

Pace University

DigitalCommons@Pace

---

Honors College Theses

Pforzheimer Honors College

---

Spring 5-2009

## The U.S. Economic Crisis: Another "Lost Decade"?

Paula Chungspathorn

Follow this and additional works at: [https://digitalcommons.pace.edu/honorscollege\\_theses](https://digitalcommons.pace.edu/honorscollege_theses)



Part of the [Banking and Finance Law Commons](#), [Economic History Commons](#), [Economic Policy Commons](#), and the [Finance and Financial Management Commons](#)

---

# **The U.S. Economic Crisis: Another “Lost Decade?”**

Name: Paula Chungsathaporn

Email: [pc04532n@pace.edu](mailto:pc04532n@pace.edu)

Graduation Date: May 2009

Major: Finance

Advisor: Professor M. Weinstock

Department: Economics

Address: 63 Wall St, Apt 1314, New York, NY 10005

## **1. Introduction**

America is experiencing the worst economic downturn since the Great Depression originating with problems from mortgage backed securities and seeping into every major sector in the economy. We have witnessed the downfall or government takeover of some of the most powerful companies in the country, contributing to the highest unemployment rate America has seen in decades. During the 1990s, Japan experienced what is commonly referred to as “the lost decade,” a period of prolonged stagnant growth. Many similarities can be drawn between the current U.S. crisis and the Japanese crisis of the late 90s. The macroeconomic conditions that caused the recession, the government aid policies and multiple failures in the banking system appear quite similar. I will compare and contrast the source of each crisis and the measures taken or currently being considered to end the situation. Perhaps by visiting the past we can learn from previous policy decisions and avoid making the same mistakes that hobbled the Japanese economy for almost a decade.

There are many similarities between these two bubbles in America and Japan. Both were fuelled by low interest rates, easy-to-obtain credit and financial liberalization. In the 1980s, Japan began to allow an increase in foreign direct investment which added liquidity to the monetary system. Japan began to increase loans to borrowers who wanted to buy real estate leading to more rapid increases in real estate prices (sjsu.edu). In the U.S., quantitative experts created a variety of exotic financial instruments and derivatives that were extraordinarily complex. These financial instruments which were believed to contain risk ended up creating systematic risks due to the interdependency of banks as counterparties to these transactions.

In comparison, many analysts believe that the U.S. credit crisis is much worse than Japan's. Japan's crisis was more contained within Japanese banks and their economy. While Japan's economy was in recession, the U.S. and other foreign countries continued to enjoy booming economies.

## **2. The Beginning of the End**

Since the end of World War II, Japan encouraged its people to be stringent savers by implementing stringent tariffs and policies. As a result, with more money in the banking system, credit became easier to obtain and the Japanese economy boomed (Cooper 171).

With so much money in the economy and a booming stock market, the 1980s began an era of excessive Japanese spending. Real estate prices rose quickly as speculators took profits from the stock market invested in property. These speculators were mostly Japanese corporations. They drove up the commercial property market at a time when home prices were also inflating.

Official trade figures show that from 1987 to 1991 Japan spent more than 1 trillion yen on art, although art dealers claim that triple that amount may have been spent (Strom A1). In 1989 Mitsubishi Estate, a real estate company of the Mitsubishi Group, bought 50% of Rockefeller Center. Rival electronic companies, Sony and Matsushita, acquired American entertainment giants Columbia Records, Columbia Pictures and MGM Universal. The most startling purchase was by Mitsui Real Estate Company for the Exxon building in New York City. The asking price was only \$310 million but the company paid \$625 million because they wanted to enter the *Guinness Book of World Records* (Kindleberger).

