Norges Handelshøyskole

Bergen, spring 2011

Bank bail outs: causes, implementation, pros and cons

By Dinara Karibekova

Master Thesis in International Business

Thesis Supervisor: Liam Brunt

Abstract

This master's thesis has explored the topic of main causes that provoked recent financial crisis transformed into global one and addressed the issue of bank bailouts application in the US that is becoming increasingly discussed and debated subject recently. This thesis has reviewed financial statements of four medium-sized commercial banks all located in Georgia state, two of which were allowed to fail and the others bailed out, in order to understand which specific features were taken into account by the US government to support a bank in difficult economic situation. The research concludes that despite high concentration of troubled assets in bank loan portfolio and lack of liquidity, well bank capitalization was one of the main points that helped banks to receive government support. The thesis is trying to show that despite high costs and negative consequences of bailouts, their implementation was inevitable to prevent the relapse of the Great Depression.

Foreword

This thesis was written as a part of two year Master of Science degree in International Business at the Norwegian School of Economics and Business Administration (NHH) in the spring semester of 2011. The topic of interest is based on my fascination that emerged since Bachelor of exploring the causes provoking financial crises. The valuable financial courses and strong faculty at NHH gave me the opportunity to expand my knowledge in the field of interest and in related spheres.

I would like to express my greatest gratitude to my thesis supervisor Professor Liam Brunt, who always supported my ideas and put them on the right track, was willing to correct my thesis and give valuable comments.

As this thesis is the last evidence of my study period, I want to thank everybody who supported and helped me during my Master program: professors, classmates, friends, and my closest and dearest people.

Dinara Karibekova

Tashkent, June 2011

Table of Contents

Introduction

Throughout history, free market societies have gone through boom and bust cycles. While everyone enjoys boom sides of the cycles, the downturns are often painful. For almost four years the global economic system has been under extraordinary stress. The crisis remarkable for the meltdown in real estate market in the US easily spread into almost every corner of the globe. Financial crisis hit in the US in July 2007 forced the US government work out possible effective solutions under unprecedented circumstances applying traditional and non-traditional monetary policy tools. Finally, the US Treasury Secretary Henry Paulson suggested the plan, named after him "Paulson plan" to bail out a number of insolvent banks by acquiring illiquid mortgage-backed securities for roughly 700$ billion in order to ensure financial stability, investor confidence and integrity. What made this downturn become the most severe financial crisis during the Post World War II era? Ones blame the "Loose monetary policy adopted by developed world and, on the other side excess savings made by emerging economies". Others argue that "Inadequate external and internal political regulation", "Delinquencies on subprime mortgages, poor risk assessment and lack of transparency" made all this happen. However, we believe the housing market bubble is rather a consequence triggered by scant regulation in financial sector and macroeconomic imbalances across the world, particularly in income and current account. Therefore, we do not tend to consider it to be the cause of the crisis itself.

The purpose of this thesis is to

- thoroughly look at main reasons that brought the US to the recession;
- find out how the government chose the banks that were going to be bailed out by analyzing the financial statements of a sample of 4 middle-sized commercial banks;
- see whether the government had the other options to save the economy, but applying bank bailout

In order to find out what went wrong and when it started we have to carefully examine the situation and conditions the world experienced before the collapse. So, in the first chapter the US economy overview before the crisis is reviewed and the main causes of crisis are discussed. It is reasonable to look through the past decade trend in such indicators as GDP

growth, housing prices dynamics and subprime mortgage market figures that closely correlate with increase in financial risk and consequently interest rates. Further, it is worth noting that different targets of monetary, fiscal and external policies, usually contradicting to each other, adopted by main economic world powers led to negative trade balances in the US, piling up excessive dollar reserves in emerging economies, mainly in China and other macroeconomic imbalances.

The second chapter is showing the volume of bailout scheme through different conventional and unconventional channels, envisaging a sample of four medium-sized US commercial banks without interstate branches to understand why some banks were failed and the others bailed out, what features banks should have possessed to be bailed out. This research helps to understand the standard government behavior for bailout selection process for all sized banks.

Now when markets are entirely back on track there are still debates if the bailout option was the only right solution, its advantages and disadvantages, and what will be the long run consequences not only for financial system, but for the whole economy as well. These questions remain open, therefore giving us a chance to discuss them in the third chapter.

The thesis is finished with the conclusion which is based on the overall thesis review.

Chapter 1. The overview of the US economy before the crisis

1.1. Monetary policy and GDP growth

To start examining the US monetary policy we need initially provide the definition of it. So, monetary policy is the process by which the government, central bank or other regulatory committee controls the money supply, its availability and cost of money by means of regulating interest rate in order to promote the GDP growth and economy stability. The Federal Reserve System handles the monetary policy of the US. Usually it is considered that the main goal of the US monetary policy is to procure such market sentiment and economic conditions, which would allow sustaining stable price levels (reasonable inflation dynamics), promoting effective output growth, and maximizing employment at moderate long-term interest rates. It is accepted that the expansion of money supply stimulates the economy, leading to a more rapid rate of real GDP growth, thus lowering unemployment rate. The policy called to the aims aforementioned was utilized to boost the economic growth following the dot com crisis in 2001. As a result the monetary policy turned to be too loose; interest rates were on record low levels. Federal funds benchmark target rates (federal funds rate is an interest rate at which a depository institution lends available funds to another depository institution[1]) were pushed down to 1 % in 2003 (See Chart 1). It means that the monetary policy carried out by the FED was aggressively expanding. It can be clearly seen from the chart 2 that there is a negative correlation between federal funds rate and GDP growth with lag of two quarters or more. (See Chart 2) When federal funds rate is on the bottom, the GDP growth is on its peak. In 2003, for instance, the federal funds rate reached its peak, while GDP growth experienced significant jump. Most experts argued that there was no chance for the Fed to reanimate the weak and slow economy, but offering really cheap money to the market. Concurrently few of them warned that this may result in bubble inflation leading to deferred economic downturns.

[1] http://www.investopedia.com/terms/f/federalfundsrate.asp

Chart 1. The trend of Effective Federal Funds Rate

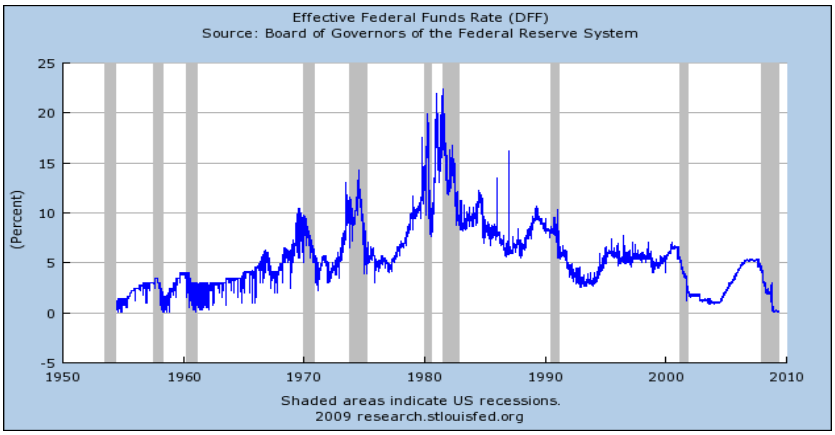
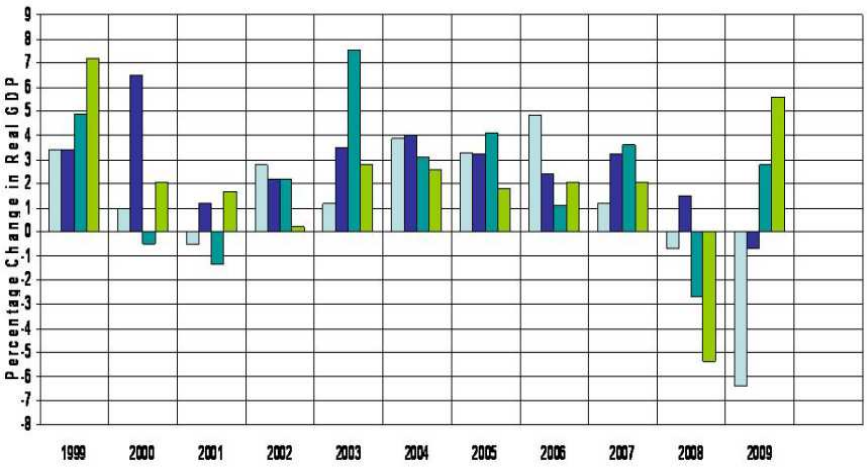


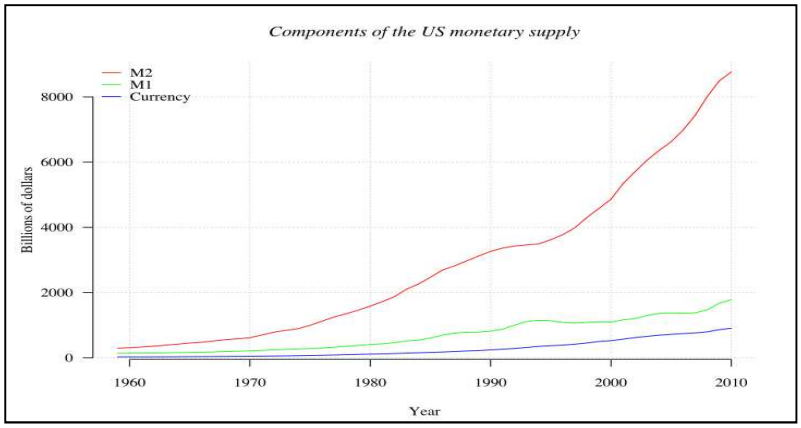
Chart 2. Quarterly changes in US Real GDP (1999-2009)



Source: News Release: Gross Domestic Product: Fourth Quarter 2009, US Bureau of Economic Analysis, March 26, 2010

US authorities actively used tools affecting money supply levels to regulate the pace of economic growth, inflation levels and unemployment rates. Observing the downward economic trend the Federal Reserve System aggressively applied monetary policy instruments to support the economic growth. Excess money supply was finding their implication in asset bubble growing. Hence, we can conclude that monetary policy and recent crisis are interconnected. Chart 3 clearly shows us that money supply has experienced unprecedented upswing during last five decades.

Chart 3: Components of US monetary supply (1960 - 2010)[2]



Money supply is the entire amount of money in the economy. M0, M1, M2 and M3 are different types of money classifying according to its size and constructed such that each subsequent includes the previous. M0 is the most liquid type of money including coins and cash + assets held at central bank. M1 consists of the most liquid aggregate + demand deposits + similar interest-earning checking accounts, M2 includes saving deposits + non-institutional money-market funds + small time deposits + retail money market mutual fund balances in addition to previous money aggregate. M3 consist of large time deposits + institutional money-market funds + short-term repurchase agreement + Eurodollars in addition to previous money aggregate.[3]

The monetary base, also known as high-powered money (M0), is an important part of the money supply since the increase in it leads to a multiple increase in the money supply through a multiplier. Knowing that monetary base is expressed as currency in circulation (Treasury currency and the Federal Reserve currency) plus reserves[4], the decline in reserves reflects the increase in currency in circulation. From Chart 4 it can be seen that the monetary base was increasing steadily from 1999. This increase was accompanied by growth in GDP. However, from 1996 till 2005 real GDP grew by 59.3 %, or 4.8 % per year,

[2] Website of Federal Reserve Bank of St. Louis
[3] Board of Governors of the Federal Reserve System , " The Federal Reserve System: Purposes and Functions", Washigton DC., Last update: July 5, 2005 p. 22
[4] William T.Gavin, " More Money:Understanding Recent Changes in the Monetary Base", Federal Reserve Bank of Saint Louis Review, March/April 2009, 91(2), pp.49-59

while aggregate M3 increased by 115.9%, or by 8% per year. For 10 years the ratio of monetary base to nominal GDP raised to 166.7%.[5]

Chart 4: **A closer look in to the monetary base dynamics.**

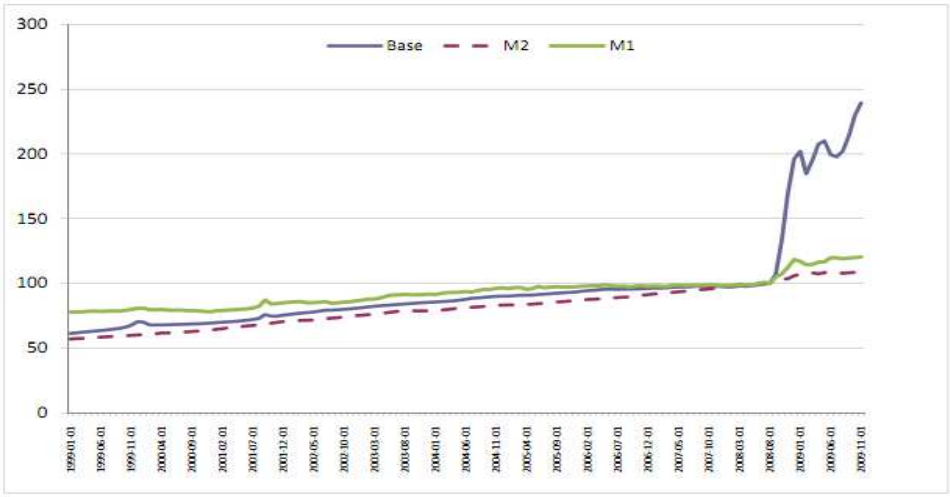


Figure 4: M1, M2 and Monetary Base in the US, January 1999-November 2009 (August 2008=100). Source: Federal Reserve Bank of St. Louis Website

Loose monetary policy pushed loan supply and increased the multiplier. Actually, the excess liquidity accumulated within the financial system of the economy was not flowing into the consumer sector making real GDP growth more robust. It is worth noting that the money supply liquidity indicators M1, M2 and M3 lost their dominance as liquid instruments with the introduction of financial derivatives. According to David Roche liquidity pyramid, M1 and M2 are on the base of inverted pyramid, comprising only 1% of global liquidity, broad money, M3 takes 9%, then securitized debt 10% and 80% accounts for global derivatives[6].

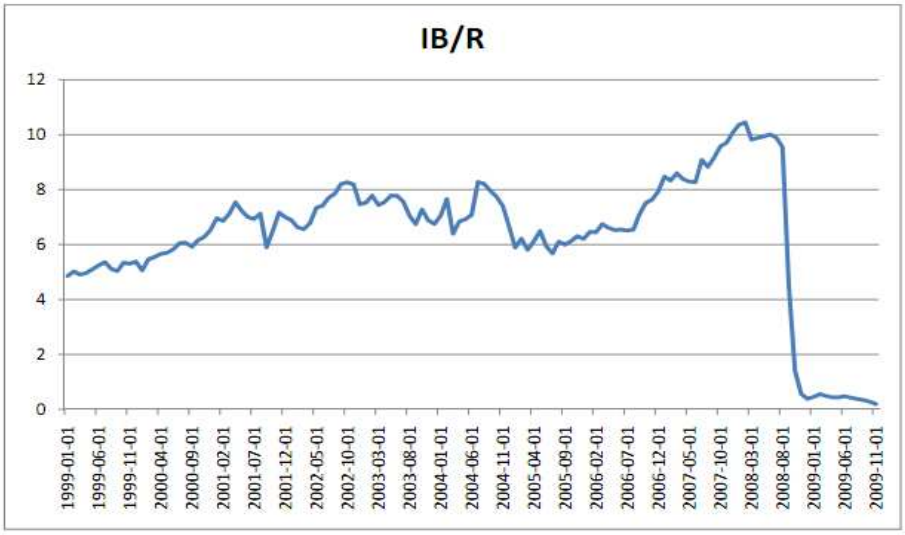
Monetary expansion pumped in more and more liquidity into the balance sheets of banks, non-banking institutions and other intermediaries. On their turn banks in the pursuit for higher return on assets expanded the borders of "creditworthiness" providing loans and credits to individuals and legal entities with poor risk profile. Following this asset prices began to react accordingly. The skyrocketed rise in asset prices can be construed as a direct outcome of long run monetary expansion. Here, we need to pay great attention to expectations and rationale. Credit expansion as it was publicly perceived made the dreams

[5] http://www.scriru.com/6/95497475785.php
[6] Independent Strategy, "New Monetarism" , Global markets , 2007

come true. Indeed the vast part of investments either led to losses (launching private businesses which in many cases are not successful) or brought the virtual return by nominal price increase of existed assets. As it was mentioned by Dupor the deviation of asset prices from the fundamentals leads to inappropriate investments that diminish the efficiency of the economy[7]. But as long as the banks and financial system keep on making money, they do not think much about the circumstances that may threaten economic activity. Before the crisis the banks did not want and were not obliged to hold excess reserves with the Fed if they could earn an additional return on extra dollar by lending, thus increasing the money velocity, real GDP or inflation or both. (MV=PQ), where M=monetary base, V=velocity, the number of times each dollar is turned over during the year, P= price of goods and services sold during the year, or inflation and Q=the quantity of assets and services sold during the year, or real GDP. It can be seen from Chart 5 that the proportion of interbank lending among commercial banks to total reserves had positive trend, particularly from 2005 till the end of 2007, when the bank reserves started to diminish sharply. Bank Reserve requirements are one of the tools of monetary policy which controls the amount of money the bank has at disposal. When central bank wants to diminish the amount of money in the economy, it increases the reserve requirements and the other way around, if central bank wants to boost liquidity in the system. Bank reserves are amount of money, computed as a percentage of deposits, that banks are required to keep in form of vault cash or deposits on hand at all times in case of sudden demand for deposit withdrawals . In the end of 2007 the interbank lending exceeded the total reserves more than 10 times, but it dropped significantly afterwards. The loss of confidence forced banks to hold more reserves at the Fed rather than to lend. The credit crunch succeeded cash abundant times. (See Chart 5)

[7] Bill Dupor, "Stabilizing Non-fundamental Asset Price Movements under Discretion and Limited Information", Journal of Monetary Economics, vol.52, May, 2005, pp.727-47

Chart 5. **Interbank lending and reserves in the US, January 1999-November 2009**



