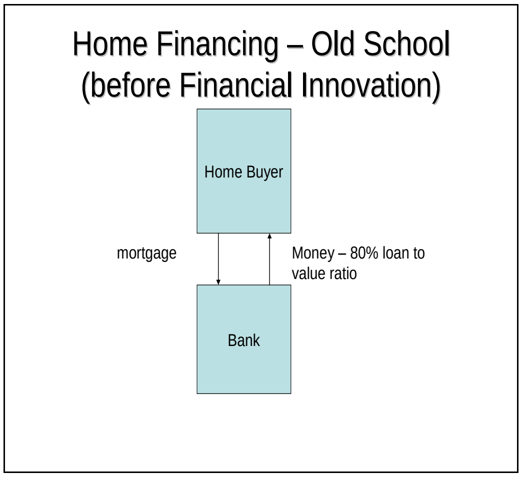
[29] www.treas.gov
[30] See Amerman (2008)
[31] Comptroller of the Currency Administrator of National Banks' Quarterly Report on Bank Trading and Derivatives Activities for the Second Quarter of 2008

borrowers, mortgage brokers, financial institutions, government agencies, rating agencies, and investors. Bailouts excuse rather than promote accountability. Government regulation promoting responsible homeownership is desired; not simply homeownership. Adjustable rate mortgages allowed homebuyers to gamble on interest rate movements. Homebuyers could also effectively gamble on future home prices, by borrowing 100% or more of the value of their homes. Legislation and regulation needs to assure that responsible borrowing and lending occurs in the future. Mortgage-backed securities played a valuable role in increasing mortgage market liquidity – but there needs to be accountability in evaluating the risk of the securities and the underlying mortgages. Finally, investment managers, advisors and investors need to have a greater understanding as to what they are investing in, rather than simply relying on a bond rating.

Given the array of activities currently underway, with more likely coming, the success of any one particular project or program may be hard to measure. Ultimately, the gauge of success for the fiscal stimulus and the bailouts will be the economy – GDP growth, employment, interest rates, inflation, and stock market performance. The fiscal stimulus provides funds for select projects and programs at the cost of substantial borrowing. However, long-term growth must come from the private sector fueled with appropriate liquidity in the financial markets. If personal consumption and private investment do not rebound, the U.S. economy could be worse off in the future than it is now. In addition, increased oversight of the financial and mortgage markets is needed. This should be the last bailout related to the mortgage industry that ever occurs in the United States.