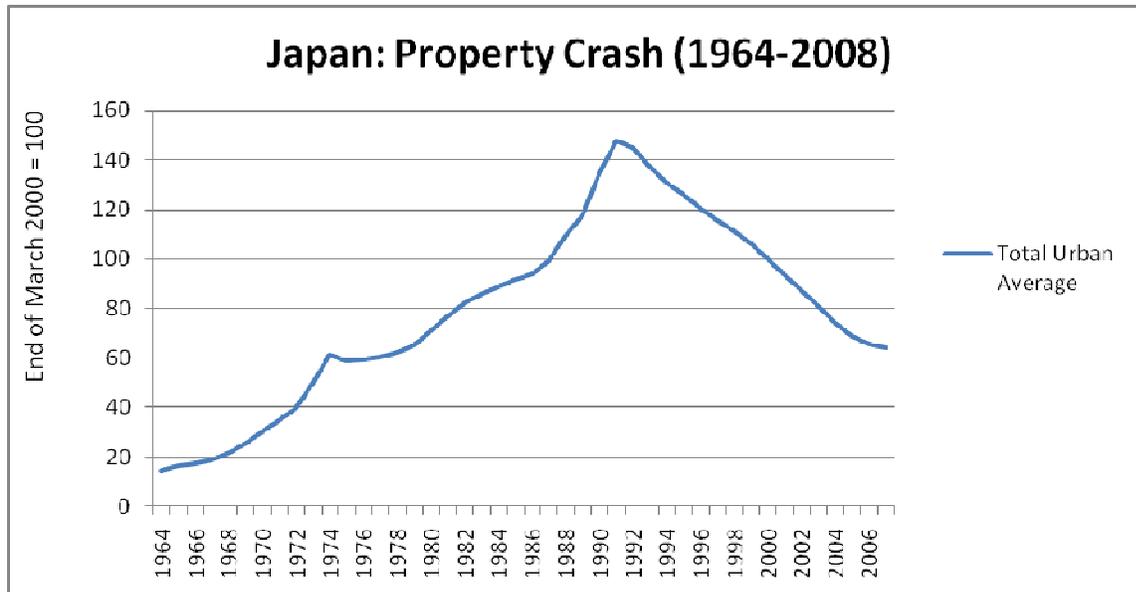
## **2.1 Japan's Real Estate Appreciation and Eventual Decline**

The main similarity in the source of the financial contagion came from peak real estate prices and their eventual decline. During the 1980s, Japan's economy was booming and quickly rose to become the second largest economy in the world. Its gross domestic product grew at an average annual rate of 3.89% compared to 3.07% in the United States during those years (bea.gov). Realizing that boom in the economy was based on unsustainable land values due to excessive borrowing, the Finance Ministry sharply increased interest rates leading to an eventual stock market crash.

The net worth of Japanese real estate, a country roughly the size of California, was about \$18 trillion, or almost four times the property value for the whole United States during the same time period. During this same period, the market value of Japanese stocks was twice that of the U.S., even though their GDP was less than half. The largest investment bank, Nomura, had more capital than five of the largest U.S. investment banks combined. Investments in Japan surged because of the cheap cost of capital due to its rising stock prices in the 1980s. Just like the US, most bank loans were collateralized with real estate so loans payments were kept small as long as real estate prices continued to rise (Kindleberger).

The asset bubble reached its peak in 1989. The governor of the Bank of Japan insisted Japanese banks limit the rate of growth on their real estate loans. Previously, because home prices were so high, people were obtaining cash to pay for their current home loans with new loans from the bank. Once the rate of growth of loans decreased, people could not afford their mortgages. The reduction of easy credit and the subsequent wave of foreclosures caused real estate prices to decline even faster.

During its “Lost Decade” from 1991 to 2003, Japan’s GDP grew by only 1.14% annually, well below that of other industrialized nations (Horioka). The graph below depicts data from the Japanese Statistical Bureau, which shows how Japan’s house prices fell drastically throughout the 1990s (stat.go.jp).



## **2.2 America’s Real Estate Appreciation and Eventual Decline**

The United States experienced a similar boom in property prices. After the “dot com” bubble burst in the late 90s, investors sought to a new investment class: houses. The demand for real estate fuelled mortgage companies to approve more and more people. Many of these people applying for mortgages could buy a house with little to no credit or no down payment, as historically mortgage lenders saw a very low percentage of borrowers default. There was also a large demand from investors to purchase mortgage-backed securities yielding a higher rate than

comparably “risky” assets. As such, mortgage originators were less concerned with the creditworthiness of borrowers as the loan would be quickly sold off their balance sheet.

Home prices steadily increased each year for the next decade. According to the economist Christian E. Weller, the ratio of house prices had increased from the long term average. In his report, “The End of the Great American Housing Boom”, he writes, “In 1952 house prices relative to income was 100%, in 2002 the ratio was 190%.” This increased to over 200% by the end of the year 2006.