Source: Federal Reserve Bank of St. Louis Website

1.2. Income Inequality

It is essential to note that the productivity dynamics did not match the one of wages. Stiff competition and trade liberalization made corporations and other profit seeking entities keep wages constant (thus, change in real wages due to inflation were negative) and substitute compatriot employees with hi-tech equipment and cheap labor in the emerging countries. The steadily rising wages from the beginning of the 19th century stopped going up in the 1970's, while the prices were growing steadily. Compared to the investment banker the average worker has been earning per week 10 times less[8]. The income inequality is much greater in comparison with CEOs and hedge funds managers. To preserve the family life standards workers, including middle class had to use their savings and, besides that ultimately take more and more debt, using multiple credit cards and loans. Overdrafts and other credit tools became main source of financing the excess consumption. Banks, finance corporations, hedge funds and insurance companies came from the supply end for this game as the cheap capital available onboard unveiled abysmal opportunities for them. So, it is premature to conclude that the rise in consumption was homogeneous among all categories of households. To the contrary consumption expansion could be more about the

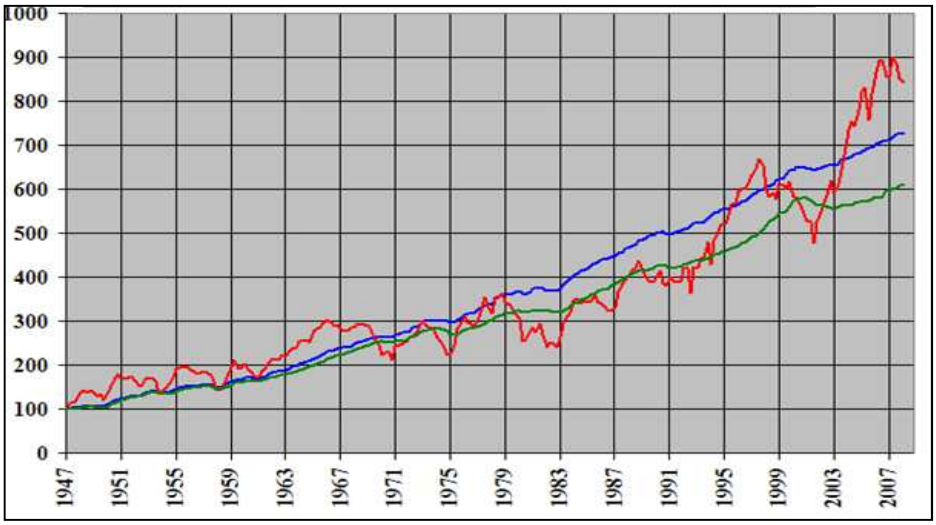
[8] David Cay Jonston, "Average Pay in Investment Banking is Ten Times that Elsewhere", International herald Tribune, September 3, 2007

increasing growth of expenditures was not associated with real consumption growth, but with the income growth in high-end tier of population, who were trying to earn more return on their capital and encouraged credit taking. At the end of the day, cheap credit availability, poor risk control and management boosted the demand pushing prices even higher with the pace overtaking the one of real disposable income. (See Chart 6)

Chart 6**. The relative dynamics of GDP growth, corporate profits and salaries in the US**

(in nominal prices for 1947-1997.)

GDP. Corporate profits. Salaries



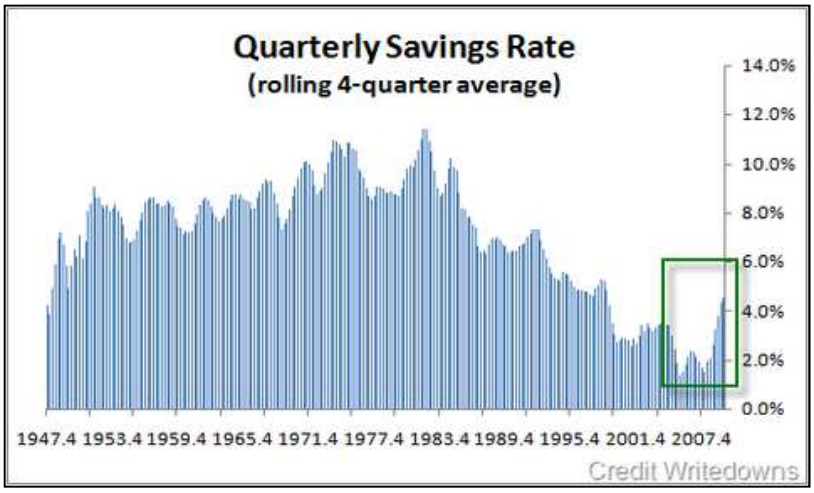
Source: M. Khazin, "Crisis theory", Report for the conference in Modena, Italy, 9 July 2008

1.3. Low Savings rate

Last three decades of US economic history was famous for a sharp fall in saving rates. Chart 7 displays the dramatic decline in savings rate in comparison with the 1970's.[9]

[9] http://www.creditwritedowns.com/finance-data/

Chart 7.



Source: www.creditwritedowns.com

Simultaneously, widening budget deficits and rising capital needs required uninterrupted financing. The US made it usual to borrow from emerging economies experiencing high saving rates utilizing its unique advantage as an issuer of de facto sole reserve currency, US Dollar. This accompanied with loose monetary policy and solid US reputation as a debtor, allowed to withstand falling saving rates at home and sustain healthy economic sentiment relatively easily weathering out cyclical downturns. Using this privileged position to finance domestic aggregate demand resulted in expansion of current account deficit. The scheme implemented was of interest for both parties of the game; the US as a debtor, which could go ahead with the same economic model lacking changes and strategic reforms domestically, thus avoiding any social and political shocks, and emerging countries supporting rising exporting potential and allocating amounting huge international reserves. Subsequently, the US federal debt amounted to $9 trillion[10] in September 2007. It can be concluded that the US economic growth is mostly based on consumption growth as the consumption expenditures form about 2/3[11] of GDP. Daniel Griswold noticed a positive correlation between GDP growth and trade deficit: the economic growth in the US was on average twice as fast during the years when the US trade deficit was escalating much, compared to years when it stagnated or even contracted. The trade deficit accounted for

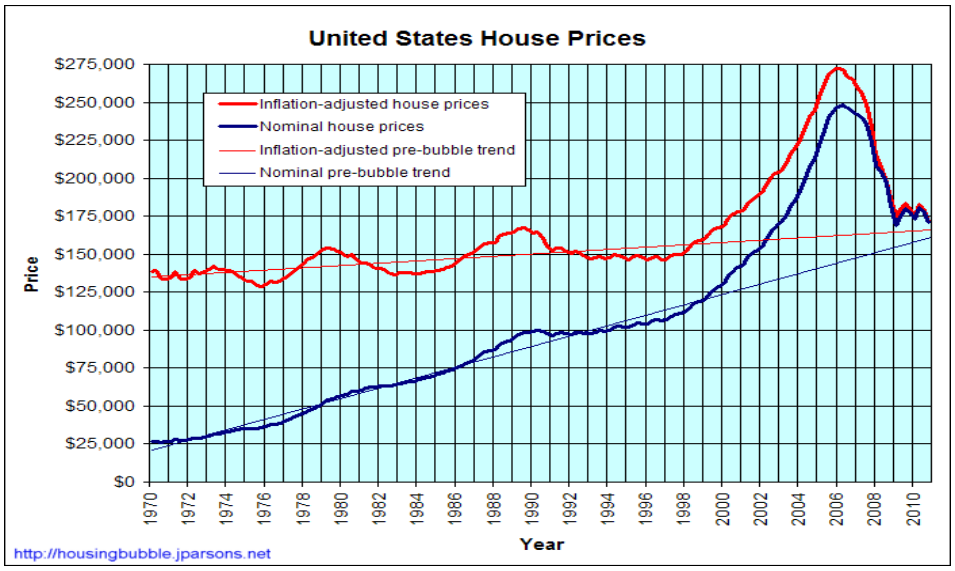
[10] Justin Murray, Marc Labonte, "Foreign Holdings of Federal Debt", CRS Report RS22331
[11] http://www.scriru.com/6/95497475785.php

only 1.5% of GDP back in 1996 and reached 4.2 % in 2000[12]. Notably, the US displayed economic growth during these years. The correlation between these two indicators can be explained as follows: the accelerating economic growth fosters the demand on domestic production and imports, which unveils new investment opportunities available both for domestic and foreign investors. Thus, the economic growth is accompanied by domestic investments upswing, higher level of foreign capital inflows and current account deficit.

1.4. House prices and subprime mortgage market

The US real estate market started to grow in 1970's and experienced great jump in house prices started in 1999 reaching its peak in 2006 and declined steeply afterwards. The inflation adjusted house prices grew approximately by 85% from 2000 till 2006. (See Chart 8).

Chart 8

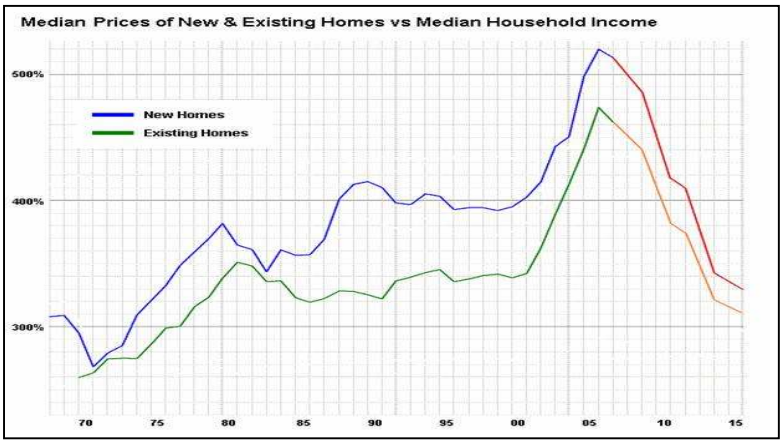


The government policy encouraging every American to own a house sowed the seeds of recent housing bubble. The great demand for houses and fast growing prices provoked investments. The housing market involved different segments of the economy, such as real estate, construction, mortgage lending, insurance and etc. Despite the fact that in 2001 the IT crisis decreased employment rate, thus inevitably affecting negatively personal

[12] Daniel Griswold, "Are trade deficits a Drag on US Economic Growth?" Free Trade Bulletin no 27, March 12, 2007, Published by Cato's Center for Trade Policy Studies.

disposable incomes, house prices retained the pace. Probably, as one of the reasons we can consider the overflow of huge speculative capital from IT sector investments to the fast growing housing market. Low interest and mortgage rates following the dot com crisis enticed market participants with the real chance to earn fast and easy. Millions of consumers started taking on credits and in 5 years blew up the bubble by increasing the prices on new and existing homes to median household income by 520% and 475%, respectively. For 5 years (2001-2006) the relative house prices grew on average by 30% annually, proving the fact that speculative housing bubble was in place, which burst as rates went up and the demand could not match the excessive supply anymore. (See Chart 9).

Chart 9

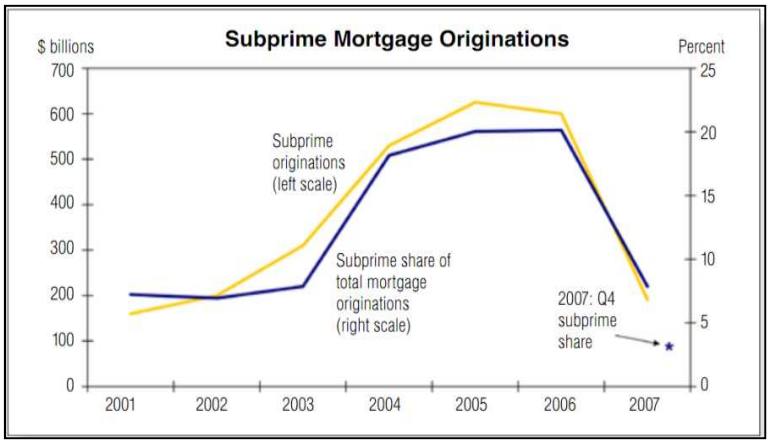


Source: http://www.scriru.com/6/95497475785.php

Following aspects contributed to the bubble development too. Not everybody had the opportunity to take a loan and meet the minimum requirements for a prime mortgage; therefore a number of banks offering credits under poor underwriting requirements, where borrower's creditworthiness and solvency were not essential factors, were rising significantly. The access given to mortgage loans this way facilitated a substantial rise in the potential subprime homeowners' number and consequently soared housing prices. Economic boom, loan incentives from banks and financial institutions led to a formation of wrong perceptions. Borrowers were keen to take more mortgages in the hope to refinance them at a lower interest rate. These conditions gave the growth to household debt, the proportion of household debt to the annual disposable personal income comprised 127% in

2007, whereas in 1990 it was only 77%[13]. Although households were saving less, consumption and borrowing rose year by year. Banks and financial corporations were interested in providing the borrowers with subprime loans too. Higher risk profiles paid with higher interest. Subprime mortgage market boom started in late 1990's has reached record highs by 2003. (See Chart 10). The total number of subprime loans grew fivefold from 1998 till 2003[14]. It is important to note that over the half of total originated subprime loans were for cash-refinancing purpose, whereas only one third for house purchases. It means that more than 50% of loans were for profit purpose - replacement of the mortgage a person owed for more with lower interest rate hence, pocketing the difference (See Chart 11). Notwithstanding the fact that in 2002 the delinquency and foreclosure rates on subprime credits in contrast to prime loans were 5.5 and 10 times higher, respectively[15], credit providers didn't take these alarming figures into consideration and continued inflating market with subprime lending. 30 year fixed interest rates on subprime mortgages started to decline from 11 % in 1998 to less than 8% in 2003, proving the fact that more favorable conditions for subprime borrowers were widespread. Premium above the prime mortgage rate, reflection of the risk lender takes by crediting funds to subprime borrower, was used to be stable at 2 % level till 2001. Subprime market extension pulled down this premium steadily onwards. (See Chart 12). So, the future of relatively new profitable business was unknown and uncertain.

Chart 10



Source: Inside Mortgage Finance

[13] Mikhail Khazin, "Crisis theory", report for the conference in modena, Italy, July 9, 2008
[14] Inside B&S Lending 12, " Subprime Rebound Not Expected any time soon", December 15, 2007
[15] The Mortgage Bankers Association of America (MBAA) report

Chart 11

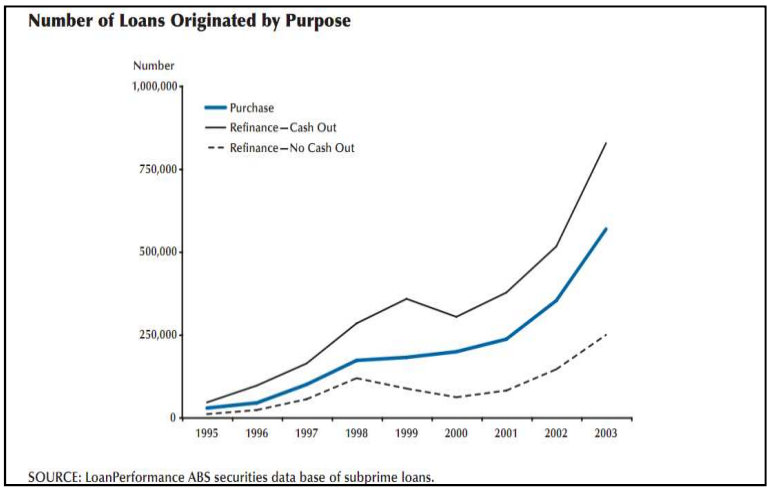
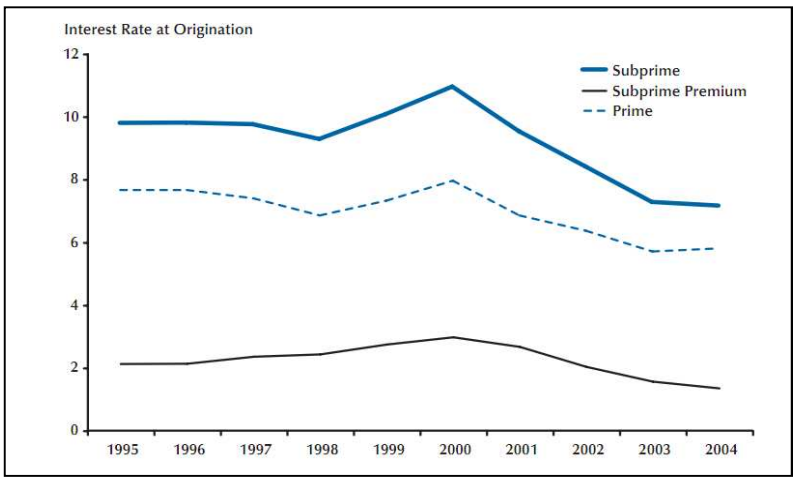


Chart 12



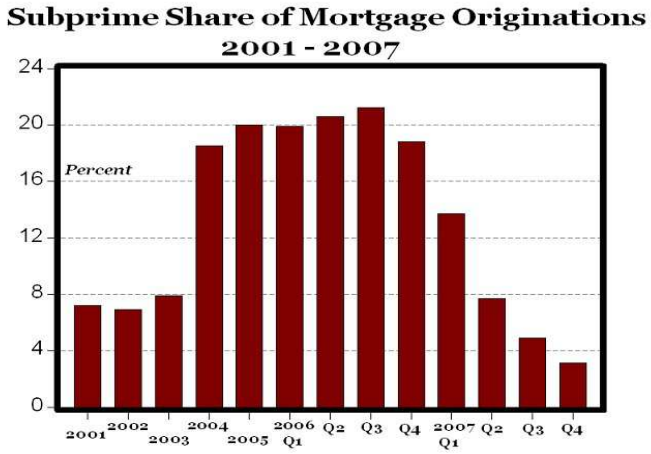
Source: "The Evolution of subprime Mortgage market", Federal Reserve bank of St. Louis Review, http://research.stlouisfed.org/publications/review/06/01/ChomPennCross.pdf

The blooming of the subprime credit, and probably easiness in credit underwriting was facilitated by the mortgage-backed market development. Securitization allowed an originating company or a bank spread the risk from the loan by selling the securitized credit to wide range of investors according to the securitization structure (different tranches with different credit ratings and interest payments). Investors in accordance with their risk preference were receiving interests and principal payments and bearing the risk only from the security, while the bank originating this security backed by the loan had the loan on its balance sheet and was responsible for credit risk arising from this asset. Rating agencies paid by securities sellers gave high ratings, mostly AAA and AA to most of the structured

products, showing no or little risk. The opportunity to disperse risks among market players lowered financial asset price volatility stimulating players to take more leverage to buy assets increasing both prices and financial securities. Thus, the system was taking more risks, which were undervalued, mispriced and unknown.

