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**FROM T.A.R.P. TO THE DODD-FRANK ACT:
THE AMERICAN REACTION TO THE GREAT FINANCIAL CRISIS**

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Abstract

A dieci anni dallo scoppio della crisi finanziaria statunitense che ha colpito il modello capitalistico occidentale, estremamente legato all'andamento del sistema borsistico e degli strumenti finanziari derivati, questo elaborato mira a ripercorrere i problemi sistematici che hanno scaturito tale instabilità, i programmi governativi attuati per ridurre l'impatto globale generato e le conseguenze di tali manovre. In particolare, la relazione analizzerà nel dettaglio la crisi dei mutui "sub-prime" che ha colpito il mercato immobiliare americano, il programma varato dalla tesoreria statunitense denominato T.A.R.P. (Troubled Asset Relief Program) finalizzato all'acquisto di "beni tossici" provenienti dai bilanci dei maggiori istituti di credito e dalle agenzie assicurative, oltre a piani di salvataggio di settori trainanti quali il mercato immobiliare e dell'automotive.

Alla luce delle dinamiche del mercato finanziario, condizionato dalla cattiva gestione dei patrimoni aziendali e di attività di riferimento, il "Dodd-Frank Act" verrà analizzato quale misura restrittiva atta a monitorare la compravendita degli strumenti finanziari derivati con l'obiettivo di regolamentare il mercato proteggendo gli interessi dei contribuenti in una logica di conservazione del valore e trasparenza.

Infine, sarà proposta una panoramica di opinioni e riflessioni contrastanti relative ai risultati delle politiche di salvataggio del settore bancario-assicurativo statunitense con il proposito di mostrare la natura controversa della manovra sottolineata dall'opinione pubblica americana.

INTRODUCTION

A recession is usually associated with lower personal incomes, rising unemployment, and enormous declines in business profits based on cuts in consumer and corporate investment spending and increased bankruptcies. The presence of the financial crisis not only increased these negative macroeconomic indicator changes but also widened the negative impact to include the financial markets, financial institutions, savers, investors, and all levels of government: federal, state, and local.

The combined negative impact of the last financial crisis and economic recession is only second to that of the Great Depression. Because of the U.S.'s dominant position in the world and the interconnected nature of the current global economic and financial system, the financial crisis that started in the United States in 2008 became a global phenomenon. Nevertheless, the negative financial and economic developments reached its peak in 2008 and 2009, the effects still resound globally. Global financial flows have slowed significantly; many countries experienced exchange rate depreciation. Major capital markets suffered astronomical losses. In addition, many big businesses failed and some were bailed out by their governments. Bank failures have been pervasive. As banks struggle to contain their losses and achieve a strong balance sheet, credit for individual consumption and investments has become very strict.

It was obvious as many bureaucrats did not understand how their policies affected not only the economic developments in the U.S. but also such developments globally, also professionals in several financial institutions were unaware of the collaborative effect of their actions as they set more importance on profit maximization. If things must change, people must be aware of the causes of the recent financial crisis and economic recession, the local and global implications, the actions taken by the Government to contain the crises and prevent a future relapse.

This script has the purpose to address these issues and propose some conceptual thinking about lights and shadows of the financial crisis running; but let's proceed step by step.

The global economic crisis started in summer 2007, the huge impact was not felt till the bankruptcy of the investment bank "Lehmann Brothers" in September 2008. The next couple

of years registered heavy job losses and contraction in the GDP (Gross Domestic Product) of many countries in the West as well as in the developing world. The spark that gave birth to the financial crisis was surely the subprime mortgage crisis which quickly let break out a full-fledged crisis of historic proportions inducing many commentators to find parallelism with the Great Depression of the 1930's.

The global economic crisis was caused by the contemporaneity of various structural business cycle factors that finished to produce a "perfect storm" of giant proportions. These factors ranged from the collapse of the housing market in the United States, imbalances between the West and the East in terms of trade deficits, careless and risky speculation and in the end, the sovereign debt crisis that was a culmination of years of fiscal debauchery and free monetary policies. The crisis exposed the crunch of the global economy and highlighted the pitfalls of too much integration and interconnectedness. Nowhere was this more evident than in the consequences of the collapse of Lehmann Brothers when the entire credit system froze and the global financial system came dangerously close to collapse on itself.

The global economic crisis basically originated in the West but generated effects on every economy of the world. Of course, the US and the Europe were the main victims of the crisis and it can be said that countries like India and China have been just partially touched. However, this is not to say that these countries have successfully eluded the west situation since the economic global connection, the dependence of China on exports to the US for goods and India for services means that these countries have relative important interests in occident economics.

Finally, the global economic crisis has deteriorated many gains that have been made by globalization and hence there are renewed calls for protectionism and for erecting trade barriers in the West as well as in the East. This means that the global economic has been subject to an hard blow which might take years to restore its earlier prosperity.

With the onset of the global credit crunch and the fall of Northern Rock, the fifth UK credit institution, specialized in real estate mortgages, August 2007 turned out to be just the starting point for big financial landslides. Since then, we have seen many big names rise, fall, and fall even more. Below, are introduced the key points that have created the premises for the rapid decay of the US economy in terms of granting credit to activities and guaranteeing the smooth run of the financial sector.

In 2001, the U.S. economy experienced a mild, short-lived recession. Although the economy nicely withstood terrorist attacks, the bust of the dotcom bubble, and accounting scandals, the fear of recession really preoccupied everybody's minds.

To keep recession away, the Federal Reserve lowered the Federal funds rate 11 times, from 6.5% in May 2000 to 1.75% in December 2001, creating a flood of liquidity in the economy. Cheap money always looks to be taken as an opportunity for american taxpayers. It seemed easy prey for restless bankers, and even more restless borrowers who had no income, no job and no assets. These subprime borrowers wanted to realize their life's dream of acquiring a home. For them, recognizing willing bankers was a new ray of hope in order to pursue their american dream. More home loans, more home buyers, more appreciation in home prices. It wasn't long before things started to move just as the monetary system wanted them to.

This environment of easy credit and the upward spiral of home prices made investments in higher yielding subprime mortgages look like a new rush for gold. The Fed continued reducing interest rates, encouraged, furthermore, by continued low inflation despite lower interest rates. In June 2003, the Fed lowered interest rates to 1%, the lowest rate in 45 years. The whole financial market started resembling an "hen of golden eggs" when everything was selling at a huge discount and without any down payment. The entire subprime mortgage market seemed to encourage those with common policy for "have-it-now" investments. Unfortunately, nobody was there to understand that golden eggs were just a bitter and dangerous veiled temptation. But the bankers thought that it just wasn't enough to lend the golden eggs.

They decided to repackage loans into Collateralized Debt Obligations (CDOs) and pass on the debt to another "golden hen-house". Soon a big secondary market for originating and distributing subprime loans developed. To make things more lively, in October 2004, the Securities Exchange Commission (SEC) relaxed the net capital requirement for five investment banks (Goldman Sachs, Merrill Lynch, Lehman Brothers, Bear Stearns and Morgan Stanley) which allowed them to exploit up to 30-times or even 40-times their initial investment. Everybody was excited about that "golden eggs", nobody was thinking about the "omelette" that was going to come soon.

But, every good item has a bad side, and several of these factors started to emerge alongside one another. The trouble started when the interest rates started rising and home ownership reached a saturation point. From June 2004, onward, the Fed started raising rates so much that by June 2006, the Federal funds rate had reached 5.25%.

There were early signs of distress: by 2004, U.S. homeownership had peaked at 70%; no one was interested in buying or eating more eggs. Then, at the end of 2005, home prices started to fall, which led to a 40% downhill in the U.S. Home Construction Index during 2006. Not only new homes were being affected, but many subprime borrowers now could not sustain the higher interest rates and they started defaulting on their loans.

The year 2007 started with bad news from multiple sources. Every month, one subprime lender or another was filing for bankruptcy. During February and March 2007, more than 25 subprime lenders filed for bankruptcy, which was enough to start the surge.

Problems in the subprime market began hitting the news, raising more people's curiosity.

The apprehension began to invade the owners' houses and hence their expectations on an increasingly uncertain future.

According to 2007 news reports, financial firms and hedge funds owned more than \$1 trillion in securities backed by these upcoming failing subprime mortgages; it was enough to start a global financial "earthquake" if more subprime borrowers started defaulting.

In August 2007 became evident that the financial market could not solve the subprime crisis on its own and the problems were unavoidably expanding beyond the UnitedState's borders. The interbank market froze completely, largely due to prevailing fear of the unknown intra-banks. By that time, central banks and governments around the world had started coming together to prevent further financial catastrophe.

The subprime crisis's issues required both conventional and unconventional methods, which were employed by worldwide governments. In a mutual and unanimous move, central banks of several countries recurred to coordinated action to provide liquidity support to financial institutions. The visible target was to put the interbank market back on the right track.

The Fed started reducing the discount rate as well as the funds rate, but bad news were still coming from the surrounding enviroment: just in few weeks Lehman Brothers filed for bankruptcy, Indymac bank collapsed, Bear Stearns was acquired by JP Morgan Chase, Merrill Lynch was sold to Bank of America, and Fannie Mae and Freddie Mac were put under the control of the U.S. federal government.

By October 2008, the Federal funds rate and the discount rate were lowered to 1% and 1.75%, respectively. Central banks in England, China, Canada, Sweden, Switzerland and the European Central Bank (ECB) also appealed to rate cuts to aid the world economy. But it was not enough, rate cuts and liquidity support in itself were insufficient to stop such a pervasive financial crash.

The U.S. government then introduced the “National Economic Stabilization Act” (NESA), which gave birth to a specific program, called T.A.R.P. (Troubled Asset Relief Program), with the purpose to make available a corpus of \$700 billion to purchase distressed assets, especially mortgage-backed securities. Different governments came out with their own versions of bailout packages, government guarantees and wholly nationalization.

After ten years from the onset of the financial crisis that brought down the capitalist model extremely linked to the performance of the financial markets, this thesis aims to revisit the systematic problems that have sparked the crisis, the government programs implemented in order to reduce it, and the consequences of such maneuvers. Specifically, the report will analyze in detail the above mentioned “Subprime Mortgage Crisis” which the housing market has been affected, the US treasury program T.A.R.P. (Troubled Asset Relief Program) aimed at purchasing "toxic assets" from the balance sheets of major US credit institutions and insurance agencies, in addition to rescue plans of driving U.S. business like the Housing and Automotive market.

In light of the dynamics of the financial market swayed by the mismanagement of corporate assets and reference assets, the Dodd-Frank Act will be presented as a limiting measure in the management of derivatives instruments trade in order to regulate the market and to protect the interests of taxpayers.

Ultimately, will be proposed an array of conflicting opinions and reflections on the results of US government banking-insurance rescue policies with the purpose to show the controversial nature of the maneuver highlighted by public opinion.

Lets start from a deep focus of the phenomenon just introduced which gave birth to the following downward dominoes generating the liquidity crisis, the credit crunch and the financial market stagnant conditions: *the "Subprime Mortgage Crisis"*.

CHAPTER 1

1. THE SUBPRIME MORTGAGE CRISIS

The U.S. “*Subprime Mortgage Crisis*” was characterized by a rise in subprime mortgage delinquencies and foreclosures, and the resulting decline of securities backed by mortgages. The percentage of new lower-quality subprime mortgages rose from less than 8% to approximately 20% from 2004 to 2006, with much higher ratios in some parts of the U.S. A high percentage of these subprime mortgages, for example over 90% in 2006, was represented by adjustable-rate mortgages. These changes were part of a broader trend of lowered lending standards proposed and products with higher-risk mortgage features. Further, U.S. households had become increasingly indebted, with the ratio of debt to disposable personal income rising from 77% in 90’s to 127% at the end of 2007, much of this increase mortgage-related.

After U.S. house sales prices peaked during 2006 and began immediately their steep decline, making refinancing more difficult. As adjustable-rate mortgages began to be set at higher interest rates, causing higher monthly payments, mortgage delinquencies rocketed.

Securities backed with mortgages, including subprime mortgages, widely held by financial firms, lost most of their value. Furthermore, global investors also drastically reduced purchases of mortgage-backed debt and other securities as part of a decline in the capacity and willingness of the private financial system to support lending. The widespread worry about the soundness of U.S. credit and financial markets led to tightening the concession of credit around the world and slowing economic growth in the U.S. and Europe.

1.1 SCENARIO FOR SMC

The triggered cause of the crisis was the bursting of the United States housing bubble which reached the peak in approximately years 2005-2006. High default rates on “Subprime” and adjustable rate mortgages (ARM), accordingly began to increase quickly. Lenders began originating large numbers of high risk mortgages from 2004 to 2007, and loans from those years exhibited higher default rates than loans made either before or after.

An increase in loan incentives such as easy initial terms and a long-term trend of rising housing prices had encouraged borrowers to assume difficult mortgages in the belief they

would be able to quickly refinance at more favorable terms. Additionally, the increased market power of originators of subprime mortgages and the declining role of Government Sponsored Enterprises (GSE's) as dumpers increased the number of subprime mortgages provided to consumers who would have otherwise qualified for accordant loans.

The worst performing loans were securitized by private investment banks, who generally were missing the GSE's market power and influence over mortgage originators.

Once interest rates began to rise and housing prices started to fall moderately in 2006-2007 in many parts of the U.S., refinancing became more difficult. Defaults and foreclosure activity increased dramatically as easy initial terms expired, home prices failed to go up as anticipated, and interest rates reset higher.

Falling prices also resulted in 23% of U.S. homes which worth less than the mortgage loan, providing a financial incentive for borrowers to enter foreclosure. The ongoing home foreclosure began in late 2006 in the U.S. continues to be a key factor in the global economic crisis, because it exhausted wealth from consumers and erodes the financial strength of banking institutions.

In the years driving to the crisis, significant amounts of foreign money flowed into the U.S. from fast-growing economies in Asia and oil-producing countries. This inflow of funds combined with low U.S. interest rates from 2002 to 2004 contributed to easy credit conditions, which feeded both housing and credit bubbles. Loans of various types like mortgage, credit card, and loan for auto purchase were easy to obtain and consumers assumed an unprecedented debt load. As part of the housing and credit booms, the amount of financial agreements called "Mortgage Backed Securities" (MBS), which derive their value from mortgage payments and housing prices, greatly increased.

This financial innovation allowed institutions and investors around the world to invest in the U.S. housing market. As housing prices declined, major global financial institutions that had borrowed and invested heavily in MBS reported significant losses. Defaults and losses on other loan types also increased significantly as the crisis expanded from the housing market to other parts of the economy. Total losses are estimated in trillions of U.S. dollars globally.

While the housing and credit bubbles were growing, an array of factors caused the financial system to become increasingly fragile. Policymakers did not recognize the rising important role played by financial institutions such as investment banks and hedge funds, also known as the "Shadow Banking System". Shadow banks were able to mask their leverage levels from

investors and regulators through the use of complex, off-balance sheet derivatives and securitizations. These instruments also made virtually impossible to reorganize financial institutions in bankruptcy, and contributed to the need for the government bailouts further occurred.

Experts believe these institutions had become as important as commercial-depository banks in providing credit to the U.S. economy, but they were not subject to the same regulations.

These institutions had also assumed significant debt burdens while providing the loans and did not have a financial cushion sufficient to absorb large loan defaults or MBS losses, these losses impacted the ability of financial institutions to lend, inevitably slowing economic activity. Concerns regarding the stability of key financial institutions drove central banks to take actions to provide funds to encourage lending and to restore faith in the commercial paper markets. The risks for the broader economy created by the housing market downturn and subsequent financial market crisis were main factors in several decisions took by central banks around the world to cut interest rates and governments to implement economic stimulus packages.

The effects on global stock markets due to the crisis have been seriously dramatic: between January and October 2008, owners of stocks in U.S. corporations had endured about \$8 trillion in losses, as their holdings declined in value from \$20 trillion to \$12 trillion. Losses in other countries have averaged about 40%. Leaders of the larger developed and emerging nations met in November 2008 to formulate strategies for addressing the crisis. A variety of solutions have been proposed by government officials, central bankers, economists, and business executives. In the U.S., the Dodd–Frank Wall Street Reform and Consumer Protection Act was signed into law in July 2010 to address some of the causes of the crisis.

I will deal with this last topic in the second part of the paper with the aim of providing a clear overview of the maneuvers implemented by the U.S. authorities to limit the negative effects of the financial crisis (Mishkin, 2010; Taylor 2009).

1.2 THE MORTGAGE MARKET

Subprime borrowers typically have weakened credit histories and reduced repayment capacity. Subprime loans have a higher risk of default than loans to prime borrowers.

If a borrower is delinquent in making prompt mortgage payments to the loan servicer, a bank or other financial firm, the lender may take possession of the property, in a process called “foreclosure”.

The value of American subprime mortgages was estimated at \$1.3 trillion in March 2007, with over 7.5 million “first-lien” subprime mortgages outstanding. The boom in mortgage lending, including subprime lending, was also driven by a fast diffusion of non-bank independent mortgage originators which despite their smaller share, 25% of the market in 2002, have contributed to around 50% of the increase in mortgage credit between 2003 and 2005.

By January 2008, the delinquency rate had risen to 21% and by May 2008 it was 25%.

The value of all outstanding residential mortgages, owed by U.S. households to purchase residences housing was \$10.6 trillion at midyear 2008.

During 2007, lenders had begun foreclosure proceedings on nearly 1.3 million properties, a 79% increase over 2006; this value increased to 2.3 million in 2008 and again to 2.8 million in 2009. By August 2008, 9.2% of all U.S. mortgages outstanding were either delinquent or in foreclosure.

Between August 2007 and October 2008, 936,439 US residences completed foreclosure. Foreclosures were concentrated in particular states both in terms of the number and rate of foreclosure filings. Ten states accounted for 74% of the foreclosure filings during 2008; California and Florida represented 41% (Mishkin, 2010; Taylor 2009).

1.3 THE CAUSES OF THE CRISIS

The crisis can be attributed to several pervasive factors in both housing and credit markets. The main causes proposed include:

- The inability of homeowners to fulfill their mortgage payments primarily because of adjustable-rate mortgages resetting, borrowers overextending, predatory lending and subsequent speculation;

- Overbuilding during the boom period;
- Risky mortgage products;
- Increased power of mortgage originators;
- High personal and corporate debt levels;
- Financial products that distributed and hid the risk of mortgage default;
- Bad monetary and housing policies;
- International trade imbalances;
- Inappropriate government regulation.

Four important catalysts of the subprime crisis were:

- The influx of money from the private sector;
- The banks entering into the mortgage bond market;
- The predatory lending practices of the mortgage lenders, specifically the adjustable-rate mortgage. That mortgage lenders sold directly or indirectly via mortgage brokers.
- Diffused “Moral Hazard” practice on Wall Street and through financial industry.

In its "Declaration of the Summit on Financial Markets and the World Economy," on 15 November 2008, leaders of the Group of 20 cited the following causes:

“During a period of strong global growth, growing capital flows, and prolonged stability earlier this decade, market participants sought higher yields without an adequate appreciation of the risks and failed to exercise proper Due Diligence. At the same time, weak underwriting standards, unsound risk management practices, increasingly complex and opaque financial products, and consequent excessive leverage combined to create vulnerabilities in the system. Policy-makers, regulators and supervisors, in some advanced countries, did not adequately appreciate and address the risks building up in financial markets, keep pace with financial innovation, or take into account the systemic ramifications of domestic regulatory actions”

The U.S. Financial Crisis Inquiry Commission (FCIC) reported its conclusions in January 2011.

It concluded that the crisis was avoidable and was caused by:

- Widespread failures in financial regulation, including the Federal Reserve's failure in purifying the flow of toxic mortgages;
- Dramatic breakdowns in corporate governance including too many financial firms which have acted recklessly and took too much risk;
- An explosive mix of excessive borrowing and risk by households and Wall Street that put the financial system on a collision course;
- Key policy makers were not prepared for the crisis, with no understanding of the financial system they oversaw;
- Systemic breaches in accountability and ethics at all levels.

(Taylor 2009)

1.4 BOOM AND BUST IN THE HOUSING MARKET

Low interest rates and large inflows of foreign funds created easy credit conditions for a number of years prior to the crisis, fueling a housing market boom and encouraging debt-financed consumption. Subprime lending was a major contributor to this increase in home ownership rates and in the overall demand for housing, which drove prices higher. Between 1997 and 2006, the price of the typical American house increased by 124%. This housing bubble turns in few homeowners refinancing their homes at lower interest rates, or financing consumer spending by taking out second mortgages secured by the price appreciation.

While housing prices were increasing, consumers were saving less and both borrowing and spending more. Household debt grew from \$705 billion at the end of 1974, 60% of disposable personal income, to \$7.4 trillion at the end of 2000, and finally to \$14.5 trillion in midyear 2008, 134% of disposable personal income.

During 2008, the typical US household owned 13 credit cards, with 40% of households carrying a balance, up from 6% in 1970. U.S. home mortgage debt relative to GDP increased from an average of 46% during the 90's to 73% during 2008, reaching \$10.5 trillion. From 2001 to 2007, U.S. mortgage debt almost doubled, and the amount of mortgage debt per household rose more than 63%, from \$91,500 to \$149,500, with essentially stagnant wages.

This credit and house price explosion led to a building boom and eventually to a surplus of unsold homes, which caused U.S. housing prices to reach the peak and begin declining in mid-2006.

Easy credit, and a belief that house prices would continue to appreciate, had encouraged many subprime borrowers to obtain adjustable-rate mortgages. These mortgages solicited borrowers with a below market interest rate for some predetermined period, followed by market interest rates for the remainder of the mortgage's term. Borrowers who would not be able to make the higher payments once the initial grace period ended, were planning to refinance their mortgages after a year or two of appreciation. But refinancing became more difficult, once house prices began to decline in many parts of the USA. Borrowers who found themselves unable to escape higher monthly payments by refinancing began to default. As more borrowers stop paying their mortgage payments, foreclosures and the supply of homes for sale increases. This places downward pressure on housing prices, which further lowers homeowners' equity. The decline in mortgage payments also reduces the value of mortgage-backed securities, which erodes the net worth and financial health of banks.