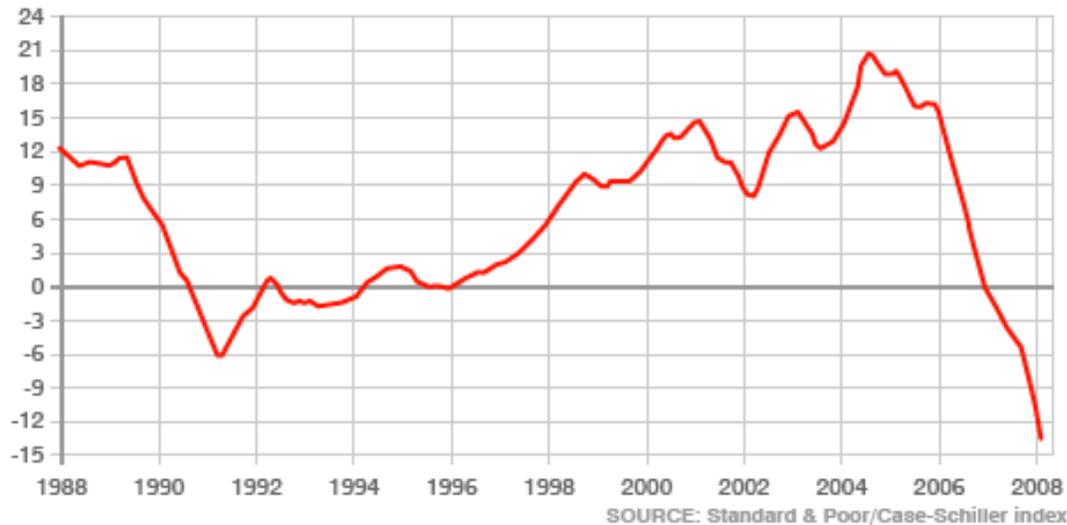
A main difference that contrasts Japan with the U.S. is that in the U.S. liquidity flowed out of the declining equity markets post dot.com and into the historically less volatile housing market. In the U.S. the period leading up to the real estate boom was one of economic contraction causing the Federal Reserve to maintain low interest rates for an extended period of time and encouraging banks to lend in an effort to revive the ailing economy. To the contrary, in Japan the real estate boom was fueled by an existing economic expansion as evident by the booming equity market.

In early 2005, U.S. housing prices peaked and started to decline in 2006 with no bottom in sight. The Federal Housing Finance Agency’s House Price Index (HPI) reported record declines in the fourth quarter of 2008, the largest decline in the index’s 18 year history (FHFA). Due to the higher home prices, it became harder for low income families and first time buyers to afford homes. Those who already had mortgages had to pay a larger percent of their income just to cover their mortgage payments.

The following graph depicts the Percentage Price Change in house prices, year over year. After 2005, prices steeply declined. Increased foreclosures across the nation in 2006 throughout 2007 led to the beginning of the financial crisis.

### US HOUSE PRICES

% yearly change in single family homes, top 20 metro areas



### 3. Cheap Credit & the Abundance of Money in the System

There has been wide speculation over the actual cause of the housing bubble in the United States. The advent of derivatives, complicated and risky financial instruments whose value depends on an underlying asset, was supposedly for better risk management protection. The progression of quantitative analysis over the years has structured these products with such complexity that few can understand their valuations.

Alan Greenspan, former chairman of the Federal Reserve, has been criticized for encouraging the innovative use of financial derivatives. On July 16, 2003, Greenspan told the Senate Banking Committee:

*"What we have found over the years in the marketplace is that derivatives have been an extraordinarily useful vehicle to transfer risk from those who shouldn't be taking it to those who are willing to and are capable of doing so. Prior to the advent of derivatives on a large scale, we*

*did not have that capability. And we often had, for example, financial institutions, like banks, taking on undue risk and running into real, serious problems... (huffingtonpost.com)”*

Armed with derivatives to control risk, the U.S. began exporting credit risk in their risky mortgages by selling collateralized debt obligations or CDOs, investment-grade securities backed by various securities. In this case, it was backed by these risky mortgages that were on the verge of defaulting. Banks believed that if they spread out credit risk to other parties using credit default swaps on CDOs, it would decrease individual loan risk. They believed they were eliminating risk when in actuality they were only converting it into counterparty risk. Since CDOs are guaranteed by the credit of the other party, if they fall through then the holders can't collect and they become junk.

In the past, loans were kept on bank's balance sheets. They had a finite amount to loan and when they reached that point then they simply stopped issuing loans. The advent of derivatives allowed banks to create wealth from almost nothing. Now banks lend money, package these loans and sell off the risk in bundles. This in turn frees up space on their balance sheets so they are free to loan again, creating a vicious cycle.