As the mass of subprime mortgages increased, the share of total subprime financing through mortgage backed market grew even faster. In 2005 the volume of mortgage-backed securities (MBS), which are debt obligations, representing the claims to the cash flows from pool of mortgage loans[16], reached $3 trillion in a housing mortgage market of $10 trillion[17]. Share of subprime mortgage in the total mortgage market tripled in 6 years by 2007. (See Chart 13). Mortgages were provided for 90%[18] houses were built; the motivation was to drive out the houses as quick as they were erected. Eventually, development of MBS market became more complicated and leveraged bringing to the fore the market for collateralized debt obligations (CDOs), securities which consisted of the group of asset-backed securities (ABS) and each could be composed of 100 subprime MBS, for example.

Chart 13



Source: http://mjperry.blogspot.com/2008/07/rise-and-fall-of-subprime-mortgage.html

Recent crisis became remarkable, as the amount of capital engaged was much greater in comparison with other crises in past. Dismantling Glass-Steagall Act in the seventies, allowed commercial banks to get involved into investment banking activities. This enabled

[16] US Securities and Exchange Commission website, http://www.sec.gov/answers/mortgagesecurities.htm
[17] Farzad, Roben, M.Goldstein, D.Henry, and C.Palmeri.2007. "Not So Smart." Business Week 4048: 30-36.
[18] Building Justice Report, "Pulte Homes and Risky Loans. The Hidden Cost of selling New homes", 2009, p.3

banks to significantly expand their functions in comparison with traditional commercial banking. Rising income from investment banking activities proved to be more profitable due to higher risk. But banks merely ignored those risks and kept on the same trend. Many nonbank financial institutions, such as investment banks, hedge funds, private equity funds, pension funds, insurance companies became major players on the financial market with much larger portion of combined capital than that of traditional banks. Traditional banks were connected with these nonfinancial institutions with credit and trading lines, repos. Therefore, in comparison with other great crises, the recent crisis involved much greater volume of capital within the interconnected market system which made it a mortal danger to let those institutions fail altogether. It soon became obvious that market needs interference in order not to ruin itself.

Housing market was misbalanced, supply exceeded the demand significantly, real sign of market overheating. Investments made failed to pay back, demand squeezed and credit terms worsened. The chance to refinance easily and nearly for free disappeared. Interest rates climbed rapidly up. So did mortgage premiums. These factors led to difference in market housing prices and mortgage loans, making the latter less attractive. As foreclosure rate started growing significantly the loss confidence in the housing market caused momentous losses and defaults on other types of credits. At the end of the day housing crisis expanded further affecting the entire economy.

1.5. China and the US

China's cheap labor became its core advantage on the global competition scene. Goods and services produced in China made it possible to match rising consumption in advanced economies, while China itself being a pure export-orientated country reached 8-10% annual GDP growth rates. High GDP growth rates were stipulated by rapidly growing export. Foreign direct investments by transnational companies and government outlays in key industries made China a leading contributor to global growth. However, household consumption declined from 46% of GDP in 2000 to 36% in 2006, mostly due to fall in total labor income, which fell from 50% of GDP to 37% during the same period and rise in

investments from 35 to 43% and share of export from 23% to 37%[19]. Net export rose sharply from 2.3% to 7.5%.

According to the statistics one of the biggest trading partners of China is the US. China's trading with the US accounts for more than one third of export. Consumption in America was growing steadily over the years. China implemented cheap currency policy, which was devaluing Yuan or renminbi further against the US dollar, making export much more attracted and the volume of export larger. The Chinese economy was growing at 10% pace, while the US five times less (according to the indicators before the crisis, 2006). The growth targeting associated with low interest rates in the US attracted a great amount of funds from the emerging tiger. There is a belief that China's overheated economy contributed to the financial crisis in the US: the inflow of Chinese funds during 2002-2004 obtained easy access to the credit market and fueled housing bubble. However, it is misleading to think that China's excessive production contributed to turmoil in the US; the demand is creating the supply and China has been satisfying this continuing demand. Even if, China would have stopped exporting to the US, the US would have found the other emerging partner as its consumers used to live beyond their means. In 2007 the US balance of payment deficit comprised $790 billion, making the US the largest sovereign debtor in the world[20]. Thus, two big powers, the US on the one hand and China on the other were experiencing the trade deficit and trade surplus respectively, deepening the global macroeconomic imbalances and ultimately resolving in financial crisis. By accounting definition the current account surpluses in some countries should be reflected by current account deficit in others, thus globally the balance should neutral. However, they are not balanced in the real world, creating imbalances. It is important to note that in comparison with Germany and Japan, for example, where it can be noticed trade surplus with the US as well, the share of export is not as high as with China. The US has a huge debt, while China's enormous international reserves, amounting for $1 trillion in 2006 or about 22%[21] of the world's reserves out of

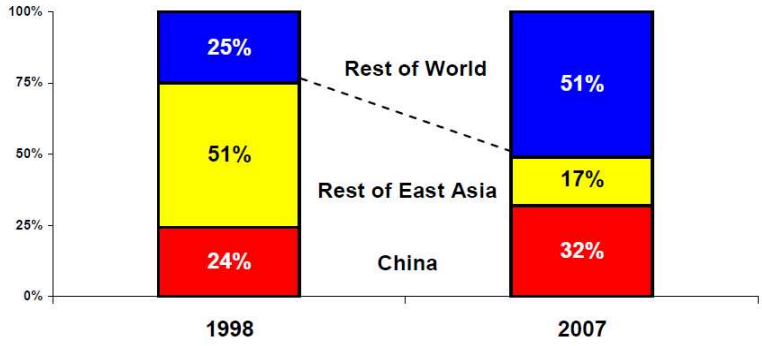
[19]NBS. National Bureau of statistics of China. 2007 and previous years. The China Statistical yearbook.
[20] US DOC, US Department of the Treasury, US ITC
[21] IMF Currency Composition of Official Foreign Exchange Reserves (COFER), September 28, 2007;
Lim, Mah-Hui, M.2008. "Old Wine in a New Bottle: Subprime Mortgage Crisis-Causes and Consequences." Working Paper no.532, Annandale-on-Hudson, NY: The Levy Economics Institute.

which $699 billion[22] or more than 50% are invested in the US securities (US Treasury debt, US corporate debt (some of them are asset-backed), US agency debt (issued by government sponsored enterprise or federal agencies) and US equities (stocks)); the US over-consumption has been building up the economy growth in China as a result of export, hoarding the positive trade balance and investing in the US treasuries, allowing the US to expand its over spending: the growing consumption in the US was supported by China's lending to private and public sectors, making the countries too interdependent.

Chinese Central Bank's risk-averse investments in low-yielding Treasury securities comprised up to $406 billion in the end of 2007 or 17.2%[23] of total foreign holdings of the US Treasury securities, putting China on the second place in the world behind Japan. The US Treasury securities are issued to finance the federal budget deficit. This fact indicated that China was committed to long-term involvement in American and global economy.

However, the US trade deficit with China soared due moving of East Asian investments to China instead of the US market. This propelled by cheap exporting fuelled those imbalances to widen. The trade redirection resulted in China's deficit with East Asia. Although the trade with the rest of the world (Europe, Canada and Mexico) increased twice in almost ten years, China accounts for one third of the US trade deficit. (See the Chart 14).

Chart 14 **Composition of the US Global Trade deficit**



Sources: Data compiled from US Department of Commerce (DOC), US Department of the Treasury, and US International Trade Commission (ITC) tariff and trade data. Notes: Exports on a free alongside ship basis; imports on a general customs value basis. Totals may not add up because of rounding.

[22] US Treasury Department, Report on Foreign Portfolio Holdings of US Securities as of June 30, 2006.

[23] http://ncseonline.org/nle/crs/abstract.cfm?NLEid=1949

The US export to China and import from it in percentage terms were growing steadily, while the volume of import was on average 5 times more than export, creating huge current account deficit in the US. (See table 1)

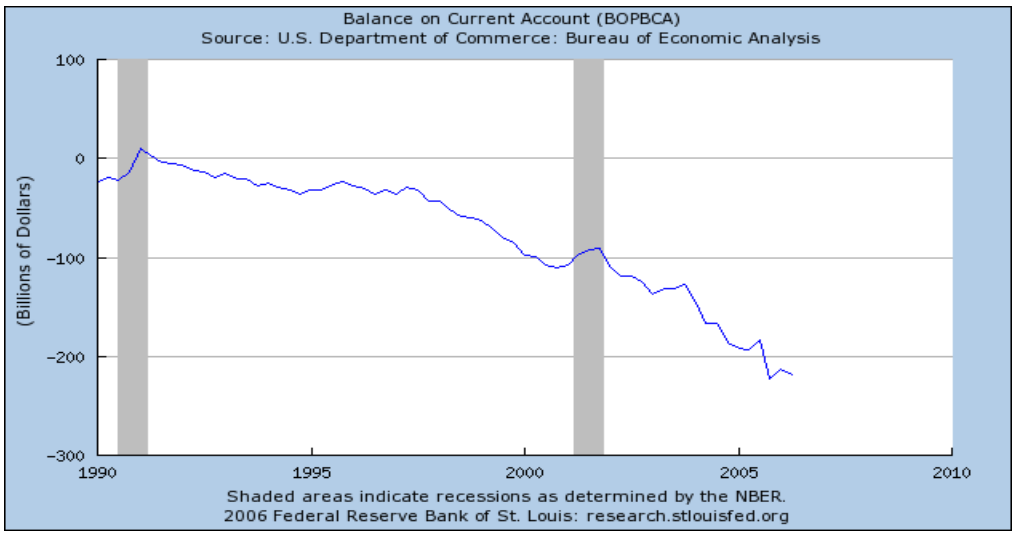
Table 1: China's Trade with the United States ($ billion)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US exports	16.3	19.2	22.1	28.4	34.7	41.8	55.2	65.2	71.5	69.6
% change	24.4	18.3	15.1	28.5	22.2	20.6	32.1	18.1	9.5	-2.6
US imports	100.0	102.3	125.2	152.4	196.7	243.5	287.8	321.5	337.8	296.4
% change	22.3	2.2	22.4	21.7	29.1	23.8	18.2	11.7	5.1	-12.3
Total	116.3	121.5	147.3	180.8	231.4	285.3	343	386.7	409.2	366.0
% change	22.6	21.4	21.2	22.8	28	23.3	20.2	12.7	5.8	-10.6
US balance	-83.7	-83.0	-103.1	-124.0	-162.0	-201.6	-232.5	-256.3	-266.3	-226.8

Notes: US exports reported on FOB basis; imports on a general customs value, CIF basis
Source: US International Trade Commission

The US deficit was different through the years. It can be noticed a small trade surplus in 1991, before the deficit growth. (See Chart 15)

Chart 15



Source: US Department of Commerce: Bureau of Economic Analysis

US trade deficit influenced financial markets through payment mechanism. The US import is paid by crediting the foreign exporters with dollar balances in the US bank accounts, and then the exporters exchange the dollar amount of money in domestic currency, creating demand for them. Compared to other developed countries, Germany or Japan, for example,

the Chinese government intervenes in currency markets and buys dollar inflows to prevent the Yuan revaluation. Since the dollar credit balances in a bank account give smaller returns, Chinese exporters prefer to invest in the US securities (private holdings of the US Securities) acquiring all types of them, issued by the US government and other financial institutions, such as CDO, ABS, for example, where the returns and risks are high. The motivation standing behind this export revenues reinvestment is safety and financial market development in comparison with their domestic markets. The hope and belief in the US economy as the most powerful country in the world, with no default risk, attracted more and more liquidity into the US markets, inflating bubbles one after the other. The excess liquidity and the ongoing demand for the financial securities became higher than issuers' and holders' expected to take out of the market, rising prices into the sky; the rise in security prices steered up the asset value, inflating the latter; the rising asset prices allowed people to borrow more against the rising prices of the asset, mainly houses. In 2005-2006 the households' consumption in the US comprised 33 % of GDP growth[24]. Thus, it can be seen how the US overconsumption and deficit transmitted the risks to subprime market and boosted the bubble.

So, above we have specified different but interdependent of each other US macroeconomic conditions that reached the peak of their impossibility of co-existence and separated at the seams resulting in the crisis. The period of deep economic freeze overtook the US as negative effects of financial sector spread to real economy: lending and credit activities shrank sharply, foreclosures and unemployment rates started to increase. The emergent measures needed to be taken to stop the economy collapse.

[24] Lim, Mah-Hui, M.2008. "Old Wine in a New Bottle: Subprime Mortgage Crisis-Causes and Consequences." Working Paper no.532,Annandale-on-Hudson, NY: The Levy Economics Institute.

Chapter 2. The volume of bailouts, bailout selection based on empirical analysis of 4 medium-sized commercial banks

2.1. Conventional and unconventional monetary policy tools during the crisis.

The continuing contraction of lending became more severe as the crisis unfolded. In reply to lending reduction, the Fed had to undertake the extraordinary measures manipulating traditional monetary policy tools as well as an array of targeted credit programs to assist in returning confidence and liquidity to the financial sector. The initial steps of the traditional monetary tools to expand lending was lowering the federal funds rate target to almost zero percent and printing money by the Fed to distribute them to a number of banks charging the discount rate, which is a negative real interest rate. Usually the discount interest rate is used overnight, but with the introduction of Federal Reserve Term Auction Facility (FRTAF) the borrowing period was prolonged from 1 to 3 months. When the crisis struck, the negative interest rate became comparable to subsidy submitted to the financial sector for the period of 10 years and more. The money printed by FED was considered to be returned when the financial system recovers; it means that the period and the interest rate were unspecified. However, the application solely traditional monetary tools did not bring its expected results, as the destroyed confidence and rising fear of bankruptcy of the financial participants impeded their work and lead the financial market to "liquidity trap". Liquidity trap is a situation when further interest rate cut is impossible (because the nominal interest rate is almost zero) and the economy is not stabilized. Expansion monetary policy with near zero interest rate did not work during the Great Depression and led to liquidity trap[25] as well. Based on past experience the Fed could have started to use earlier new facilities for lending resuming instead of lowering the interest rate further. In the end, the Fed had to create new lending facilities to provide the financial market players, depository and nondepository financial institutions with liquidity. The Fed initiated the following facilities : The primary Dealer Credit Facility and the Term Securities lending Facility (TSLF)- to supply the primary dealers with short-term liquidity, The Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) and Money Market Investor Funding Facility (MMIFF)- to relieve the liquidity problems of money market funds; The Commercial Paper

[25] Miguel Almunia, Benetrix Augustin, Barry Eichenengreen, Kevin O'Rourke, G.Rua " Grom Great Depression to Great Credit Crisis: Similarities, Differences and Lessons", November, 2009

Funding Facility (CPFF)- to assist in issuing of the commercial paper by purchasing highly rated offerings; The Term Asset-Backed Securities Loan Facility (TALF)- to stimulate the issuance of asset-backed securities and so enhance the accessibility of credit to households and business. The total amount of cash, channeled through these facilities (excluding TSLF, because the given facility used securities instead of cash), comprised to 400$ billion[26] in November 2008. Besides, the government (Treasury Department, Federal Insurance Deposit Corporation and Federal Reserve) provided an additional support to Bear Stearns, AIG, Citigroup and Bank of America, the important financial institutions whose failures were considered to be a serious threat to the financial system's stability. The assets of Federal Reserve banks increased substantially from the middle of year 2008 mainly because of loans given to depository, nondepositary institutions, lines of credit to Bear Stearns and AIG, agency debts. (See Chart 16). The assistance was mainly in the form of credit lines, guarantees on certain assets and Maiden Lane I, II, III facility creation. Maiden Lane facility created to facilitate Bear Stearns and AIG transactions, was structured as a limited liability company (in contrast to corporation, the limited liability company does not bear the personal liabilities for debts in case of losses) with Federal Reserve funds necessary to purchase MBSs, ABSs, CDOs and other mortgage-related assets from Bear Sterns (Maiden lane I) and AIG (Maiden Lane II and III). In other words, the Fed exchanged portfolios of risky securities to an equal in fair value terms principal amounts of the loans. To prevent the financial consequences triggered by the failure of the investment banks Bear Stearns, the Fed in agreement with the Treasury decided to extend funding to Bear Stearns through JP Morgan Chase& Company in order to assist the former in solving its financial problems. JP Morgan Chase& Company, as the acquirer of Bear Stearns in June 2008 could not absorb 400$billion[27] of bear Stearns portfolio, hence the Fed created Maiden Lane I facility to help to arrange the issue with mortgage-related assets, amounted to 30$[28] billion. The Maiden Lane's assets comprises 29$ billion from Federal Reserve Bank of New York and 1$ billion

[26] Congressional Budget Office "The Budgetary Impact and Subsidy Costs of the Federal Reserve's Actions During the Financial Crisis", May 2010, p.10

[27] Congressional Budget Office " The Budgetary Impact and Subsidy Costs of the Federal Reserve's Actions During the Financial Crisis", May 2010, Appendix A, p.31

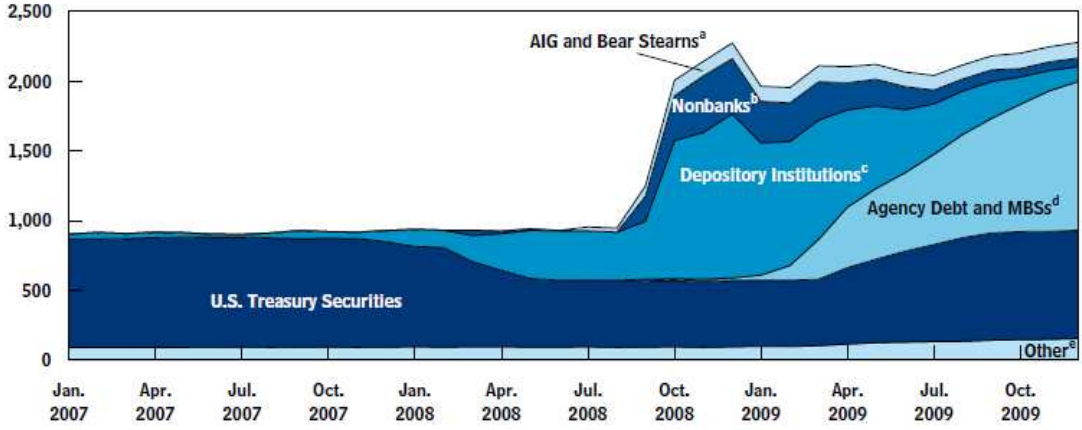
[28] Congressional Budget Office " The Budgetary Impact and Subsidy Costs of the Federal Reserve's Actions During the Financial Crisis", May 2010, p.10

from JP Morgan Chase[29] being the latter responsible for the first 1$ billion losses of Maiden Lane I.