- This vicious cycle is at the heart of the crisis -

By September 2008, average U.S. housing prices had declined by over 20% from their mid-2006 peak. This major and unexpected decline in house prices means that many borrowers have zero or negative equity in their homes, meaning their homes were worth less than their mortgages. As November 2008, an estimated 12 million borrowers, 12.8% of all homeowners had negative equity in their homes, by September 2010, 23% of all U.S. homes were worth less than the mortgage loan. Borrowers in this situation have an incentive to default on their mortgages as a mortgage is typically non-recourse debt secured against the property.

Economist Stan Leibowitz argued in the Wall Street Journal that although only 12% of homes had negative equity, they comprised 47% of foreclosures during the second half of 2008. He concluded that the extent of equity in the home was the key factor in foreclosure, rather than the type of loan, credit worthiness of the borrower, or ability to pay. Increasing foreclosure rates increases the inventory of houses offered for sale. The number of new homes sold in 2007 was 26.4% less than in the preceding year. By January 2008, the inventory of unsold new homes was 9.8 times the December 2007 sales volume, the highest value of this ratio since 1981. Furthermore, nearly four million existing homes were for sale, of which almost

2.9 million were vacant. This overhang of unsold homes lowered house prices. As prices declined, more homeowners were at risk of default or foreclosure.

A report in January 2011 stated that U.S. home values dropped by 26% from their peak in June 2006 to November 2010, more than the 25.9 percent drop between 1928 to 1933 when the Great Depression occurred. (Douglas, 2009; Mishkin, 2010; Taylor 2009).

1.5 THE HOMEOWNER SPECULATION

“Speculative borrowing” in residential real estate has been cited as a contributing factor to the subprime mortgage crisis. During 2006, 22% of homes purchased (1.65 million units) were for investment purposes, with an additional 14% (1.07 million units) purchased as vacation homes. During 2005, these figures were 28% and 12%, respectively. In other words, a record level of nearly 40% of homes purchased were not intended as primary residences.

David Lereah (2012) NAR's (National Association of Realtors) chief economist at the time, stated that the 2006 decline in investment buying was expected: "Speculators left the market in 2006, which caused investment sales to fall much faster than the primary market." Housing prices nearly doubled between 2000 and 2006, a vastly different trend from the historical appreciation at roughly the rate of inflation. While homes had not traditionally been treated as investments subject to speculation, this behavior changed during the housing boom.

Media widely reported condominiums being purchased while under construction, then being "flipped" for a profit without the seller ever having lived in them. Some mortgage companies identified risks inherent in this activity as early as 2005, after identifying investors assuming highly leveraged positions in multiple properties. Nicole Gelinas (2008) of the Manhattan Institute described the negative consequences of not adjusting tax and mortgage policies to the shifting treatment of a home from conservative inflation hedge to speculative investment. Economist Robert Shiller (2009) argued that speculative bubbles are fueled by "contagious optimism, seemingly impervious to facts, that often takes hold when prices are rising. Bubbles are primarily social phenomena; until we understand and address the psychology that fuels them, they're going to keep forming.”

Keynesian economist Hyman Minsky (2008) described how speculative borrowing contributed to rising debt and an eventual collapse of asset values. Warren Buffett (2010) testified to the Financial Crisis Inquiry Commission: "There was the greatest bubble I've ever seen in my

life, the entire American public eventually was caught up in a belief that housing prices could not fall dramatically."

1.6 LENDING-BORROWING PRACTICES AND HIGH-RISK MORTGAGE LOANS (HRML)

In the years before the crisis, the behavior of lenders changed dramatically. Lenders offered more and more loans to higher-risk borrowers, including "undocumented immigrants".

Lending standards particularly deteriorated in 2004 to 2007, as the GSEs market share declined and private securitizers accounted for more than half of mortgage securitizations. Subprime mortgages amounted to \$35 billion (5% of total originations) in 1994 , \$160 billion (13%) in 1999, and \$600 billion (20%) in 2006.

A study by the Federal Reserve found that the average difference between subprime and prime mortgage interest rates, the "subprime markup", declined significantly between 2001 and 2007. The combination of declining risk premiums and credit standards is common to boom and bust credit cycles. In addition to considering higher-risk borrowers, lenders had offered increasingly risky loan options and borrowing incentives. In 2005, the median down payment for first-time home buyers was 2%, with 43% of those buyers making no down payment whatever. By comparison, China has down payment requirements that exceed 20%, with higher amounts for non-primary residences.

The mortgage qualification guidelines began to change. At first, the Stated Income Verified Assets (SIVA) loans came out. Proof of income was no longer needed. Borrowers just needed to state it and show that they had money in the bank. Then, the No Income Verified Assets (NIVA) loans came out. The lender no longer required proof of employment. Borrowers just needed to show proof of money in their bank accounts. The qualification guidelines kept getting looser in order to produce more mortgages and more securities.

This led to the creation of NINA. NINA is an abbreviation of No Income No Assets. Basically, NINA loans are official loan products and let you borrow money without having to prove or even state any owned assets. All that was required for a mortgage was a credit score. Another example is the interest-only Adjustable-Rate Mortgage (ARM), which allows the homeowner to pay just the interest (not principal) during an initial period. Still another is a Payment Option Loan, in which the homeowner can pay a variable amount, but any interest

not paid is added to the principal. Nearly 1 to 10 mortgage borrowers in 2005 and 2006 took out these “option ARM” loans, which meant they could choose to make payments so low that their mortgage balances rose every month.

An estimated one-third of ARMs originated between 2004 and 2006 had "teaser" rates below 4%, which then increased significantly after some initial period, as much as doubling the monthly payment. The proportion of subprime ARM loans made to people with credit scores high enough to qualify for conventional mortgages with better terms increased from 41% in 2000 to 61% by 2006.

However, there are many factors other than credit score that affect lending. In addition, mortgage brokers in some cases received incentives from lenders to offer subprime ARM's even to those with credit ratings that merited a conforming loan. Mortgage underwriting standards declined precipitously during the boom period. The use of automated loan approvals allowed loans to be made without appropriate review and documentation. In 2007, 40% of all subprime loans resulted from automated underwriting.

The chairman of the Mortgage Bankers Association (MBA) claimed that mortgage brokers, while profiting from the home loan boom, did not do enough to examine whether borrowers could repay.

The Financial Crisis Inquiry Commission (FCIC) reported in January 2011 that many mortgage lenders took eager borrowers' qualifications on faith, often with a "willful disregard" for a borrower's ability to pay. During the pre-crisis period, 68% of “option ARM” loans originated by Countrywide Financial and Washington Mutual had low- or no-documentation requirements.

So why did lending standards decline? The decline in standards was driven by a shift of mortgage securitization from a tightly controlled duopoly to a competitive market in which mortgage originators held the most sway.

The worst mortgage years coincided with the periods during which Government Sponsored Enterprises (GSEs) were at their weakest, and mortgage originators and private label securitizers were at their strongest.

Why was there a market for these low quality private label securitizations? NPR correspondents argued that a giant pool of money, represented by \$70 trillion in worldwide fixed income investments, sought higher yields than those offered by U.S. Treasury bonds early in the decade. Further, this pool of money had roughly doubled in size from 2000 to 2007, yet the supply of relatively safe, income generating investments had not grown as fast.

Investment banks on Wall Street answered this demand with financial innovation such as the mortgage-backed security (MBS) and collateralized debt obligation (CDO), which were assigned safe ratings by the credit rating agencies. In effect, Wall Street connected this pool of money to the mortgage market in the U.S., with enormous fees accruing to those throughout the mortgage supply chain, from the mortgage broker selling the loans, to small banks that funded the brokers, to the giant investment banks behind them.

However, continued strong demand for MBS and CDO began to drive down lending standards, as long as mortgages could still be sold along the supply chain. Eventually, this speculative bubble proved unsustainable.

The phenomenon described it this way: The problem was that even though housing prices were going through the roof, people weren't making any more money. From 2000 to 2007, the "median household income" stayed flat. And so the more prices rose, the more weak the whole thing became. No matter how lax lending standards got, no matter how many exotic mortgage products were created to stick people into homes they couldn't possibly afford, no matter what the mortgage machine tried, the people just couldn't swing it.

By late 2006, the average home cost nearly four times what the average family made, historically it was between two and three times.

Mortgage lenders noticed something that they'd almost never seen before: People would close on a house, sign all the mortgage papers, and then default on their very first payment. No loss of a job, no medical emergency, they were underwater before they even started. And although no one could really hear it, that was probably the moment when one of the biggest speculative bubbles in American history exploded (Douglas, 2009; Mishkin, 2010; Taylor 2009).

1.7 THE MORTGAGE FRAUD

In 2004, the Federal Bureau of Investigation warned of an "epidemic" in mortgage fraud, an important credit risk of nonprime mortgage lending, which, they said, could lead to "a problem that could have as much impact as the S&L (Savings and Loan) crisis".

The Financial Crisis Inquiry Commission reported in January 2011 that: "mortgage fraud flourished in an environment of collapsing lending standards and negligent regulation. The number of suspicious activity reports, reports of possible financial crimes filed by depository banks and their affiliates, related to mortgage fraud grew 20 fold between 1996 and 2005 and then more than doubled again between 2005 and 2009. One study places the losses resulting

from fraud on mortgage loans made between 2005 and 2007 at \$112 billion. Lenders made loans that they knew borrowers could not afford and that could cause massive losses to investors in mortgage securities."

New York State prosecutors had examined whether eight banks deceived credit ratings agencies, to inflate the grades of subprime-linked investments. The Securities and Exchange Commission, the Justice Department, the United States attorney's office and more examined how banks created, rated, sold and traded mortgage securities that turned out to be some of the worst investments ever devised.

1.8 THE SECURITIZATION PROCEDURE

The traditional mortgage model involved a bank originating a loan to the borrower/homeowner and retaining the credit/default risk. "Securitization" is a process whereby loans or other income generating assets are packed together to create bonds which can be sold to investors. The modern version of U.S. mortgage securitization started in the 80's, as Government Sponsored Enterprises (GSEs) began to pool relatively safe conventional conforming mortgages, sell bonds to investors, and guarantee those bonds against default on the underlying mortgages.

A riskier version of securitization also developed when private banks pooled non-conforming mortgages and generally did not guarantee the bonds against default of the underlying mortgages. In other words, GSE securitization transferred only interest rate risk to investors, whereas private label, investment bank or commercial bank, securitization transferred both interest rate risk and default risk.

With the advent of securitization, the traditional model has introduced the "originate to distribute" model, in which banks essentially sell the mortgages and distribute credit risk to investors through mortgage-backed securities and collateralized debt obligations (CDO).

The sale of default risk to investors created a moral hazard in which an increased focus on processing mortgage transactions was incentivized without ensuring their credit quality.

In the mid 00's, GSE securitization declined dramatically as a share of overall securitization, while private label securitization dramatically increased. Most of the growth in private label securitization was through high-risk subprime and Alt-A mortgages. As private securitization gained market share and the GSEs retreated, mortgage quality declined dramatically.

The worst performing mortgages were securitized by the private banks, whereas GSE mortgages continued to perform better than the rest of the market, including mortgages that were not securitized and were instead held in portfolio.

Securitization accelerated in the mid 90's. and the total amount of mortgage-backed securities issued almost tripled between 1996 and 2007, to \$7.3 trillion. The securitized share of subprime mortgages increased from 54% in 2001 to 75% in 2006.

The securitization markets started to close down in the spring of 2007 and nearly shut-down in the fall of 2008. More than a third of the private credit markets thus became unavailable as a source of funds. In February 2009, Ben Bernanke (2009) stated that securitization markets remained effectively shut, with the exception of conforming mortgages, which could be sold to Fannie Mae and Freddie Mac.

Nobel laureate Dr. A. Michael Spence (2009) wrote: "Financial innovation, intended to redistribute and reduce risk, appears mainly to have hidden it from view. An important challenge going forward is to better understand these dynamics as the analytical underpinning of an early warning system with respect to financial instability."

1.9 NEGLIGENT CREDIT RATINGS

Credit rating agencies has been put under scrutiny for having given investment-grade ratings to MBSs based on risky subprime mortgage loans. These high ratings enabled these MBSs to be sold to investors, thereby financing the housing boom. These ratings were believed justified because of risk reducing practices, such as credit default insurance and equity investors willing to bear the first losses. However, there are also indications that some involved in rating subprime-related securities knew at the time that the rating process was faulty.

Critics presume that the rating agencies suffered from conflicts of interest, as they were paid by investment banks and other firms that organize and sell structured securities to investors. On 11 June 2008, the SEC proposed rules designed to mitigate perceived conflicts of interest between rating agencies and issuers of structured securities. On 3 December 2008, the SEC approved measures to strengthen oversight of credit rating agencies, following a ten-month investigation that found "significant weaknesses in ratings practices," including conflicts of interest. Between 2007 and 2008, rating agencies lowered the credit ratings on \$1.9 trillion in mortgage-backed securities. Financial institutions felt they had to lower the value of their

MBS and acquire additional capital so as to maintain capital ratios. If this involved the sale of new shares of stock, the value of the existing shares was reduced. Thus ratings downgrades lowered the stock prices of many financial firms.

The Financial Crisis Inquiry Commission reported in January 2011 that: "The three credit rating agencies (Fitch, Moody's and Standard&Poor's) were key enablers of the financial meltdown. The mortgage-related securities at the heart of the crisis could not have been marketed and sold without their seal of approval. Investors relied on them, often blindly. In some cases, they were obligated to use them, or regulatory capital standards depended on them. This crisis could not have happened without the rating agencies. Their ratings helped the market soar and their downgrades through 2007 and 2008 have shocked markets and firms." The Report further stated that ratings were incorrect because of "imperfect computer models, the pressure from financial firms that paid for the ratings, the implacable drive for market share, the lack of resources to do the job despite record profits, and the absence of meaningful public oversight."

CHAPTER 2

2. THE GOVERNMENT POLICIES

Government over-regulation, failed regulation and deregulation have all been considered as causes of the crisis. Among the new mortgage loan types created and gaining popularity in the early 80's we can find adjustable-rate, option adjustable-rate, balloon-payment and interest-only mortgages. These new loan types are credited with replacing the long standing practice of banks making conventional fixed-rate, amortizing mortgages.

Among the criticisms of banking industry deregulation that contributed to the savings and loan (S&L) crisis was that Congress failed to enact regulations that would have prevented exploitations by this type of loans.

Approximately 90% of subprime mortgages issued in 2006 were adjustable-rate mortgages. Increasing home ownership has been the goal of several presidents including Roosevelt, Reagan, Clinton and George W. Bush. In 1995, the GSEs like Fannie Mae began receiving government tax incentives for purchasing mortgage backed securities which included loans to low income borrowers. In 1996, HUD (Department of Housing and Urban Development) set a goal for Fannie Mae and Freddie Mac that at least 42% of the mortgages they purchase should have been issued to borrowers whose household income was below the median in their area. From 2002 to 2006, as the U.S. subprime market grew 292% over previous years. By 2008, the Fannie Mae and Freddie Mac owned, either directly or through mortgage pools they sponsored, \$5.1 trillion in residential mortgages, about half the total U.S. mortgage market. The GSE have always been highly leveraged, their net worth on June 2008 was a simple \$114 billion.

When preoccupation regarding the ability of the GSE to make good on their guarantees arose in September 2008, the Federal government was forced to place the companies into a conservatorship, effectively nationalizing them at the taxpayers' expense.

2.1 FANNIE MAE AND FREDDIE MAC BAILOUT

The Housing and Economic Recovery Act of 2008 (HERA) created a new regulator, the Federal Housing Finance Agency (FHFA) for Fannie Mae and Freddie Mac, and included authorization for the government to take the companies into conservatorship and temporary

authority to provide unlimited funds to Fannie Mae and Freddie Mac if necessary. There were no specific limits to these purchases or loans, but they were subject to the statutory limit on the federal government's debt.

On September 7, 2008, FHFA placed Fannie Mae and Freddie Mac into conservatorship. FHFA defines conservatorship as "the legal process in which a person or entity is appointed to establish control and oversight of a Company to put it in a sound and solvent condition. In a conservatorship, the powers of the Company's directors, officers, and shareholders are transferred to the designated Conservator."

As part of this conservatorship, the firms signed contracts to issue new senior preferred stock to the Treasury, which agreed to purchase up to \$100 billion of this stock from each of them to cover realized shortfalls between the GSEs' assets and liabilities. This \$100 billion limit was later raised to \$200 billion. Treasury also agreed to make open market purchases of new Fannie Mae and Freddie Mac issued mortgage-backed securities until its authority expired at the end of 2009. Treasury also agreed that if the companies had difficulty borrowing money, Treasury would create a Government Sponsored Enterprise Credit Facility to provide liquidity to them, secured by mortgage-backed securities (MBS) pledged as collateral. The facility was never formalized or accessed, and expired at the end of 2009. In return for the Treasury support, each company issued the Treasury \$1 billion of senior preferred stock without additional compensation, as well as warrants to purchase up to 79.9% of each company's common stock.

On November 25, 2008, the Fed announced it would purchase direct obligations, for example bonds, issued by these institutions and the Federal Home Loan Banks and mortgage-backed securities guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae, a government agency. The Fed eventually settled on planned purchases of \$175 billion of bonds and \$1.25 trillion of MBS. These obligations would be purchased through auctions and MBS would be purchased on the Fed's behalf by private investment managers on the open market. Assets purchased under these programs would be held passively and long-term.

According to the latest figures, FHFA reports that the Treasury had purchased \$110.6 billion of preferred shares and \$220.8 billion debt issued by Fannie Mae and Freddie Mac at the end of December 2009. As of December 30, 2009, The Federal Reserve had purchased \$1,012.5 billion of MBS guaranteed by Fannie and Freddie and \$128.8 billion of their debt. The Fed earned \$1.2 billion on their debt holdings and \$11.4 billion on their MBS, offset by \$411 million in realized capital losses. The Fed faces no default risk on its GSE holdings as long as

the Treasury continues to stand behind the GSEs.

On a risk-adjusted present value basis, CBO estimated that Fannie Mae's and Freddie Mac's combined liabilities exceeded their assets by \$291 billion in present value terms in 2009, a gap that Treasury pledged to bridge with federal funds. In addition, CBO projected that, going forward, the entities would have undertaken new business over the next ten years with a cumulative net cost to the government of \$98 billion in risk-adjusted present value terms.

It is doubtful that Fannie Mae and Freddie Mac could have repaid the large outstanding liabilities in the course of their normal operations. This may require consideration of a larger reform of these enterprises. Previously, the Administration had stated that it would have presented proposals for the future of the GSEs with the FY, Fiscal Year, 2011 budget, which contained the statement, "The Administration continues to monitor the situation of the GSEs closely and will continue to provide updates on considerations for longer term reform of Fannie Mae and Freddie Mac as appropriate."

GSE mortgage securities essentially maintained their value throughout the crisis and did not contribute to the significant financial firm losses that were central to the financial crisis. The GSEs participated in the expansion of subprime and other risky mortgages, but they followed rather than led Wall Street and other lenders into subprime lending.

The Glass-Steagall Act was enacted after the Great Depression. It separated commercial banks and investment banks, in part to avoid potential conflicts of interest between the lending activities of the former and rating activities of the latter. Economist Joseph Stiglitz criticized the subsequent abrogation of the Act. He called its repeal the "culmination of a \$300 million lobbying effort by the banking and financial services industries". He believed it contributed to this crisis because the risk-taking culture of investment banking dominated the more conservative commercial banking culture, leading to increased levels of risk-taking and leverage during the boom period.

2.2 POLICIES OF CENTRAL BANKS

Central banks manage monetary policy and may target the rate of inflation. They have some authority over commercial banks and possibly other financial institutions. They are less concerned in avoiding asset price bubbles, such as the housing bubble and dot-com bubble. Central banks have generally chosen to react after such bubbles burst to minimize collateral

damage to the economy, rather than trying to prevent or stop the bubble itself. This is because identifying an asset bubble and determining the proper monetary policy to deflate it were matters of debate among economists: some market observers have been concerned that Federal Reserve actions could have given rise to moral hazard. A Government Accountability Office critic said that the Federal Reserve Bank of New York's rescue of Long-Term Capital Management in 1998 would have encouraged large financial institutions to believe that the Federal Reserve would have intervened on their behalf if risky loans would have gone sour because they were “too big to fail.”

A contributing factor to the rise in house prices was the Federal Reserve's lowering of interest rates early in the 2000 decade; From 2000 to 2003, the Federal Reserve lowered the federal funds rate target from 6.5% to 1.0%. This was done to soften the effects of the collapse of the dot-com bubble and of the September 2001 terrorist attacks, and to combat the perceived risk of deflation. The Fed believed that interest rates could be lowered safely primarily because the rate of inflation was low; Richard W. Fisher (2006) President and CEO of the Federal Reserve Bank of Dallas, said that the Fed's interest rate policy during the early 2000s was misguided, because measured inflation in those years was below true inflation, which led to a monetary policy that contributed to the housing bubble. According to Ben Bernanke, it was capital or savings pushing into the United States, due to a world wide "saving saturation", which kept long term interest rates low independently of Central Bank action.

2.3 FINANCIAL INSTITUTION DEBT LEVELS AND INCENTIVES

The Financial Crisis Inquiry Commission reported in January 2011 that: "From 1978 to 2007, the amount of debt held by the financial sector soared from \$3 trillion to \$36 trillion, more than doubling as a share of gross domestic product. The very nature of many Wall Street firms changed, from relatively formal private partnerships to publicly traded corporations taking greater and more different kinds of risks. By 2005, the 10 largest U.S. commercial banks held 55% of the industry's assets, more than double the level held in 1990.

Many financial institutions, investment banks in particular, issued large amounts of debt during 2004-2007, and invested the proceeds in mortgage-backed securities (MBS), essentially betting that house prices would continue to rise, and that households would continue to make their mortgage payments. Borrowing at a lower interest rate and investing the proceeds at a higher interest rate is a form of “financial leverage”. Beginning in 2007,

financial institutions and individual investors holding MBS also suffered significant losses from mortgage payment defaults and the resulting decline in the value of MBS.

Over 2004–2007, the top five US investment banks each significantly increased their financial leverage which increased their vulnerability to the declining value of MBSs. These five institutions reported over \$4.1 trillion in debt in 2007, about 30% of US GDP.

