

## **Financial Institutions and the Economy**

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*This study will examine the current literature on the condition of the national economy and examine its impact on the nation's financial institutions. Additionally, data will be examined to establish a base for banking prior to the financial crisis and establish a basis for determining whether there has been an improvement in the overall condition of financial institutions. Studies relating to the reasons for the financial crisis will be considered. Some of the key data to reflect the condition of financial institutions that will be examined include return on average assets, net interest margin, net charge-off loans, and non-performing loans.*

### **INTRODUCTION**

Based upon current economic data, the United States economy continues to show limited signs of improvement as noted in a recent report by Harvey Rosenblum, Executive Vice President and Director of Research and Jessica Renier, Senior Economic Analyst at the Federal Reserve Bank of Dallas, wherein they stated, "It is time to talk up the economy and stop talking it down." They went on to note that we still have slow growth in some sectors as well as deleveraging—especially employment and housing.. While financial institutions are finally beginning to show signs of improvement, Federal Reserve Board Governor Sarah Raskin noted in a recent speech to bankers that the nation has contained the crisis, but there are still issues facing the financial institutions.

### **WHAT CAUSED THE CRISIS**

Multiple actions caused the financial crisis that exists in the nation. Some actions and a lack of action by a number of individuals and groups caused this turmoil on a global level. In addition to greedy people trying to take advantage of the system, the collapse of the real estate bubble and the subsequent credit policy changes added impetus to the decline of the financial system. Banks reacted to the early stages of the financial problems by tightening up credit standards to reduce real estate losses. Lack of credit then forced some companies to reduce the number of employees and other companies to shut down completely.

## Financial Crisis Timeline

The Federal Reserve Bank of St. Louis (2010) chronicled the events of the financial crisis on its web site. Unless you examine the timeline in retrospect, it is difficult to see how it developed. Many have questioned why scholars, government, or others did not see the event happening and stop it. In reality, there were so many events that were not simultaneous, hence not obvious.

The FRB St. Louis (2010) timeline is set out in summary form to show the major events.

- February 27, 2007—The Federal Home Loan Mortgage Corporation notes that it will cease the purchase of the most risky subprime mortgages and mortgage-related securities.
- April 2, 2007—New Century Financial Corporation a top subprime lender files for Chapter 11.
- June 1, 2007—Standard and Poor's and Moody's Investment Services downgrade over 100 bonds backed by second-lien subprime mortgages.
- June 7, 2007—Bear Stearns informs investors that it will no longer provide redemptions from its High-Grade Structured Credit Strategies Enhanced Leverage Fund.
- July 11, 2007—Standard and Poor's calls for a credit watch classification on 612 subprime backed residential mortgages.
- July 24, 2007—Countrywide Financial Corporation, one of the nation's largest mortgage lenders files notice with the SEC of "difficult financial conditions."
- July 31, 2007—Bear Stearns has to liquidate two hedge funds tied to mortgage back securities.
- August 6, 2007—American Home Mortgage Investment Corporation files for Chapter 11 Bankruptcy.
- August 9, 2007—France's largest bank (BNP Paribas) stops redemptions on three funds.
- August 16, 2007—Countrywide Financial Corporation is downgraded to BBB+ and has to borrow \$11.5 billion for liquidity.
- November 1, 2007—The intensity of financial market pressures virtually eliminates liquidity in interbank funding markets.
- January 11, 2008—Bank of America announces purchase of Countrywide Financial for \$4 billion in stock.
- February 13, 2008—The Economic Stimulus Act of 2008 becomes law in attempt to bolster markets.
- February 17, 2008—Northern Rock is taken over by the Treasury of United Kingdom.
- March 5, 2008—Carlyle Capital Corporation is noticed for default due to failure in meeting margin calls on its mortgage bond fund.
- March 24, 2008—Federal Reserve Bank of New York provides term financing for JP Morgan Chase to acquire The Bear Stearns Companies, Inc.
- July 11, 2008—The Office of Thrift Supervisions closes IndyMac Bank, F.S.B.
- July 13, 2008—To save Fannie Mae and Freddie Mac from collapse, The Federal Reserve Board authorized lending to provide liquidity, if necessary.
- September 7, 2008—The Federal Housing Finance Agency places Fannie Mae and Freddie Mac in government Conservatorship.
- September 15, 2008—Bank of America announces that it will purchase Merrill Lynch & Co. for \$50 billion.
- September 15, 2008—Lehman Brothers Holdings Incorporated files for Chapter 11 bankruptcy.
- September 15, 2008—The Federal Reserve Board authorizes Federal Reserve Bank of New York to lend up to \$85 billion to American International Group (AIG).
- September 17, 2008—The SEC placed a temporary ban on short selling of the stock of financial companies.
- September 25, 2008—The Office of Thrift Supervision closes Washington Mutual Bank with JP Morgan Chase acquiring the banking assets.