Chart 16

Assets of the Federal Reserve Banks, January 2007 to December 2009

(Billions of dollars)



Source: Congressional Budget Office based on data from the Federal Reserve.

Notes: Data are as of the last Wednesday of each month. The last data point is December 30, 2009.

a. For the American International Group (AIG), the total consists of the outstanding balance on the line of credit, the assets of Maiden Lane II and Maiden Lane III, and the Federal Reserve's equity holdings in AIA Aurora Limited Liability Company (LLC) and ALICO Holdings LLC. For Bear Stearns, the total covers the assets of the initial Maiden Lane company.

b. Consists of loans made by the Primary Dealer Credit Facility, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, and the Term Asset-Backed Securities Loan Facility.

c. Comprises loans through the discount window, the assets of the Term Auction Facility, central bank liquidity swaps, and repurchase agreements.

d. Agency debt consists of securities of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. Agency mortgage-backed securities (MBSs) are securities guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae.

e. Comprises gold stock, special drawing rights, Treasury currency outstanding, "float," and other assets.

The Troubled Assets Relief Program (TARP) enacted in order to bailout the US financial system in October 2008 was also one of the ways of assisting the financial sector. After long negotiations with the Congress, the US Treasury has gradually injected 700$ billion into the banking sector by purchasing the troubled assets, especially real estate and mortgage-related assets. However, the financial assistance was distributed only to the selected banks. Out of about 9441 [30] banks in the US only selected banks were included into the TARP. The

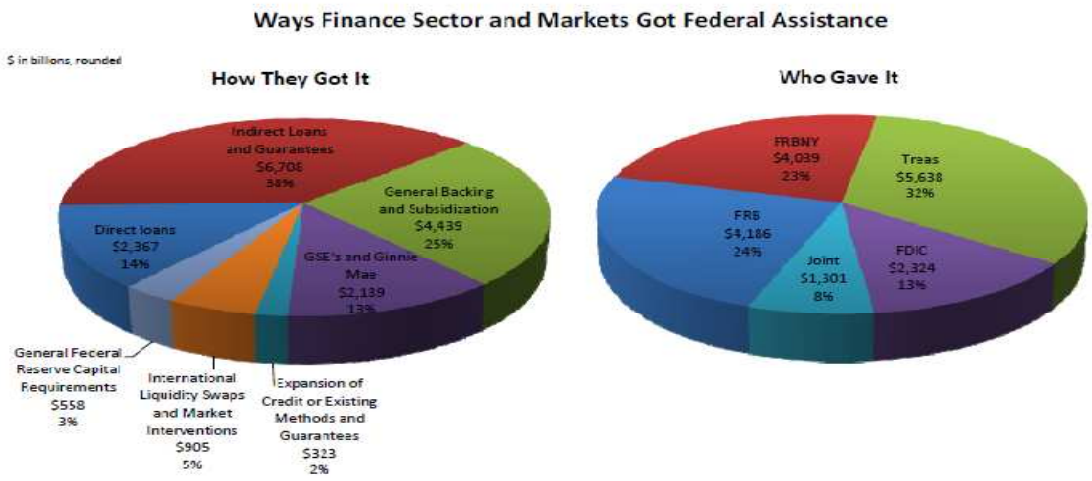
[29] Congressional Budget Office "The Budgetary impact and Subsidy costs of the federal reserve's actions during the financial crisis" May 2010, Appendix A, p.31

[30] Andrea M. Maechler and Kathleen M. McDill, "Dynamic Deposito Discipline in US Banks, Working paper 2003-2007, http://www.fdic.gov/bank/analytical/working/wp2003_07/index.html#

participation in the bailout program was based on Capital-Assets-Management Equity-Liability (CAMEL) ratings and the criteria "too big to fail" and "too interconnected to fail". CAMEL rating sorted the banks into 5 classes, giving the high probability to rescue if a bank was in the first group and less chances to that which was in the fifth one.

The financial assistance accounted about 15$ trillion or 90% [31] of the US GDP in 2008 was mainly distributed by the Department of Treasury, Federal Reserve, Federal Deposit Insurance Committee (FDIC) and Joint Programs. The bailout was transmitted through different types of subsidization, such as direct and indirect loans, guarantees, General Backing and Subsidization, Government Security Enterprise's (GSE's) and Ginnie Mae, expansion of credit or existing methods and guarantees, international liquidity swaps and market interventions, general Federal Reserve Capital Requirements. (See Chart 17). The expenditures on recent bailout were far greater than all combined major US expenditures. (See Chart 18).

Figure17



[31] Barry Ritholtz " Bailout Costsvs big Historical Events", June 18, 2009 http://www.ritholtz.com/blog/2009/06/bailout-costs-vs-big-historical-events/, Deroy Murdock "Bailout Exceeds 90Percent of 2008 US GDP", June 6, 2009 http://www.humanevents.com/article.php?id=31343

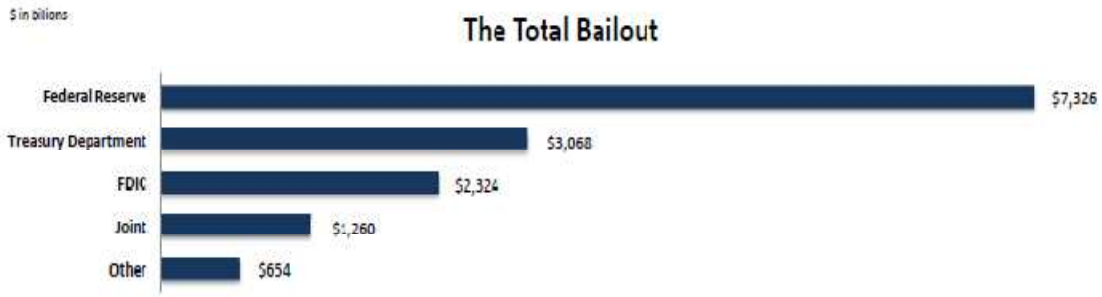
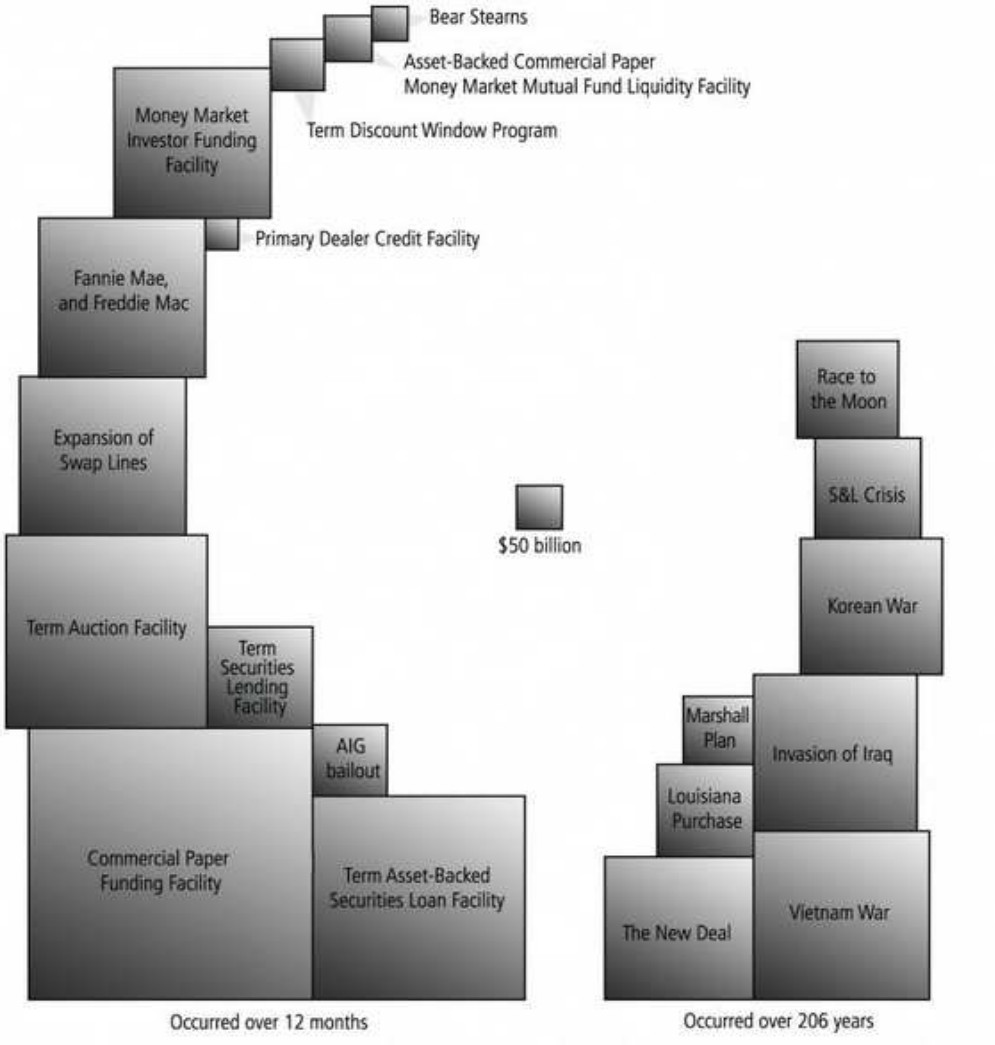


Chart 18.

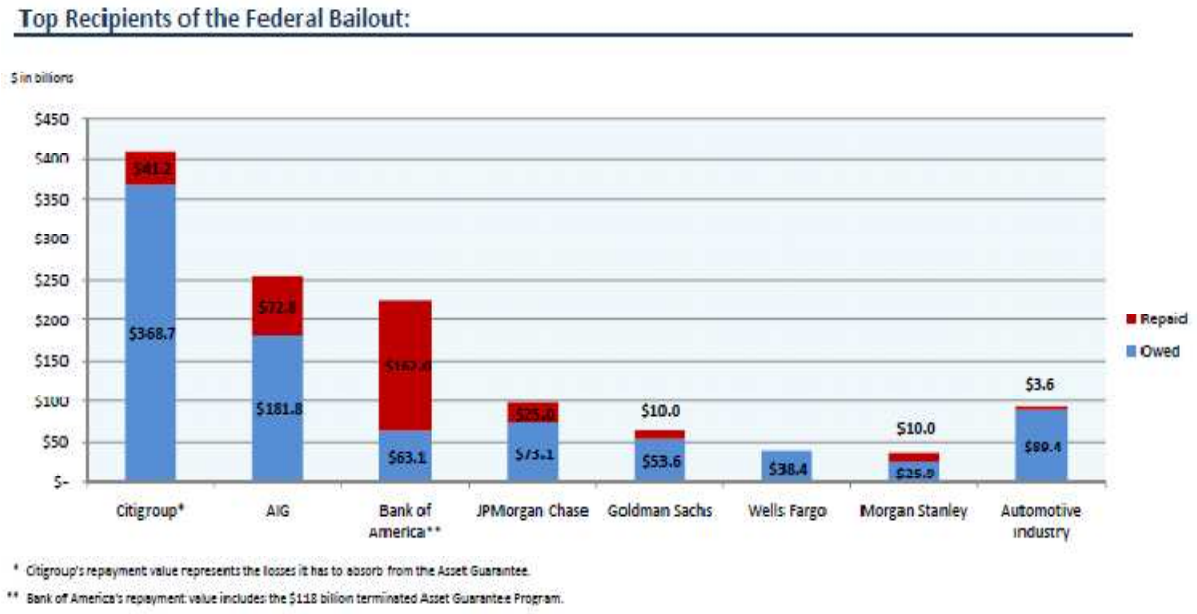
Comparison analysis of the recent US bailout and the major US expenditures



Source: Barry Ritholtz, "Bailout Costs vs Big Historical Events", June 18, 2009[*http://www.ritholtz.com/blog/2009/06/bailout-costs-vs-big-historical-events/*](http://www.ritholtz.com/blog/2009/06/bailout-costs-vs-big-historical-events/)

Top recipients of the federal support were the financial institutions with significant operations, such as Citigroup, AIG, Bank of America, JP Morgan Chase, Goldman Sachs, Wells Fargo, Morgan Stanley and big companies in automotive industry General Motors, GMAC, Chrysler Holding, Chrysler Financial, namely. (See Chart 19). Since it was impossible to rescue all of them, many financial institutions were failed, taken over and merged.

Chart 19



Source: Nomi Prins, "It takes Pillage: Behind the Bailouts, Bonuses and backroom Deals from Washington to Wall Street" Supplemental Analysis, John Wiley & Sons, 2009

Citigroup was one of main recipients of the federal assistance. It can be seen from the chart above that in total Citigroup received 409, 9$ billion of government support including 301$[32] billion of government guarantee in loans from the Treasury and the FDIC and securities in return to 27$ billion[33] of preferred shares and warrants to acquire stock. The government obtained the major say in the company's banking operations. Nevertheless the received bailout money Citigroup was experiencing the serious trouble as the subprime mortgage market was unfolding, revealing more losses and jobs cutting. The company's stock market

[32] Nomi Prins, "It takes Pillage: Behind the Bailouts, Bonuses and backroom Deals from Washington to Wall Street" Supplemental Analysis, John Wiley & Sons, 2009, p.6
[33] http://citigroup.co.tv/

fell from 244$ billion in 2006 to 6$ billion in November 2008[34]. Citigroup could repay only part (41,2$billion) of the aid given by the government and the rest was converted to common shares. The government became an equity stake owner of 36%[35] of Citigroup Company.

The Federal support to AIG was channeled through different ways: a line of credit, the Securities Borrowing Facility, Maiden II and Maiden III, TARP, loan to AIG subsidiaries and preferred stock interests, in total comprising to 254.6$ billion. The initial agreement of the Fed to lend AIG was 85$ billion to help the entity to cover its obligations and sell some of its businesses with the least possible distortions to the overall economy; in return the government received warrant for 79.9% percent in equity stake and the right to veto the dividends payments to common and preferred shareholders[36]. The further problems in the company required Fed to create the Securities Borrowing Facility, lending up to 38$ billion in return to the debt securities with investment-grade rating. Investment-grade securities are the securities with relatively low risk of default. Taking into consideration market stability, federal government and taxpayers interests, the help to AIG insurance company was modified and Treasury purchased 40$billion[37] through TARP program in exchange for newly issued preferred stocks allowing the Fed to reduce the original emergency credit line of 85$ billion to 60$ billion[38]. At the same time the Fed reorganized its lending to AIG by creating Maiden Lane II LLC and Maiden Lane III LLC. Maiden Lane II got a loan of 22.5$ billion from the Fed and 1$ billion from AIG (subordinated loan- repaid after the Fed's loan) in order to purchase residential mortgage backed securities from AIG. This facility allowed AIG to repay in full the Securities Borrowing Facility. Maiden lane III LLC obtained 30$ billion from the Fed and 5$ billion from AIG[39] (also subordinated loan). This action allowed AIG to terminate the CDS (credit default swaps) contracts. Besides, AIG received the second round

[34] Dash, Eric, Creswell, Julie "Citigroup Saw No Red Flags Even as it Made Bolder Bets" Business (The New York Times) November 22, 2008.
[35] Citigroup website, http://citigroup.co.tv/ on May 2011
[36] Baird Webel, "Ongoing Government Assistance for American International Group (AIG), Congressional Research service, March 16, 2009, p.4
[37] Sorkin, Andrew Ross, Mary Williams Walsh " US Provides More Aid to Big Insurer", New York Times, November 10, 2008
[38] The Congree of the United States, Congressional Budget Office "The Budgetary impact and Subsidy costs of the federal reserve's actions during the financial crisis", May 2010, Appendix A

[39] Congressional Budget Office, "The Budgetary impact and sbsidy costs of the federal reserve's actions during the financial crisis", May 2010, Appendix A.

financial aid from TARP in amount of 29, 8$billion, loan to its life insurance subsidiaries and preferred stock interests.

Bank of America also received the federal assistance through TARP program (45$ billion in total) in the beginning of year 2009 in return to preferred stocks, obtained an assets guarantee of 118$ [40]billion and got 5.2$ billion of bailout money through AIG[41] . Bank of America could resume lending and improve its financial conditions faster as it can be seen from Chart 19 the Bank could almost repay the bailout in the end of 2009[42].

JP Morgan Chase and Wells Fargo each got 25$ billion, GMAC Financial Services received 17$ billion[43], the other banks and automotive companies obtained less amount of money, whilst others nothing.

The measures taken by the government to assist the financial sector mentioned above were the solely response to the subprime mortgage crisis, that turned into the global financial crisis. This federal support was vital, as the investor loss of confidence in the US credit markets, the failure of the whole US financial system and the probability of repeating the Great Depression were growing substantially.

2.2. Research of 4 commercial banks

The first part of this chapter demonstrated the volume of bailout money that was directed to restore stability in the financial sector. However, as the crisis hit the banking sector, many banks experienced runs at the same time but not all banks that experienced difficult financial conditions were helped. So, it is interesting to know how the government selected the banks for bailout purpose. What were the main financial indicators the government looked at? The research of 4 middle-sized commercial banks will try to answer this question. It is worth noting that a sample of 4 banks is not a representative of the whole

[40] Charlotte, N.C., "Bank of America to repay Entire 45$ billion in TARP to US Taxpayers", bank of Amrica website, November 2, 2009.
[41] Walsh, Mary Williams, "AIG Lists Firms It paid With Taxpayer Money", The New York Times, March 31, 2009
[42] Nomi Prins, "It takes Pillage: Behind the Bailouts, Bonuses and backroom Deals from Washington to Wall Street" Supplemental Analysis, John Wiley & Sons, 2009, p.7.
[43] John Dunbar, David Donald, "The roots of the Financial Crisis: Who's to Blame?", The center for Publicity, May 6, 2009, p.3.

economy, so, the results obtained from the research do not necessarily mean that the government applied these indicators to all banks.