In both Japan and the U.S.' case, their similarity was cheap credit and an abundance of money in the system. The main difference is how the money got there in the first place. In Japan's case, it was a culture of careful saving and banks ending up with large reserves of liquidity. In the U.S., the mentality was consumption and not conservation. With large supplies of money in the system, mortgage rates were kept low because of the demand of homebuyers. Banks wanted to profit from this demand, packaging and selling off the mortgages to profit on the spread. Therefore people were taking out mortgages and buying up assets they could not really afford. Eventually they could not meet their payments and because of the high defaults on

loans, the values of these assets were depreciating. To make matters worse, innovative financial instruments had created wealth in the economy based on these unreliable assets.

#### **4. The Peak of the Crisis**

Japan's crisis was at its peak in early November 1997. Sanyo Securities, a securities firm, declared bankruptcy resulting in Japan's first interbank loan default. Other banks were not able to borrow in the interbank market and soon followed. Tokyo City Bank and Hokkaido Tokushoku, large banks, and Yamaichi Securities, one of the four major securities dealers declared bankruptcy before the end of the month ("Sanyo" A4).

In the U.S., September 2008 is known to many as the peak of the crisis to date with its multiple bankruptcies and near-failures of large banks and corporations. Lehman Brothers was the first bulge bracket investment bank to default on its interbank loan and declared bankruptcy. Suddenly it became harder to borrow in the interbank market, the same situation that occurred in Japan in November 1997. However the U.S. government was much quicker than the Japanese to react and quickly took control over federal mortgage companies, Fannie Mae and Freddie Mac, and injected funds into AIG, the world's largest insurance company (huffingtonpost.com).

#### **5. Government Takes Charge**

The situation worsened in Japan and before the end of 1997, the government made an announcement that they would inject 10 trillion yen into the banking sector. In the meantime while the allocation of the funds was being discussed, the government allowed accounting

changes for banks to make their financial statements seem better than they really were (Hoshi 4). As a result, banks inflated the value of assets by recording them at book value when they were really sold and repurchased for far below it.

The U.S. did not initially have accounting changes. Because of mark-to-market accounting procedures, which means securities must be priced on a daily basis to confirm that margin requirements are being met, banks could not hide the fact that they had non-performing loans. This led to the constant massive company write downs being reported in the news. As discouraging as this was, the truth helped the government to realize the gravity of the situation and react earlier than the Japanese.

### **5.1 Japanese Asset Management Companies**

The Japanese used asset management companies as part of their recapitalization program to increase capital in banks. These asset management companies used funds from the government to buy bad assets from troubled banks. The banks could then recognize them as losses immediately and generate tax benefits. In the early 1990s, Japanese asset management companies were supposed to sell the loans they purchased, but in the early 1990s they did this very slowly. In the first five year, the Cooperative Credit Purchasing Company, established in December 1992, only sold a third of their bad loans. Only after 1998, the height of the crisis, did this process speed up (Hoshi 8).

The first asset management company that used government funds was established in January 1995 and was called Tokyo Kyodo Bank. The central bank of Japan financed more than 90% of its capital. Tokyo Kyodo Bank and other asset management companies using

government money only bought bad assets from failed companies and not from solvent banks. Only after 1999, when the asset management companies were merged to create the Resolution and Collection Corporation, did the government allow them to buy assets from solvent banks as well. The objectives of this new corporation were to restructure the borrowers behind the non-performing loans and to start selling and collecting the loans aggressively, resulting in many of the loans being sold for a profit. The total revenue the Resolution and Collection Corporation was able to earn was almost 6.2 trillion yen (Hoshi 9).

Asset management companies were a huge part of Japan's recapitalization program, however they were some problems that hindered its efficiency. For example, in the beginning they were only allowed to purchase loans from failing companies and not solvent companies with bad loans. They continued to prop up "zombie" businesses when they could have been aiding banks that stood a better chance of surviving the crisis. Also, their range of operations was too small compared to the amount of loan losses in Japan. The asset management companies were not given enough money from the government to make a drastic change. They were also too slow in selling and collecting on the bad loans in the beginning, only speeding up when the situation worsened. It was only after 2000 did they start to restructure the bad loans, a vital step they should have began sooner. Overall, although asset management companies were able to take off non-performing loans from bank's books, they were still unable to help banks recapitalize.