During 2008, three of the largest U.S. investment banks went bankrupt (Lehman Brothers) or were sold at fire sale prices to other banks (Bear Stearns and Merrill Lynch). These failures augmented the instability in the global financial system. The remaining two investment banks, Morgan Stanley and Goldman Sachs, opted to become commercial banks, thereby subjecting themselves to more stringent regulation. In the years leading up to the crisis, the top four U.S. depository banks moved an estimated \$5.2 trillion in assets and liabilities off-balance sheet into special purpose vehicles or other entities in the shadow banking system.

This enabled them to essentially bypass existing regulations regarding minimum capital ratios, thereby increasing leverage and profits during the boom but increasing losses during the crisis.

The New York State Comptroller's Office said that in 2006, Wall Street executives took home bonuses totaling \$23.9 billion. "Wall Street traders were thinking of the bonus at the end of the year, not the long-term health of their firm. The whole system, from mortgage brokers to Wall Street risk managers, seemed oriented on taking short-term risks while ignoring long-term obligations. The most damning evidence is that most of the people at the top of the banks didn't really understand how those investments worked."

The incentive compensation of traders was focused on fees generated from assembling financial products, rather than the performance of those products and profits generated over time. Their bonuses were heavily based towards cash rather than stock and not subject to "claw-back" (recovery of the bonus by the firm from the employee). In addition, the increased risk (in the form of financial leverage) taken by the major investment banks was not adequately factored into the compensation of senior executives.

2.4 GLOBALIZATION, TECHNOLOGY AND THE TRADE DEFICIT

In 2005, Ben Bernanke addressed the implications of the United States's high and rising current account deficit, resulting from U.S. investment exceeding its savings, or imports

exceeding exports. Between 1996 and 2004, the U.S. current account deficit increased by \$650 billion, from 1.5% to 5.8% of GDP. The U.S. attracted a great deal of foreign investment, mainly from the emerging economies in Asia and oil-exporting nations. The balance of payments identity requires that a country running a current account deficit also have a capital account, investment surplus, of the same amount. Foreign investors had these funds to lend, either because they had very high personal savings rates (as high as 40% in China), or because of high oil prices. Bernanke referred to this as a "saving glut" that may have pushed capital into the United States, a view differing from that of some other economists, who view such capital as having been pulled into the U.S. by its high consumption levels. In other words, a nation cannot consume more than its income unless it sells assets to foreigners, or foreigners are willing to lend to it. Alternatively, if a nation wishes to increase domestic investment in plant and equipment, it will also increase its level of imports to maintain balance if it has a floating exchange rate.

Regardless of the push or pull view, a flood of funds (capital or liquidity) reached the U.S. financial market. Foreign governments supplied funds by purchasing U.S. Treasury bonds and thus avoided much of the direct impact of the crisis. American households, on the other hand, used funds borrowed from foreigners to finance consumption or to bid up the prices of housing and financial assets. Financial institutions invested foreign funds in mortgage-backed securities. American housing and financial assets dramatically declined in value after the housing bubble burst.

Economist Joseph Stiglitz (2012) wrote that the recession and high unemployment of the 2008–2010 period was driven by:

- Unsustainable consumption;
- High manufacturing productivity outpacing demand thereby increasing unemployment;
- Income inequality that shifted income from those who tended to spend it, the middle class, to those who do not, the wealthy;
- Emerging market's buildup of reserves, \$7.6 trillion by 2011, which was not spent.

2.5 BOOM AND COLLAPSE OF THE SHADOW BANKING SYSTEM

In a June 2008 speech, President of the NY Federal Reserve Bank Timothy Geithner (2008), who later became Secretary of the Treasury, placed significant blame for the freezing of credit markets on a management of the entities in the parallel banking system, also called the “Shadow Banking System”.

Basing the financial system, these entities became critical for the credit markets, but were not subject to the same regulatory controls as depository banks; these entities were vulnerable because they borrowed short-term in liquid markets to purchase long-term, illiquid and risky assets. This meant that disruptions in credit markets would make them subject to rapid deleveraging, selling their long-term assets at depressed prices.

Nobel laureate Paul Krugman (2009) described the run on the shadow banking system as the "core of what happened" to cause the crisis. "As the shadow banking system expanded to rival or even surpass conventional banking in importance, politicians and government officials should have realized that they were recreating the kind of financial vulnerability that made possible the Great Depression, and they should have responded by extending regulations and the financial safety net to cover these new institutions. Influential figures should have proclaimed a simple rule: anything that does what a bank does, anything that has to be rescued in crises the way banks are, should be regulated like a bank." He referred to this lack of controls as "malign neglect."

The securitization markets supported by the shadow banking system started to close down in the spring of 2007 and nearly shut-down in the fall of 2008. More than a third of the private credit markets thus became unavailable as a source of funds.

Economist Mark Zandi (2010) testified to the Financial Crisis Inquiry Commission in January 2010: "The securitization markets also remain impaired, as investors anticipate more loan losses. Investors are also uncertain about coming legal and accounting rule changes and regulatory reforms." Subsequently the FCIC reported in 2011: "In the early part of the 20th century, we erected a series of protections, the Federal Reserve as a lender of last resort, federal deposit insurance, wide regulations, to provide a bulwark against the panics that had regularly plagued America's banking system in the 20th century. Yet, over the past 30-plus years, we permitted the growth of a shadow banking system, opaque and laden with short term debt, that rivaled the size of the traditional banking system. Key components of the market, like the multitrillion-dollar repo lending market, off-balance-sheet entities, and the use of over-the-counter derivatives, were hidden from view, without the protections we had

constructed to prevent financial meltdowns. We had a 21st-century financial system with 19th-century safeguards."

2.6 THE IMPACT IN THE U.S.

Between June 2007 and November 2008, Americans lost more than a quarter of their net worth. By early November 2008, a broad U.S. stock index, the S&P 500, was down 45% from its 2007 high. Housing prices had dropped 20% from their 2006 peak, with futures markets signaling a 30–35% potential drop. Total home equity in the United States, which was valued at \$13 trillion at its peak in 2006, had dropped to \$8.8 trillion by mid 2008 and was still falling in late 2008.

Total retirement assets, Americans' second-largest household asset, dropped by 22%, from \$10.3 trillion in 2006 to \$8 trillion in mid 2008. During the same period, savings and investment assets lost \$1.2 trillion and pension assets lost \$1.3 trillion. Taken together, these losses total \$8.3 trillion.

The crisis had a devastating effect on the U.S. auto industry. New vehicle sales, which peaked at 17 million in 2005, recovered to only 12 million by 2010.

The crisis began to affect the financial sector in February 2007, when HSBC, the world's largest bank, wrote down its holdings of subprime-related MBS by \$10.5 billion, the first major subprime related loss to be reported. During 2007, at least 100 mortgage companies shut down, suspended operations or were sold.

As the crisis deepened, more and more financial firms merged or announced that they were negotiating seeking merger partners.

During 2007, the crisis caused panic in financial markets and encouraged investors to take their money out of risky mortgage bonds and unstable equities and put it into commodities as "stores of value". Financial speculation in commodity, following the collapse of the financial derivatives markets, has contributed to the world food price crisis and oil price increases.

Financial speculators seeking quick returns have removed trillions of dollars from equities and mortgage bonds, some of which has been invested into food and raw materials.

Mortgage defaults and provisions for future defaults caused profits to decline from \$35.2 billion in 2006 to \$646 million in 2007, a decline of 98%. The year 2007 saw the worst bank performance since 1990.

As of August 2008, financial firms around the globe have written down their holdings of subprime related securities by \$501 billion. The IMF estimates that financial institutions around the globe will eventually have to write off \$1.5 trillion of their holdings of subprime MBSs. These losses have wiped out much of the capital of the world banking system.

Thus the massive reduction in bank capital has reduced the credit available to businesses and households. When Lehman Brothers and other important financial institutions failed in September 2008, the crisis hit a key point. The TED spread, a measure of the risk of interbank lending, quadrupled fastly after the Lehman failure. This credit freeze brought the global financial system to the brink of collapse.

The response of the US Federal Reserve, the European Central Bank, and other central banks was immediate and dramatic: the largest liquidity injection into the credit market, and the largest monetary policy action, in world history.

The governments of European nations and the U.S. started raising the capital of their national banking systems (\$1.5 trillion), by purchasing newly issued preferred stock in their major banks. The International Monetary Fund would have later estimated that large U.S. and European banks had lost more than \$1 trillion on toxic assets and from bad loans from January 2007 to September 2009 (U.S. banks were about 60% through their losses while British and eurozone banks only 40%).

CHAPTER 3

3. THE TROUBLED ASSET RELIEF PROGRAM (T.A.R.P.)

Since 2007, the federal government has taken a number of extraordinary steps to address widespread disruption to the functioning of financial markets.

In September 2008, the crisis reached panic proportions. As already anticipated, Fannie Mae and Freddie Mac, government-sponsored enterprises (GSEs) were taken into government conservatorship. Lehman Brothers Holding Inc., a major investment bank, declared bankruptcy. The government acquired most of the equity in American International Group (AIG), one of the world's largest insurers, in exchange for an emergency loan from the Federal Reserve (Fed). These firms were seen by many as "too big to fail" firms whose failure would lead to contagion that would cause financial problems for counterparties or would disrupt the smooth functioning of markets in which the firms operated.

While many arguments could be made for one particular form of intervention or another, one could also take the position that the form of government support was not particularly important as long as it was done quickly and forcefully because what the financial system lacked in October 2008 was confidence, and any of several options might have restored confidence if it were credible, although some critics dispute that view, arguing that the panic eventually would have ended without government intervention, and that some specific government missteps exacerbated the panic.

As EESA moved through Congress, most attention was focused on the idea of the government purchasing mortgage-related toxic assets, thus alleviating the widespread uncertainty and dubiosity by cleaning up bank balance sheets.

EESA was enacted to address the ongoing financial crisis that reached near-panic proportions in September 2008. The act, signed by President G. Bush on 3 October 2008, gave birth to Troubled Asset Relief Program (T.A.R.P.), which granted the Secretary of the Treasury authority to purchase or insure up to \$700 billion in troubled assets owned by financial institutions. This authority was granted for up to two years from the date of enactment and was very broad. In particular, the definitions of both "troubled asset" and "financial institution" allowed to the Secretary a wide leeway in deciding what assets might be purchased or guaranteed and what might qualify as a financial firm.

This chapter provides a report concerning the programs created under TARP, changes made

by Congress, and a summary status and estimated costs of the program (Labonte,Webel, 2010).

3.1 TARP PROGRAMS (OVERVIEW)

Treasury reacted quickly after the enactment of EESA, implemented the TARP Capital Purchase Program (T.A.R.P.) on October 14 of 2008, and several other programs followed. These programs can be broadly broken down into Bank Support Programs, Credit Market Programs, Other Investment Programs, and Housing Programs with several programs under each of these headings:

3.1.2 BANK SUPPORT PROGRAMS

- **Capital Purchase Program (CPP)**

The CPP did not purchase the mortgage-backed securities that were seen as toxic for the system, but instead purchased preferred shares in banks. The resulting addition of capital, that's the purpose, would allow banks to overcome the effect of the toxic assets while the assets remained on bank balance sheets. The CPP is now closed with no additional disbursements possible under the current program. Of the approximately \$205 billion disbursed, \$6.1 billion remains outstanding, and \$3.4 billion has been written off or recognized as a loss.

- **Targeted Investment Program (TIP)**

This program provided for exceptional preferred share purchases and was used only for Citigroup and Bank of America. This program is closed, with all \$40 billion in disbursed funds repaid.

- **Asset Guarantee Program (AGP)**

The AGP, required by Section 102 of EESA, provided guarantees that were also part of the exceptional assistance to Citigroup and Bank of America. This program is closed, with the \$5 billion in extended guarantees cancelled and no funds having been actually disbursed.

- **Community Development Capital Initiative (CDCI)**

The CDCI provided for lower dividend rates on preferred share purchases from banks that target their lending to low-income, underserved communities and small businesses. Many of the participants in the CDCI converted into the program from the CPP. This program is closed with no additional disbursements possible under the current program. Of the \$0.57 billion disbursed, \$0.51 billion is still outstanding.

3.1.3 CREDIT MARKET PROGRAMS

- **Public-Private Investment Program (PPIP)**

This program provides funds and guarantees for purchases of mortgage-related securities from bank balance sheets. Purchases and management of the securities is done by private investors who have provided capital to invest along with the TARP funds. The PPIP is closed with all of the \$18.6 billion in disbursed funds have been repaid.

- **Term Asset-Backed Securities Loan Facility (TALF)**

The program was operated by the Federal Reserve to support the asset-backed security market, with TARP funds committed to support the program and absorb initial losses. \$100 million in funds were disbursed to cover expenses but no funds were disbursed to cover losses. While TALF loans was extend to 2015, the earnings from the program were deemed sufficient to cover any possible losses. Thus, the TARP commitment was cancelled and the disbursement of \$0.1 billion was repaid.

- **Section 7(a) Securities Purchase Program**

This program supported the Small Business Administration's (SBA's) Section 7(a) loan program through purchases of pooled SBA guaranteed securities to increase credit availability for small businesses. It is now closed with none of the \$0.37 billion in disbursed funds outstanding.

3.1.4 OTHER PROGRAMS

- **AIG Assistance**

TARP preferred share purchases supplemented and ultimately supplanted assistance to AIG

previously provided by the Federal Reserve. The AIG assistance was restructured in January 2011 with the Treasury's peak disbursement equaling \$67.84 billion and the government's ownership totaling 92% of AIG's common equity. The Treasury sold its equity over time, with the final equity sold in December 2012. In total, Treasury recognized \$13.5 billion in losses from the TARP equity sales.

- **Automobile Industry Support (AIS)**

This program initially provided loans to support General Motors (GM) and Chrysler, two of most important Automotive Company in terms of productivity, and later included preferred share purchases from the auto financing company GMAC (now renamed Ally Financial) and a loan for Chrysler Financial. The program ultimately resulted in majority government ownership of GM (60.8%) and GMAC/Ally Financial (74%), and minority government ownership of Chrysler (9.9%). The ownership in GM was reduced to 33.3% in a public share offering in December 2010 and has been reduced through further equity sales. The U.S. government's ownership stake in Chrysler was sold to Fiat in May 2011. The current total outstanding is \$23.6 billion of the \$79.7 billion in disbursed funds, with \$11.9 billion in recognized losses today.

3.1.5 HOUSING PROGRAMS

These programs are different than other TARP programs in that they do not result in valuable assets or income in return for the TARP funding.

- **Home Affordable Modification Program (HAMP)**

HAMP paid mortgage servicers (banks or other credit institution) if they would have modified mortgages to reduce the financial burden on homeowners. A total of \$29.9 billion in disbursements was possible under the program, with \$5.6 billion disbursed.

- **Hardest Hit Fund (HHF)**

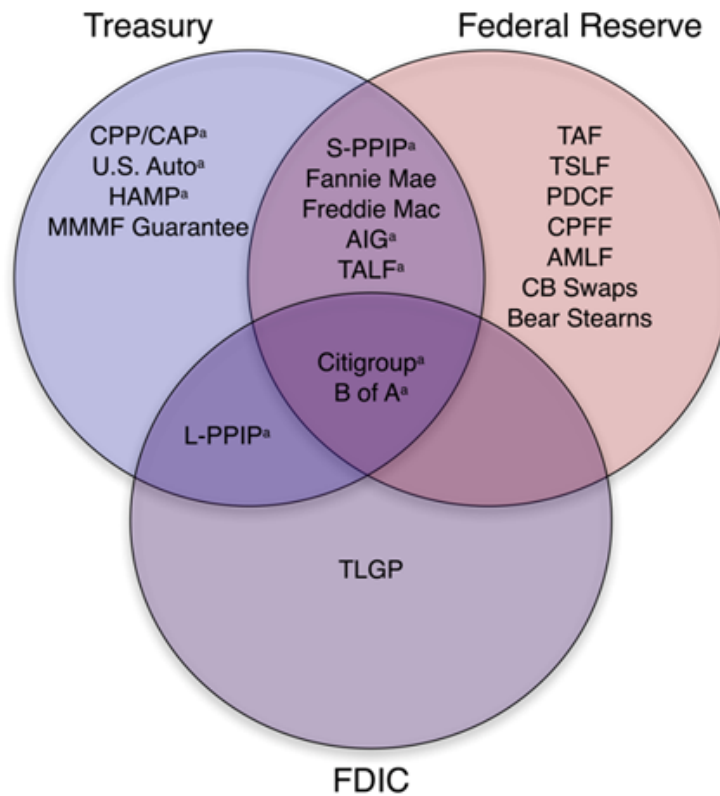
HHF provided aid to state housing finance agency programs in states that had high unemployment rates or experienced the steepest declines in home prices. Eighteen states and the District of Columbia had participated in HHF. Of a possible \$7.6 billion, \$2.6 billion has been disbursed.

- **FHA Short Refinance**

This program promoted refinancing of mortgages on “underwater” properties, those on which the mortgage balance was greater than the current value of the house, if lenders would have agreed to forgive some of the principal balance owed on the mortgages. Of a possible \$1.0 billion, \$0.06 billion has been disbursed.

Figure 3.1 presents the programs discussed by organization, with programs in the overlapping circles denoting joint programs (Labonte, Webel, 2010).

Figure 3.1. Financial Crisis Programs by Organization



Source: CRS - a. Program using TARP funds

3.1.6 STATUS OF TARP

Until October 3, 2010, the Secretary had the authority to purchase or insure nearly any financial asset under the programs in place on June 25, 2010. The programs with the largest gap between legal commitments and the actual amount disbursed, and thus the largest potential to grow in the future, were the Housing Support Programs.

Table 3.1 presents the figures reported by the Treasury for obligated and disbursed TARP funds.

Table 3.1 Outlay of TARP Funds

Outlay of TARP Funds
(\$ in billions)

| TARP Program | Obligated Amount | Actual Disbursements |
|---------------------------------|-------------------------|-----------------------------|
| Bank Support Programs | \$ 250.46 | \$ 245.10 |
| Credit Market Programs | \$ 20.08 | \$ 19.09 |
| AIG | \$ 67.84 | \$ 67.84 |
| Auto Industry Financing Program | \$ 79.69 | \$ 79.69 |
| Housing Support | \$ 38.49 | \$ 8.25 |
| Totals | \$ 456.56 | \$ 419.97 |

Source: 2013 Daily TARP Update

Although the total amount of assets held or insured under TARP was initially fixed at \$700 billion, and the program was widely reported as a “\$700 billion bailout,” the net cost of TARP was never likely to approach that amount. Unlike most government programs, where funds are simply expended, TARP funds were generally used in ways that resulted in the holding of assets by the government or in some form of income accruing to the government.

The incoming receipts from TARP outlays have taken several forms, like:

- Funds from the sale of previously purchased assets;
- Repayment of principal from loans;
- Premium payments for insured assets;
- Dividend and interest payments from assets and loans;

- Proceeds from the sale of warrants issued by companies who sold assets to TARP.

Table 3.2 summarizes these incoming revenues from TARP. According to EESA, revenues and proceeds from the sale of troubled assets, or from warrants and senior debt instruments, “shall be paid into the general fund of the Treasury for reduction of the public debt.”

Table 3.2 Incoming TARP Funds

Incoming of TARP Funds
(\$ in billions)

| TARP Program | Asset Sales/Repayment of Loan Principal | Dividends and Interest | Warrant Proceeds | Capital Gains/Other Income | Total |
|---------------------------------|--|-------------------------------|-------------------------|-----------------------------------|------------------|
| Bank Support Programs | \$ 235.65 | \$ 15.67 | \$ 9.34 | \$ 10.26 | \$ 270.93 |
| Credit Market Programs | \$19.09 | \$ 1.24 | \$ 0 | \$ 2.93 | \$ 23.25 |
| AIG | \$ 54.35 | \$ 0.64 | \$ 0.03 | \$ 0.29 | \$ 55.31 |
| Auto Industry Financing Program | \$ 44.17 | \$ 5.36 | \$ 0 | \$ 0.62 | \$ 50.15 |
| Housing Support | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Totals | \$ 355.26 | \$ 22.91 | \$ 9.36 | \$ 14.11 | \$ 399.64 |

Source: 2013 Daily TARP Update

Table 3.3 summarizes TARP funds that have been disbursed but have not been repaid. Most of these funds are classified by the Treasury as “outstanding” . Most of the outstanding TARP funds were embodied in assets, such as common stock, that recipients were not obligated to repay, instead, the Treasury was expected to sell these assets at a future date and hopefully recoup the funds that had been disbursed. The TARP funds that are classified as a recognized loss, or as written off, were typically cases where either the asset sales were not sufficient to repay the initial TARP disbursement or a TARP recipient has failed, and thus was unable repay the funds (Brown, 2011; Webel, 2013).

Table 3.3 TARP Funds Outstanding or Lost

TARP Funds Outstanding or Lost
(\$ in billions)

| TARP Program | Amount Outstanding | Recognized Loss/Written Off |
|---------------------------------|---------------------------|------------------------------------|
| Bank Support Programs | \$ 6.06 | \$ 3.39 |
| Credit Market Programs | \$ 0 | \$ 0 |
| AIG | \$ 0 | \$ 13.48 |
| Auto Industry Financing Program | \$ 23.62 | \$ 11.90 |
| Housing Support | Not applicable | Not applicable |
| Totals | \$ 29.69 | \$ 28.78 |

Source: 2013 Daily TARP Update

3.1.7 TARP AND THE DODD-FRANK ACT

Unlike EESA, which was a temporary response to the immediate financial crisis, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the Dodd-Frank Act) was a broad bill that permanently changed many parts of the U.S. financial regulatory system.

The act included a relatively short amendment to EESA in Title XIII, entitled the “Pay It Back Act”. Section 1302 of Dodd-Frank made three primary changes to EESA:

- Reduced the overall authorization to purchase from nearly \$700 billion to \$475 billion;
- Removed the implicit authority for the Secretary to re-use TARP funds when TARP assets were sold;
- Limited the authorities under the act to programs or initiatives initiated prior to June 25, 2010.

As of June 30, 2010, the Treasury reported that it planned to spend approximately \$537 billion on the various programs, with \$491 billion committed under signed contracts and \$385 billion actually disbursed. The July 21, 2010, enactment of the \$475 billion limit in the Dodd-Frank Act thus required Treasury to reduce the amounts planned for TARP by more than \$60 billion and the legal commitments under TARP by more than \$16 billion.