We took the banks in our sample from the Georgia state, located in the southeastern United States, which suffered the greatest amount of bank runs since 2007. The concentration of many small banks tied mainly to real estate lending were seriously affected by the crisis putting Georgia on the first rank in bank failures among the states. It is claimed that many small and medium sized banks in Georgia put money heavily on real estate development loans and therefore, lost greatly when the mortgage market collapsed. The amount of bank bankruptcies reached 45[44] in Georgia by the end of 2010. Among the collapsed financial entities some were bailed out, the others acquired by larger market players and some were left without a buyer. To understand why some banks were bailed out and bought while the others were forced to go to the bottom needs to examine the sample of banks allowed to fail and those that have already overcome the serious economic times and continue its operations till present. What specific bank features and bank indicators were taken into consideration when the issue of bailout was raised? The answer to this question will be based on the research of 4 commercial medium sized banks, 2 failed and 2 not failed, all located in the same state, Georgia, mainly involved in commercial lending and with almost the same number of employees. Two banks that failed and could not find their bidders are Rockbridge Commercial Bank and Community Bank of West Georgia; the other two are Georgia Primary Bank and One Georgia Bank. Three banks are regulated by Federal Deposit Insurance Corporation (FDIC) and one of them – by Federal Reserve System. (See Appendix 1 for explanation why some banks are regulated by FDIC and some by Fed) The financial parameters and requirements that we are going to examine are identically employed by both banking agencies. (See Appendix 2 for further explanation). We decided to envisage the sample of medium sized banks with 1 office known mainly within Georgia with no interstate branches and foreign offices for the reason that medium sized banks are more transparent in its operations and not so complex in analyzing than larger ones, as smaller financial institutions do not have subsidieries and foreign branches which affect the financial statement. Therefore, based on the research made for medium sized banks we can derive

[44] http://blogs.wsj.com/deals/2010/09/20/tracking-bank-failures-georgia-tops-list-of-hardest-hit-states/

the conclusion which criteria were essential for being bailed and extrapolate the results to larger entities and prove that the bailouts were indispensable.

To start with we will discuss the banks that were failed and then those that were bailed out. As the banks will be discussed in order of its value assets, the first bank out of failed ones is Rockbridge Commercial bank and second is Community Bank of West Georgia; out of supported banks the first is Georgia Primary Bank and the second One Georgia Bank.

Rockbridge Commercial Bank

First of all we need to perform the bank history and its key financial indicators. So, Rockbridge Commercial Bank was founded in 2006 as a state-chartered nonmember bank regulated and insured by Federal Deposit Insurance Corporation (FDIC) with one branch in an office park in Georgia. It stopped its operations and was closed in December 2009 with 294$ million value of its assets, 292$ million of liabilities and the estimated loss to Deposit Insurance Fund (DIF) [45]of 122, 1$[46] million. When no acquirer was found for this bank, the Georgia Department of Banking and Finance (GDBF) let FDIC assume Rockbridge and dispense of its 294$ million assets as receiver. Rockbridge Commercial Bank became the 25[th47] bank in the state that had to stop functioning in the wake of financial downturn. Below is given the table with bank balance sheet and key ratios excerpt as of September 30, 2009 and historical (from 2006-2008) trend of total assets, liabilities and capital.

[45] All DIF member banks are also members of the FDIC. Each depositor is insured by the FDIC to at least 250,000$. All deposits above the FDIC insurance amount are insured by the Depositors Insurance Fund (DIF) (https://www.difxs.com/DIF/Home.aspx)

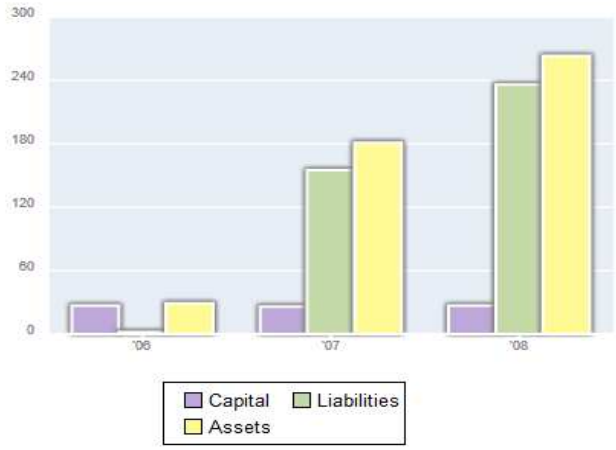
[46] Office of inspector General " Material Loss review Rockbridge Commercial Bank, Atlanta Georgia", report № MLR-10-041, p. I-4, http://www.fdicoig.gov/reports10/10-041.pdf

[47] Peralte C.Paul, "RockBridge Commercial Bank closed by regulators", The Atlanta Journal-Constitution, Atlanta Business News, December 18, 2009.

Balance Sheet (USD, in thousands)		Income Statement (USD, in thousands)	
Total Assets	294,024	Total Interest Income	8,596
Total Debt	292,49	Total NonInterest Income	212
Total Equity Capital	1,534	Total Interest Expense	5,901
Total Deposits	291,707	Total NonInterest Expense	5,021
Net loans&Leases	206,53	Net Income	-28,325
Loan Loss Allowance	5,212		

Key Ratios		Loan types	
Tier 1 Leverage Ratio	0.32	Total loans	211,742
Tier 1 Risk based Capital ratic	0.42	Loans Secured by real estate	152,935
Total Risk based Capital ratio	0.83	Commercial and Industrial loans	44,064
ROA	-12.11	Loans to individuals -credit cards	0
ROE	-146.41	Loans to individuals -other	13,552

2000 - 2008 Historical total assets, liabilities and capital ($ mil)



Source: http://www.ibanknet.com/scripts/callreports/getbank.aspx?ibnid=usa_3441426, http://www.faqs.org/banks/RockBridge-Commercial-Bank-58315-Atlanta-Georgia.html#top

It can be seen from the table that total equity was on very low level, meaning that loans and leases were unable to be covered in case of further losses, the bank equity capital comprised 0.07% of bank loans. The loan loss allowance in its term was small enough, only 2.5%, to cover the massive defaults on loans, despite the fact the loan allowance and loan loss provision was growing parallel to the growth of risky real estate loans. The low level of capital was provoked by cash diverting from capital reserves to back up rising losses during the crisis. The capital equity of 26.5$[48] million for December 31, 2008 was used to backstop

[48] Data is taken from banks' financial statement, Schedule RI A Changes in Equity Capital

the net losses attributable to bank in year 2009, leaving the bank with total equity capital of 1.534$ million. With such extensive losses it is reasonable to see whether a bank's capital and earnings were substantial to absorb the impact of further losses. Representative indicators of capital adequacy are "Tier 1 leverage ratio", "Tier 1 risk-based capital ratio" and "Total risk-based capital ratio". According to banking agency regulatory definitions *(Basel II Capital Accord "Calculation of Tier 1 capital and total qualifying capital", March 30, 2006,http://www.federalreserve.gov/GeneralInfo/Basel2/DraftNPR/NPR/section_4.htm)*

"Tier 1 leverage ratio" measures the relationship of Tier 1 capital, which calculated as sum of capital stock, reserves and retained earnings minus intangible assets and deferred tax assets, to quarterly average total assets. This indicator reflects how well bank equity capital funds total bank assets. For well-capitalized banks the leverage ratio should be at least 5% and more, for adequately capitalized at least 4%, undercapitalized 3% and below 3% significantly undercapitalized. "Tier 1 risk-based capital ratio" measures the relation of Tier 1 risk-based capital to bank's risk-weighted assets. To be classified as well- capitalized a bank must have a "Tier 1 risk-based capital ratio" of 6% or more, adequately capitalized rank is given to entities with at least 4% "Tier 1 risk-based capital ratio" below 4 % and below 3% is graded as undercapitalized and significantly undercapitalized banks respectively. "Total risk-based capital ratio" is a sum of Tier 1 capital and Tier 2 capital (Tier 2 capital includes supplementary capital items such as general loan loss reserves, subordinated debt, other preferred stock and convertible debt capital) must equal to 10% or more for well-capitalized, for adequately capitalized at least 8% or more, undercapitalized at least 6% and less than 4%- significantly undercapitalized. Rockbridge had a "Tier 1 leverage ratio" and "Tier 1 risk-based capital ratio" and "Total Risk-based Capital ratio" of 0.42%, 0.32% and 0.83% respectively, meaning that the bank is critically undercapitalized. A private equity company "FIG partners LLC" specializing in buyout investments considered Rockbridge at the end of quarter to be the least capitalized bank in Georgia. The significant growth of assets and the rising losses used so much of Rockbridge capital pushing the bank far below the regulatory capital requirements and no longer permitted it to operate independently. The negative profitability ratios, such as Return on assets (ROA) and return on equity (ROE) prove the fact that the bank was unprofitable relative to its assets and equity, or inefficient to use its assets and equity to generate further earnings. The substantial risks of unanticipated earnings and capital volatility were posed by real estate loan concentration in

the period of mortgage market downswing. To see how liquid bank's assets were we need to use one of the liquidity ratios. We tend to think that for banks it is better to use quick ratio as it does not count inventories as current assets. For companies quick ratio= Cash + Accounts receivables + Short-term Investments, for banks we use the following accounts: (cash+ securities)/short-term deposits (one year or less). So, the quick ratio for Rockbridge Commercial Bank was (30.596$+20.108$)/233.079$[49]=0.22, meaning that the bank was unable to pay its deposits. A large number of banks were experiencing scant liquidity at the period of crisis, because they considered mortgage-backed securities as liquid in boom period, instead of government bonds. The normal ratio should be above 1 or around 1. The computation of quick ratio for River City Bank and Greater Rome Bank was 1 and 1.13 respectively. The mentioned above banks are also middle-sized banks and located in Georgia State and could overcome the crisis without government help, so, we take their liquidity ratios as an indicators of well-managed bank.

Financial Condition of Rockbridge Commercial Bank

Financial Data ($000)	9/30/09	12/31/08	12/31/07	12/31/06
Total Assets	$294,024	$262,970	$180,624	$29,096
Total Loans	$211,742	$228,815	$156,905	$7,323
Total Deposits	$291,707	$235,386	$154,030	$1,981

Source: Uniform Bank Performance Reports (UBPR) and Reports of Examination (ROE)

From the table above it can be seen the growth of bank's loan portfolio, by the end of 2006 it had 29$ million in deposits and only 7.2$[50] million in loans, while by the end of 2009 its loan portfolio rocketed to 211$ million. According to bank balance sheet data of 2009 (Schedule RCCI part I. loans and leases) out of 211$ million 152.9$ million or 72% were in real estate developments loans and in commercial real estate loans, only 44 $ million or 21% in commercial and industrial loans and the rest in other loans. The initial focus of Rockbridge bank was in traditional industrial and commercial lending. However, when Rockbridge bank entered the market in 2006, the mortgage market was on its peak, so the bank board and

[49] The data is taken from bank financial statement "Schedule RC E Deposit Liabilites", Memoranda.
[50] Office of inspector General " Material Loss review Rockbridge Commercial Bank, Atlanta Georgia", report № MLR-10-041, p. I-4, http://www.fdicoig.gov/reports10/10-041.pdf

management team consistent with rapid growth strategy desired to hit the jackpot by concentrating the portfolio heavily on real estate lending developments. But, the management's aggressive lending strategy was ill-timed and based of insufficient financial information, as the mortgage market started to deteriorate drastically by the beginning of year 2007. It can be seen from the table provided below that original business plan anticipated a mix of ADC, 1-4 family residential, CRE , C&I and consumer loans. The greater share of loans was planning to distribute under consumer and industrial loans (50%) and less to ADC (5%), however, Rockbridge Commercial bank which was required to operate within the parameters of original business plan approved by FDIC deviated from it significantly.

Rockbridge Proposed and Actual Loan Mix over time.

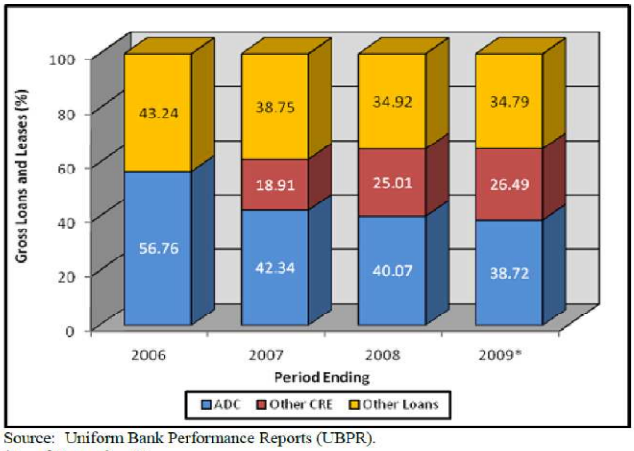
Loan Type	12/31/2008 Actual*	12/31/2008 Projected**	12/31/2007 Actual*	Original Business Plan Approved 4/25/06
ADC	40%	40%	42%	5%
Other CRE	25%	24%	19%	15%
1-4 Family Residential	4%	4%	3%	20%
C&I	24%	27%	28%	50%
Consumer	6%	5%	7%	10%

Numbers do not add to 100% due to rounding.
*Actual data from UBPR Reports.
**Projected data from 6/25/08 RockBridge Revised Business Plan.

ADC- Acquisition, Development, and Construction, CRE- Commercial Real Estate, C&I – Commercial and Industrial

Source: Office of inspector General " Material Loss review Rockbridge Commercial Bank, Atlanta Georgia", report № MLR-10-041, p. I-4, http://www.fdicoig.gov/reports10/10-041.pdf

Composition of Rockbridge Loan Portfolio (%) Year End 2006 to 2009



Source: Uniform Bank Performance Reports (UBPR).
*As of September 30.

It can be observed from the chart above the growth pattern of loan portfolios of Rockbridge Bank during the years of its existence. The share of real estate loans took initially a slightly more than 50% out of loan portfolio and this share was increased to 2/3 by the end of year 2009. It can be concluded that the management team did not properly monitor concentrations of portfolio and react inadequately by continuing expanding lending strategy toward the mortgage market.

According to financial release Rockbridge had some lending activities connected with aircraft industry, totaled to 31$ million or 12% of total loans. However, the bank employees did not possess appropriate experience or training in order to underwrite and evaluate aircraft lending properly, hence, it is justified why roughly 15 % of the aircraft loans resulted in a loss. Even though 15% loss represents not a significant figure out of total losses, it proving the fact that a high proportion of loans resulted in a loss caused by poor underwriting standards, weak management's oversight and Board's ineffective institution protection from losses.

Besides, based on Reports of Examinations conducted by FDIC the bank's performance was evaluated according to CAMELS ("S" stands for Sensitivity to market risk) rating and was increasingly deteriorating year by year. By the end of 2008, the bank's overall composite rating performance was reduced from "1" to "3" out 5 scores and graded as needed improvement or risk management practices. In September 2009, FDIC examined the performance of Rockbridge and Reports of Examinations noted that the bank was insolvent and the overall conditions were poor, Capital- inadequate; Assets- deficient because of ACD

and CRE loan concentration; Management – poor performance; Earnings- deficient in a result of poor asset quality; Liquidity – deficient; Sensitivity to market risk – inadequate. Each component was graded "5" making the overall rating "5".

Thus, we can make an overall conclusion of Rockbridge failure: a high focus on real estate loans based on non-core funding; the level of capital was eroded by rising losses; strong deviation from the original business plan without proper internal control to mitigate corresponding arising risks, poor credit underwriting standards and inadequate reaction of Board and management team to the occuring changes in the real estate market. These shortages were exacerbated by the worsening economic conditions in real estate market. It is understandable why the bank could not find a buyer, no entity wanted to acquire the Rockbridge that had only massive debts and poor performance of portfolio difersification. Had the bank had the significant proportion of investments in sectors other than real estate market, it could have been acquired.

Community Bank of West Georgia

The bank started its operations in 2003, when there was a beginning of housing boom rising, with 31 employees and one branch office. West Georgia was closed in June 26, 2009 with total assets 201$ million and total deposits 189$ million by the Georgia Department of Banking and Finance. West Georgia was a state chartered member bank supervised by the Federal Reserve Bank of Atlanta under the authority given from both the Board of Federal Reserve System and the Georgian Department of Banking and Finance. As no bidder was located the FDIC was named as receiver to insure depositors by mailing checks. The failure of Community Bank of West Georgia (further West Georgia) was the 41st[51] bank failure in the states and 8th[52] bank failure in state Georgia since crisis occurred. The West Georgia failure brought to Deposit Insurance Fund (DIF) the estimated loss of 85.1$[53] million or 42.3% of total assets. Below are presented the part of bank's balance sheet with key

[51] Wallace Witkowski " Community Bank of West Georgia fails", Market Watch, June 26, 2009, http://www.marketwatch.com/story/community-bank-of-west-georgia-fails

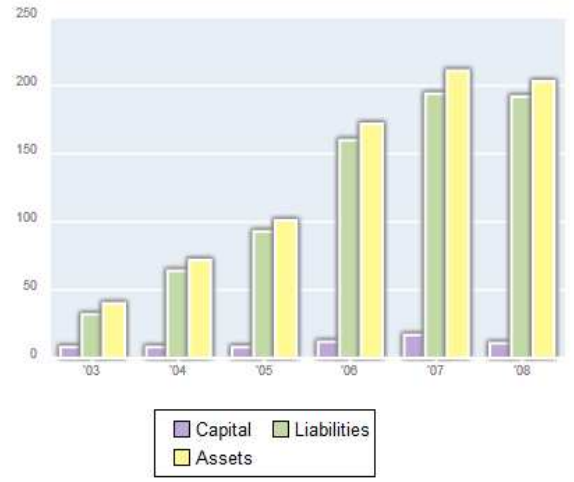
[52] Press Releases " FDIC Approves the Payout of Insured Deposits of Community Bank of West Georgia, Villa Rica, Georgia", June 26, 2009, http://www.fdic.gov/news/news/press/2009/pr09101.html

[53] Board of Governors of the Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p. 9 http://www.federalreserve.gov/oig/MRL_west_Georgia.htm

financial ratios as of March 31, 2009 and the trend of assets, liabilities and capital growth from 2003-2008.