- September 29, 2008—Citigroup authorized by the FDIC to purchase the banking assets of Wachovia Corporation, however, Wells Fargo presented a competing proposal to acquire Wachovia on October 3<sup>rd</sup>.
- October 3, 2008—The \$700 billion Troubled Asset Relief Program (TARP) becomes law.
- October 7, 2008—FDIC increases deposit insurance coverage to \$250,000 to stabilize balances in bank deposits.
- October 28, 2008—The U. S. Treasury purchases \$125 billion in preferred stock in nine of the nation’s largest banks to give financial support.
- November 14, 2008—Additionally, The U. S. Treasury purchases a total of \$33.5 billion in preferred stock in 21 of the nation’s largest banks.
- November 18, 2008—General Motors, Ford, and Chrysler request TARP money.
- November 21, 2008-- The U. S. Treasury purchases \$3 billion in preferred stock in 23 banks to give financial support.
- December 5, 2008-- The U. S. Treasury purchases \$4 billion in preferred stock in 35 banks to give financial support.
- December 12, 2008-- The U. S. Treasury purchases \$6.25 billion in preferred stock in 28 banks to give financial support.
- December 19, 2008—The U. S. Treasury authorized loans of up to \$13.4 billion for General Motors and \$4 billion fro Chrysler from TARP

Given the above data, it should be obvious that this was a “domino effect” as opposed to all of the problems happening at one time. Several significant events assisted in creating the “domino effect.” For example, on July 11, 2007, Standard and Poor’s called for a credit watch classification on 612 subprime-backed mortgages. Twelve days later, Countrywide Financial Corporation, one of the nation’s largest mortgage lenders put the Securities and Exchange Commission on notice of its “difficult financial condition” and was subsequently absorbed by Bank of America. Then, the midpoint of the crisis came on November 1, 2007, when financial pressures virtually eliminated liquidity in the interbank funding market causing the Economic Stimulus Act (2009) to be passed to bolster liquidity in the markets. The final domino fell when Bear Stearns Companies, Inc. collapsed and the Federal Reserve provided term financing for J. P. Morgan Chase to acquire them. Additionally, Lehmann Brothers bankruptcy and the A. I. G. meltdown shook the entire financial world into the crisis mode.

### **Glass-Steagall Act Repeal Redefined Competition**

The Glass-Steagall Act of 1933 created a “firewall” between commercial banking and investment banking. The Act was designed to eliminate the risks involved in allowing the intermingling of corporate or investment assets with commercial banking to prevent a financial crisis such as occurred in the Great Depression. The Act remained in place until 1999 when Congress repealed it by passing the Gramm-Leach-Bliley Act, which allowed commercial banks, insurance companies, and investment banks to merge and interact.

The repeal was met with mixed reactions. Some in the banking and business communities opposed the repeal of the Glass-Steagall Act with concerns that the intermingling of various financial entities with commercial banks could cause a financial crisis. Their concerns became reality with the interrelated transactions between merged financial institutions. It has generally been opined in hindsight that the Glass-Steagall Act would have prevented many, if not most, of the elements causing the financial crisis.

### **Mortgages**

While the economy was enjoying an extended period of growth, real estate values were reaching new heights. This led some financial institutions to offer mortgages with little or no equity required. Borrowers were happy with this opportunity because they could get into home ownership without waiting to save up for a significant down payment allowing them to get into houses that were actually beyond

their means. Many borrowers stretched for home ownership and had no savings in the event of a crisis. As long as borrowers were able to meet their obligations until time to sell at a price higher than their original purchase price, this appeared to be a win-win for both borrower and lender.