## **6. Recapitalization Programs**

On February 16, 1998 the Financial Function Stabilization Act was passed in Japan, and allowed the government access to 30 trillion yen, 17 trillion would be used for protecting

depositors of failed banks and 13 trillion yen would be used toward bank recapitalization (frbsf.org). Although 1.8 trillion yen was used to recapitalize major banks the following month under this act, the situation could still not yet be contained. The public soon grew disgruntled with the government's efforts and in June 1998, the incumbent government led by Prime Minister Ryutaro Hashimoto was replaced by Keizo Obuchi. The new government set about on developing new strategies to tackle the financial crisis. The new legislature between the government and the leading opposition party agreed to undertake both insolvent institutions and to help solvent, but under-capitalized banks. Banks, such as Long-Term Credit Bank of Japan and Nippon Credit Bank, were therefore nationalized under this new structure.

In March 1999, the Prompt Recapitalization Act, the second major recapitalization of the banks went into effect. The government injected 8.6 trillion yen and purchased mainly preferred shares from the banks, decreasing the Japanese premium and creating some minor growth. Results from a TANKAN survey which was conducted quarterly by the central bank on lending attitudes showed an increase of confidence in credit availability from 1999 onward.

As for the U.S., after the tumultuous month in September 2008 the Emergency Economic Stabilization Act into signed in October and created the Troubled Asset Relief Program (TARP). TARP was meant to use \$700 billion of taxpayer money to buy up troubled, difficult-to-value assets from banks and other financial institutions much like Japan did using asset management companies (frbsf.org).

However, on October 14<sup>th</sup>, the Secretary of the Treasury Henry Paulson announced revisions to the TARP which resulted in buying senior preferred shares in the nine largest American banks. Many economists argued that this did not target what was initially planned and would encourage banks to lend inefficiently.

### **6.1 Japanese Capital Injection Programs**

In addition to using asset management companies to buy up bad loans, the Japanese government was also injecting capital into banks. Starting in the late 1990s, the government went through a series of capital injection programs, which can be seen in the table on the following page (Hoshi 33):

### Capital Injection Programs in Japan

<b>Legislation</b>	<b>Date</b>	<b>Securities Used</b>	<b>Number of financial institutions</b>	<b>Capital Injected</b>
Financial Function Stabilization Act	March 1998	Preferred shares, subordinated debt	21	1.816 trillion yen
Prompt Recapitalization Act	March 1999 – March 2002	Preferred shares, subordinated debt	32	8.605 trillion yen
Financial Reorganization Promotion Act	September 2003	Subordinated debt	1	6 billion yen
Deposit Insurance Act	June 2003	Common shares, preferred shares	1	1.96 trillion yen
Act for Strengthening Financial Functions	November to December 2006	Preferred shares	2	41 billion yen

Many banks were initially against the capital injection programs. Banks were afraid that if they applied for government funding, they would have to admit to larger losses than they had previously revealed or they were unable to raise capital from other sources. This would be a sign of weakness to their shareholders and it could decrease the value of their existing equity. This was also the case for the U.S. Because accepting TARP funds, they had to follow new, stricter regulation, such as restricting executive pay. Recently, some financial institutions including JPMorgan Chase, Goldman Sachs and Wells Fargo expressed that they wanted to repay their TARP loans quickly, most likely so that they would not have to follow regulation. The cap on executive pay and bonuses has caused some of the bank's top talent to find jobs elsewhere (Appelbaum, pars. 6-7).

The Japanese government finally convinced the major banks to each apply for almost an identical amount of capital so that the neither one could appear to be the most in distress. For the first recapitalization program, the amount each bank applied for was roughly 100 billion yen. This was amount Bank of Tokyo Mitsubishi, the healthiest bank, had asked for. Therefore, for most of the other banks the 100 billion capital injection was nowhere near enough what they needed to restore their capital (Montgomery, et al. 4).

The second recapitalization program was much larger and included all the major banks except the healthiest, Bank of Tokyo Mitsubishi. This time, the government actually thoroughly examined each company and determined whether the capital each bank applied was adequate. The government never turned down an application but at least this program was better thought out and executed than the first.

An issue with the government's recapitalization program was that the preferred shares the government had purchased gave them the choice to convert them into common shares during a

certain time period. And if the government still maintained any preferred shares at the end of this period, they would all be automatically converted into common shares.