Balance Sheet (USD, in thousands)		Income Statement (USD, in thousands)	
Total Assets	**201,222**	Total Interest Income	**2,088**
Total Debt	**193,919**	Total NonInterest Income	**-39**
Total Equity Capital	**7,303**	Total Interest Expense	**1,819**
Total Deposits	**189,398**	Total NonInterest Expense	**1,712**
Net loans&Leases	**123,541**	Net Income	**-3,385**
Loan Loss Allowance	**6,080**		
Key Ratios		**Loan types**	
Tier 1 Leverage Ratio	**3.58**	Total loans	**129,621**
Tier 1 Risk based Capital ratio	**4.61**	Loans Secured by real estate	**117,178**
Total Risk based Capital ratio	**5.89**	Commercial and Industrial loans	**11,661**
ROA	**-6.7**	Loans to individuals -credit cards	**0**
ROE	**-148.85**	Loans to individuals -other	**782**

2000 - 2008 Historical total assets, liabilities and capital ($ mil)



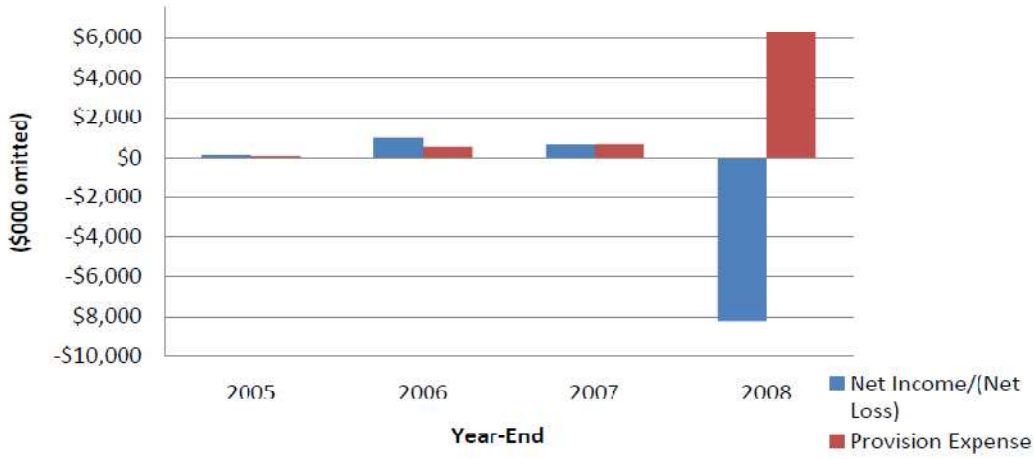
Sources: http://www.ibanknet.com/scripts/callreports/getbank.aspx?ibnid=usa_3119163,

http://www.faqs.org/banks/Community-Bank-of-West-Georgia-57436-Villa-Rica-Georgia.html#top

Total bank equity capital comprised 5.6% out of loan portfolio meaning that loans were mainly funded because of deposits. The small part of equity capital was not enough to cover the losses associated with loans. However, this indicator is higher in comparison with Rockbridge bank. According to the data of bank's change in equity capital, West Georgia

experienced significant losses started in the end of 2007, at that time its capital was twice as high (15,087$million[54])that it was at failure. For the period of slightly more than one year the equity capital was decreasing gradually in order to compensate the rising losses. The decreasing in capital was partially provoked by the increase in loan loss provision expense that increased 783[55] times in one year. The chart below demonstrates this increase.

Impact of Provision Expense on Earnings



Source: Board of Governors of Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p.13, http://www.federalreserve.gov/oig/files/West_Georgia_Bank_total-final-report_web.pdf

Tier 1 leverage ratio is slightly less than the least required ratio of 4% to be adequately capitalized, so, the bank is undercapitalized; Tier 1 Risk-based capital ratio satisfied the requirement to be adequately capitalized, whereas Total Risk-based capital ratio did not. Therefore, the bank was placed in group of "critically undercapitalized". Negative net income resulted in negative ratios of ROA and ROE. Quick ratio liquidity indicator equaled (cash+ government securities)/short-term deposits = (21.764$ million+17.9$

[54] Data is from bank's financial statement, Schedule RI A change in Equity Capital, http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3119163&per=20080331&rpt=RIA&typ=html

[55] Board of Governors of the Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p. 9 http://www.federalreserve.gov/oig/MRL_west_Georgia.htm

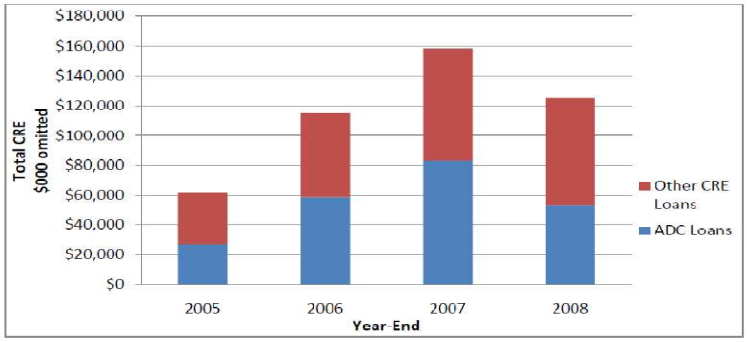
million)/144.515[56]$ million =0.27, showing that bank was not able to cover its short-term liabilities.

As it was mentioned above, West Georgia launched its business in the beginning of real estate flowering. It was a period when the economy was recovering after the dot com crisis and accumulated capital flows from technology bubble directed to rapid growing housing market. Hence, the loan portfolio of West Georgia was mainly focused on acquisition, development, and construction (ADC) which brought higher return at that time. Before bankruptcy the bank had 90%[57] of real estate loans out of total portfolio. When the situation on mortgage market was heating up the Bank's Board of Directors did not manage and control risks raised from the real estate loans properly thus, exacerbating the bank performance and speeding up the bank failure.

Initially, the bank business strategy concentration was toward gradual developing ADC loans as a component of commercial real estate (CRE) portfolio. However, from 2005, West Georgia started to actively implement the ADC loan growth strategy. It can be observed from the chart below how ADC loans as a component of CRE portfolio increased more than three times reaching the highest volume of 83.1 $ million between 2005 and 2007. The concentration of ADC loans increased from 217% of total capital to 420% [58]in 2008, enhancing the bank's vulnerability to shocks in real estate market. From the loan and leases report can be concluded that ADC loans amounted to 42% of total loan portfolio. Moreover, the examiners stated that more than 90% of the bank's 20$ million portfolio of single family residential construction loans were speculative as the houses that were constructed were not pre-sold[59].

[56] Data is taken from bank's financial statement reports"Schedule RC E Deposit Liabilites", Memoranda
[57]Data is taken from bank's financial statement reports, Schedule RCCI Part I. Loans and Leases, http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3119163&per=20090331&rpt=RCCI&typ=html
[58] Board of Governors of the Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p. 12 http://www.federalreserve.gov/oig/MRL_west_Georgia.htm
[59] Board of Governors of the Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p. 16http://www.federalreserve.gov/oig/MRL_west_Georgia.htm

Growth in ADC loans



Source: Board of Governors of the Federal Reserve System, "Material Loss Review of Community Bank of West Georgia", Office of Inspector General, January 2010, p.10, http://www.federalreserve.gov/oig/MRL_west_Georgia.htm

The bank performance according to CAMELS rating was deteriorating substantially, because level of capital was not adequate to sustain the bank's risk profile, assets quality was deteriorating and earnings were critically deficient because of increase in loan loss provision expenses due to poor asset quality. Liquidity was a concern as the asset quality was deteriorating and the bank relied mainly on brokered deposits[60]. Brokered deposit is a deposit which was initially sold by different banks to brokerage who then distribute the parts of mixed pool of deposits to their customers. West Georgia was a customer of brokerage who was supplying the bank with deposits. During the crisis, with rising number of financial institution failures, relying on brokered deposits becoming more risky. So, the bank's overall rating was "4", by March 2008 meaning "troubled condition". This rating was decreased to "5" when Federal Reserve Bank of Atlanta and state examined West Georgia in September 2008. The bank was warned to improve the performance by injecting the capital to the level of being cited "adequately capitalized". However, West Georgia did not implement the recommendations and was closed in June 2009. So, the West Georgia was failed in result of concentration ADC loans in lending portfolio; the Board's oversight in loan underwriting and credit administration, and Board's reluctance to maintain the level of capital commensurate with rising risks.

[60] "...in 1989, Congress began restricting insured institutions's access to brokered deposits, and by 1991, only well-capitalized institutions could accept brokered deposits without restrictions", Supervisory insights, " Liquidity Analysis: Decades of Change", FDIC Training Center: 1992.

Having looked at two banks profile we can infer that the failure in both cases was due to the high concentration of real estate loans in a portfolio and weak loan underwriting requirements concurrent with their negative consequences that abruptly emerged as the crisis happened. An inadequate level of capital and earning deficiency are accompanying with poor asset quality.

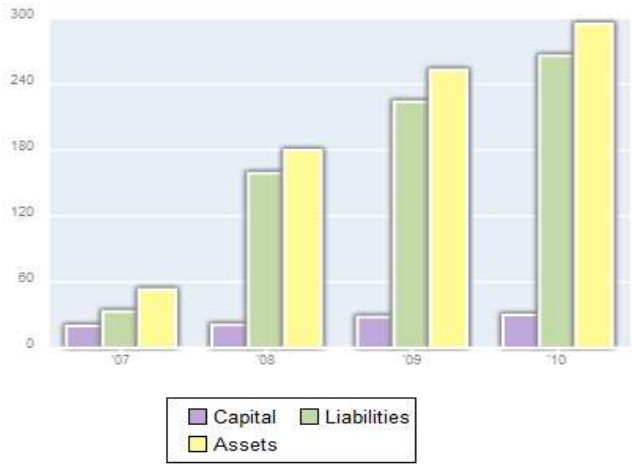
Georgia Primary Bank

Now we are approaching the sample of banks that also faced with bad market economic conditions, but could withstand them with in contrast to the banks discussed above. The two banks that are going to be discussed in this part could overcome the financial distress spelled severely on banking Georgian sector and function till present due to the government financial assistance received mainly through TARP program. We are going to understand the difference in bank performance of failed banks and those that were bailed out. Georgia Primary Bank and One Georgia Bank are the financial institutions to be discussed below. The information important for the analysis will be traced back to the period before banks receiving the government assistance. Georgia Primary Bank got support on May 1, 2009 and One Georgia Bank on May 8, 2009.

Georgia Primary Bank is a nonmember state chartered commercial bank regulated by FDIC opened in 2007 with 1 branch within the state and 19 employees on March 31, 2009. The main financial facts of balance sheet as of March 31, 2009 are presented below in the table and displayed in the chart.

Balance Sheet (USD, in thousands)		Income Statement (USD, in thousands)	
Total Assets	**229,717**	Total Interest Income	**2,966**
Total Debt	**208,64**	Total NonInterest Income	**22**
Total Equity Capital	**21,077**	Total Interest Expense	**1,603**
Total Deposits	**208,324**	Total NonInterest Expense	**812**
Net loans&Leases	**179,278**	Net Income	**247**
Loan Loss Allowance	**2,052**		
Key Ratios		**Loan types**	
Tier 1 Leverage Ratio	**9.79**	Total loans	**181,33**
Tier 1 Risk based Capital ratio	**10.38**	Loans Secured by real estate	**100,782**
Total Risk based Capital ratio	**11.39**	Commercial and Industrial loans	**80,743**
ROA	**0.11**	Loans to individuals -credit cards	**0**
ROE	**1.2**	Loans to individuals -other	**144**

2000 - 2010 Historical total assets, liabilities and capital ($ mil)



Sources:[*http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3442704&per=20090331&rpt=RC&typ=html*](http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3442704&per=20090331&rpt=RC&typ=html), http://www.faqs.org/banks/Georgia-Primary-Bank-58523-Atlanta-Georgia.html#top

It can be noticed from the table that the equity capital comprised 11.6% out of total loan portfolio. The bank had only 11.6% of cushion to pay back depositors in case it was losing money. Notwithstanding the fact the capital was not increasing from 2007 till 2009 and the volume of assets were mainly expanded in 2009 for an account of deposits, the key ratios, such as Tier 1 leverage Ratio, Tier 1 Risk-based Capital ratio and total risk based capital ratio satisfied the requirements to be cited as well capitalized. The Net Income of Georgia

Primary Bank by March 31, 2009 totaled 0.247$[61] million, demonstrating the bank profitability. In contrast to failed banks where net losses eroded the capital equity, Georgia Primary Bank slightly increased it. To measure how liquid the bank's assets were and the bank ability to pay its short-term obligations we use the quick ratio indicator (Current assets/current liabilities, current assets = cash and balances due from depository institutions + securities (42.773$ million) and current liabilities = short-term deposits (146, 288[62]$ million)) equals 0.3, meaning that the bank could not pay its current liabilities.

As all banks were focused on real estate lending when the market for it was flowering, the total loan portfolio of Georgia Primary Bank was also growing, rising from 34.45$ million to 181.33$ million, increasing by 526% in two years. (See Chart below) The amount of loans before the bank was bailed out reached the peak. According to the Schedule RCCI Part I. Loans and Leases report the proportion of ADC and CRE loans in total loan portfolio comprised 100.782$ million or 55.5%, whereas the other proportion (44.5%) were given to commercial and industry (C&I) loans. The share of other loans was negligible. Although the proportion of troubled assets was not so high as that in the banks which failed, the Board of Directors could have limited it number to minimum taking into consideration the financial situation on real estate market at that time, as the bank was founded when the crisis flashed.

The growth trend of total assets, total loans and total deposits

Financial Data ($)	3/31/2009	3/31/2008	12/31/2007
Total Assets	$229.72	$73.78	$53.02
Total Loans	$181.33	$61.12	$34.45
Total Deposits	$208.32	$52.75	$33.26

Source:http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3646397&per=20090331&rpt=RI&typ=html

Thus, it can be seen from overall bank performance that the Capital - met the adequately capitalized requirements; Assets – the quality was not poor, as almost half of them were

[61] Data from the bank financial statement, Schedule RI Income Statement, http://www.ibanknet.com/scripts/callreports/viewreport.aspx?ibnid=usa_3646397&per=20090331&rpt=RI&typ=html

[62] The data is taken from bank financial statement "Schedule RC E Deposit Liabilites", Memoranda

commercial and industrial loans; Management – although we did not find relevant information concerning management team, we tend to think that the management performance was normal: If it was good, they could prevent the equal share of real estate loans in total portfolio, if it was poor, the net income would have been negative. Earnings– sufficient, net income is positive and did not eat away the capital equity. Liquidity was deficient as many banks of that time experienced this problem.

Notwithstanding the fact the bank performance was in good condition, to further withstand the financial downturn the government provided the entity with 4.5$ [63]million through TARP program in exchange for preferred stock and exercised warrants. The Bank has not returned any part of this sum yet.

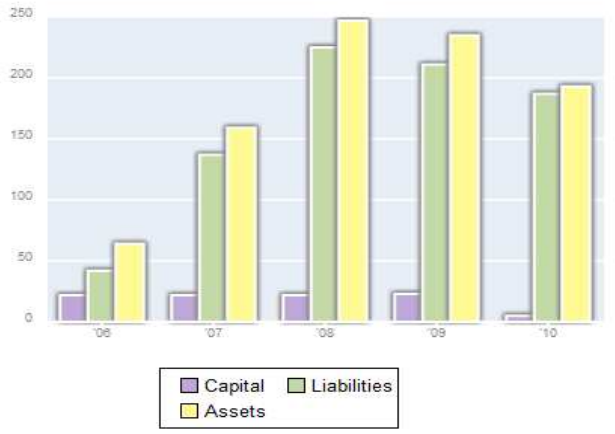
One Georgia Bank

The next receiver of federal assistance is One Georgia Bank. This Bank is a Georgia chartered nonmember commercial bank with one branch office and 27 employees was founded in 2006. We will examine the main financial figures prior the bailout, i.e. March 31, 2009. Below is given the table with important financial facts about the Bank.

Balance Sheet (USD, in thousands)		**Income Statement** (USD, in thousands)	
Total Assets	**245,167**	Total Interest Income	**3,074**
Total Debt	**223,870**	Total NonInterest Income	**125**
Total Equity Capital	**21,297**	Total Interest Expense	**1,797**
Total Deposits	**192,434**	Total NonInterest Expense	**1,680**
Net loans&Leases	**200,058**	Net Income	**-640**
Loan Loss Allowance	**3,595**		
Key Ratios		**Loan types**	
Tier 1 Leverage Ratio	**8.22**	Total loans	**203,653**
Tier 1 Risk based Capital ratio	**9.56**	Loans Secured by real estate	**169,736**
Total Risk based Capital ratio	**10.82**	Commercial and Industrial loans	**32,177**
ROA	**-0.26**	Loans to individuals -credit cards	**0**
ROE	**-3**	Loans to individuals -other	**2,025**

[63] http://projects.propublica.org/bailout/entities/594-georgia-primary-bank

2000 - 2010 Historical total assets, liabilities and capital ($ mil)



Source: http://www.ibanknet.com/scripts/callreports/getbank.aspx?ibnid=usa_3442704,

http://www.faqs.org/banks/One-Georgia-Bank-58238-Atlanta-Georgia.html#top

Based on the financial data from the table we can conclude that One Georgia Bank equity capital was able to cover 10.45% of total loans. From the chart above it can be clearly seen that the absolute capital volume almost did not change from 2006 till 2009, while assets and liabilities were growing. Despite this fact the key capital ratios satisfied the requirements to be well-capitalized. Net income was negative, but in comparison with failed banks it was not so high. Bank's unprofitability was reflected in negative ROA and ROE ratios. Liquidity indicator equaled: cash ((0.66$ million) + securities (40.515$ million))/short-term deposits (154.616$ [64]million) =0.26, the indicator was on the extreme low level, leaving the bank no chances to meet the short-term liabilities.

Let's look at loan portfolio composition of One Georgia Bank. The real estate loans represented 83% out of total loan portfolio, while commercial and industrial loans only 15.7%. The high proportion of real estate loans made the bank vulnerable to situation on mortgage market during the crisis. Unfortunately, because of insufficient historical information we cannot track the trends of loan growth.

So, we can conclude that Capital of the Bank – adequately capitalized, Assets – the proportion of troubled real estate loans were high; Management – did not control the risk arisen from the high proportion of real estate loans; Earnings – deficient, due to poor

[64] The data is taken from bank financial statement "Schedule RC E Deposit Liabilites", Memoranda

performance of assets quality, although the net losses were not so high as it was in compared failed banks; Liquidity – deficient.

Although the bank performance was not good enough, the government helped One Georgia Bank with providing 5.5$ [65]million. In comparison with Georgia Primary bank, One Georgia bank had poorer performance and higher share of troubled assets, therefore the federal assistance through TARP program was one million more.