These low or, in some cases, no equity loans often had another characteristic that led to disaster when the economy did not continue to grow at the expected pace. Often these loans were made with adjustable interest rates. A relatively low initial rate was often provided to assist with borrower qualification. DiMartino and Duca (2007) noted, "Of the mortgages originated in 2006 that were later securitized, 92 percent of subprime, 68 percent of near-subprime, 43 percent of jumbo and 23 percent of prime mortgages had adjustable rates". This did not create a problem as long as interest rates decreased, or at least did not rise, or if the borrower's future income increased to offset payment increases when interest rates adjusted upward.

### **Subprime Lending**

Another mortgage-related contributor to the financial crisis was the policy of lending to people that did not have the best credit, popularly known as subprime lending. Bankers were happy to find a demand for the high interest rate loans associated with subprime lending and the borrowers were glad to be able to find credit at any price. Again, this situation paid off well for the bankers during the early part of the 21<sup>st</sup> Century due to the state of the rest of the economy, and this part of the market enjoyed enormous growth from 2001 through the first part of 2006. The value of subprime mortgages originated in America shot up from \$190 billion in 2001 to \$600 billion in 2006, according to DiMartino, et al (2007). As could be expected, when the economy began to show signs of decline, these subprime mortgages failed at a much higher rate than conventional mortgages.

### **Toxic Securities**

Toxic securities is the term that has been applied to securities that include subprime mortgages, collateralized debt obligations, and other risky loans. Competition for better earnings drove financial institutions to stretch their risk. It was only when the economy stalled that the true risks of these securities became obvious. "For the past 18 months, the banks' problems with toxic securities, especially collateralized debt obligations (CDOs) and other exotic products that packaged subprime mortgages, attracted most of the attention – and alarm" (Tully, 2009).

### **Credit Crunch**

At the beginning of 2007, lending institutions began to anticipate the impending problems as evidenced by the decline in the subprime market in late 2006. They reacted by tightening their lending policies. Businesses that began to see the results of the economic decline, found that loans to expand or even ride out the weak economy were no longer forthcoming. Lenders were not only taking a closer look at loan applications, they were also increasing loan-to-value requirements to make it even more difficult for borrowers to get the loans needed for survival (DiMartino, et al 2007). To further tighten credit, the regulatory agencies increased their credit standards for banks.

## **FINANCIAL AND DEMOGRAPHIC ISSUES**

From January 2008 to December 31, 2010, the Federal Deposit Insurance Corporation failed 297 banks. However, in spite of the serious nature of the current crisis, it cannot compare with the financial crisis of the 1980s and early 1990s, the Federal Deposit Insurance Corporation noted that between 1980 and 1994, they closed 1,600 banks.

What is still troubling with the current financial institution issues is the number of banks classified as "problem banks" which totaled 884 at year-end 2010, 702 at year-end 2009, 252 at year-end 2008, and only 76 at year-end 2007. From these numbers, it would appear that there will be a number of additional failures to come.

In spite of the above data, examining some of the current demographic information, the nation shows limited signs of improvement. While this data is not irrefutable evidence of improvement, it does show a number of encouraging signs. First, total household income has shown an upward shift in all levels above \$50 thousand, indicating those below that level have moved upward in the last ten years. As further evidence, average household income has increased from \$56,644 in 2000 to \$70,173 in 2010.

An even more positive sign is the current data on unemployment statistics. Unemployment decreased to 8.8 percent in March 2011, which is a decline from 9.3 percent in March 2010. Housing continues to lag, and it is not showing signs of increase on a long-term basis at this time.

## **FINANCIAL INSTITUTION INDICATORS**

While the following four indicators are not the only determinates of bank performance, they provide a good snapshot of the economic conditions within banks in the United States. In order to give an accurate picture of what has taken place among financial institutions, the data will be presented beginning before the economic crisis in 2006 and ending with a current look at year-end 2010

### **Return on Assets**

Return on average assets (ROAA) represents an accurate picture of earnings in financial institutions without having fluctuations due to changes in capital. It is an indicator of how efficient the firm's assets are being utilized and a standard of excellent performance is 1.0 percent. Financial institutions were performing extremely well, with ROAA nationally at near all time highs in 2006 at 1.32 percent. As lending started to decline in 2007, ROAA dropped to 0.74 percent. During 2008, the financial crisis was impacting the financial industry at full velocity and as such saw a negative 0.25 percent ROAA. In 2009, as nominal improvement began, ROAA in the nation's financial institutions returned to a positive, but weak 0.15 percent. Headway was made in 2010 as the firms started a basic recover and ROAA stood at 0.52 percent.