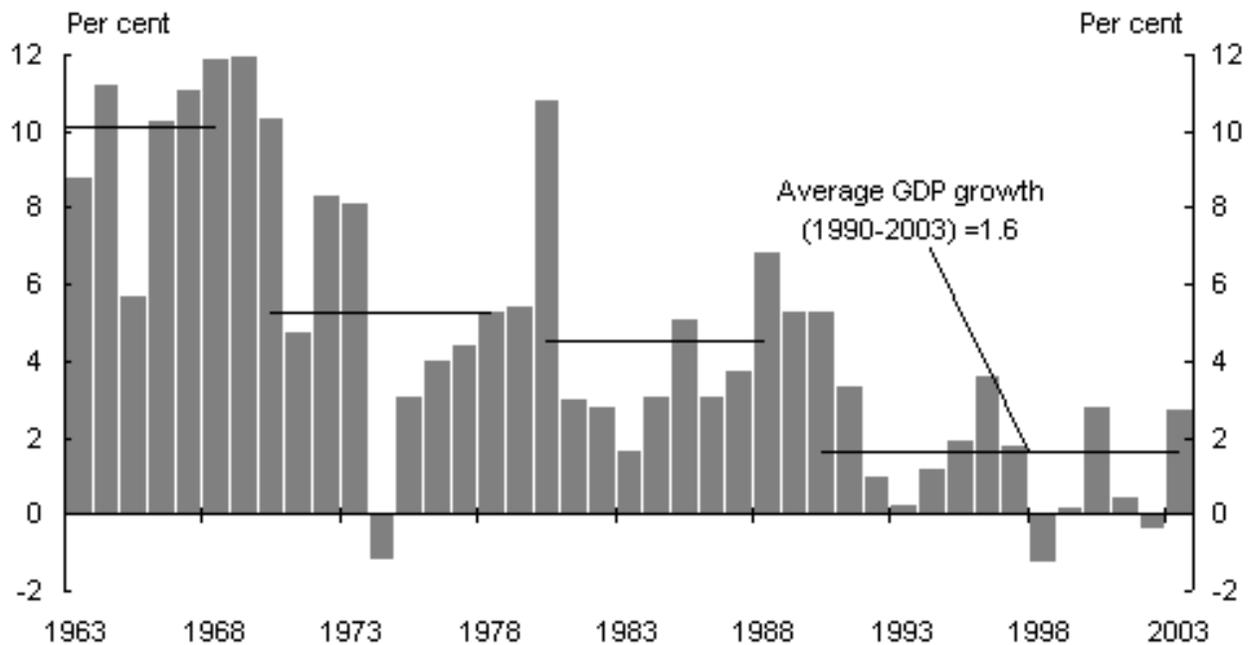
The remaining recapitalization programs were of a smaller scale. The last notable one, the Act for Strengthening Financial Functions, passed in June 2004, allows the government to inject banks with capital anything they feel is necessary (“Cabinet Orders”). Although the government’s recapitalization efforts did not do much to increase bank’s capital, it did have a reassuring effect on the financial markets. After 1999 the Japanese interbank lending rate decreased substantially, as can be seen in the following chart:

## **7. Japan: Getting Back on Track**

Overall, there were several reasons why the banks remained undercapitalized. For one, the programs were too small of a scale and the government did not inject enough money into the programs. The largest recapitalization program, the Prompt Recapitalization Act, injected only 8.7 trillion yen, which was equal to only about 1% of all banks’ assets. And even after the Japanese regulators nationalizing major banks, they still allows banks will massive amounts of non-performing loans on their books to continue operating.

A commonly criticized mistake Japan committed was that they propped up failing businesses for far too long with too little capital and should have concentrated on increasing capital in solvent and stable banks. This caused banks to ignore their mounting losses and pretend that everything was fine on the surface, seriously hindering Japan’s recovery for many years. The Japanese government also lost credibility and trust from the financial industry for its actions (Morris 142).

In late 2002, Heizo Takenaka, the newly appointed head of government financial reform efforts announced the Financial Revival Program that called for the “tightening assessment of assets, enhancing capital adequacy and strengthening governance of major banks.” Through reorganizing troubled borrowers, banks were able to decrease the amount of their non-performing loans from 2003 to 2005. GDP began to rise in 2003, as seen below:



Japan GDP growth: [http://www.treasury.gov.au/documents/817/images/05\\_article\\_4-18.gif](http://www.treasury.gov.au/documents/817/images/05_article_4-18.gif)

According to Edward J. Lincoln, director of the Center for Japan-U.S. Business and Economic Studies at New York University, in the 3<sup>rd</sup> quarter of 2003 corporate fixed investment was 16.6 percent of GDP. In comparison, corporate investment in the U.S. at that same time was only 10 to 12 percent. This was a sheer indication that Japan was on its way back to economic growth (Lincoln, par 10).