So, we have looked at 4 commercial banks with different portfolio composition and capitalization. Based on research made above we can conclude why the first two banks were not supported and failed and the other two due to government assistance operate till present. Below we provide the comparison analysis of main financial indicators of discussed banks. It can be clearly seen that two first banks had a great share of real estate loans in their portfolios and did not have enough capital to cover the emerging losses from infected assets. The two other banks that were bailed out had a rating of well- capitalized banks. It means that these banks could withstand further loan losses due to its capital. Although One Georgia Bank had a large proportion of real estate loans in its portfolio, even larger than Rockbridge Commercial Bank had it received the government support. All 4 banks experienced liquidity problems.

	Rockbridge bank	Community BK of West Georgia	Georgia Primary Bank	One Georgia Bank
Assets (USD, thousands)	294,024	201,222	229,717	245,167
Loans (USD, thousands)	211,742	129,621	181,33	203,653
(% of assets)	72%	64%	79%	83%
→*Real estate loans (%)*	72%	90%	55%	83%
→*Commercial&industrial (%)*	21%	9%	44%	16%
RoA	-12.11	-6.7	0.11	-0.26
RoE	-146.41	-148.85	1.2	-3
Quick ratio	0.22	0.27	0.3	0.26
Equity (USD, thousands)	1,534	7,303	21,077	21,297
	0.52%	3.6%	9.1%	8.7%
Level of capitalization	critically undercapitalized	critically undercapitalized	well-capitalized	well-capitalized
Bailout volume (USD, thousands)	N/A	N/A	4,5	5,5
(% of assets)	N/A	N/A	1.95%	2.24%
(% of equity)	N/A	N/A	21.3%	25.8%

Thus, it can be concluded that the banks that were well-capitalized received the assistance despite the high proportion of troubled assets in its portfolio. The bailed out banks just were given the government support to resist to dire economic conditions. It is worth noting that

[65] http://projects.propublica.org/bailout/entities/594-georgia-primary-bank

being on the edge of failure the bank was either bailed out or merged and taken over by big market players. If the bank was allowed to fail and no acquirer wanted to purchase it, Federal Deposit Insurance Corporation (FDIC) was responsible for insured deposits at failed banks and was interested in finding the buyer for the failed institution. It is worth noting that the volume of bailout provided to Georgia Primary Bank and One Georgia Bank was not as high as losses associated with bank failure. The volume of bailout in relation to total equity 21.3% and 25.8% respectively, while to total assets was 1.92% and 2.24% respectively. The thesis shows only 2 banks whose assets were not given to fail, whereas the total number of TARP bailout recipients, the financial institutions and car companies of different sizes were around 1000[66]. In case these banks had not been helped, the situation on banking sector and on real market, which are interconnected, could have been much more severe: more banks failures, credit freeze and deflation. So, the bailouts were necessary, as without them relapse of Great Depression would have been inevitable.

[66] http://projects.propublica.org/bailout/list/index

Chapter 3. Pros and cons of bailouts, other bailout alternatives.

3.1. Pros and cons of bailouts.

Notwithstanding the fact the financial system was bailed out and banking activities returned not to the same level but are on the rising trend, there are a lot of arguments why bailouts are a bad strategy. First of all, many Americans kept on struggling financially after the bailout strategy was started, while banks and financial institutions recovered quickly. A number of homeowners lost their homes and were not helped as fast as the banks received the support. So, the growing loss of public trust in government may undermine the government reputation not only among Americans but also on international arena. Second, the bailouts generate the moral hazard problem, if the financial institutions were not concerned about their high risk weighted portfolio before the crisis and instead of going bankrupt they are helped to overcome the downswing, it gives the incentive for taking more risks in the future relying on government assistance in bust cycles. This government support may be reflected by excessive risk taking not necessarily in banking sector, but also in other industries. So, there is a high probability of permanent future crises, unless the government takes measures to control the spending bailout money and strengthen the regulation. Third, bailouts destroy the competition conditions on the market. If the US economy rest on laissez-faire system, where is assumed that the government does not interfere in business and where somebody wins and somebody loses, bankruptcy should be an active stage of a entity life cycle, without them market players will not have responsibility for their actions. Fourth argument against bailout is inflation and its anticipation. The rise of inflation is expected in the long-term run in the US and in the countries whose currency is pegged to the US dollar, and national debt. The underlying asset under this unstable debt will rise in value at the inflation rate of 7-30 %[67] annually (it depends on the index of inflation; M3 or price of gold) because of quantitative easing that is far greater than the discount rate charged by the Fed. However, besides long-run expectation of inflation, there is the market

[67] http://www.fskrealityguide.blogspot.com/2008/03/bear-stearns-bailout-details.html

anticipation of inflation which is much worse than the inflation itself, since the inflation anticipation will demand the higher interest rate for received dollar repayments in order to compensate for the reduced US currency value; the higher interest rate in its term will boost the government deficit and debt, creating the restrain in government spending before resuming the normal healthy economic growth. But the fear of inflation will not appear as a real threat till the unemployment rate is high. So, the decision to the financial crisis has been chosen, now it is time for the government to contemplate the ways of addressing the consequences of adopted decision.

3.2. Were there better bailout alternatives?

Some economists claim that, the resolution of the US government to bailout gigantic banks and firms was not the best alternative in order to resume lending, which was one of the main problems in the financial system restoration. It is considered that there is a high probability that this bailout can give rise to too-big-to fail enterprises and even more costly bailouts in the future, since government encouraged and forced banks to be taken over and merged. To name but just a few: Merrill Lynch was forced to be taken over by Bank of America, the same situation can be observed with JP Morgan Chase and Bear Stearns, Wells Fargo and Wachovia, where the Bear Stearns and Wachovia were acquired by larger institutions.

During the crisis due to suspension of payments and lending, the real market price on the assets is blurred making it difficult to assess the value of banks' assets and their losses. Bank bailouts are supposed to rescue the banks that engender the systemic risk, mainly too-big-to fail banks and too-interconnected to fail however, the financial system is too interconnected by itself and has the same banking characteristics making the bailout scheme ineffective and superficial. It is worth noting that although the interconnectedness caused and spread contagion, it is one of the achievements of economic effectiveness as Charles Calomiris cites, allowing both banks and firms work cooperatively more efficiently and benefiting to society so, interconnectedness should not be eliminated, but the thing that can cure the system is transparency which will allow market participants form their expectations and valuations adequately. The crisis is like a serious illness which needs to be cured entirely, resuming the strong immunity to subsequent crises; otherwise the financial

system will experience permanent outburst of bust cycles. The scientists and economists suppose that the financial situation in the US provides rather strong evidence for this: US will face chronic crises, the consequences of the bailout treatment. It is unknown how severe next crises can be and whether it will be possible to choose the other exit from it than that which was chosen during the recent turmoil or impossible to turn away from already chosen way.

Some economists adhere to the opinion of financial restructuring in the way of conservatorship or debt-to equity conversion. In this case the creditor receives the equity stake in the entity against the full or partial termination of the debt part depending on the management team negotiations. This modified capital structure improves the balance sheet solvency of debtors and creditors and solves the debt service problems. The creditors are suggested the share of future revenues in exchange for the write-off their debt. This solution is not always suitable for the creditors, since the shares price of the company fell significantly due to the financial crisis; however, this is one of the best solutions for the creditors, they can control the management team and participate in company decisions, rather than waiting for the debt repayments, which might be hardly probable. Debt to equity conversion could also be applied for the government being the main equity holder. When a financial institution is in the zone of failure, i.e. have fewer assets than liabilities and low capital, it should be shut down and nationalized instead of using the bulky of taxpayers' money. The government becomes the temporary owner of the bank; takes control over the banking operations and run it until someone takes it over or buys. This method of debt to equity conversion with government equity stake was applied to Fannie Mae and Freddie Mac entities, the institutions that provide credits guarantees for almost half of all US outstanding residential mortgage loans. When these large institutions experienced the significant losses on their mortgage-related guarantees and investments, the government took control of them in September 2008. This method requires much less taxpayers' money, increases the institution overall value, decreases the bankruptcy probability and consequently save the bankrupt transaction costs. The government just assists in rekindling the lending process and should put the entity on the way to function independently when the economic activities restore.

The other way of liabilities transformation is conversion of unsecured liabilities into equity. In this case the load taken from recapitalization is carrying by those who initiated unsecured loans and by banks which bear these unsecured loans on its balances. This way allows the players to observe the transparency in the market by monitoring the transactions.

Also one of the suggested ways was to bail out the special entity which would have bought up the entire pool of the mortgage backed securities thus, cleaning up the banks' balance sheet and have held them until the system would stabilize. The means of functioning would have provided by the Fed as long-term interest free loans and the whole subprime mortgage market would be frozen till the better market conditions would come. The first difference between the current bailout is that in the case of bailing out only one entity, Fannie Mae or Freddie Mac, for example, which was directly connected with the subprime mortgage market, where the crisis happened, instead of many different entities without concrete criteria for supporting them. Second, if even the taxpayers' money were involved they could be given the preferred shares of the equity and appropriate control rights on this special entity. Third, people could keep their homes, which is much more important from the social point of view.

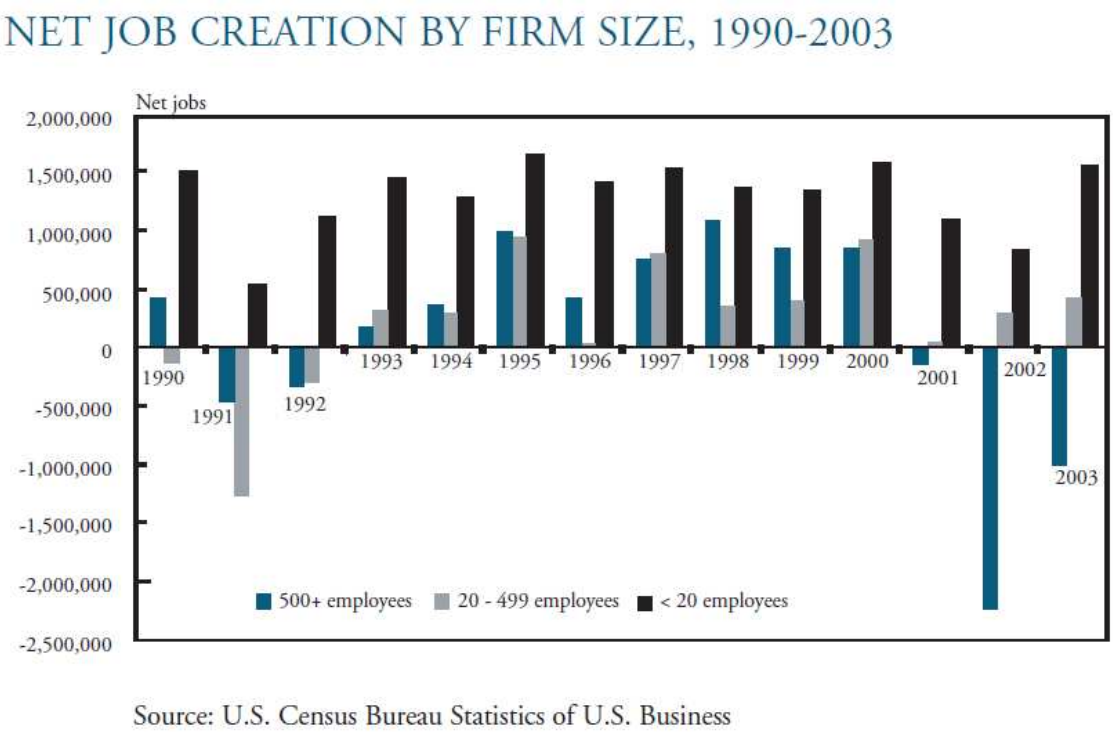
Issuing new equity in the old banks or creating new banks with new equity (the government could have bought banks for the price much below the assets value to stop them going bankrupt, recapitalize them and sell them off for much higher price) is the next way of economy recapitalization. Conventional wisdom has it that the engine of any economy is small banks, since small sized banks are the main link for credit for small and medium sized enterprises, where are created the major number of working places. Ashcraft cites that small banks are mainly directed lending to small firms which are more bank-dependent[68]. The statistics proves that in the US before the crisis from 1990 till 2003 small firms were the major source of new jobs creation. (See Chart 20). Moreover, small banks process soft information and manage informational complex credits much easier than large banks do[69]

[68] Ashcraft, Adam, (2005), "Are banks really special? New evidence from the FDIC-induced failure of healthy banks", *American Economic Review*, vol. 95, no. 5., p.7

[69] Berger, Allen N., Miller, Nathan H., Petersen, Mitchell A., Rajan, Raghuram G., and Stein, Jeremy C., (2005), "Does function follow organizational form? Evidence from the lending practices of large and small banks", *Journal of Financial Economics*, vol. 76, no. 2, pp. 237–269.

and the monitoring of less concentrated financial system with many small banks is much easier and effective than concentrated financial system with few big banks[70]. But it is wrong to claim that the government should prevent the appearance of too-big-to-fail entities in the future. The emergence of big banks is a success of market economy, where economy of scale, expenses minimizing and profit maximizing purposes are reached. Furthermore, only big banks with substantial level of capital can employ investments in innovation and technology. However, after the crisis, the economy is on the bottom of economic growth, so to resume the growth the creation of new small companies is indispensable. So, the tendency should be directed to create the healthier financial structure, than it was before, with thorough elaborated criteria and standards for how mitigate the risk portfolios.

Chart 20



Source: U.S. Census Bureau Statistics of U.S. Business

3.3. Bailouts were inevitable

Despite the fact that mentioned above arguments against bailouts are reasonable and suggested other alternatives are sound and maybe possible the government did not want to

[70] Centre for economic Policy Research (CEPR) "Bailing out the Banks: Reconciling Stability and Competition". An analysis of state-supported schemes for financial institutions by 2010, p.19

risk by crossing out the economy formed by centuries and by letting Americans to be on the edge of starvation. So, the government did not have the other option during the crisis, but bailout the banks, the main providers of financial sources to other industries and the key propellers of economic growth. The volume of assets of current financial institutions is such big that letting them go to the bottom would have affected the economic conditions of many households and other industries. Although the government should not intervene in business cycle of companies, it could not allow them to fail, as the consequences could be far worse than those during the Great Depression. The volume of transactions and the amount of assets and liabilities of current financial institutions exceeded more than thousand times those that were in 1930s. We know from history the negative effects of depression: high unemployment, budget deficit, very strong deflationary pressures and slow economic growth, during the Great Depression the US real GDP fell by more than 30 %[71]. With the continuing growth of unemployment the real danger was deflation. Deflation can be a serious problem, as the wages and prices are falling households and enterprises can pay off their debts less actively. These can lead to more defaults and chaos exacerbating the overleveraged financial system even more. Moreover, the process of economy stabilizing after the Great depression did not occur in 3-4 years, it took around 10 and more years. Therefore, it is clearly that bank bailouts were indispensable; actually it was the economy bailout to avoid the consequences of far 30's. One of the major advantages of the bailout in the short-term is the confidence restoration accompanied by lending stimulation. Besides, as the research in chapter 2 indicates that the government did not support the banks with overall poor conditions and low capitalization level, the government gave a helping hand to those that were well-capitalized, despite having a high proportion of troubled assets in loan portfolio. Furthermore, the bailouts did not let the unemployment rate fall too low. Imagine, if big troubled financial institutions, where several thousands of people are employed were allowed to fail, how fast the unemployment rate would have risen. This fact confirms again that the federal assistance was vital during the recent economic catastrophe. Moreover, it essential noting that Pension funds had equity stakes in many big institutions, it means that people own a bank stock in the form of their pension plans, so letting big institution fail could have caused Americans all classes from low to high to suffer. So, using

[71] Christian D. Romer, "Great Depression", Forthcoming in the Encyclopedia Britannica, December 20, 2003., p.1

taxpayers' money was in favor of American people, they were just bailing out themselves. However, it is understandable that government cannot bail out the financial institution all the time. So, special procedures on macro and micro level should be addressed in order to prevent further turmoil.

Conclusion

The objective of this thesis was to explore the key reasons that caused the financial crisis in the US. The composition of general US macroeconomic factors, such as loose monetary policy, in composition to poor credit history requirements by vast majority of financial institutions and accumulated capital after dot com crisis led to growth of housing market and housing prices; low savings rate that gave the opportunity to foreign capital inflow, particularly from China to reside in the US mortgage-backed market; and rising trade deficit because of high consumption rate. Borrowers were eager to take more loans in the hope of further housing price increase and the opportunity to cash refinancing. More than half of originated loans were for this purpose. The greed to receive higher returns created the mortgage-backed market, which allowed spreading risks among investors and taking more leverage and risks. All mentioned above factors contributed to housing bubble development which burst and transformed into financial crisis in 2007.

As the volume of troubled securities in bank loan portfolios was tremendous, leaving the financial institution to default could lead to more severe consequences than bailing them out. The government in addition to application of conventional and unconventional monetary tools initiated the troubled relief program (TARP) which helped banks to clear their balance sheets and gave the opportunity to withstand dire economic conditions. This thesis concluded that not all banks received the government assistance, only those that were well capitalized, notwithstanding the fact that had a significant weight of troubled assets in loan portfolio, negative profitability ratios and low liquidity indicators. The government helped such institutions to overcome the crisis without eroding its capital by covering growing losses from troubled assets. The government let the banks fail, if the level of capitalization was critically low. The probability and the speed of their bankruptcy were much greater and highly anticipated than in those banks that had enough capital. Therefore, the federal assistance was directed to support the level of bank capital that despite rising losses still could meet the capital requirements. If the government would not have helped, the banking system would stop functioning and the economy would fall in Depression with high unemployment rate and negative economic growth. Despite the number of bailout disadvantages such as the soaring likelihood of further reliance on government in time of

crisis and further high risk taking, high inflation in the long run and competition distortion, the recent bailout strategy was inevitable.

However, government should take measures on macro level to prevent further financial crisis. This crisis demonstrated that the economies are globally interconnected: the subprime housing crisis in the US made big economies fell on downward economic trend also. Hence, the measures to exit from financial crisis should be taken in cooperation with major economies, particularly the US, China and Europe.