CBO scored the TARP changes in the Dodd-Frank Act as resulting in a decrease in direct spending of \$11 billion in 2010. The TARP changes reported by Treasury following the Dodd-Frank Act appear below in Table 6. Under the broad authorities granted by EESA,

Treasury could unilaterally change the planned program allocations. Following the Dodd-Frank Act, this authority was limited to the difference between the total of Treasury's plans and the total of the signed contracts, approximately \$21 billion as of July 31, 2010.

Table 3.4 TARP Changes Following the Dodd-Frank Act

TARP Changes Following the Dodd-Frank Act
(\$ in billions)

| TARP Program | Planned Allocation Prior to Dodd-Frank | Change Following Dodd-Frank | Planned Allocation July 31, 2010 |
|---|---|------------------------------------|---|
| Capital Purchase Program | \$ 204.9 | \$ 0 | \$ 204.9 |
| Targeted Investment Program | \$ 40.0 | \$ 0 | \$ 40.0 |
| Asset Guarantee Program | \$ 5.0 | \$ 0 | \$ 5.0 |
| AIG (Systemically Significant Failing Institutions) | \$ 69.8 | \$ 0 | \$ 69.8 |
| Term Asset-Backed Securities Program | \$ 20.0 | -\$ 15.7 | \$ 4.3 |
| SBA Section 7(a) | \$ 1.0 | -\$ 0.6 | \$ 0.4 |
| Community Development Capital Initiative | \$ 0.8 | \$ 0 | \$ 0.8 |
| Small Business Lending Fund | \$ 30 | -\$ 30.0 | \$ 0 |
| Public-Private Investment Program | \$ 30.4 | -\$ 7.9 | \$ 22.4 |
| Automotive Industry Financing Program | \$ 84.8 | -\$ 3.1 | \$ 81.8 |
| Housing/HAMP | \$ 48.7 | -\$ 3.1 | \$ 45.6 |
| Totals | \$ 535.5 | -\$ 60.5 | \$475.0 |

Source: 2010 TARP Report

As of December 31, 2009, Treasury reports planned to spend a total of \$545 billion of the \$700 billion authorized under TARP, with \$483.4 billion committed to specific institutions through signed contracts, and \$374.6 billion paid out under such contracts. Of that total, \$165.2 billion of funds paid out have already been returned to the Treasury. Data on TARP disbursements, planned uses of funds, and income are reported by Treasury periodically. The legal authority for TARP purchases is scheduled to expire on October 3, 2010 (Miller, Ruane, 2012).

Table 3.5 shown a prospectus of funds initially planned to be disbursed and the following history of TARP program.

Table 3.5 Troubled Asset Relief Program Totals

| Troubled Asset Relief Program Totals | |
|---|------------------|
| As of December 31, 2009 | |
| Authorized | \$ 700 billion |
| Planned Outlays | \$ 545 billion |
| Committed Outlays | \$ 483.4 billion |
| Actual Disbursed | \$374.6 billion |
| Returned Funds | \$ 165.2 billion |

Source: 2010 TARP Report

3.2 BANK SUPPORT PROGRAMS

3.2.1 CAPITAL PURCHASE PROGRAM (CPP)

The first and largest of the TARP programs is the Capital Purchase Program (CPP), which initially planned to inject \$250 billion into the banking system by purchasing preferred stock in banks, although ultimately approximately \$205 billion was disbursed.

Under the Capital Purchase Program (CPP), \$125 billion in capital was immediately provided to the nine largest banks (which became eight after a merger), with up to another \$125 billion reserved for smaller banks that might wish to apply for funds through their primary federal banking regulator.

This capital was provided in the form of preferred share purchases by TARP under contracts between the Treasury and banks. The initial contracts with the largest banks prevented these banks from exiting the program for three years. The contracts included dividend payments to be made on the preferred shares outstanding and the granting of warrants to the government. By the end of 2008, the CPP had 214 participating banks with approximately \$172.5 billion in share purchases outstanding.

The Obama Administration and the 113th Congress implemented changes to the CPP. EESA

was amended, placing additional restrictions on participating banks in the existing CPP contracts, but also allowing for early repayment and withdrawal from the program without financial penalty. With the advent of more stringent executive compensation restrictions for TARP recipients, many banks began to repay, or attempt to repay, TARP funds. According to Treasury reports, by June 30, 2009, \$70.1 billion of \$203.2 billion CPP funds had been repaid; by December 31, 2009, \$121.9 billion of \$204.9 billion had been repaid; and by December 31, 2010, \$167.93 billion of \$204.9 billion had been repaid.

The new Obama Administration also announced a review of the banking system, in which the largest participants were subject to “Stress Tests” to assess the adequacy of their capital levels. Satisfactory performance in the stress test was one regulatory requirement for large firms that wished to repay TARP funds. Large firms that appear too fragile in the stress test would be required to raise additional capital, and the firms would have the option of raising that capital privately or from the government through a new Capital Assistance Program.

No funding was provided through the Capital Assistance Program, although GMAC, formerly General Motors’ financing arm, received funding to meet stress test requirements through the Automotive Industry Financing Program, discussed below. In addition, Citigroup, one of the initial eight large banks receiving TARP funds, agreed with the government to convert its TARP preferred shares into common equity to meet stress test requirements, see discussion of Citigroup.

CPP profits derived from dividend payments and warrants received from recipients, and capital gains in limited cases when shares were sold for more than face value (the standard CPP shares were resold at face value). Losses derived from failure to repay in part or full. The ultimate profitability of the program would have been determined by the balance between the two.

Another source of CPP profits were the proceeds from the warrants received from the companies. Treasury has not generally exercised warrants to take common stock in CPP recipients. Following the contracts initially agreed upon, Treasury has allowed institutions to purchase their warrants directly upon repayment of preferred shares, as long as both sides could reach an acceptable price. To reach an initial offering price, Treasury was using complex option pricing models to price the warrants that require assumptions to be made about future prices and interest rates. Since these pricing models were by their nature uncertain, some critics made pressure on Treasury to auction the warrants on the open market, allowing the issuing firm to bid as well, to ensure that Treasury would have received a fair

price for them. Open auctions have been used, but only when an agreement between the Treasury and the firms cannot be reached.

CPP also earned income from dividends with a rate of 5% for the first five years, and 9% thereafter. Realized losses to date on the CPP preferred shares have been relatively small. As of June 21, 2013, Treasury reported \$3.39 billion in write-offs and realized losses from the CPP. The majority of this amount was due to the failure of CIT Group, which had \$2.3 billion in TARP shares outstanding when it failed (Webel, 2013).

Table 3.6 summarizes the CPP, including current and peak asset holdings, losses or gains, and conditions of the program.

Table 3.6 Capital Purchase Program

Capital Purchase Program (CPP)

| Federal Government | | | | Terms and Conditions | | |
|------------------------------|-----------------------------------|---|---------------------------------------|-------------------------------------|---|---|
| Latest Asset Holdings | Asset Holdings at Peak | Total Income | Expected Gains (+)/ Losses (-) | Dividend Rate | Warrants | Expiration Date |
| \$ 5.56 billion | \$ 198.8 billion (March 30, 2009) | \$ 26.68 billion (less \$ 3.01 billion in losses) | +\$ 17 billion (CBO) | 5% for first 5 years, 9% thereafter | 15% of preferred shares (5% immediately exercised for privately held banks) | Preferred Shares outstanding until repaid. No new contracts/modifications after October 3, 2010 |

Source: 2013 Daily TARP Update

3.2.2 TARGETED INVESTMENT PROGRAM & ASSET GUARANTEE PROGRAM (TIP/AGP)

The Targeted Investment Program (TIP) and the Asset Guarantee Program (AGP) were only used as part of a package to aid two large banks, Citigroup and Bank of America, which were also large recipients of CPP funds. The combined assistance for these banks is addressed below, rather than treat the TIP and AGP as separate programs (Webel, 2013).

3.2.2.1 CITIGROUP (CPP/TIP/AGP)

On November 23, 2008, the Treasury, Federal Reserve, and FDIC announced a joint

intervention in Citigroup, which had previously been a recipient of \$25 billion in TARP Capital Purchase Program funding to support financial stability. This exceptional intervention consisted of an additional \$20 billion purchase of preferred shares through the TARP Targeted Investment Program and a government guarantee for a pool of \$306 billion in Citigroup assets through the TARP Asset Guarantee Program, the FDIC, and the Federal Reserve. Citigroup paid the federal government a fee for the guarantee in the form of \$4 billion in trust preferred securities paying an 8% dividend rate. The Treasury also received warrants in both of these transactions.

On February 27, 2009, Citigroup and Treasury officials agreed that the Treasury Department would convert \$25 billion of its TARP CPP investment in Citigroup preferred stock into Citigroup common stock and cancel the warrants taken by Treasury under the CPP. After this conversion, the U.S. government owned approximately 33.6% (7.7 million shares) of Citigroup common stock. The conversion of preferred shares to common stock worsened the government's priority on Citigroup's assets in the event of liquidation, but improved certain capital ratios for the company and relieved it of the obligation to pay dividends to the government, as it had previously with the preferred shares.

The conversion exposed the government to more potential risk as well as to potential upside reward. The government's preferred shares could only be redeemed at par value, regardless of the performance of the company, while the government's holdings of common stock rose and fell in value based on the market valuation of the company.

In December 2009, Citigroup and the Treasury reached an agreement to repay the outstanding \$20 billion in preferred securities and to cancel the asset guarantee. As part of this agreement, Treasury agreed to cancel \$1.8 billion worth of the \$4 billion in trust preferred securities originally paid as a fee for the guarantee. Citigroup repurchased the outstanding AGP trust preferred securities on September 30, 2009. While the asset guarantee was in place, no losses were claimed and no federal funds were paid out.

In April 2010, the Treasury began selling its common share holdings in Citigroup. The shares were sold in tranches through 2010, with a total of 4.1 million shares being sold by the end of September 2010. Treasury announced the completion of the sales early in December 2010. The average sales price for the Treasury shares was \$4.14 per share compared with an initial conversion price of \$3.25 per share. The gain from the common stock sales was approximately \$6.9 billion, along with approximately \$2.2 billion from the sales of the remaining trust preferred securities granted as a fee from the AGP, \$2.9 billion in interest and

dividends, and \$54 million from the sale of warrants for a total nominal gain from the Citigroup intervention of \$12.1 billion (Labonte, Webel, 2010).

Table 3.7 summarizes the assistance for Citigroup through the CPP, TIP, and AGP, including current and peak asset holdings, losses or gains, and conditions of the program.

Table 3.7 Citigroup Support (CPP/TIP/AGP)

| Citigroup Support (CPP/TIP/AGP) | | | | | Terms and Conditions | | |
|-----------------------------------|-------------------------|--|--|------------------------------------|---|--------------------------------------|---|
| Federal Government | | | | | | | |
| Program | Current Asset Holdings/ | Asset Holding/ | Total Income | Realized Capital Gains (+) /Losses | Dividend/Fee | Warrants Issued | Subsequent Conversion/ |
| Capital Purchase Program (CPP) | \$ 0 | \$ 25 billion | \$ 0.9 billion (dividends) \$ 0.05 billion (warrants) | \$ 6.9 billion | Preferred: 5% dividend for first 5 years, 9% thereafter common: none | 210 million with a strike price of | Converted preferred shares to common stock, subsequently sold for \$ 31.9 billion |
| Targeted Investment Program (TIP) | \$ 0 | \$ 20 billion trust preferred securities (until Dec. 2009) | \$ 1.6 billion (dividends) \$ 0.19 billion (warrants) | \$ 0 | 8% dividend | 188.5 million with a strike price of | Converted preferred shares to trust preferred securities |

Source: 2013 Daily TARP Update

3.2.2.2 BANK OF AMERICA (CPP/TIP/AGP)

On January 16, 2009, the Treasury, the Federal Reserve, and the FDIC announced a joint intervention in Bank of America, which had previously been a recipient of \$25 billion in TARP Capital Purchase Program funds as part of its commitment to support financial market stability. This exceptional assistance included the purchase of an additional \$20 billion of Bank of America preferred shares through the TARP Targeted Investment Program and a joint guarantee on a pool of up to \$118 billion of Bank of America's assets (largely acquired through its merger with Merrill Lynch) through the TARP Asset Guarantee Program, the FDIC, and the Federal Reserve. Bank of America was to pay the federal government a fee for the guarantee in the form of \$4 billion in preferred stock with an 8% dividend rate and warrants to purchase common stock worth \$2.4 billion at the time of the agreement.

Although the asset guarantee was announced in January 2009, a final agreement was never signed. On September 21, 2009, Bank of America announced that it had negotiated a \$425 million termination fee that allowed it to withdraw from the AGP, canceling the warrants and preferred shares issued for the program.

On December 9, 2009, Treasury announced that Bank of America had repurchased the \$45 billion in preferred stock previously purchased under TARP. The warrants issued under the CPP and the TIP were sold at auction by the government in March 2010 for approximately \$1.6 billion. No government assistance to Bank of America remains outstanding.

Table 3.8 summarizes the support for Bank of America through the CPP, TIP, and AGP, including current and peak asset holdings, losses or gains, and conditions of the support (Labonte, Webel, 2010).

Table 3.8 Bank of America Support (CPP/TIP/AGP)

| Bank of America Support (CPP/TIP/AGP) | | | | | Terms and Conditions | | |
|---------------------------------------|-------------------------|---|---|------------------------------------|-------------------------------------|-------------------------------|---|
| Federal Government | | | | | | | |
| Program | Current Asset Holdings/ | Asset Holding/ | Total Income | Realized Capital Gains (+) /Losses | Dividend Rate/Fee | Warrants | Expiration Date |
| Capital Purchase Program (CPP) | \$ 0 | \$ 25 billion (until Dec. 2009) | \$ 1.3 billion (dividends) | \$ 0 | 5% for first 5 years, 9% thereafter | 121,792,790 warrants sold for | None, shares outstanding until repurchased |
| Targeted Investment Program (TIP) | \$ 0 | \$ 20 billion (until Dec. 2009) | \$ 1.4 billion (dividends) | \$ 0 | 8% | 150,375,940 warrants sold for | None, shares outstanding until repurchased |
| Asset Guarantee Program (AGP) | \$ 0 | \$ 118 billion (up to \$ 97.2 billion of losses borne by Fed Treasury and FDIC) (never finalized) | \$ 245 million termination fee to government (\$ 57 million termination fee to Fed) | n/a | n/a | n/a | Jan. 2019 (residential assets)/Jan. 2014 (non residential assets) |

Source: 2013 Daily TARP Update

3.2.3 COMMUNITY DEVELOPMENT CAPITAL INITIATIVE (CDCI)

The Community Development Capital Initiative (CDCI) operated somewhat like the CPP in that it purchased preferred shares from financial institutions; in some cases institutions were permitted to convert previous CPP preferred shares to CDCI preferred shares. The program was specifically focused on institutions that serve low-income, underserved communities and small businesses.

Treasury purchased preferred shares from institutions that qualified for the CDCI up to an amount equal to 5% of the institutions' risk-weighted assets for banks or 3.5% of total assets for credit unions. These preferred shares pay an initial dividend rate of 2%, which will increase to 9% after eight years. Unlike the CPP, no warrants in the financial institutions were included. Purchases under the program were completed in September of 2010 with approximately \$210 million new shares purchased. In addition, approximately \$360 million of shares were converted from CPP shares (Webel, 2013).

Table 3.9 Community Development Capital Initiative

Community Development Capital Initiative

| Federal Government | | | | Terms and Conditions | | |
|------------------------|-------------------------|---------------|---|-------------------------|----------|-------------------------------------|
| TARP Funds Outstanding | Funds Disbursed at Peak | TARP Income | Current or Expected Gains (+)/ Losses (-) | Interest/ Dividend Rate | Warrants | Expiration Date |
| \$ 570 million | \$ 570 million | \$ 30 million | -\$ 140 million (Treasury) | 2% (9% after 8 years) | none | No new purchases after October 2010 |

Source: 2013 Daily TARP Update

3.3 CREDIT MARKET PROGRAMS

3.3.1 PUBLIC PRIVATE INVESTMENT PROGRAM

On March 23, 2009, Treasury announced the Public Private Investment Program (PPIP). PPIP consisted of two asset purchase programs designed to leverage private funds with government funds, to remove troubled assets from bank balance sheets.

Considered closer to the original conception of TARP than other TARP programs, PPIP dedicated TARP resources as equity to:

1. Acquire troubled loans in a fund partially guaranteed by the FDIC;
2. Acquire troubled securities in a fund designed to be used with loans from the Federal Reserve's TALF program or TARP.

Both funds would match TARP money with private investment, and profits or losses would be shared between the government and the private investors. Unlike the original conception of TARP, private investors would choose the assets to purchase and manage the funds and the day-to-day disposition of assets. Treasury originally envisioned assets purchases through PPIP would be as high as \$1 trillion (using as much as \$200 billion in TARP funds), but a maximum of \$22.4 billion was committed to the program.

3.3.1.1 LEGACY LOAN PROGRAM

A legacy loan is a “problem loan” that is already on a bank's balance sheet, as opposed to a potential new loan or refinance. The Legacy Loan Program was intended to reduce uncertainty about bank balance sheets and draw private capital to the financial services sector by providing FDIC debt guarantees and Treasury equity to fund private-public entities purchasing problem loans from banks. The program, however, was not implemented beyond a single pilot legacy loan sale reported by the FDIC on September 30, 2009.

In this pilot sale, the FDIC auctioned a portfolio of residential mortgages with unpaid principal of \$1.3 billion from a bank that the FDIC had taken into receivership. Residential Credit Solutions (RCS) placed a winning bid of \$64 million to receive a 50% stake in this pool, and financed the purchase with \$728 million of debt guaranteed by the FDIC.

3.3.1.2 LEGACY SECURITIES PROGRAM

The larger part of the PPIP, the Legacy Securities Program, was designed to deal with existing mortgage-related securities on bank balance sheets. Private investment fund managers applied to Treasury to pre-qualify to raise funds to participate in the program. Approved fund managers that raised private equity capital received matching Treasury capital and an additional loan to the fund that matched the private capital (for example, a fund that

raised \$1000 had a total of \$3000 available to invest). In addition to this basic transaction, Treasury had the discretion to allow another matching loan so that a fund raising \$100 could have made a total of \$4000 available for investment. The funds are to be used to invest in non-agency MBS that were originally rated AAA.

Nine funds were pre-qualified by the Treasury in June 2009. In early January 2010, however, one of the funds reached a liquidation agreement with Treasury and was wound down. By March 31, 2013, another five of the funds had been effectively wound down and all \$18.6 billion of the disbursed funds had been returned (Webel, 2013).

Table 3.10 Public Private Investment Program

| Public Private Investment Program | | | | | Terms and Conditions | | |
|-----------------------------------|---|-------------------------------------|-----------------|---|--------------------------------|--------------------------|--------------------------------|
| Program | Federal Government | | | | Interest/ | Warrants | Expiration Date |
| | Outstanding Funds Disbursed/ Guaranteed | Funds Disbursed/ Guaranteed at Peak | Total Income | Current or Expected Gains (+)/ Losses (-) | | | |
| Legacy Securities | \$ 0 | \$ 18.63 billion | \$ 3.72 billion | | LIBOR plus “applicable margin” | Yes (amount unspecified) | 10 years from creation of fund |
| Legacy Loans | \$ 728 million | \$ 728 million | n/a | \$ 2 billion (CBO) | No contracts | Yes (amount unspecified) | No new contracts/ |

Source: 2013 Daily TARP Update

3.3.2 TERM ASSET-BACKED SECURITIES LOAN FACILITY (TALF)

The Term Asset-Backed Securities Loan Facility (TALF) was a Fed program to assist the asset-backed security market, with TARP acting as a backstop support in case of losses. TALF was designed so that income accrues to the Fed with possible losses and some expenses accrues to the Treasury. Initial obligation of TARP funds to support TALF was \$4.0 billion, with \$0.1 billion disbursed. The TARP commitment was reduced to \$1.4 billion in June 2012 and was cancelled in January 2013 as the fees accrued from the program at this time were greater than the amount of TALF loans still outstanding. The initial \$0.1 billion in disbursements from TARP have been repaid (Webel, 2013).

Table 3.11 Term Asset-Backed Securities Loan Facility

| Term Asset-Backed Securities Loan Facility | | | | | Terms and Conditions | | |
|--|--------------------------------|---|-----------------|--|----------------------|----------|--|
| Federal Government | | | | | | | |
| Program | Funds Disbursed/ Guaranteed | Funds Disbursed/ Guaranteed at Peak | Total Income | Current or Expected Gains (+)/ Losses (-) | Interest/ | Warrants | Expiration Date |
| TALF | \$ 0 | \$ 100 million | \$ 0 | \$ 600 million (Treasury) | n/a | none | No new purchase after June 30, 2010 |

Source: 2013 Daily TARP Update

3.3.3 SECTION 7(A) SECURITIES PURCHASE PROGRAM

This program supported the “Small Business Administration’s” (SBA) Section 7(a) loan program through purchasing pooled SBA guaranteed securities backed by private loans to small businesses. Beginning in March 2010, Treasury purchased a total of \$368 million in securities guaranteed by the SBA. Purchases ended in October 2010 with the expiration of the TARP authority and all securities have been sold or matured (Labonte, Webel, 2010).