## 8. Conclusion

The Federal Open Market Committee (FOMC) described the current situation in the U.S. as almost similar to that of Japan's. In an October 2008 meeting, the FOMC said:

*“Participants were concerned that the negative spiral in which financial strains lead to weaker spending, which in turn leads to higher loan losses and a further deterioration in financial conditions, could persist for a while longer.”*

In both bubble bursts, when property prices began to fall nationally, borrowers defaulted on their mortgages and banks cut their lending. The result in Japan was a “lost decade” with an average growth of less than 1%. This does not seem likely for America. The government has acted faster, learning from Japan's mistake a decade ago.

Till now, the original TARP plan has still not yet gone into effect. The government continues to use TARP money to buy preferred shares of banks as seen in the latest Transaction Report, which details the allocation of bailout funds, released April 22, 2009. On March 23, 2009, the Public-Private Investment Program (PPIP) was introduced to buy out toxic assets and relieve them from financial institution's balance sheets. Implemented by US Treasury Secretary Timothy Geithner, the PPIP has run into many delays (Carney).

The current issue resolving the U.S. credit crisis is a disagreement of pricing. The government want to purchase bank's non-performing loans at fair market values but banks are reluctant because they don't want to take further asset write downs. Also, “shareholders in banks will require any buyer to pay for the lost volatility as well as the market price of the toxic assets. Thus, taxpayers must be ready to richly overpay if they want banks to voluntarily part with their

toxic assets (Wilson).” If US banks sell at the government’s asking price, their loan portfolios will devalue and can wipe out their equity capital.

Although Japan may have begun this similar process using asset management companies, the results were not what were hoped for. The key problems for them were that their range of operation was much too small and did not use enough funds for the gravity of the situation. Learning from this, it is understandable that the U.S. chooses to take its time with initiating similar programs. It is imperative that the U.S. begin taking off these toxic assets from the books of financial institutions but they also must aid banks in recapitalizing, a major problem Japan had faced earlier.

The U.S. should incorporate its strengths and advantages in vital economic times like this. The U.S. is an internally driven economy, thanks to its citizens being inherent consumers. To stimulate the economy, the U.S. needs to do what comes natural to them: spend. Unfortunately, this will not instigate until confidence levels are increased, just like Japan’s did in early 2000. This requires a balance between government intervention using TARP and PPIP and willingness to negotiate from banks. Regrettably, our economy has expanded much larger than was necessary and many more banks and companies will continue to fail until this economic crisis is contained.

Recently the Federal Bank introduced the Supervisory Capital Assessment Program, also known as the bank stress tests, to assess which banks have sufficient capital to protect themselves during a prolonged economic slump. Tests are expected to yield results in the next few weeks and may well be the beginning of “what could become a significant new infusion of government cash into the banking system (Solomon, et al. A3).”

If history is an indication of possible future outcomes, then the U.S. must formulate their government assistance plans to include the companies and sectors that need the most aid and not prop up zombie banks, focusing only on solvent financial institutions have stand a better chance of weathering the recession.