References:

1. Andrea M. Maechler and Kathleen M. McDill, “Dynamic Deposit Discipline in US Banks, Working paper 2003-2007, http://www.fdic.gov/bank/analytical/working/wp2003_07/index.html#
2. Andrews Edmund L; MichaelJ de la Merced and Mary Williams Walsh,” Fed’s 85$ billion loan Rescues Insurer”, New York Times, September 17, 2008
3. Ashcraft, Adam, “Are banks really special? New evidence from the FDIC-induced failure of healthy banks”, *American Economic Review*, 2005, vol. 95, no. 5.
4. Baird Webel, “Ongoing Government Assistance for American International Group (AIG), Congressional Research service, March 16, 2009
5. Barry Ritholtz “ Bailout Costsvs big Historical Events”, June 18, 2009 http://www.ritholtz.com/blog/2009/06/bailout-costs-vs-big-historical-events/
6. Berger, Allen N., Miller, Nathan H., Petersen, Mitchell A., Rajan, Raghuram G., and Stein, Jeremy C., “Does function follow organizational form? Evidence from the lending practices of large and small banks”, *Journal of Financial Economics*, 2005, vol. 76, no. 2, pp. 237–269.
7. Bill Dupor, “Stabilizing Non-fundamental Asset Price Movements under Discretion and Limited Information”, Journal of Monetary Economics, vol.52, May 2005
8. Board of Governors of the Federal Reserve System , “ The Federal Reserve System: Purposes and Functions”, Washigton DC., Last update: July 5, 2005
9. Board of Governors of the Federal Reserve System, Basel II Capital Accord “Calculation of Tier 1 capital and total qualifying capital”, March 30,2006, http://www.federalreserve.gov/GeneralInfo/Basel2/DraftNPR/NPR/section_4.htm
10. Building Justice Report, “Pulte Homes and Risky Loans. The Hidden Cost of selling New homes”, 2009, p.3
11. Carlstrom. C. and T.Fuerst.” Asset prices, Nominal Rigidities, and Monetary Policy” Review of economic Dynamics 10(2), 2008
12. Centre for economic Policy Research (CEPR) “Bailing out the Banks: Reconciling Stability and Competition”. An analysis of state-supported schemes for financial institutions by 2010

13. Charles Wyplosz (Professor of International Economics at the Graduate Institute, Geneva; Director of the International Centre for Money and Banking Studies.) "Monetary policy, subprime crisis" CEPR Research Fellow, 17 August 2007
14. Charlotte, N.C., "Bank of America to repay Entire 45$ billion in TARP to US Taxpayers", bank of Amrica website, November 2, 2009.
15. Christian D. Romer, "Great Depression", Forthcoming in the Encyclopedia Britannica, December 20, 2003.
16. Citigroup job cull to hit 75000. BBC November 17, 2008.
17. Citigroup website, http://citigroup.co.tv/ on May 2011
18. Congressional Budget Office "The Budgetary Impact and Subsidy Costs of the federal Reserve's Actions During the Financial Crisis", May 2010
19. Daniel Griswold "Are trade deficits a Drag on US Economic Growth?" Free Trade Bulletin no 27, March 12, 2007
20. Dash, Eric "Citigroup Reports Big Loss and a Breakup Plan" The New York Times, September 22, 2009.
21. Dash, Eric, Creswell, Julie "Citigroup Saw No Red Flags Even as it Made Bolder Bets" Business (The New York Times) November 22, 2008.
22. David Cay Jonston. "Average Pay in Investment Banking is Ten Times that Elsewhere", International herald Tribune, September 3, 2007
23. Deroy Murdock "Bailout Exceeds 90Percent of 2008 US GDP", June 6, 2009 http://www.humanevents.com/article.php?id=31343
24. Eric deCarbonnel "US Banks Operating Without Reserve Requirements" Posted Sunday, 5 April 2009
25. Farzad, Roben, M.Goldstein, D.Henry, and C.Palmeri.2007. "Not So Smart." Business Week 4048: 30-36.
26. Federal Reserve bank of St. Louis Review, "The Evolution of subprime Mortgage market" , January/February 2006, 88(1), pp.31-56 http://research.stlouisfed.org/publications/review/06/01/ChomPennCross.pdf
27. Frederic S. Mishkin "The Economics of Money, Banking and Financial Markets"–6th ed. Update. USA 2003

28. Grocer, Stephen " Wall Street Compensation – No Clear Rhyme or Reason". Wall Street Journal July 30, 2009

29. IMF Currency Composition of Official Foreign Exchange Reserves (COFER), September 28, 2007;
30. Independent Strategy, "New Monetarism", Global markets , 2007
31. Inside B&S Lending 12, " Subprime Rebound Not Expected any time soon", December 15, 2007
32. John Dunbar, David Donald, "The roots of the Financial Crisis: Who's to Blame?", The center for Publicity, May 6, 2009, p.3.
33. Joseph E. Stiglitz, "Freefall: America, free markets, and the sinking of the world economy", January 18, 2010 by W.W. Norton&Company

34. Juliet Lapidos, " Can Paulson Fire naughty Executives? How much control does the treasury have over personnel at AIG?", October 8, 2008.
35. Justin Murray, Marc Labonte, "Foreign Holdings of Federal Debt" CRS Report RS22331
36. Lawrence Christiano, Martin Eichenbaum, and Sergio Rebelo, " When is the Government Spending Multiplier Large?" NBER Worling paper 15394, October 2009, http://www.nber.org/papers/w15394
37. Lim, Mah-Hui, M.2008. "Old Wine in a New Bottle: Subprime Mortgage Crisis-Causes and Consequences." Working Paper no.532, Annandale-on-Hudson, NY: The Levy Economics Institute.
38. Lionel Robbins "The Great Depression" , New York: Macmillan, 1934
39. Lupe Lasano, "US gives bank of America 20 billion dollars in capital injection", January 16, 2009
40. Marc Labonte, and Gail E.Makinen "Monetary policy and the Federal Reserve: Current policy and conditions" CSR Report to the Congress, updated August 22, 2008
41. Miguel Almunia, Benetrix Augustin, Barry Eichenengreen, Kevin O'Rourke, G.Rua " Grom Great Depression to Great Credit Crisis: Similarities, Differences and Lessons", November, 2009
42. Mikhail Khazin, "Crisis theory", Report for the conference in Modena, Italy, 9 July 2008

43. NBS. National Bureau of statistics of China. 2007 and previous years. The China Statistical yearbook.
44. Nomi Prins, “It takes Pillage: Behind the Bailouts, Bonuses and backroom Deals from Washington to Wall Street, Supplemental Analysis, 2009
45. Office of inspector General “ Material Loss review Rockbridge Commercial Bank, Atlanta Georgia”, report № MLR-10-041, p. I-4, http://www.fdicoig.gov/reports10/10-041.pdf
46. Peralte C.Paul, “RockBridge Commercial Bank closed by regulators”, The Atlanta Journal-Constitution, Atlanta Business News, December 18, 2009.
47. Peter N. Lecture notes on “Money, Banking and Financial Markets” (Ireland Department of Economics Boston College), Chapter 17
48. Press Releases “ FDIC Approves the Payout of Insured Deposits of Community Bank of West Georgia, Villa Rica, Georgia”, June 26, 2009, http://www.fdic.gov/news/news/press/2009/pr09101.html
49. Sorkin, Andrew Ross, Mary Williams Walsh “ US Provides More Aid to Big Insurer”, New York Times, November 10, 2008
50. Sorkin, Andrew Ross, Mary Williams Walsh “ US Provides More Aid to Big Insurer”, New York Times, November 10, 2008
51. The Mortgage Bankers Association of America (MBAA) report
52. US Census Bureau Statistics of US Business
53. US Department of Commerce: Bureau of Economic Analysis, “Gross Domestic Product: Fourth Quarter 2009”, News Release, March 26, 2010
54. US DOC, US Department of the Treasury, US ITC
55. US International Trade Commision
56. US Treasury Department, Report on Foreign Portfolio Holdings of US Securities as of June 30, 2006.
57. Wallace Witkowski “ Community Bank of West Georgia fails”, Market Watch, June 26, 2009, http://www.marketwatch.com/story/community-bank-of-west-georgia-fails

58. Walsh, Mary Williams, “AIG Lists Firms It paid With Taxpayer Money”, The New York Times, March 31, 2009
59. William T.Gavin, “ More Money:Understanding Recent Changes in the Monetary Base”, Federal Reserve Bank of Saint Louis Review, March/April 2009, 91(2), pp.49-59
60. Websites:

http://www.investopedia.com/terms/f/federalfundsrate.asp

http://www.federalreserve.gov/generalinfo/basel2/draftnpr/npr/section_4.htm
http://www.scriru.com/6/95497475785.php
http://www.creditwritedowns.com/finance-data/
http://mjperry.blogspot.com/2008/07/rise-and-fall-of-subprime-mortgage.html

http://ncseonline.org/nle/crs/abstract.cfm?NLEid=1949

http://www.fskrealityguide.blogspot.com/2008/03/bear-stearns-bailout-details.html
http://blogs.wsj.com/deals/2010/09/20/tracking-bank-failures-georgia-tops-list-of-hardest-hit-states/

https://www.difxs.com/DIF/Home.aspx
http://projects.propublica.org/bailout/entities/594-georgia-primary-bank

Appendices:

Appendix 1

Bank regulation entails issuing specific regulations and guidelines governing the operations, activities, and acquisitions of banking organizations.

Responsibilities of the Federal Banking Agencies

The primary supervisor of a domestic banking institution is generally determined by the type of institution that it is and the governmental authority that granted it permission to commence business.

The Federal Reserve shares supervisory and regulatory responsibilities for domestic banking institutions with the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), and the Office of Thrift Supervision (OTS) at the federal level, and with the banking departments of the various states. The primary supervisor of a domestic banking institution is generally determined by the type of institution that it is and the governmental authority that granted it permission to commence business (commonly referred to as a charter). Banks that are chartered by a state government are referred to as state banks; banks that are chartered by the OCC, which is a bureau of the Department of the Treasury, are referred to as national banks.

The Federal Reserve has primary supervisory authority for state banks that elect to become members of the Federal Reserve System (state member banks). State banks that are not members of the Federal Reserve System (state nonmember banks) are supervised by the FDIC. In addition to being supervised by the Federal Reserve or FDIC, all state banks are supervised by their chartering state. The OCC supervises national banks. All national banks must become members of the Federal Reserve System. This dual federal–state banking system has evolved partly out of the complexity of the U.S. financial system, with its many kinds of depository institutions and numerous chartering authorities. It has also resulted from a wide variety of federal and state laws and regulations designed to remedy problems that the U.S. commercial banking system has faced over its history.

Table 5.1

Federal supervisor and regulator of corporate components of banking organizations in the United States

Component	Supervisor and regulator
Bank holding companies (including financial holding companies)	FR
Nonbank subsidiaries of bank holding companies	FR/Functional regulator[1]
National banks	OCC
State banks	
Members	FR
Nonmembers	FDIC
Thrift holding companies	OTS
Savings banks	OTS/FDIC/FR
Savings and loan associations	OTS
Edge and agreement corporations	FR
Foreign banks[2]	
Branches and agencies[3]	
State-licensed	FR/FDIC
Federally licensed	OCC/FR/FDIC
Representative offices	FR

NOTE: FR = Federal Reserve; OCC = Office of the Comptroller of the Currency; FDIC = Federal Deposit Insurance Corporation; OTS = Office of Thrift Supervision

1. Nonbank subsidiaries engaged in securities, commodities, or insurance activities are supervised and regulated by their appropriate functional regulators. Such functionally regulated subsidiaries include a broker, dealer, investment adviser, and investment company registered with and regulated by the Securities and Exchange Commission (or, in the case of an investment adviser, registered with any state); an insurance company or insurance agent subject to supervision by a state insurance regulator; and a subsidiary engaged in commodity activities regulated by the Commodity Futures Trading Commission.

2. Applies to direct operations in the United States. Foreign banks may also have indirect operations in the United States through their ownership of U.S. banking organizations.

3. The FDIC has responsibility for branches that are insured.

Source: The Board of Federal System "The Federal Reserve System: Purposes and Functions", Supervision and regulation section 5.

Federal Reserve Release

Press Release

Release Date: March 6, 1997

For immediate release

The Federal Reserve Board today requested comment on proposed amendments to Regulation D and Regulation I to define the location of a depository institution to facilitate interstate branching.

Comment is requested by **April 18, 1997.**

The proposed amendments would clarify the Federal Reserve District where a depository institution is eligible for Federal Reserve membership and the location of a depository institution's reserve account.

The Board's notice is attached.

FEDERAL RESERVE SYSTEM
12 CFR Part 204
[Regulation D]
Reserve Requirements of Depository Institutions

SUPPLEMENTARY INFORMATION:

A member bank with interstate branches must be a member of a particular Federal Reserve Bank. The membership question is closely related to other location issues such as where reserve accounts are located and where account entries are posted. Every national bank is required to become a member and stockholder of the Federal Reserve Bank of its district (FRA section 2(1)). State banks may apply to the Board to subscribe to the stock of the Federal Reserve Bank organized within the district in which the applying bank is located (FRA section 9(1)). These provisions suggest that membership is limited to one Federal Reserve Bank and that membership is to be determined by the geographical location of the bank.

A bank must hold reserves at the Federal Reserve Bank of which it is a member or where it maintains an account (FRA section 19(c)(1)). Therefore, a nonmember bank would hold its reserve account at the Reserve Bank where it maintains an account for purposes of check collection and other payments services. FRA section 13(1) provides that the nonmember bank may maintain this clearing account with the Federal Reserve Bank of its district.

Charter or head office location is the *status quo* under the FRA as to where a bank is located for membership purposes and nonmember reserve account purposes. The National Bank Act requires a national bank's organization certificate to state the place where its operations of discount and deposit are to be carried on, designating the state, territory, or district, and the particular county and city, town, or village (12 U.S.C. 22). State laws may be less specific, and the determination of the bank's location may not be ascertainable from the bank's charter.

Under a strict interpretation of the charter/head office rule, a bank could be a member only of the Reserve Bank whose district encompasses the location specified in its charter or, in the case of a state bank with no specific charter location, the location of its head office. For a bank with interstate branches, however, this location may not be the appropriate means of determining where the bank is located for membership or reserve account purposes. An interstate bank may have its main office or do the bulk of its business somewhere other than its charter location and may wish to establish a Federal Reserve Bank relationship closer to its business headquarters. Similarly, a bank holding company with subsidiary banks in multiple Federal Reserve districts that manages those banks as a combined business may wish to centralize operations in a single district. In addition, the Board and the Federal Reserve Banks may find it more efficient to administer a bank's account and perform other functions in a district other than the district encompassing the charter or head office location.

Section 9(1) of the FRA provides that state banks may apply to the Board, under such rules and regulations as it may prescribe, for the right to subscribe to the stock of the Federal Reserve Bank organized within the district in which the applying bank is located. Section 2(1) of the FRA requires national banks to become member banks in accordance with the provisions of the FRA, and section 11(i) gives the Board general authority to write rules necessary to perform its duties, functions, and services under the FRA. Accordingly, the Board is proposing to amend Regulation I (Issue and Cancellation of Capital Stock of Federal Reserve Banks) to set forth a definition of "location" for the purpose of acquiring Federal Reserve Bank stock. This proposed amendment on the location of a bank for membership purposes also would help answer other member bank location questions related to reserve account maintenance, supervision, and other issues.

The proposed new section to Regulation I would state a general rule that, for membership purposes, a bank is considered to be located in the Federal Reserve district specified in the bank's charter or, if no charter location is specified, the location of its head office. The Board could make exceptions to the general rule for a particular bank after considering certain criteria. Thus, if the bank's location were uncertain or its location based on its charter or head office differed from the location where it conducted most of its business, the Board, after consultation with the relevant Reserve Banks, could designate the appropriate location for membership purposes. (The relevant Reserve Banks would be the Reserve Bank whose district contains the bank's charter or head office location and the Reserve Bank in whose district the bank is proposed to be located.)

One consideration in making this determination would be whether any other laws that would require the bank to have a relationship with a particular Reserve Bank. For example, Massachusetts and Nebraska laws provide that state banks may become members of the Boston and Kansas City Reserve Banks, respectively.[3] The Board could also consider other criteria, such as the business needs of the bank, where the head office of the bank is located, where the bank does the bulk of its business, and the location that would allow the bank, the Board, and the Reserve Banks to perform their functions most efficiently and effectively. For example, the Board might consider the efficiency of bank supervisory functions, account management, and Federal Reserve monetary policy. Generally, these amendments would not affect current relationships between banks and Federal Reserve Banks. A bank that already owns stock in or has an account at a Federal Reserve Bank may, but need not, seek a Board determination to change its location. The Board anticipates that the "location" issue will arise principally from mergers of existing banks or other changes in the organization or management of bank holding companies. Ordinarily, the Board expects that "location" decisions would be worked out between the Reserve Banks and the bank.

Source: *http://www.federalreserve.gov/boarddocs/press/boardacts/1997/19970306/*

Appendix 2

The Federal Reserve Board

Differences in Capital and Accounting Standards among the Federal Banking and Thrift Agencies

Submitted to the Congress pursuant to section 121 of
the Federal Deposit Insurance Corporation Improvement Act of 1991

January 20, 1999

Introduction and Overview

Section 121 of the Federal Deposit Insurance Corporation Improvement Act of 1991 (12 U.S.C. 1831n(c)) requires each Federal banking and thrift agency to report annually to the Committee on Banking, Housing, and Urban Affairs of the U.S. Senate and to the Committee on Banking and Financial Services of the U.S. House of Representatives regarding any differences between the accounting or capital standards used by such agency and the accounting or capital standards used by other banking and thrift agencies. The report must be published in the *Federal Register*.

This is the ninth annual report[1] on the differences in capital standards and accounting practices that currently exist among the three banking agencies (the Board of Governors of the Federal Reserve System (FRB), the Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC)) and the Office of Thrift Supervision (OTS)[2].

As stated in the previous reports to Congress, the three bank regulatory agencies have, for a number of years, employed a common regulatory framework that establishes minimum capital adequacy ratios for commercial banking organizations. In 1989, all three banking agencies and the OTS adopted risk-based capital frameworks that were based upon the international capital accord (Basle Accord) developed by the Basle Committee on Banking Regulations and Supervisory Practices (Basle Supervisors Committee) and endorsed by the central bank governors of the G-10 countries.

Source: http://www.federalreserve.gov/boarddocs/rptcongress/differences/default.htm