3.4 OTHER PROGRAMS

3.4.1 AUTOMOBILE INDUSTRY SUPPORT

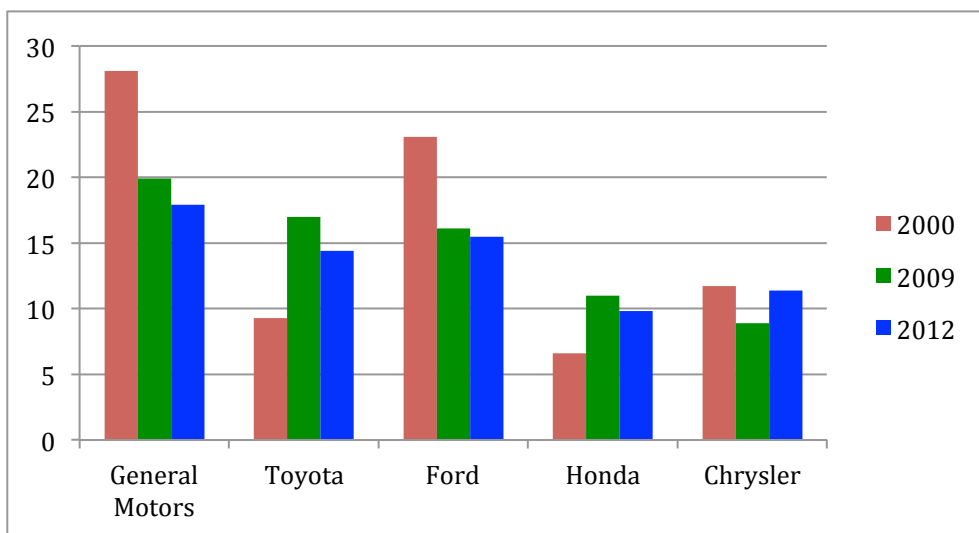
In 2008 and 2009, collapsing world credit markets and a slowing global economy combined to create the worst market in decades for production and sale of motor vehicles in the United States and other industrial countries. U.S. light vehicle production fell by more than 34% in 2009 from 2008 levels, but the year-over-year fall-off was more acute for “General Motors”, whose U.S. production dropped by 48%, and for Chrysler “Chrysler”, whose U.S. production fell by 57%. A similar pattern was reflected in U.S. light vehicle sales, which fell from just over 16.5 million units in 2007 to only 10.4 million units in 2009.

GM and Chrysler were facing extreme financial stress, for several reasons:

- **Decline in the U.S. auto market.** In 2008 and the first half of 2009, U.S. auto sales were in a freefall, ultimately dropping further than at any time in three decades. The 2009 combined U.S. sales of GM fell by 30% compared with 2008, a much steeper decline than any other automaker, except the combined sales of Chrysler. The decline in sales further dried up financial resources that GM could have utilized.

- **Steady loss of U.S. market share:** General Motors, which at its peak sold 51% of all autos in the United States, saw its market share slide from over 28% in 2000 and to under 20% in 2009.

Figure 3.2 Top Sellers of Light Vehicles in the United States



Source: "U.S. Car and Light Truck Sales by Make, 2009 and 2012." Automobile News

- **Break-even point for car making was too high.** The break-even point is the volume of sales at which net sales (gross sales less discounts, returns, and freight costs) equal costs. According to GM, sales in the U.S. market would have needed to hit a rate of 11.5 million to 12 million vehicle units a year for it to break even. U.S. sales in 2009 were 10.4 million units.

- **Exceptional labor and retiree health care costs.** The Detroit 3 automakers (General Motors, Ford, and Chrysler) negotiated contracts with the UAW (United Automobile Workers) over the years that expanded benefits for union workers to a level the companies

could not sustain when imported vehicles began to take large shares of the U.S. market. GM estimated that its retiree health care and pension costs added \$1,500 to the cost of every U.S.-made vehicle and exceeded the cost of the steel used in the vehicles. GM had obligations of nearly \$30 billion to fully fund retiree health care and pension funds.

- **Higher gasoline prices.** In 2008, gasoline prices rose to over \$4 a gallon in many parts of the United States, adversely affecting demand for large vehicles with low fuel efficiency. These vehicles, such as pickup trucks and sport utility vehicles, had been critical to GM and Chrysler profitability.

The production and sales slides were serious business challenges for all automakers, draining through the large and interconnected motor vehicle industry supply chain, touching suppliers, auto dealers, and the communities where auto-making is a major industry. GM and Chrysler were in especially precarious positions. The immediate crisis that brought these two companies to bankruptcy was a loss of financial liquidity as the banking system's credit sources froze and neither company had enough internal reserves to weather the economic storm.

In addition to financial firms, non-financial firms also sought support under TARP, most notably U.S. automobile manufacturers. While EESA specifically authorized the Secretary of the Treasury to purchase troubled assets from "financial firms," the legislative definition of this term did not mention manufacturing companies. After specific legislation for the automakers failed to be blocked at the Congress, the Bush Administration started using TARP for funding.

On December 19, 2008, the Bush Administration announced it was providing support through TARP to "General Motors" and "Chrysler" under the Automotive Industry Financing Program (AIFP). The initial package included up to \$13.4 billion in a secured loan to GM and \$4 billion in a secured loan to Chrysler. In addition, \$884 million was lent to GM for its participation in a rights offering by GMAC as GM's former financing arm was becoming a bank holding company. On December 29, 2008, the Treasury announced that GMAC also was to receive a \$5 billion capital injection through preferred share purchases.

Up to \$5 billion in funding for TARP's auto industry supplier program was funded under the Auto Supplier Support Program (ASSP), which provided loans "to ensure that auto suppliers

receive compensation for their services and products, regardless of the condition of the auto companies that purchase their products.”

After January 21, 2009, the Obama Administration keep on with assistance for the automakers, including support for the automaker warranties under the AIFP, so that consumers would not be discouraged from purchasing cars during the restructuring, and for third-party suppliers to the automakers. Additional loans for GM and Chrysler were made before and during the two companies’ bankruptcies, and GMAC received additional capital through preferred share purchases as well.

Unable to work out their differences with a group of creditors, the two companies were ultimately compelled to enter bankruptcy. On April 30, 2009, Chrysler filed for bankruptcy and announced that Fiat would take an initial 20% stake and take over management of the new company. On June 1, 2009, General Motors Corporation filed for bankruptcy and announced a major restructuring plan that would allow it to leave most of its liabilities in bankruptcy and sell most of its assets to a new General Motors Company. This restructuring plan included eliminating brands, closing dealerships, and shutting plants. Federal assistance considerably shortened the amount of time the two companies spent in bankruptcy court.

At the end of 2009, GM had received approximately \$50.2 billion in direct loans and indirect support; Chrysler had received \$10.9 billion in loans and indirect support; GMAC had received \$17.2 billion in preferred equity purchases and loans; and Chrysler Financial had received \$1.5 billion in loans. Some of this assistance is still owed by the companies, some has been repaid, and some has been converted into common equity in the company receiving assistance. As of June 21, 2013, TARP support for the auto industry totaled approximately \$79.7 billion disbursed, with \$44.17 billion repaid and \$5.98 billion in income.

Table 3.12 summarizes the support for the automakers, including current and peak asset holdings or loan amounts, losses or gains, and conditions of the assistance.

Table 3.12 Government Support for the Auto Industry

| Federal Government | | | | | Terms and Conditions | | |
|---------------------------|--|--|--------------------|--|--|---|---|
| Beneficiary/ Program | Latest Balance Owed | Total Assistance at Peak | Total Income | Current or Expected Gains (+)/ Losses (-) | Interest/ Dividend Rate | Subsequent Conversion | Expiration Date |
| General Motors (GM) | \$ 0 (new GM) \$ 838 million (old GM) \$ 9.0 billion outstanding but not owed by new GM | \$ 50.2 billion combined loans (not including \$ 884 million loan for GMAC rights offering) | \$ 0.76 billion | -\$ 9.0 billion (actual capital loss due to stock sale) | LIBOR + 5% | Loan converted into 60.8% of common equity and preferred stock | January 2015 (new GM loan) December 2011 (old GM loan) |
| GMAC/Ally Financial | \$ 5.9 billion preferred equity; \$ 8.7 billion outstanding but not owed by Ally | \$ 16.3 billion preferred equity and \$ 884 million loan through GM | \$ 3.53 billion | Not Reported | 9% | Loan and preferred shares converted into 73.8% of common equity | No expiration |
| Chrysler | \$ 0 | \$ 10.9 billion loan; (\$2.1 billion never drawn) | \$1.6 billion | -\$2.9 billion (accrual loss) | LIBOR + 7.9%; LIBOR + 3%; LIBOR + 5% | 9.9% of common equity | June 2017(new Chrysler loan) January 2012 (old Chrysler loan) |
| Chrysler Financial | \$ 0 | \$ 1.5 billion loan) | \$ 7 million | n/a | | None | January 2014 |

Source: 2013 Daily TARP Update

The federal government has sold its shares in General Motors Co. in two ways. In November 2010, New GM conducted an initial public offering (IPO) of stock to investors, once again becoming a publicly traded company, although the post-bankruptcy owners, including the U.S. government, continued to hold significant stakes in the company. Of the 550 million shares sold in the IPO, the U.S. Treasury sold approximately 412 million, for which it received \$13.5 billion. This sale left the U.S. Treasury owning 32% of the company's common shares. The only capital New GM itself raised through the IPO was \$4.9 billion from the simultaneous sale of preferred stock.

In December 2012, the U.S. Treasury announced the sale of an additional 200 million shares priced at \$27.50 per share (\$2.00 per share above the market price on December 20, 2012). These shares were purchased directly by New GM itself for \$5.5 billion, reducing the government's ownership stake in New GM to 22%. At the same time, the Treasury announced that it expects to sell the remainder incrementally by March 2014 and that it has removed restrictions on New GM owning corporate jets as well as certain reporting requirements. TARP-imposed executive pay limits, however, will remain.

The strength of New GM's stock price, and the related recoupment of government assistance to the company, have hinged on two major factors: the success of GM's restructuring and the performance of the global economy, including retail auto sales. New GM's finances have improved markedly since its emergence from bankruptcy, and the company is once again consistently profitable. To date, the U.S. government has realized a \$7.5 billion loss on its investment in General Motors. Future sale of the remaining 300 million GM shares could result in gains that would offset this loss. In order for the U.S. government to fully recoup the nominal value of its \$50.2 billion assistance, however, the government's remaining shares would need to sell for nearly \$70 per share, well more than double the price that has been received by the U.S. government in past sales (Canis, 2013; Clowers, 2011; Dodaro 2011).

3.4.2 AMERICAN INTERNATIONAL GROUP (AIG)

In 2007, American International Group (AIG) was the fifth-largest insurer in the world with \$110 billion in overall revenues. In the United States, it ranked second in property/casualty insurance premiums (\$37.7 billion/7.5% market share) and first in life insurance premiums (\$53.0 billion/8.9%). For particular lines, AIG ranked first in surplus lines, ninth in private passenger auto, first in overall commercial lines (fifth in commercial auto), and fourth in mortgage guaranty. It was outside the top 10 in homeowners insurance. According to the National Association of Insurance Commissioners (NAIC), AIG had more than 70 state-regulated insurance subsidiaries in the United States, with more than 175 non-insurance or foreign entities under the general holding company.

Although primarily operating as an insurer, prior to the crisis AIG was overseen at the holding company level by the federal Office of Thrift Supervision (OTS) because the company owned a relatively small thrift subsidiary. The bulk of the company's insurance operations were regulated by the individual state regulators as the states act as the primary regulators of the business of insurance.

Because AIG was primarily an insurer, it was largely outside of the normal Federal Reserve facilities that lend to thrifts (and banks) facing liquidity difficulties and it was also outside of the normal Federal Deposit Insurance Corporation (FDIC) receivership provisions that apply to FDIC-insured depository institutions.

AIG, as did most financial institutions, suffered losses on a wide variety of financial instruments in 2008. The exceptional losses which resulted in the essential failure of AIG arose primarily from two sources: the derivative activities of the AIG Financial Products (AIGFP) subsidiary and the securities lending activities managed by AIG Investments with securities largely from the AIG insurance subsidiaries. Regulatory oversight of these sources was split. The OTS was responsible for oversight of AIGFP, while the state insurance regulators were responsible for oversight of the insurance subsidiaries which supplied the securities lending operations, and would ultimately bear losses if the securities, or their equivalent value, could not be returned.

With the company facing losses on various operations, AIG experienced a significant decline in its stock price and downgrades from the major credit rating agencies in 2008. These downgrades led to immediate demands for significant amounts of collateral (approximately

\$14 billion to \$15 billion in collateral payments, according to contemporary press reports). As financial demands on the company mounted, bankruptcy appeared a possibility, as occurred with Lehman Brothers in the same timeframe. Fears about the spillover effects from such a failure brought calls for government action to avert such a failure. Many feared that AIG was “too big to fail” due to the potential for widespread disruption to financial markets resulting from such a failure. AIG’s size was not the only concern in this regard, but also its innumerable connections to other financial institutions.

The New York Insurance Superintendent, primary regulator of many of the AIG insurance subsidiaries, led an effort to provide the parent AIG holding company with access to up to \$20 billion in cash from AIG’s insurance subsidiaries, which were perceived as solvent and relatively liquid. Ultimately, this transfer did not take place and efforts to find private funding for AIG failed as well; instead, the Federal Reserve approved an extraordinary loan of up to \$85 billion in September 2008. As AIG’s financial position weakened following the initial Fed loan, several rounds of additional funding were provided to AIG by both the Fed and the Treasury’s Troubled Asset Relief Program (TARP). Assistance to AIG was restructured several times, including loosening of the terms of the assistance⁶

On September 16, 2008, prior to the existence of TARP, the Fed announced that it was taking action to support AIG in the form of a secured two-year line of credit with a value of up to \$85 billion and a high interest rate. In addition, the government received warrants to purchase up to 79.9% of the equity in AIG. On October 8, 2008, the Fed announced that it would lend AIG up to an additional \$37.8 billion against securities held by its insurance subsidiaries. In October 2008, AIG also announced that it had applied to the Fed’s general Commercial Paper Funding Facility (CPFF) and was approved to borrow up to \$20.9 billion at the facility’s standard terms.

In early November 2008 the financial support for AIG was restructured. The restructured financial support consisted of :

- Reducing the size of the Fed loan to up to \$60 billion, with the term lengthened to five years and the interest rate reduced by 5.5%;
- Purchasing of \$40 billion in preferred shares through TARP;
- Replacing the \$37.8 billion loan, with up to \$52.5 billion total in asset purchases by the Fed through two Limited Liability Corporations (LLCs) known as Maiden Lane II and Maiden Lane III.

The 79.9% equity position of the government in AIG remained essentially unchanged after the restructuring of the intervention.

In March 2009, the assistance was restructured through:

- A partial payback of the Fed loan through a swap of debt for equity in two AIG subsidiaries worth approximately \$25 billion, reducing the maximum to \$35 billion;
- Commitments for additional future TARP purchases of up to \$29.8 billion in preferred shares at AIG's discretion, and the conversion of existing shares into shares with optional dividend payments.

The Maiden Lane LLCs continued operating under the previous terms, with the actual loans extended to the LLCs totaling \$43.9 billion at their peak of the possible \$52.5 billion. AIG's access to the CPEF had been reduced to \$15.9 billion in January 2009, due to a ratings agency downgrade. AIG continued to access this facility until it expired in February 2010.

In September 2010, AIG and the government announced another restructuring of the government's assistance. This restructuring closed on January 14, 2011.

The expressed goal was to simplify the government's interest in AIG and supply a path for the divestment of the government's stake in AIG. The essence of the plan was:

- Ending the Fed's involvement with AIG through loan repayment and transfer of the Fed's equity interests to the Treasury;
- Converting the government's \$49.1 billion in existing preferred shares into common shares, which can then be sold to the public over time.

The specific steps involved several interlocking transactions, including the Initial Public Offering (IPO) of a large AIG subsidiary, the sale of several other AIG subsidiaries, and the use of up to approximately \$20 billion in TARP funds to transfer equity interests from the Fed to the Treasury. Once these transactions closed, the Treasury held 92% of AIG's common equity (1.66 billion shares) and equity interests in AIG's subsidiaries worth approximately \$20.3 billion.

Treasury sold the AIG equity over time and completed the sales in December 2012. All of the Federal Reserve loans have been repaid and the assets held in the Maiden Lane LLCs have been sold. The last government-held assets relating to the AIG intervention were TARP warrants which were sold in January 2013.

Table 3.13 summarizes the support received by AIG from both TARP and the Fed, including current and peak asset holdings, losses or gains, and conditions of the support.

Table 3.13 AIG Support

AIG Support

| Federal Government | | | | | Terms and Conditions | | | |
|--|------------------|---|--|------------------------------------|--|--|---|------------------|
| Program | Outst.ing Amount | Outst.ing Amount at Peak | Total Income | Actual Gain (+) /Loss(-) | Dividend/ Interest Rate | Warrants / Equity Interests | Subsequent Conversion | Expirati on Date |
| TARP Systemically Significant Failing Institutions | \$0 | \$67.8 billion (Jan. 2011) | \$0.96 billion in dividends paid and capital gains | -\$13.48 billion in capital losses | 10% (dividends paid at AG's discretion) | Warrants for 2% of common shares | \$49.1 billion converted to AIG common equity; \$20.3 billion converted subsidiary equity | Mar. 2014 |
| Fed Loan to AIG | \$0 | \$90.3 billion loan (Oct. 2008) | \$8.2 billion in interest; \$17.55 billion in equity sales | | 3 month LIBOR +3% | Warrants for 79.9% (later reduced to 77.9%) of common shares | Reduced balance by 25 billion in exchange for equity in life insurance subsidiaries | Sept. 2013 |
| Fed Loan for Troubled Asset Purchases | \$0 | \$43.8 billion loans to purchase assets (Dec. 2008) | \$9.5 billion | | LIBOR +1% | None | n/a | None |
| Fed Commercial Paper Funding Facility | \$0 | \$16.1 billion (Jan. 2009) | \$0.4 billion | | Overnight index swap (OIS) rate +1%; OIS +3% | none | n/a | Feb. 2010 |

Source: 2013 Daily TARP Update

The AIG rescue produced unexpected financial returns for the government. The Fed loans were completely repaid and it directly received \$18.1 billion in interest, dividends, and capital gains. In addition, another \$17.5 billion in capital gains from the Fed assistance accrued to the Treasury. The \$67.8 billion in TARP assistance, however, resulted in a negative return to the government, as only \$54.4 billion was recouped from asset sales and \$0.9 billion was received in dividend payments. If one offsets the negative return to TARP of \$12.5 billion with the \$35.6 billion in positive returns for the Fed assistance, the entire assistance for AIG showed a positive return of approximately \$23.1 billion. It should be noted that these figures

are the simple cash returns from the AIG transactions and do not take into account the full economic costs of the assistance. Fully accounting for these costs would result in lower returns to the government, although no agency has performed such a full assessment of the AIG assistance. The latest Congressional Budget Office (CBO) estimate of the budgetary cost of the TARP assistance for AIG, which is a broader economic analysis of the cost, found a loss of \$15 billion compared with the \$12.5 billion cash loss. CBO does not, however, regularly perform cost estimates on Federal Reserve actions.

The assistance for AIG has provoked controversy on several different levels. Significant attention, and anger, has been directed at questions of employee compensation. Following reports of bonuses being paid for employees of AIGFP, the House passed legislation (H.R. 1664, 111th Congress) aimed at prohibiting “unreasonable and excessive compensation and compensation not based on performance standards” for TARP recipients, including AIG.

Questions have also been raised about the transparency and legality of the assistance. Although the billions of dollars in government assistance went to the AIG, in many cases, it can be argued that AIG has acted as an intermediary for this assistance. In short order after drawing on government assistance, substantial funds flowed out of AIG to entities on the other side of AIG’s financial transactions, such as securities lending or credit default swaps. Seen from this view, the true beneficiary of many of the federal funds that flowed to AIG was not AIG itself, but instead AIG’s counterparties, who may not have received full payment in the event of a bankruptcy. In the interest of transparency, many argued that AIG’s counterparties, particularly those who received payments facilitated by government assistance, should be identified. Many of these counterparties were only identified after public and congressional pressure.

Lawsuits challenging the legality of the government actions relating to the assistance, particularly the equity taken as part of this assistance, have been filed by Starr International Company, Inc. (Starr). This company is owned by Maurice Greenberg, formerly the CEO of AIG and a major stockholder in the company. Starr has sought compensation for the unconstitutional taking of AIG shareholder property without compensation in connection with the federal assistance package rescuing AIG from bankruptcy (Dodaro, 2011; Webel, 2013).

3.5 HOUSING ASSISTANCE PROGRAMS

Both lenders and borrowers may benefit from avoiding foreclosure, which is a costly and lengthy process. Some lenders have offered troubled borrowers more favorable mortgage terms (refinancing, loan modification or loss mitigation). Borrowers have also been encouraged to contact their lenders to discuss alternatives.

The Economist described the issue this way: "No part of the financial crisis has received so much attention, with so little to show for it, as the tidal wave of home foreclosures sweeping over America. Government programmes have been ineffectual, and private efforts not much better." Up to 9 million homes may enter foreclosure over the 2009–2011 period, versus one million in a typical year. At roughly \$50,000 per foreclosure according to a 2006 study by the Chicago Federal Reserve Bank, 9 million foreclosures represents \$450 billion in losses.

A variety of voluntary private and government-administered or supported programs were implemented during 2007–2009 to assist homeowners with case-by-case mortgage assistance, to mitigate the foreclosure crisis engulfing the U.S. One example is the "Hope Now Alliance", an ongoing collaborative effort between the US Government and private industry to help certain subprime borrowers. In February 2008, the Alliance reported that during the second half of 2007, it had helped 545,000 subprime borrowers with steady credit, or 7.7% of 7.1 million subprime loans outstanding on September 2007. During late 2008, major banks and both Fannie Mae and Freddie Mac established moratoriums delays on foreclosures, to give homeowners time to work towards refinancing.

Critics have argued that the case-by-case loan modification method is ineffective, with too few homeowners assisted relative to the number of foreclosures and with nearly 40% of those assisted homeowners again becoming delinquent within 8 months. In December 2008, the U.S. FDIC reported that more than half of mortgages modified during the first half of 2008 were delinquent again, in many cases because payments were not reduced or mortgage debt was not forgiven. This is further evidence that case-by-case loan modification is not effective as a policy tool.

In February 2009, economists Nouriel Roubini (2009) and Mark Zandi (2009) recommended an "across the board" systemic reduction of mortgage principal balances by as much as 20–30%. Lowering the mortgage balance would have helped lower monthly payments and also address an estimated 20 million homeowners that may have had a financial incentive to enter

voluntary foreclosure because they were "underwater", that is the mortgage balance is larger than the home value.

A study by the Federal Reserve Bank of Boston indicated that banks were reluctant to modify loans. Only 3% of seriously delinquent homeowners had their mortgage payments reduced during 2008. In addition, investors who hold MBS and have a say in mortgage modifications have not been a significant impediment; the study found no difference in the rate of assistance whether the loans were controlled by the bank or by investors.