## Works Cited

- “Alan Greenspan: The Oracle or The Master of Disaster?” The Huffington Post. 19 February 2009. 20 March 2009 <[http://www.huffingtonpost.com/2009/02/19/alan-greenspan-the-oracle\\_n\\_168168.html](http://www.huffingtonpost.com/2009/02/19/alan-greenspan-the-oracle_n_168168.html)>.
- Appelbaum, Binyamin. "Banks Rush to Repay U.S. Funds, but Cling To Other Lifelines." The Washington Post. 17 Apr. 2009. 25 March 2009 <<http://www.washingtonpost.com>>.
- The Bubble Economy of Japan*. San Jose State University Department of Economics. 2 March 2009 <<http://www.sjsu.edu/faculty/watkins/bubble.htm>>.
- “Buffett Warns on Investment ‘Time Bomb.’” BBC News. 4 March 2003. 5 March 2009 <<http://news.bbc.co.uk/2/hi/business/2817995.stm>>.
- Carney, John. “Geithner’s PPIP Toxic Asset Plan Hits Snags, Gets Delayed.” The Business Insider. 6 April 2009. 14 April 2009. <<http://www.businessinsider.com/treasurys-toxic-asset-plan-hits-snags-gets-delayed-2009-4>>.
- Cooper, George, *The Origin of Financial Crises*. New York: Vintage Books, 2008.
- Fackler, Martin. “Take It From Japan: Bubbles Hurt.” *The New York Times* 25 December 2005: 3.
- Federal Housing Finance Agency. *Record Home Price Declines in Fourth Quarter; Isolated Pockets of Strength*. Washington, DC, 24 February 2009.
- Financial Services Agency. *Cabinet Orders and Cabinet Office Ordinances Concerning the 2009 Amendment of the Financial Instruments and Exchange Act*. Tokyo, Japan. January 2008. <<http://www.fsa.go.jp/en/newsletter/2009/01b.html>>.
- Horioka, Charles Yuji. “The Causes of Japan’s Lost Decade.” *Japan & The World Economy* June 2006.
- Hoshi, Toshi. Will the U.S. Bank Recapitalization Succeed? Lessons from Japan. University of California, San Diego, 2008. AEAweb. Decemeber 2008. American Economic Association. 25 March 2009 <<http://www.aeaweb.org>>.
- “Japan’s Sanyo Securities Goes Bankrupt.” Agence France-Presse. 2 November 1997. 19 March 2009.
- Kindleberger, Charles P. and Aliber, Robert. *Manias, Panics, and Crashes: A History of Financial Crises, 5<sup>th</sup> Edition*. New Jersey: John Wiley & Sons, Inc., 2005.
- Lincoln, Edward J. “End of the Lost Decade?” Newsweek Japan. 14 January 2004. 25 March 2009 <[http://www.cfr.org/publication/6610/end\\_of\\_the\\_lost\\_decade.html](http://www.cfr.org/publication/6610/end_of_the_lost_decade.html)>.

*The Lost Decade – Japan’s Economic Crisis*. Japan-101 Information Resource. 4 March 2009  
<[http://japan-101.com/history/history\\_lost\\_decade.htm](http://japan-101.com/history/history_lost_decade.htm)>.

Ministry of Foreign Affairs of Japan. *Program for Financial Revival*. Tokyo, Japan. 30 October 2002. <<http://www.mofa.go.jp/policy/economy/japan/program0210.html>>.

Ministry of Internal Affairs and Communications: Statistics Bureau. 4 March 2009  
<<http://www.stat.go.jp/english/>>.

Montgomery, Heather and Shimizutani, Satoshi. The Effectiveness of Bank Recapitalization in Japan. May 2005. Asia-Pacific Economic Association. 25 March 2009  
<<http://www.apeaweb.org>>.

Morris, Charles R. *The Two Trillion Dollar Meltdown*. United States: PublicAffairs, 2008.

*National Economic Accounts*. Bureau of Economic Analysis. 4 March 2009  
<<http://www.bea.gov/national/index.htm#gdp>>.

Spiegel, Mark M. and Yamori, Nobuyoshi. The Impact of Japan’s Financial Stabilization Laws on Bank Equity Values. Federal Reserve Bank of San Francisco, 2002. Economic Research and Data. August 2002. Federal Reserve Bank of San Francisco. 25 March 2009  
<<http://www.frbsf.org>>.

Solomon, Deborah and Hilsenrath, John. “Bank Capital Gets Stress Test.” *The Wall Street Journal*. 26 February 2009: A3.

Strom, Stephanie. “Art Bought During Boom Leaves Japan After Bust.” *The New York Times* 19 August 1999: A1.

U.S. Federal Reserve. *Minutes of the Federal Open Market Committee*. 28-29 October 2008. 14 April 2009. <<http://federalreserve.gov/monetarypolicy/fomcminutes20081029.htm>>.

*US House Prices*. Standard’s and Poor. 5 March 2009. <<http://standardsandpoor.com/>>.

Weller, Christian E. “The End of the Great American Housing Boom: What it Means for You, Me and the U.S. Economy.” *Center for American Progress* December 2006.

Wilson, Linus. “The Put Problem with Buying Toxic Assets.” University of Louisiana at Lafayette. 24 April 2009. 1 May 2009.

Zibel, Alan. “Government Plans Takeover Of Fannie Mae, Freddie Mac.” The Huffington Post. 5 September 2009. 20 March 2009  
<[http://www.huffingtonpost.com/2008/09/05/government-nears-deal-to\\_n\\_124405.html](http://www.huffingtonpost.com/2008/09/05/government-nears-deal-to_n_124405.html)>.