### **Net Interest Margin**

Net interest margin is the difference between the cost of funds and amount charged to borrow funds at the bank. A standard considered a good net interest margin is 4.00%.

A number of factors impact the net interest margin (NIM) such as competition, pricing differences between deposits and loans, and various other lesser important items. Most surprising of the indicators is the NIM which moved very little over the five years. However, careful analysis leads to the conclusion that during the crisis period there was very little lending going on, hence no movement to offset competition. NIM for 2006 was 3.04 percent with a slight decline in 2007 to 2.91 as competition increased when loan quality was declining. With the drop in interest rates in 2008 coupled with the height of the crisis, NIM rose to 3.21 percent and this same pattern existed during most of 2009 which saw NIM drop slightly to 3.20 percent. As the economy showed some signs of improvement in 2010, there was an increase to 3.33 percent.

### **Non-Performing Loans**

Non-performing loans are loans that are ninety or more days delinquent in payments of interest and/or principal. In effect, these would be considered bad or toxic assets on the bank's books. On average most banks had tried to maintain a low percentage of non-performing loans to maintain quality and keep earnings up. At year-end 2006, non-performing loans (NPLs) were at a reasonable level of 0.60 percent. In 2007, NPLs more than doubled to 1.23 percent as subprime loans surfaced as a major problem. Unfortunately, the near doubling occurred again in 2008 when NPLs reached 2.32 as the financial crisis developed full-blown. Regulators pressed banks to evaluate their loan portfolios and recognize those loans that had performance issues. As a result, in 2009, NPLs reached 4.69 percent. By the end of 2010, NPLs stabilized and dropped slightly to 4.51 percent.

### **Net Charge-Off Loans**

A charge-off is the portion of a loan that is deemed uncollectable and must be written off the bank's books. Historically, loan charge-offs in good economic times range in the 0.25% to the 0.50% range. At the end of 2006, net charge-offs (NCOs) were stable at 0.48 percent. Perhaps, as a result of the issues of subprime problems, NCOs increased to 0.68 percent. In 2008, as the financial crisis manifested itself, the NCOs stood at 1.63 percent. As financial institutions began to recognize how serious these problems were, the NCOs reached a high of 2.84 percent. It is obvious that stability is approaching when NCOs moved only slightly to 2.89 percent.

### **CONCLUSIONS**

By examining the financial and demographic data, it appears that there is some improvement in the economy, with one exception being housing. The four financial elements of return on average assets, net interest margin, loan charge-offs, and non-performing loans provided an interesting comparison of the time period pre-crisis through year-end 2010. Three of the four elements-- return on average assets, loan charge-offs, and non-performing loans were positive reflections of what would be indicative of economic improvement in the financial sector. Due to a lack of lending activity and an increase in credit standards, net interest margin did not have enough movement to give an adequate indicator of economic movement in the financial sector.

A further study of the data by geographic areas and possibly by financial institution size might reveal substantial differences that would be helpful in further quantifying the recovery or lack thereof of certain areas of the country or size of financial institution.

### **REFERENCES**

- Angkinand, Apanard P. (2009). Banking Regulation and the Output Cost of Banking Crises. *Journal of Financial Markets, Institutions & Money*, 19,240-257.
- DiMartino, D. and Duca, J. V.. (2007). The Rise and Fall of Subprime Mortgages. *November Economic Letter-Insights from the Federal Reserve Bank of Dallas*. 2, 11.
- DiMartino, D. and Duca, J. V. and Rosenblum, H. (2007). From Complacency to Crisis: Financial Risk Taking in the Early 21<sup>st</sup> Century. *December Economic Letter-Insights from the Federal Reserve Bank of Dallas*. 2, 12.
- Federal Reserve Bank of St. Louis.(2010). The Financial Crisis Timeline. <http://timeline.stlouisfed.org/>
- Raskin, S. (2011). *How to Supervise Banks*. Remarks before New York Community Bankers Conference on April 7, 2011.
- Rosenblum, H. & Renier, J. (2010). Monetary Policy: Economy Gaining Traction, *Federal Reserve Bank of Dallas*. December.
- SNL Financial (2011). Industry Trends and Statistics, February 8, 2011. Charlottesville, VA.
- Tully, Shawn. Will the Banks Survive? (2009). *Fortune Magazine, February*, [CNMONEY.com](http://cnnmoney.com).