Commenting on the study, economists Dean Baker (2009) and Paul Willen (2009) both pushed providing funds directly to homeowners instead of banks. The L.A. Times reported the results of a study that found homeowners with high credit scores at the time of entering the mortgage are 50% more likely to "strategically default", abruptly and intentionally pull the plug and abandon the mortgage, compared with lower-scoring borrowers. Such strategic defaults were heavily concentrated in markets with the highest price declines. An estimated 588,000 strategic defaults occurred nationwide during 2008, more than double the total in 2007.

One criticism leveled in TARP's early stages was its focus on assisting financial institutions, thus providing only indirect assistance to individual homeowners facing foreclosure. Treasury ultimately created several programs addressing this criticism.

Unlike other TARP programs that have resulted in asset purchases that may eventually return some funds to the government, the housing assistance programs have no mechanism for returning funds. An amount of \$75 billion of TARP funding was initially planned for housing assistance efforts. Expected outlays under these programs have been counted as 100% spending with no expected financial return to the government. The amount of spending on these programs, however, has been relatively low, and the programs have been further criticized as ineffective at helping homeowners.

3.5.1 HOME AFFORDABLE MODIFICATION PROGRAM (HAMP)

In March 2009, the TARP Home Affordable Modification Program (HAMP) was announced. Through HAMP, the government provided financial incentives to participating mortgage servicers that provided loan modifications to eligible troubled borrowers to reduce the borrowers' monthly mortgage payments to no more than 31% of their monthly income.

Servicers received an upfront incentive payment for each successful permanent loan modification and a “pay-for-success” payment for up to three years if the borrower would have remained current after the modification. The borrower could also receive a “pay-for-success” incentive payment, in the form of principal reduction, for up to five years if he or she would have remained current after the modification is finalized.

Investors received a payment incentive, that was the government payment of half the cost of reducing the monthly mortgage payment from 38% to 31% of monthly income, and could receive incentive payments for loans had modified before a borrower became delinquent.

The Administration originally estimated that HAMP would have cost \$75 billion. Of this amount, \$50 billion was coming from TARP funds and \$25 billion was coming from Fannie Mae and Freddie Mac for the costs of modifying mortgages that those entities owned or guaranteed.

Treasury had revised downward its estimate of the amount of TARP funds that would have been used for HAMP with some of these funds used for the other TARP housing assistance programs. As of June 21, 2013, a total of \$29.9 billion was obligated for HAMP, with \$5.60 billion disbursed (Taylor, 2009; Webel, 2013).

3.5.2 HARDEST HIT FUND

On February 19, 2010, the Obama Administration announced that it would make funding available to the housing finance agencies (HFAs) of five states that had experienced the greatest declines in home prices.

The states could use these funds to create their own foreclosure prevention programs based on local conditions, as long as the programs they created met the TARP objectives and were approved by Treasury. This program is known as the “Hardest Hit Fund” (HHF), and several additional forms of funding, with different criteria for choosing the states, bringing the total number of states receiving funds to 18 plus the District of Columbia.

The total amount of funding allocated to HHF was \$7.6 billion. Of this amount, \$2.60 billion had been disbursed as of June, 2013.

3.5.3 FHA SHORT REFINANCE PROGRAM

On March 26, 2010, the Administration announced a new FHA Short Refinance Program for homeowners who owed more than their homes were worth. Detailed program guidance was released on August 6, 2010. Under the program, certain homeowners who owed more than their homes were worth may be able to refinance into new, FHA-insured mortgages for an amount lower than the home's current value. The original lenders would have accepted the proceeds of the new loan as payment in full on the original mortgage and would have FHA insurance on the new loan; and the homeowner would have a first mortgage balance that was below the current value of the home, thereby providing some equity in the home.

Homeowners must be current on their mortgages to qualify for this program. Further, the balance on the first mortgage loan must be reduced by at least 10%. This program was voluntary for lenders and borrowers, and borrowers with mortgages already insured by FHA were not eligible.

The FHA Short Refinance Program began on September 7, 2010, and has been available until December 31, 2014. As of June 21, 2013, Treasury had obligated \$1.03 billion of the TARP funds originally set for HAMP to help pay for the cost of this program, a reduction from the original amount of \$8.1 billion. Of this \$1.03 billion, \$0.06 billion has been disbursed (Taylor, 2009; Webel, 2013).

CHAPTER 4

4. THE COST OF TARP

4.1 ESTIMATING THE COSTS OF GOVERNMENT INTERVENTIONS

The primary goal of the various interventions was to end the financial panic and restore normality to financial markets. By this measure, the programs were arguably a success because financial markets started largely functioning again, although access to credit has been limited for many borrowers over a year later. The goal of intervening at zero cost to the taxpayers was never realistic, or meaningful, since non-intervention would likely have led to a much more costly loss of economic output that indirectly would have worsened the government's finances. Nevertheless, an important part of evaluating the government's performance is whether financial normalcy was restored at a minimum cost to the taxpayers.

Can be distinguished between funds provided to solvent companies and those provided to insolvent companies. For insolvent firms with negative net worth at the time of intervention, the government's chances of fully recouping losses were low. But for solvent firms, if properly implemented, it should have been possible to provide funds through widely available lending mechanisms or "lending facilities" at a low ultimate cost to the taxpayers.

In a panic, investors typically refuse to provide funds to firms because they are unable to distinguish between healthy and unhealthy firms, and so they get wrong on the side of caution and do not provide any funds. For those private investors who perceived profitable opportunities to lend or invest, not enough liquidity was available to do so. In this situation, the government could theoretically provide those funds to healthy firms at what would normally be a profitable market rate of return. In practice, the challenge was that the government was arguably no more able to accurately distinguish between healthy firms and unhealthy firms, so some widely available lending facilities are likely to be accessed by firms that will ultimately prove not to be solvent, and this was the most likely source of long-term cost for a widely available facility.

The latest data confirmed most of the long-term cost of government interventions to date had come from assistance to AIG, Fannie Mae, Freddie Mac, Bear Stearns, and the U.S. automakers. None of the widely available facilities set up by the government were showing significant expected losses at present, and some could end up generating a profit. Of course,

this is not evidence that taxpayers bore no risk for facilities currently making a profit, had general outcomes in financial markets proven worse or if they would have become worse in the future, losses would have been larger.

In preparing the budget cost estimates for TARP, the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) were directed by Section 123 of EESA to adjust their estimates by current market borrowing rates, as opposed to the borrowing rate paid by Treasury. Using market rates instead of government borrowing rates increased the net calculated cost of these investments and was meant to better represent the true economic costs of the programs. The cost estimated for TARP have fallen dramatically since the program was started. For example, in March 2009, CBO estimated a \$356 billion budgetary cost for TARP. This number fell to \$109 billion in March 2010, and the latest CBO estimate was for a total budgetary cost of \$21 billion.

The original TARP authority to purchase new assets or enter into new contracts expired on October 3, 2010. Outlays under the existing contracts, however, may continued through the life of these contracts. Overall budget-cost estimates for TARP have decreased significantly since the passage of EESA, with the Congressional Budget Office (CBO) estimated foreseeing \$21 billion in costs and the Office of Management and Budget (OMB) estimated foreseeing \$47 billion in costs. Most of these costs has been from aid for homeowners, for the insurer AIG, and for U.S. automakers. The assistance to banks had generally showed a gain for the government. In the 113th Congress, oversight of TARP has continued, including a hearing held by a subcommittee of the House Committee on Oversight and Government Reform.

Congress had oversight responsibilities for the government's crisis response, through existing oversight committees and newly created entities such as a Special Inspector General for the TARP (SIGTARP), a Congressional Oversight Panel, and a Financial Crisis Inquiry Commission. Congress was also interested in an accurate accounting of the costs of the crisis in the interest of determining how to cover its costs in the long run. For example, Section 134 of EESA required the President to propose a method for recouping TARP costs. On January 14, 2010, President Obama proposed a "Financial Crisis Responsibility Fee" to be levied on the debt of certain large financial firms to cover the costs of TARP.

The various programs under TARP had very different estimated costs at the current time. In general, the bank support programs and credit market support programs were estimated to produce a gain for the government. The losses in TARP were primarily estimated to accrue from the support for AIG, the automakers, and housing.

Table 4.1 summarizes detailed estimates of TARP’s cost from CBO and the Administration. The largest difference between the OMB and CBO estimates were in the amounts expected to be disbursed for the housing support programs.

The cost estimates of TARP were sensitive to financial markets and the state of the economy. The ultimate cost of the program would have depended largely on recouping value from the financial assets held in TARP. The assets resulting from bank support programs, including warrants and both preferred and common shares, have turned out to be relatively valuable, thus the estimates show an overall gain from these programs as the increases in asset values outweigh any losses from defaults. In the case of the automaker support, however, the estimates were that the assets held by the government through TARP ultimately wouldn’t returned enough to recoup the TARP funds put into the companies, as was the case with the assistance for AIG (Bayazitova, 2009; Garcia-Diaz, 2016; Webel, 2010).

Table 4.1 Detailed Cost/Gain Estimates for TARP

Detailed Cost/Gain Estimates for TARP
(\$ in billions; gain (+)/loss(-))

| TARP Program | OMB (Data from Dec. 2012) | CBO (Data from April 2013) |
|---|-------------------------------------|--------------------------------------|
| Capital Purchase Program | \$ 15 | \$ 17 |
| Targeted Investment Program/Asset Guarantee Program | \$ 8 | \$ 8 |
| Community Development Capital Initiative | \$ 0 | \$ 0 |
| Term Asset-backed Lending Facility | \$ 0 | \$ 1 |
| Public-Private Investment Program | \$ 2 | \$ 2 |
| SBA 7(a) Securities | \$ 0 | \$ 0 |
| AIG | -\$ 15 | -\$ 15 |
| Auto Industry Financing Program | -\$ 20 | -\$ 17 |
| Housing Support | -\$ 38 | -\$ 16 |
| Totals | -\$ 47 | -\$ 21 |

Source: Congressional Budget Office, Budget and Economic Outlook, January 2010;

CHAPTER 5

5. OWNERSHIP OF PRIVATE COMPANIES

Government ownership of common equity in private companies was not a general goal of EESA although it was expected that the government would be compensated for the assistance given to companies under TARP. In some cases, this compensation for TARP assistance has resulted in government holdings of common stock in amounts that typically would result in the government having a controlling interest in these companies. The government, however, has generally exercised little of the ownership control inherent in these large stakes. Common equity in companies has typically been accepted in return for TARP assistance in order to strengthen the companies' capital positions going forward. Such equity also provided a potential financial upside to the taxpayers if firms had a strong recovery, but had potential downside if firms did not recover strongly. Outstanding outlays, such as loans, that have been converted to common equity were no longer directly owed by the company to the government. In the case of Citigroup, which converted \$25 billion of preferred shares into common shares, the outcome for the government was positive as the share price rose after the conversion, resulting in approximately \$6.85 billion in capital gains for taxpayers. Ownership of Chrysler equity, however, turned out less positively for the government with the government realizing a \$1.33 billion loss after the sale to Fiat. The ownership of AIG equity through TARP resulted in the government realizing a \$13.48 billion loss, though this TARP equity loss was offset by a \$17.55 billion gain from AIG equity holdings originating with the Federal Reserve. The outcome for GM remained uncertain, although stock prices would have to rise substantially from what was the current levels to result in an overall gain for TARP. (Labonte, Webel, 2010)

Table 5.1 Companies with Large Government Common Ownership Stakes

Companies with Large Government Common Ownership Stakes
(\$ in billions)

| Company | Current Government Ownership Share | Total TARP Assistance Received | Amount Recouped by the Treasury | Losses Written Off or Realized | Total Outstanding Outlays |
|---------------------|---|---------------------------------------|--|---------------------------------------|----------------------------------|
| AIG | 0% | \$ 67.8 | \$ 55.3 | \$ 13.5 | \$ 0 |
| GM | 13.8% | \$ 50.2 | \$ 33.0 | \$ 9.0 | \$ 9.0 |
| GMAC/Ally Financial | 73.8% | \$ 17.2 | \$ 6.1 | \$ 0 | \$ 14.6 |
| Chrysler | 0% | \$ 10.9 | \$ 9.6 | \$ 2.9 | \$ 0 |
| Citigroup | 0% | \$ 45 cash; \$ 5 guarantee | \$ 57.0 | \$ 0 | \$ 0 |

Source: 2013 Daily TARP Update

In addition to its ownership of GM, the U.S. government acquired large common ownership stakes in Chrysler, GMAC/Ally Financial, Citigroup, and AIG through TARP funds and other assistance during the financial crisis. It has sold its stakes in Citigroup, Chrysler, and AIG but retains large common shareholdings in the other companies.

Exercising managerial control was not a stated goal of the shareholdings in these companies. Instead, the stated purpose was to compensate taxpayers for the assistance given the companies while not saddling the companies with large liabilities that could hinder recovery.

The Obama Administration laid out four core principles to guide the management of the government's ownership stakes:

- The government has no desire to own equity any longer than necessary, and will seek to dispose of its ownership interests as soon as practicable.
- In exceptional cases where the government feels it is necessary to respond to a company's request for substantial assistance, the government will reserve the right to set up-front conditions to protect taxpayers, promote financial stability, and encourage growth.
- After any up-front conditions are in place, the government will manage its ownership stake in a hands-off, commercial manner.
- As a common shareholder, the government will only vote on core governance issues, including the selection of a company's board of directors and major corporate events or transactions.

Disposing of large ownership stakes in companies can be done in a variety of manners, including large-scale public offerings of shares, negotiated sales of large blocks of shares to other entities, and gradual share sales in the stock market. All of these sales methods have been used by the government in disposing of holdings of the companies discussed here. Following its emergence from bankruptcy, New GM was not publicly traded, thereby precluding a gradual sale of stock into the stock market, as was done in the case of the U.S. government's holdings in Citigroup. The size of the company and of the government's stake in New GM made a negotiated private sale to another entity unlikely, and any private sale would have been subject to questions about whether the government received a fair price. Thus, the U.S. government chose to participate in an initial public offering in which it and other shareholders could sell significant amounts of their GM stock. In December 2012, the U.S. government also sold 200 million shares directly to GM at a 7.9% premium over the market price at the time. It has not indicated exactly how it will sell the remaining 300 million shares, although a target date of March 2014 has been announced for the sale of all GM shares held by the U.S. government (Canis, 2013).

Table 5.2. Companies in which the U.S. Government held Large Stakes under TARP and Methods of Sale of Ownership Stake

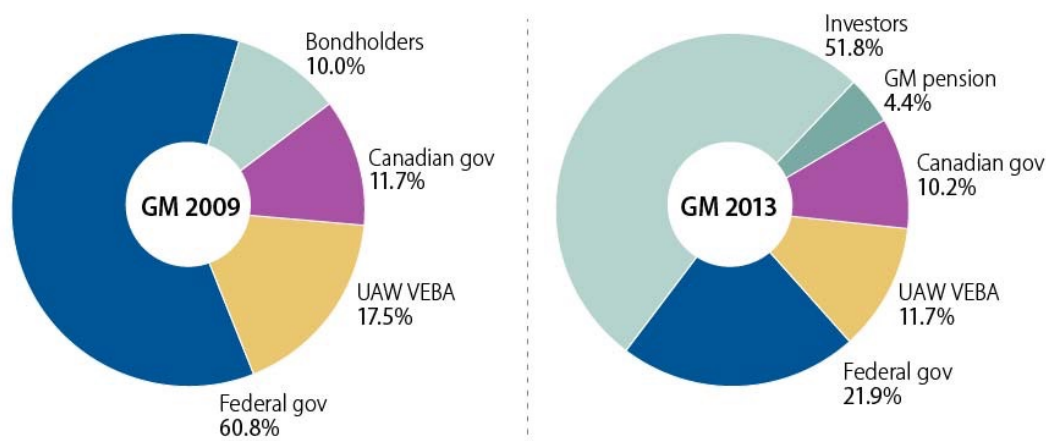
Companies in which the U.S. Government held Large Stakes under TARP

| Company | Current Government Ownership Share | Maximum Government Ownership Share | Method of Sale of Ownership Stake |
|----------------------|---|---|---|
| GM | 13.8% | 60.8% | Initial public offering sale to GM and future gradual sale of stock |
| Chrysler | 0% | 9.9% | Negotiated sale |
| GMAC/ Ally Financial | 73.8% | 73.8% | Not determined |
| AIG | 0% | 92% | Secondary public offering and gradual sale of stock |
| Citigroup | 0% | 34% | Gradual sale of stock |

Source: 2013 Daily TARP Update

Figure 5.1 shows the ownership structure of GM in 2009 when the new company emerged from bankruptcy and its current structure after the U.S. Treasury sold 200 million shares in 2012.

Figure 5.1 GM Ownership Structure 2009-2013



Source: General Motors Company 2013

President Barack Obama and key advisers introduced a series of regulatory proposals in June 2009. The proposals address consumer protection, executive pay, bank financial cushions or capital requirements, expanded regulation of the shadow banking system and derivatives, and enhanced authority for the Federal Reserve to safely wind-down systemically important institutions, among others.

The Dodd–Frank Wall Street Reform and Consumer Protection Act was signed into law in July 2010 to address some of the causes of the crisis. U.S. Treasury Secretary Timothy Geithner testified before Congress on October 29, 2009.

His testimony included five elements he stated as critical to effective reform:

1. Expand the Federal Deposit Insurance Corporation bank resolution mechanism to include non-bank financial institutions;
2. Ensure that a firm is allowed to fail in an orderly way and not be "rescued";
3. Ensure taxpayers are not on the hook for any losses, by applying losses to the firm's investors and creating a monetary pool funded by the largest financial institutions;
4. Apply appropriate checks and balances to the FDIC and Federal Reserve in this resolution process;
5. Require stronger capital and liquidity positions for financial firms and related regulatory authority.

CHAPTER 6

6. THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT

The financial crisis implicated the over-the-counter (OTC) derivatives market as a major source of systemic risk. A number of firms used derivatives to construct highly leveraged speculative positions, which generated enormous losses that threatened to bankrupt not only the firms themselves but also their creditors and trading partners. Hundreds of billions of dollars in government credit were needed to prevent such losses from cascading throughout the system.

Equally troublesome was the fact that the OTC market depended on the financial stability of a dozen or so major dealers. Failure of a dealer would have resulted in the nullification of trillions of dollars worth of contracts and would have exposed derivatives counterparties to sudden risk and loss, exacerbating the cycle of deleveraging and withholding of credit that characterized the crisis.

During the crisis, all the major dealers came under stress, and even though derivatives dealing was not generally the direct source of financial weakness, a collapse of the \$600 trillion OTC derivatives market was imminent absent federal intervention. The first group of Troubled Asset Relief Program recipients included nearly all the large derivatives dealers.

The Dodd-Frank Act (P.L. 111-203) aimed to remake the OTC market in the image of the regulated futures exchanges. Crucial reforms include a requirement that swap contracts be cleared through a central counterparty regulated by one or more federal agencies.

Clearinghouses require traders to put down cash, called “initial margin”, at the time they open a contract to cover potential losses, and require subsequent deposits, called “maintenance margin”, to cover actual losses to the position. The intended effect of margin requirements is to eliminate the possibility that any firm can build up an uncapitalized exposure so large that default would have systemic consequences. The size of a cleared position is limited by the firm’s ability to post capital to cover its losses. That capital protects its trading partners and the system as a whole.

Swap dealers and major swap participants, firms with substantial derivatives positions, will be subject to margin and capital requirements above and beyond what the clearinghouses mandate. Swaps that are cleared will also be subject to trading on an exchange, or an exchange-like “swap execution facility,” regulated by either the Commodity Futures Trading Commission (CFTC) or the Securities and Exchange Commission (SEC), in the case of security-based swaps.

All trades will be reported to data repositories, so that regulators will have complete information about all derivatives positions. Data on swap prices and trading volumes will be made public.

The Dodd-Frank Act provides exceptions to the clearing and trading requirements for commercial end-users, or firms that use derivatives to hedge the risks of their nonfinancial business operations. Regulators may also provide exemptions for smaller financial institutions. Even trades that are exempt from the clearing and exchange-trading requirements, however, will have to be reported to data repositories or directly to regulators. This section describes some of the requirements placed on the derivatives market by the Dodd- Frank Act.

Prior to the financial crisis that began in 2007, over-the-counter (OTC) derivatives were generally regarded as a beneficial financial innovation that distributed financial risk more efficiently and made the financial system more stable, resilient, and resistant to shocks. The crisis essentially reversed this view. The Dodd-Frank Act (P.L. 111-203) attempts to address the aspect of the OTC market that appeared most troublesome in the crisis: the market permitted enormous exposure to risk to grow out of the sight of regulators and other traders.

Derivatives exposures that could not be readily quantified exacerbated panic and uncertainty about the true financial condition of other market participants, contributing to the freezing of credit markets. Under Dodd-Frank, risk exposures of major financial institutions must be backed by capital, minimizing the shock to the financial system should such a firm fail. In addition, regulators will have information about the size and distribution of possible losses during periods of market volatility (Miller, Ruane, 2012).

6.1 BACKGROUND OF DERIVATIVES

Derivative contracts are an array of financial instruments with one feature in common: their value is linked to changes in some underlying variable, such as the price of a physical commodity, a stock index, or an interest rate. Derivatives contracts (futures contracts, options, and swaps) gain or lose value as the underlying rates or prices change, even though the holder may not actually own the underlying asset.

Thousands of firms use derivatives to manage risk. For example, a firm can protect itself against increases in the price of a commodity that it uses in production by entering into a derivative contract that will gain value if the price of the commodity rises. A notable instance of this type of hedging strategy was Southwest Airlines' derivatives position that allowed it to buy jet fuel at a low fixed price in 2008 when energy prices reached record highs. When used to hedge risk, derivatives can protect businesses, and sometimes their customers as well, from unfavorable price shocks.

Others use derivatives to seek profits by betting on which way prices will move. Such speculators provide liquidity to the market, they assume the risks that hedgers wish to avoid. The combined trading activity of hedgers and speculators provides another public benefit: "Price Discovery". By incorporating all known information and expectations about future prices, derivatives markets generate prices that often serve as a reference point for transactions in the underlying cash markets.