Figure 1



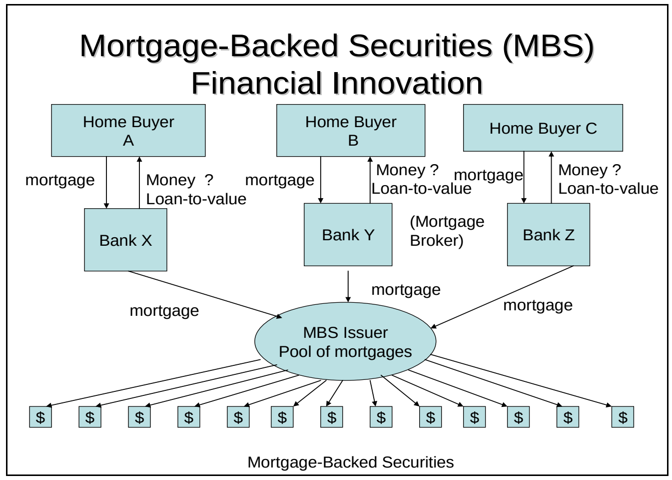


Figure 2

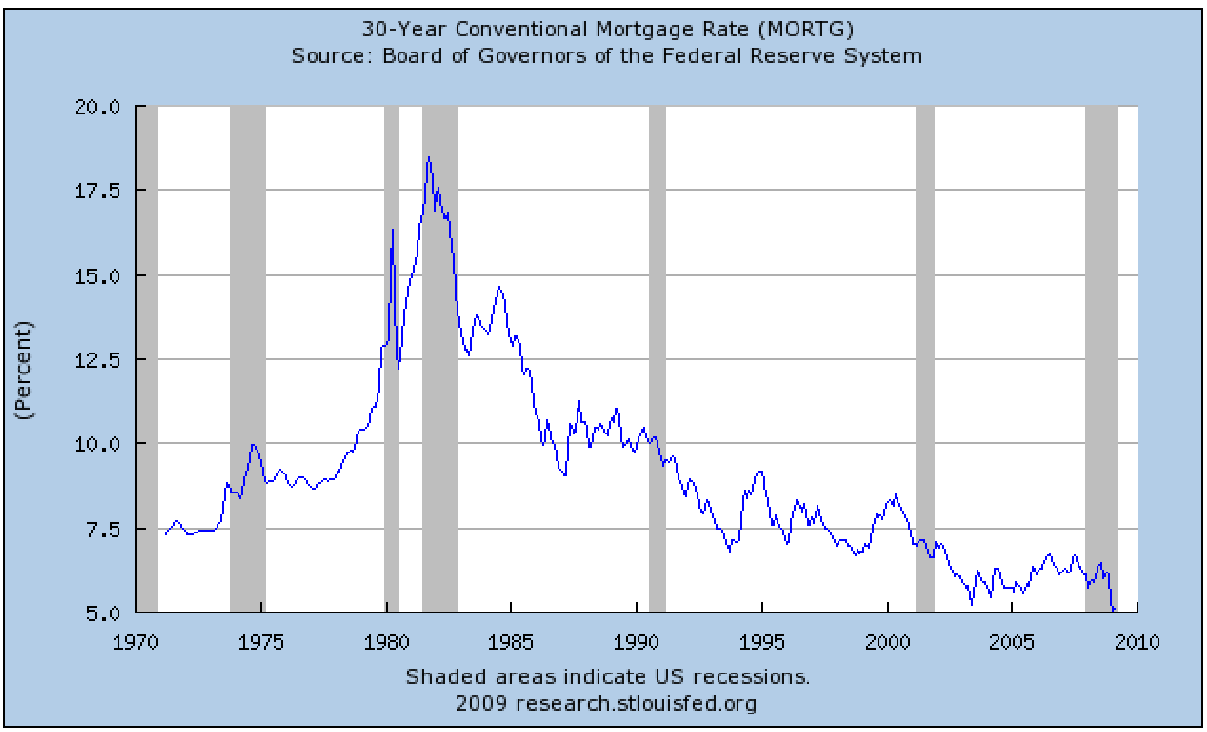


Table 1 Mortgage Related Bond Issuance (in billions)

	Agency	Non-Agency	Total	% Non-Agency
1996	440.7	51.9	492.6	10.54%
1997	535.0	69.4	604.4	11.48%
1998	952.0	191.9	1,143.9	16.78%
1999	884.9	140.5	1,025.4	13.70%
2000	582.3	102.1	684.4	14.92%
2001	1,454.8	216.5	1,671.3	12.95%
2002	1,985.3	263.9	2,249.2	11.73%
2003	2,725.8	345.3	3,071.1	11.24%
2004	1,375.2	403.8	1,779.0	22.70%
2005	1,321.0	645.7	1,966.7	32.83%
2006	1,214.7	773.1	1,987.8	38.89%
2007	1,371.7	678.4	2,050.1	33.09%
2008	1,312.9	44.9	1,357.8	3.31%

Source: Securities Industry and Financial Markets Association

Table 2: Status of TARP Funds as of January 23, 2009
(Dollars in billions)

Program	Announced Program Funding Level[a]	Apportioned	Asset Purchase Price	Disbursed
Capital Purchase Program	$250.0	$230.0	$194.2	$194.2
Systemically Significant Failing Institutions	40.0	40.0	40.0	40.0
Targeted Investment Program	40.0	40.0	40.0	40.0
Term Asset-backed Securities Loan Facility	20.0	0.0	0.0	0.0
Automotive Industry Financing Program	24.9	24.9	20.8	19.5
Citigroup Asset Guarantee	5.0	5.0	5.0	0.0
Bank of America Asset Guarantee	7.5	0.0	0.0	0.0
Total	**$387.4**	**$339.9**	**$300.0**	**$293.7**

Source: Office of Financial Stability

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