Although derivatives trading had its origins in agriculture, today most derivatives are linked to financial variables, such as interest rates, foreign exchange, stock prices and indices, and the creditworthiness of issuers of bonds. The market is measured in the hundreds of trillions of dollars, and billions of contracts are traded annually.

Derivatives have also played a part in the development of complex financial instruments, such as bonds backed by pools of other assets. They can be used to create "synthetic" securities contracts structured to replicate the returns on individual securities or portfolios of stocks, bonds, or other derivatives. Although the basic concepts of derivative finance are neither new nor particularly difficult, much of the most sophisticated financial engineering of the past few decades has involved the construction of increasingly complex mathematical models of how markets move and how different financial variables interact.

Since 2000, growth in derivatives markets has been explosive. Between 2000 and the end of 2008, the volume of derivatives contracts traded on exchanges, such as futures exchanges, and the notional value of total contracts traded in the over-the-counter (OTC) market grew by 475% and 522%, respectively. By contrast, during the credit and housing booms that occurred over the same period, the value of corporate bonds and home mortgage debt outstanding grew by only 95% and 115%, respectively. Following the 2008 financial crisis, the total notional value of OTC derivatives globally fell about 13%, but then crept upward again. Total notional values outstanding for OTC derivatives globally fell from \$684 trillion as of June 2008, to \$592 trillion in December 2008, and then rose again to \$648 trillion as of December 2011 (Miller, Ruane, 2012).

6.2 PRE-DODD-FRANK ACT MARKET STRUCTURE AND REGULATION

The various types of derivatives are used for the same purposes: avoiding business risk, or hedging, and taking on risk in search of speculative profits. Prior to the Dodd-Frank Act, however, the instruments were traded on different types of markets. Futures contracts were traded on exchanges regulated by the Commodity Futures Trading Commission (CFTC); stock options on exchanges under the Securities and Exchange Commission (SEC); and all swaps and security-based swaps, as well as some options, were traded over-the-counter, and were not regulated by anyone.

Exchanges are centralized markets where all the buying and selling interest comes together. Traders who want to buy (or take a long position) interact with those who want to sell (or go short), and deals are made and prices reported throughout the day. In the OTC market, contracts are made bilaterally, typically between a dealer and an end user, and there was generally no requirement that the price, the terms, or even the existence of the contract be disclosed to a regulator or to the public.

Derivatives can be volatile contracts, and the normal expectation is that there will be big gains and losses among traders. As a result, there is an issue of market integrity. How do the longs know that the shorts will be able to meet their obligations, and vice versa?

A market where billions of contracts change hands is impossible if all traders must investigate the creditworthiness of the other trader, or counterparty. The exchange market deals with this credit risk problem in one way, the OTC market in another way. How this risk, often called

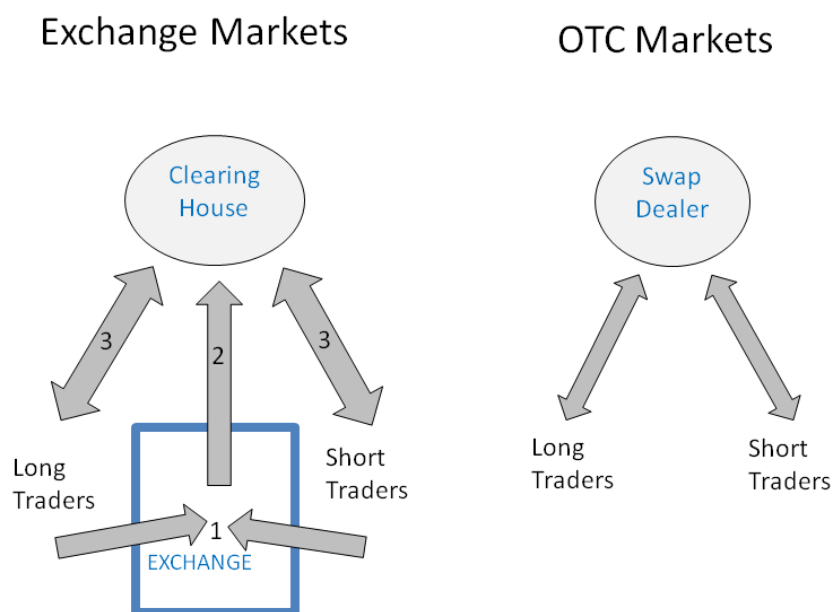
counterparty risk, must be managed was a key element of the reforms implemented by the Dodd-Frank Act (Miller, Ruane, 2012).

6.3 MARKET STRUCTURE FOR CLEARED AND EXCHANGE-TRADED DERIVATIVES

The exchanges deal structure with the issue of credit risk with a clearinghouse is following presented. The process is shown in *Figure 6.1* below.

- 1) Two traders agree on a transaction on the exchange floor or on an electronic platform;
- (2) Once the trade is made, it goes to the clearinghouse, which guarantees payment to both parties;
- (3) In effect, the original contract between long and short traders is now two contracts, one between each trader and the clearinghouse. Traders then do not have to worry about counterparty default because the clearinghouse stands behind all trades.

Figure 6.1 Pre-Dodd-Frank Act Derivatives Market Structures: Exchange and Over-the-Counter (OTC)



Source: CRS 2013

But the credit risk remains, so how does the clearinghouse ensure that it can meet its obligations? Clearing depends on a system of margin, or collateral. Before the trade, both the long and short traders have to deposit an “initial margin payment” with the clearinghouse to cover potential losses. Then at the end of each trading day, all contracts are repriced, or “marked to market,” and all those who have lost money, because prices moved against them, must post additional margin, called “variation” or “maintenance margin”, to cover those losses before the next trading session. This is known as a “Margin Call”: traders must make good on their losses immediately, or their broker may close out their positions when trading opens the next day.

The effect of the margin system is that no one can build up a large paper loss that could damage the clearinghouse in case of default: it is certainly possible to lose large amounts of money trading on the futures exchanges, but only on a “Pay as you Go” basis (Miller, Ruane, 2012).

6.4 MARKET STRUCTURE FOR OTC DERIVATIVES

In the OTC market, as shown on the right side of *Figure 4*, the long and short traders do not interact directly. Instead of a centralized marketplace, there is a network of dealers who stand ready to take either long or short positions, and make money on spreads and fees. The dealer absorbs the credit risk of customer default, while the customer faces the risk of dealer default. In this kind of market, one would expect the dealers to be the most solid and creditworthy financial institutions, and in fact the OTC market that emerged has been dominated by a dozen or so firms, very large institutions like JP Morgan Chase, Goldman Sachs, Citigroup, Bank of America, Morgan Stanley and their foreign counterparts. Before 2007, such firms were generally viewed as too well diversified or too well managed to fail; in 2008, their fallibility was well established, and a pertinent question was whether the government would still consider them to be “too big to fail”.

In the OTC market, some contracts required collateral or margin, but not all. There was no standard practice: all contract terms were negotiable. A trade group, the International Swaps and Derivatives Association (ISDA), published best practice standards for use of collateral, but compliance was voluntary.

Because there was no universal, mandatory system of margin, large uncollateralized losses could build up in the OTC market. Perhaps the best known example in the crisis was AIG, which wrote about \$1.8 trillion worth of credit default swaps guaranteeing payment if certain mortgage-backed securities defaulted or experienced other credit events. Many of AIG's contracts required it to post collateral as the credit quality of the underlying referenced securities deteriorated, but AIG did not post initial margin, as this was deemed unnecessary because of the firm's triple-A rating. As the subprime crisis worsened, AIG faced margin calls that it could not meet. To avert bankruptcy, with the risk of global financial chaos, the Federal Reserve and the Treasury put tens of billions of dollars into AIG, the bulk of which went to its derivatives counterparties.

A key reform in Dodd-Frank Act is a mandate that many OTC swaps be cleared, which means that they will be subject to margin requirements. This will have the effect of combining features of the two market structures shown in *Figure 4* (Miller, Ruane, 2012).

6.5 THE DODD-FRANK ACT: CLEARING AND REPORTING REQUIREMENTS

The Dodd-Frank Act requires that most derivatives contracts formerly traded exclusively in the OTC market be cleared and traded on exchanges. Traders in these products now are required to post margin in the manner described above and have their contracts repriced at the close of each trading day. It is important to note that not all derivatives contracts are required to be traded in this way by the act. The Dodd-Frank Act presumes that some derivatives contracts will still be traded in the OTC market; however, it grants regulators broader powers to obtain information about these derivatives and impose margin and capital requirements on them as well. The CFTC and the SEC have been working to issue regulations that implement these provisions.

Title VII of the Dodd-Frank Act creates largely parallel clearing and exchange trading requirements for swaps and security-based swaps as those terms are defined by Title VII and further clarified by the CFTC and the SEC in a joint rulemaking:

- “Section 723” creates the clearing and exchange trading requirements for swaps over which the CFTC has jurisdiction.

- “Section 763” creates largely parallel requirements for security-based swaps over which the SEC has authority.

If a swap or security-based swap is required to be cleared, the Dodd-Frank Act makes it unlawful for parties to enter into swaps or security-based swaps unless the transaction has been submitted for clearing. There are two ways in which a swap or security-based swap may become subject to the “clearing requirement”.

- 1) In the first way, the agency of jurisdiction is required to engage in an ongoing review of the products it has jurisdiction over to determine whether a particular swap, security-based swap, group, or class of such contracts should be subject to the clearing requirement.
- 2) The second way in which a swap or security-based swap may become subject to the clearing requirement is upon submission to the CFTC or the SEC. In the joint rules issued by the CFTC and SEC further defining swaps and security-based swaps, any person may submit a request to the CFTC or the SEC for a public interpretation of whether an instrument is covered by this title.

Furthermore, when a derivatives clearing organization (swaps) or clearing agency (security-based swaps) decides to accept a swap or security-based swap for clearing, the act requires the organization to submit the transactions to the relevant commission for a determination as to whether the transactions should be required to be cleared. Moreover, upon enactment of the Dodd-Frank Act, all swaps and security-based swaps that were listed for clearing by derivatives clearing organizations and clearing agencies at the time of passage were deemed submitted to the SEC and the CFTC for a determination of whether the clearing requirement should apply.

Following submission to the agencies, the agencies have 90 days to determine whether the swaps or security-based swaps are subject to the clearing requirement, unless the submitting organization agrees to an extension. When making that determination, the agencies must consider:

- 1) The existence of significant outstanding notional exposures, trading liquidity, and adequate pricing data;

- 2) The availability of rule framework, capacity, operational expertise and resources, and credit support infrastructure to clear the contract on terms consistent with material terms and trading conventions on which the contract is then traded;
- 3) The effect on the mitigation of systemic risk;
- 4) The effect on competition, including appropriate fees and charges;
- 5) The existence of reasonable legal certainty in the event of the insolvency of the relevant derivatives clearing organization or one or more of its clearing members with regard to the treatment of customer and swap counterparty positions, funds, and property.

In the process of making these determinations, the agencies are also required to allow the public to comment on whether the clearing requirement should apply.

Should the CFTC or the SEC determine that a particular swap or security-based swap is required to be cleared, counterparties to that type of transaction may apply to stay the clearing requirement until the relevant agency completes a review of the terms of the swap or security-based swap and the clearing requirement. Under the act, upon completing the review, the relevant agency may require the swap or security-based swap to be cleared, either unconditionally or subject to appropriate conditions. The relevant agency may also determine that the swap or security-based swap is not required to be cleared.

With certain exceptions, for example if one of the counterparties qualifies for the end-user exemption, counterparties to swaps and security-based swaps that are required to be cleared must either execute the transactions on exchanges or specialized execution facilities.

With certain exceptions, swaps and security-based swaps that are required to be cleared must also be executed on a regulated exchange or on a trading platform defined in the act as a “Swaps Execution Facility“ (SEF) or a “Security-Based Swaps Execution Facility” (SBSEF). Such facilities must permit multiple market participants to trade by accepting bids or offers made by multiple participants in the facility.

The goal of the trading requirement is to promote pre-trade price transparency in the swaps market. Because the old OTC market was notably opaque, with complete price information available only to dealers, swaps customers were limited in their ability to shop for the best price or rate. The expectation is that as price information becomes more widely available, competition will produce narrower spreads by lowering prices.

SEFs and SBSEFs must comply with a number of core principles set out in the act. While these are somewhat less prescriptive than the regulation of exchanges where public customers are allowed to trade, the new trading facilities have regulatory and administrative responsibilities far beyond what applied to OTC trading desks in the past.

Among other things, SEFs and SBSEFs must:

- Establish and enforce rules to prevent trading abuses and to provide impartial access to the trading facility;
- Ensure that swap contracts are not readily susceptible to manipulation;
- Monitor trading to prevent manipulation, price distortion, and disruptions in the underlying cash market;
- Set position limits;
- Maintain adequate financial and managerial resources, including safeguards against operational risk;
- Maintain an audit trail of all transactions;
- Publish timely data on prices and trading volume;
- Adopt emergency rules governing liquidation or transfer of trading positions as well as trading halts;
- Employ a chief compliance officer, who will submit an annual report to regulators.

During consideration of Dodd-Frank, a central issue of debate was the extent to which existing OTC derivatives trading platforms and mechanisms could be accommodated under the new regulatory regime. OTC trading practices ranged from individual telephone negotiations to electronic systems accessible to multiple participants. One concern was that if SEFs were too much like exchanges, the existing futures and securities exchanges would monopolize trading. On the other hand, if the SEF definition were too vague or general, the OTC market might remain opaque.

The bill reported by the Senate Banking Committee defined SEF as “an electronic trading system with pre-trade and post-trade transparency.” The explicit reference to “pre-trade” transparency does not appear in the final legislation, in part because of concerns that such a requirement was not compatible with the business models of a number of intermediaries, such as interdealer swap brokers providing anonymous execution services.

As is the case with the clearing requirement, Dodd-Frank provides exceptions to the exchange-trading mandate. If no exchange or SEF or SBSEF makes a swap available for trading, the contract may be traded OTC. A swap that meets the end-user clearing exemption is also exempt from the exchange trading requirement.

The CFTC issued a proposed rule, on January 2011, that would further define certain minimum requirements for Swap Execution Facilities. The proposed definition of SEF is parallel to the existing Commodity Exchange Act definition of “trading facility”, a platform where multiple participants have the capacity to post bids and offers to all other parties participating in the facility. The rules would exclude “one-to-one” systems such as telephone voice brokers, and “one-to-many” platforms such as single-dealer trading facilities. Such systems, in the CFTC’s view, are not compatible with impartial access requirements of the statute.

SEFs will provide pre-trade price transparency, the ability for all market participants to see quoted prices before transacting for:

- 1) Trades that must be cleared;
- 2) Swaps that are made available for trading on a SEF;
- 3) Trades that are below the size of a block trade.

Pre-trade transparency requirements will not apply to block trades, end-user trades, or contracts that are not available for trading on a SEF (Miller, Ruane, 2012).

6.6 END-USER EXEMPTION

Sections 723 and 763 of the Dodd-Frank Act provide exceptions to the clearing requirement for swaps and security-based swaps when one of the counterparties to the transaction is not a financial entity; is using the transaction to hedge or mitigate its own commercial risk; and notifies the relevant agency how it generally meets its financial obligations associated with entering into non-cleared swaps. This has been widely referred to as the “end-user exemption” because it applies only to transactions where at least one counterparty is not a financial entity.

A financial entity for the purposes of this section is defined as a swap dealer, a security-based swap dealer, a major swap participant (MSP), a major security-based swap participant, a commodity pool, a private fund, an employee benefit plan, or a person predominantly engaged in activities that are in the business of banking, or in activities that are financial in nature.

To illustrate, a prime example of an entity that would not be a financial entity, but that may engage in swaps trading as a necessary part of the entity's business, would be an airline that regularly trades in fuel derivatives to offset potential volatility in the market for jet fuel. Under the act, eligible counterparties may also use an affiliate (including affiliate entities predominantly engaged in providing financing for the purchase of the merchandise or manufactured goods of the person) to engage in swaps or security-based swaps under the condition that the affiliate act on behalf of the person and as an agent, uses the swap to hedge or mitigate the commercial risk of the person or other affiliate of the person that is not a financial entity.

Financial entities wholly controlled by the end-user and whose primary business is hedging the commercial risk of the end user may also qualify for the end-user exemption. Finally, the act allows regulators to exclude depository institutions, farm credit institutions, and credit unions with \$10 billion or less in assets from the definition of "financial entity," allowing small financial entities, as small banks, to qualify for the end-user exemption as well.

In order to qualify for the exemption from the clearing requirement, it is not enough to be a non-financial entity. The swaps engaged in by the entity must be for the purpose of hedging or mitigating commercial risk. According to the CFTC's final rule defining the end-user exemption, an entity will be engaging in a swap to hedge or mitigate its own commercial risk under the following circumstances.

First, the swap must meet one of the following two criteria:

1. It must be economically appropriate to the reduction of risks conducted by the company;
2. it must qualify as a "good faith" hedge for purposes of being exempt from position limits under the CEA;

Second, the swap must not be used either for a purpose that is in the nature of speculation, investing or trading, or to hedge or mitigate the risk of another swap or security-based swap position, unless that other position itself is used to hedge or mitigate commercial risk.

The application of the clearing exemption provided by Sections 723 and 763 of the Dodd-Frank Act is at the discretion of the counterparty that qualifies for the exemption. Eligible counterparties may elect to clear the transaction, and may choose which derivatives clearing organization or clearing agency shall clear the transaction. If the eligible counterparty chooses to use the end-user exemption, however, the counterparty must disclose the transaction to the relevant regulator and inform the regulator on how it generally meets its financial obligations associated with entering into non-cleared swaps.

The CFTC rules implementing this exemption were issued in September of 2012. However, the final rules officially started to be applied from September 9, 2013, on (Miller, Ruane, 2012).

6.7 MAJOR SWAP PARTICIPANT AND SWAP DEALER DEFINITIONS

A basic theme in Dodd-Frank is that systemically important financial institutions should maintain capital cushions above and beyond what specific regulations require in order to compensate for the risk that their failure would pose to the financial system and the economy. In addition to the margin requirements that apply to individual derivatives contracts, major participants in derivatives markets will become subject to prudential regulation in Title VII of the Act. Two categories of regulated market participants are enumerated: “swap dealers “and “major swap participants”.

Since the OTC dealer market is highly concentrated, the proposal that swap dealers be subject to additional prudential regulation was not controversial. Only a few dozen of the largest financial institutions were presumed to be affected.

Several Major Swap Participants (MSP) definitions were considered in the House; the version of H.R. 4173 that passed the House in December 2009 defined an MSP as a non-dealer holding a “substantial net position” in swaps, excluding positions held to hedge commercial

risk, or whose counterparties would suffer significant credit losses in the event of an MSP default.

Under the House definition, it seemed plausible that relatively few firms would be defined as MSPs (Fannie Mae and Freddie Mac, a few large non-dealer banks and insurance companies, and perhaps a few large hedge funds).

There was an opposite concern: that if the end-user exemption were too broad, and the MSP definition too narrow, significant volumes of OTC trading might escape the new regulatory scheme. Above suggests that if mandatory clearing were applied only to inter-dealer trades in 2009, nearly two-thirds of the market would be unaffected. Nearly half the OTC contracts in 2009 were between a dealer and another financial institution: how many of these would be covered? While only 18% of transactions in 2009 involved nonfinancial counterparties, it was possible that risky trading activities could migrate from banks to nonfinancial firms if the exemption for hedging commercial risk were not in some way circumscribed.

The Senate Agriculture Committee produced another MSP definition, which was included in the bill that passed the Senate. It included “systemically significant” language generally similar to the House’s, but added new prongs to the definition: an MSP would be “any financial institution with a substantial position in any major swap category, or any financial entity that was highly leveraged”. This approach appeared likely to capture many swaps between dealers and other financial institutions, which make up more than half of the swap market.

Eliminating the clearing exemption for financial entities and bringing more financial firms under the MSP definition, as the Senate passed bill did, had the potential to bring nearly all of the swaps trading under the new regulatory regime (the 38% of trades between dealers and the 44% between dealers and other financial institutions). This approach did raise questions of equity, that is, should a small community bank or credit union be subject to more stringent regulation than a giant nonfinancial corporation with a much greater volume of swaps outstanding?

The final version of the legislation made several changes to the MSP definition and the clearing requirement. The “highly leveraged” prong of the MSP definition was amended to clarify that it did not apply to regulated depository institutions, which are normally highly

leveraged. In addition, regulators were given discretion to exempt certain financial institutions with less than \$10 billion in assets from the mandatory clearing requirement.

On May 23, 2012, the CFTC and SEC released a joint final rule further defining the terms “swap dealer” and “major swap participant”. The final rule defines what constitutes a “substantial” position in swaps, for the purposes of being an MSP. The regulators propose a two-pronged test for a “substantial” position.

- 1) “Current exposure” or the current mark-to-market value of a swaps or security-based swaps position, minus the value of collateral posted against the position, constitutes a “substantial position” if the net uncollateralized exposure exceeds \$1 billion, or \$3 billion for interest rate or currency swaps.
- 2) The second test also involves a calculation, this time relating to future exposure. This is calculated by discounting current notional exposure by a risk factor, by the existence of netting agreements, and according to whether the position is cleared or subject to daily margining. A future exposure is “substantial” if it exceeds \$2 billion, or \$6 billion for interest or currency rate swaps.

These quantitative tests for “substantial position” are meant to set a threshold “materially below” the level at which a swaps trader’s default could pose a threat to the financial system.

In the joint final rule, the CFTC’s and SEC’s definition of a swap dealer closely follows the Dodd-Frank definition of a swap dealer. The final rule defines a “swap dealer” as any person, or an entity, who holds himself out as a dealer in swaps, makes a market in swaps, regularly enters into swaps with counterparties as an ordinary course of business for his own account, or engages in activity causing himself to be commonly known as a dealer or market maker in swaps.

The rule also excludes certain swaps used to hedge or mitigate risk, if the risks arise from a potential change in the value of assets a person owns or produces, or services the person provides.

At the same time, the rule includes a de minimus exception. In order for a person to be regarded as a swap dealer, the aggregate gross notional amount of the swaps the person entered into during the prior 12 months in connection with swap dealing activities must exceed \$8 billion during a “phase-in” period. The phase-in period would last two and a half

years from the time data starts being reported to swap data repositories. After this time, the CFTC will undertake a study of the swap markets, and may reduce this de minimus amount to \$3 billion, or may propose a new rule for a different de minimus threshold (Miller, Ruane, 2012).

6.7.1 REPORTING OF SWAPS AND SECURITY-BASED SWAPS

Swaps must be reported to registered swap data repositories or the CFTC. Security-based swaps must be reported to registered security-based swap data repositories or to the SEC. The Dodd- Frank Act requires all swaps to be reported. Swaps and security-based swaps entered into prior to the date of the enactment of Dodd-Frank Act are exempt from the clearing requirement if they are reported in accordance with the act. Swaps and security-based swaps entered into after the enactment of the Dodd-Frank Act, but prior to the imposition of the clearing requirement, are exempt from the clearing requirement if they are reported in accordance with the act.

The CFTC is required to promulgate rules regarding the public availability of such data. Swaps that are subject to the clearing requirement, and swaps that are not subject to the clearing requirement, but are nonetheless cleared at registered derivatives clearing organizations, must have “real-time” reporting for such transactions. Real-time reporting means to report data relating to a swap transaction, including price and volume, as soon as technologically practicable after the time at which the swap transaction has been executed.

The SEC proposed its rule on reporting requirements for security-based swaps, which was published on December 2, 2010. Regulation SBSR (security-based swap reporting) would require security-based swap data repositories to register with the SEC as securities information processors, an existing category of regulated entity. The data that the repositories receive will fall into two categories: one to be made “public” and the other “non-public”. Information to be disclosed to the public will include:

- Information on the asset class and the underlying security;
- The price and notional amount of the security-based swap;
- The time of execution;
- The effective and expiration dates of the security-based swap.

Non-public information (to be available to the SEC) include:

- The identity of the swap counterparty, the broker, and the trading desk;
- Any up-front payments;
- The title of the master agreement (if any);
- A description of the valuation methods to be used;
- Which counterparty will report the contract to the data repository.

Some market participants expressed concerns that “real-time” reporting would be unduly burdensome for large or illiquid trades, where reporting might result in the disclosure of market-sensitive information about holders of large positions and their trading intentions. The SEC, however, proposed a narrow definition of “real-time”.

On April 3, 2012, the CFTC issued a final rule describing reporting, recordkeeping and daily trading records obligations for swap dealers and MSPs. The CFTC’s final rule followed a proposed rule released on December 23, 2010. The CFTC’s final rule calls for electronic reporting to a swap data repository (SDR) of swap data from each of two important stages of the existence of a swap: the creation of the swap, and the continuation of the swap over its existence until its final termination or expiration.

The purpose of this appears to be to create an electronic audit trail of all stages of the swap. The final rule requires swap dealers and MSPs to maintain records of all activities related to the business of the swap dealers or MSPs, regardless of whether they also have a prudential, or banking, regulator, with separate recordkeeping requirements (Miller, Ruane, 2012).

6.8 ANTI-MANIPULATION AUTHORITY

Section 753 also amended the Commodity Exchange Act (CEA) to broaden the CFTC’s anti-manipulation authority and add new prohibitions against false reporting and providing misleading information to the CFTC. Following the enactment of Dodd-Frank, Section 6(c)(1) of the CEA now provides that:

“It shall be unlawful for any person directly or indirectly to use or employ or attempt to use or employ, in connection with any swap or a contract of sale of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity, any

manipulative or deceptive device or contrivance, in contravention of such rules and regulations as the Commission shall promulgate ”

6.9 PROHIBITION ON FEDERAL ASSISTANCE TO SWAPS ENTITIES

Section 716 originated in the Senate Agriculture Committee and was included in the bill that passed the Senate in May 2010. The section prohibited federal assistance, defined as the use of any funds to loan money to, buy the securities or other assets of, or to enter into “any assistance arrangement” with a “swaps entity.” Swaps entities included swap dealers and major swap participants, securities and futures exchanges, SEFs, and clearing organizations registered with the CFTC, the SEC, or any other federal or state agency.

The intent of the provision was to ensure that taxpayer funds would not have to be used to meet obligations of financial institutions engaged in risky derivatives trading. Such activity was deemed too risky to be under the federal safety net that covers insured depository institutions. The Chairwoman of the Senate Agriculture Committee at the time, Senator Lincoln explained it this way:

“This provision seeks to ensure that banks get back to the business of banking. Under our current system, there are a handful of big banks that are simply no longer acting like banks.... In my view, banks were never intended to perform these derivatives activities, which have been the single largest factor to these institutions growing so large that taxpayers had no choice but to bail them out in order to prevent total economic ruin.”

6.10 LAW INVESTIGATIONS, JUDICIAL AND OTHER RESPONSES

Significant law enforcement action and litigation is resulting from the crisis. The U.S. Federal Bureau of Investigation (FBI) was looking into the possibility of fraud by mortgage financing companies Fannie Mae and Freddie Mac, Lehman Brothers, and insurer American International Group, among others. New York Attorney General Andrew Cuomo was suing Long Island based Amerimod, one of the nation's largest loan modification corporations for fraud, and has issued 14 subpoenas to other similar companies. The FBI also assigned more agents to mortgage-related crimes and its caseload has dramatically increased. The FBI began

a probe of Countrywide Financial in March 2008 for possible fraudulent lending practices and securities fraud.

Over 300 civil lawsuits were filed in federal courts during 2007 related to the subprime crisis. The number of filings in state courts was not quantified but is also believed to be significant.

CHAPTER 7

7. TARP ASSESSMENT

7.1 CONSIDERATIONS AND CRITICS

The TARP program has been considered by the public as an "ambiguous measure" because of the multiple ambivalent implications of its implementation. An analysis of conflicting opinions about the rescue program assessment by the US government is presented below.

The newly installed Special Inspector General Christy Romero has overseen everything about TARP. Romero wants all taxpayers to know one thing: TARP was not working out nearly as well as everyone hoped. In fact, in some ways it's made the situation worse. It is a widely held misconception that TARP would have produced profit. The most recent cost estimate for TARP was a loss of \$60 billion. Taxpayers were still owed \$118.5 billion, including \$14 billion written off or otherwise lost. The Treasury had incurred write-offs of \$4.2 billion and realized losses of \$9.8 billion as of March 2012, which taxpayers would never get back, leaving \$104.5 billion in TARP funds outstanding.

According to Treasury, the largest losses from TARP have been registered from housing programs and from assistance to AIG and the automotive industry.

But let's forget for a moment the vast amount of money shelled out. Let's think about the overall changes that have occurred on Wall Street since the crisis and bailout; are they for better or for worse? The financial system didn't completely fail and only two big firms, Bear Stearns and Lehman Brothers, went into bankruptcy. It could have been much worse if AIG's toxic tentacles would have reached the balance sheets of other major financial institutions.

But, it could have gone a lot better too. Focusing on the politics of the crisis and bailout with Hank Paulson, Tim Geithner and Ben Bernanke's handling of the unfolded drama. Paulson has gotten Congress to agree to an emergency \$700 billion bailout. In October 2008, Paulson gathered the biggest bank CEOs in the country including then Merrill Lynch CEO John Thain, Bank of America's CEO Ken Lewis, Wells Fargo chairman Dick Kovacevich, Goldman Sachs' Llyod Blankfein, Morgan Stanley's John Mack and JPMorgan's Jamie Dimon to essentially force on them billions of dollars in bailout money. Not everyone, Kovacevich in particular, wanted or needed it. Nonetheless Paulson injected \$125 billion into those banks that day.

What did the banks have to do in return for the bailouts? Not that much. Here's how economist and Secretary of Labor under President Bill Clinton, Robert Reich, described the terms of the bailout:

“They didn't have to modify any mortgages, they didn't have to put any limits on their salaries, compensation or bonuses. They didn't have to do anything different than what they were doing before. They didn't even have to agree to major regulatory changes. Basically they are sitting fat, pretty and happy.”

As a result, while TARP and other Government responses to the financial crisis may have prevented the immediate collapse of US financial and auto manufacturing industries, and improved stability since 2008, on the other side of the coin, the tradeoff was not without profound long-term consequences as increasing “moral hazard” and potentially disastrous consequences associated with institutions deemed “too big to fail”.

TARP continued to be subject to criticism that the measures had helped large banks but not homeowners. In addition, after 3 years and a half, community banks had an uphill battle to exit TARP because they couldn't find new capital to replace TARP funds; moreover, TARP's legacy included whitecollar crime that SIGTARP has tried to uncover and stop.

It doesn't end there because all that might be slightly okay if there was an indication that financial institutions had learned their lesson, or if regulators and policymakers now were capable of overseeing the activities on Wall Street in a manner than doesn't harm economic activity but that also prevents another blowup. Instead, what resulted was that big banks became even bigger. Numerically, JPMorgan, BofA, Citi, Wells Fargo and Goldman Sachs held \$8.5 trillion in assets at the end of 2011, equal to 56% of U.S. economic output, whereas before the financial crisis they held approximately \$6.1 trillion in assets, equal to 43% of U.S. economic output. As a consequence, today we're still suffering from its bearish effects.

The problem with most U.S. banks in 2008 was not that they were "under-capitalized" but that they held so many shaky sub-prime residential mortgage-backed securities (RMBS), assets which bank regulators insisted were some of the safest assets they could own, because they were "backed" by the taxpayer-backed mortgage GSEs (Fannie Mae and Freddie Mac) and thus required virtually no capital.

Instead of U.S. banks shedding bad assets, merging and raising private capital, TARP compelled them to take unwanted, high-cost capital injections with "attached strings" that

became a noose around their necks. Similarly, the problem with Europe's shakier banks today is not they are "under-capitalized" but that they hold shaky government bonds, issued by Greece, Portugal, Italy, Spain, etc., assets which bank regulators insisted were the safest things they could possibly own, and thus required little or no capital.

Now consider market performance surrounding the passage of TARP on October 3, 2008. If the enactment of the government measures really helped ameliorating the crisis situation wouldn't it suspect that markets must have performed worse before it was introduced and far better afterward? In fact, the exact opposite happened. Due to the recession that began in December 2007, U.S. bank stocks had plunged 49% from early February to mid-July of 2008, but then rebounded sharply (+52%) in the two months through September 6, retracing 76% of the prior peak. That could have marked the end of the banks' bearish run, as they had performed similarly in prior recessions, falling sharply at first, then rebounding in anticipation of a post-recession recovery. But before long markets had to consider not that Washington might "come to the rescue" of the banks but rather that it would decide to run the banks.

The proximate trigger for the panic occurred on September 6, when the U.S. Treasury declared the insolvencies of Fannie Mae and Freddie Mac and then promptly nationalized what had been publicly-traded stocks. On that day the bank stocks in general collapsed yet again.

7.2 PROS AND CONS OF TARP

As already discussed before, the evaluation of TARP rescue program has brought to opposite reaction through insiders and public opinion; Below I decided to bring to the attention some considerations in favor and criticisms arisen after program closure in 2010.

In terms of evaluations in favor of TARP program, here are five ways in which the program has been a success:

1) Economic antifreeze

In propping up major financial institutions, TARP provided relief from the immediate problem of frozen credit markets, according to James Gattuso (2010), a senior member in regulatory policy at the Heritage Foundation, a conservative think: "It served a critical function in terms of providing liquidity at a time that it was needed to counter a panic in financial markets," he says. Doug Elliott (2010), a member of the liberal Brookings

Institution, believes that without government support of financial institutions, the financial crisis would have taken on far greater proportions. "The recession we had would have been substantially worse; millions of people would have been out of work," he says.

2) A government program that costs less than planned

When initially conceived, TARP was intended to purchase or insure \$700 billion of mortgage-backed securities, and initial life-time costs of the program were estimated to potentially reach \$300 billion. The program's aims and costs have evolved drastically, and current numbers show its final costs to be far lower. The most recent numbers from the Treasury Department estimate \$475 billion in total commitments, and estimate TARP's lifetime cost at \$49 billion.

3) Withdrawing money from the banks

The portion of the program specifically devoted to helping banks was particularly successful. The government invested \$245 billion and has gotten \$252 in repayments, a profit of \$7 billion. The major reason for this is that the financial industry has recovered well from the state it was in when TARP was passed.

4) Revitalizing up the Auto Industry

Auto companies bailed out by TARP funds have subsequently shown new signs of health. In 2010, GM saw its largest profits since 1999, and the company has also announced 4,000 new jobs. In addition, Chrysler has paid back more than \$10.6 billion of its \$12.5 billion in TARP loans, prompting Treasury Secretary, Tim Geithner (2010), to pronounce government efforts toward the auto industry as successful: "Because President Obama made the tough decision to stand behind and restructure the auto industry, America's automakers are growing stronger, making new investments, and creating new jobs today throughout our nation's industrial heartland."

5) Save jobs

The Treasury Department said that its recovery initiatives, including TARP, have saved 8.5 million American jobs. In a July 2010 paper, Princeton University Economics Professor Alan S. Blinder and Mark Zandi (2010), chief economist at Moody's Analytics, furthermore estimated that with no government response to the meltdown, 2010 U.S. GDP would have been 11.5 percent lower.

But the program is not without its critics. It has been pointed out that TARP housing initiatives have largely been ineffectual, and that it remains wildly unpopular with a public that resents bailing out institutions that nearly brought the U.S. economy to ruin.

Here are five ways in which TARP has been a failure.

1) Weak prevention of foreclosures

The least successful area of TARP has been its housing initiatives. The Mortgage Loan Modification Plan, which aimed to help homeowners stave off foreclosure, had unsuccessfully given a result, of the \$30 billion the government intended to spend on the program, just over \$1 billion has been disbursed. In a December 2010 report, the Congressional Oversight Panel for TARP estimated that the program would prevent only 700,000 to 800,000 foreclosures, very far from the three to four million that the program had originally hoped to avert. The part of TARP that tried to help homeowners who were having trouble with their mortgages really never got off the ground in the way the administration wanted. Dean Baker (2009), codirector of the progressive Center for Economic and Policy Research, also pronounces a disappointment about the rescue program. "There were a lot of promises made, that it was going to help keep homeowners in their homes, that we'd see all of these modifications. By that score, it certainly failed".

2) A perceived wrong message

By preventing large institutions like Bank of America and Citigroup from failing, the government risked creating a problem of moral hazard, in promoting irresponsible bank behavior that might not occur without the prospect of future bailouts. The special inspector general for TARP (SIGTARP) told that the bailout of large financial institutions promoted a "heads I win, tails the government bails me out' mentality."

Harvard University economics Professor Ken Rogoff (2010) agrees: "The financial sector certainly had a stressful period, but they came out of it with huge profits and huge gains," he says. Baker (2010) says that this has repercussions for the entire banking sector. "Lenders expect government to back them up; they're more comfortable lending to Citi or Goldman than to smaller banks or another borrower".

3) The Fed did the heavy lifting

Baker (2010) says that Federal Reserve programs, such as providing low-interest loans to financial institutions, played an indispensable part in promoting recovery to the financial sector. "We had TARP and on top of that, we had pretty much open access to the Fed through the discount window and the lending facilities. So you had some very, very serious support for the banks," he says. Rogoff (2010) goes so far as to call TARP "symbolic." "The real honest truth is a lot of what was done was done through the Federal Reserve and was really risking taxpayer money through the back door," he says. "TARP essentially put a seal of approval on the general approach of the government to try everything to prop up the financial sector."

4) Toxic politics

While TARP's effectiveness is arguable, it is indisputably an unpopular program with voters. Indeed, the public deeply dislikes the program, even as it fails to understand it. In April 2010, a Pew Research Center poll showed that only 42% of the public believed that TARP helped to prevent a more severe economic crisis.

A poll by Pew also showed, however, that only 34% of people knew that TARP was enacted under President Bush, not Obama. "No politician is going to call for a revival of TARP. It really has been reviled by the public," says Gattuso (2012). Elliott (2012) agrees, calling TARP "the best large federal program ever to be despised by the public." He explains, "The public made up their mind early on. Most politicians won't even try to tackle the program" for fear of being associated with a program that the public roundly rejects.

5) What worked could have worked better

Rogoff believes that the government could have picked up far greater rewards from TARP by taking a tougher approach toward financial institutions. He calls the \$21 billion that the government expects to recover from its bank programs "chump change, compared to what they might have gotten, had they insisted on an equity stake in the financial firms." This greater stake would have given the government far greater returns when companies like Bank of America and Citigroup recovered profits shortly after TARP's inception.

7.3 IMPLICATIONS

Estimates of TARP impact have continued to climb. During April 2008, International Monetary Fund (IMF) estimated that global losses for financial institutions would approach \$1 trillion. One year later, the IMF estimated cumulative losses of banks and other financial institutions globally would exceed \$4 trillion. Francis Fukuyama (2008) has argued that the crisis represents the end of Reaganism in the financial sector, which was characterized by lighter regulation, pared-back government, and lower taxes. Fareed Zakaria (2008) believes that the crisis may forced Americans and their government to live within their means. Further, some of the best minds may be redeployed from financial engineering to more valuable business activities, or to science and technology.

Roger Altman (2009) wrote that "the crash of 2008 has inflicted profound damage on the financial system, its economy, and its standing in the world; the crisis is an important geopolitical setback, the crisis has coincided with historical forces that were already shifting the world's focus away from the United States. Over the medium term, the United States would have to operate from a smaller global platform, while others, especially China, would have a chance to rise faster."

General Electric (GE) CEO, Jeffrey Immelt has argued that U.S. trade deficits and budget deficits were unsustainable. America must regain its competitiveness through innovative products, training of production workers, and business leadership. He advocated specific national goals related to energy security or independence, specific technologies, expansion of the manufacturing job base, and net exporter status. "The world has been reset. Now we must lead an aggressive American renewal to win in the future." Of critical importance, he said, is the need to focus on technology and manufacturing. "Many believed into the idea that America could go from a technology-based, export-oriented powerhouse to a services-led, consumption-based economy, and somehow still expect to prosper," Jeff said. "That idea was flat wrong."

Economist Paul Krugman (2009) wrote: "The prosperity of a few years ago, such as it was , profits were terrific, wages not so much, depended on a huge bubble in housing, which replaced an earlier huge bubble in stocks. And since the housing bubble isn't coming back, the spending that sustained the economy in the pre-crisis years isn't coming back either."

Niall Ferguson (2009) stated that excluding the effect of home equity extraction, the U.S. economy grew at a 1% rate during the Bush years. Microsoft CEO Steve Ballmer (2009) has argued that was an economic reset at a lower level, rather than a recession, meaning that no quick recovery to pre-recession levels could be expected.

The U.S. Federal government's efforts to support the global financial system have resulted in significant new financial commitments, totaling \$7 trillion by November 2008. These commitments can be characterized as investments, loans, and loan guarantees, rather than direct expenditures. In many cases, the government purchased financial assets such as commercial paper, mortgage-backed securities, or other types of asset-backed paper, to enhance liquidity in frozen markets. As the crisis had progressed, the Fed had expanded the collateral against which it was willing to lend to include higher-risk assets.

The Economist wrote in May 2009: "Having spent a fortune bailing out their banks, Western governments will have to pay a price in terms of higher taxes to meet the interest on that debt. In the case of countries, like Britain and America, that have trade as well as budget deficits, those higher taxes will be needed to meet the claims of foreign creditors. Given the political implications of such austerity, the temptation will be to default by stealth, by letting their currencies depreciate. Investors are increasingly alive to this danger".

Senator Chris Dodd (2008) claimed that Alan Greenspan, President of FED till 2006, created the "perfect storm". When asked to comment on the crisis, Greenspan spoke as follows: "The current credit crisis would come to an end when the overhang of inventories of newly built homes would be largely liquidated, and home price deflation would come to an end. That would stabilize the now-uncertain value of the home equity that acts as a buffer for all home mortgages, but most importantly for those held as collateral for residential mortgage-backed securities. Very large losses would, no doubt, be taken as a consequence of the crisis. But after a period of protracted adjustment, the U.S. economy, and the world economy more generally, would be able to get back to business."

CONCLUSION

My research on the implementation of the US Federal Government's rescue plan against major US banks, insurance agencies, as well as the Real Estate and Car segments, which showed critical suffering triggered by the irresponsible credit risk management policy and the dynamic in the granting of mortgage loans, sought to verify the reliability of that resolution plan.

An analysis of the rescue policy quoted on the issue of liquidity within the areas of greatest suffering results has shown how this maneuver could be evaluated as ambiguous, giving rise, on the one hand, to positive developments regarding the survivor bankruptcy of major lenders and the return of financial markets to a proper functioning, on the other hand, showing fragility in the implementation of rescue policies, especially in the real estate sector, so as to raise doubts on the part of public opinion about the real end of the maneuver as a whole.

Taking into account the nature of this crisis, which has emerged through a large country in economic and demographic terms, of great strategic and geopolitical importance globally, the American model is an example of successful rescue. After the "Great Depression" of '29 solved by roosveltian "New Deal", the United States has been able to show its economic-political strength even in a more complex and risky financial environment, the modern one.

From my point of view, I believe that the American rescue plan and the resulting regulations that have been created to prevent the escalation of these issues again, have only temporarily stopped the run of a capitalist-entrepreneurial system in which banks in particular act as principal actors, pouring out the various negative consequences of ruthless economic dynamics on taxpayers.

Human greed in a widely global share optics of gain research has generated increasingly controversial dynamics that aim to raise the size of the world's largest wealth institutions in terms of wealth and decision-making power.

The plan put forward by the US government is therefore a win, as the nation is run by a centralized federal government and has had the partly-enforced authority to implement the proposed maneuvers but raises doubts about the concrete possibilities to find the solution to an economic-financial-social problem that will one day reach astronomical dimensions.

This central power, however, I think can be a double cut weapon in the light of the changes that the American administration is working on. Recently, the newly elected US president, Donald Trump, a former real estate magnate, has put the Dodd-Frank Act into the view as an obsolete law and contrary to the principles underpinning the American imprinting culture of liberalism, as it considers it contrary to economic expansion, and in these months he's trying to change it. The president has blocked two law-enforced powers for six months by two executive orders: the government's power to take over a bankrupt company as well as the power restriction has been eliminated to signal the most vulnerable companies on which to apply more regulation stringent.

In the disturbing view that from the personal point of view lies in the future of our global economy, break into a statement issued not long ago by the newyorker president:

"We will make America great again, we will make it strong again and make it competitive again"

but, Are we so sure it will be so?

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