Abstract

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Causes of the Panic of 1907 and Its Implications for the Future
(Under the Direction of Dr. Fred Bateman)

There is significant knowledge that one can glean from the Panic of 1907, as it was the recession that led to the creation of the Federal Reserve and the passage of the Clayton Act. This paper will explore the causes of the Panic of 1907 by expanding upon previous research.

A significant portion of this research will explore the international economy in 1907, as the Panic of 1907 began abroad and spread to the U.S. The U.S. moved completely to the gold standard in 1900, the economy became more dependent on international markets. While economists know that there was some disturbance in the European market prior to autumn 1907, the extent to which international interdependency caused the Panic in the U.S. to spread is less certain.

Additionally, there are some similarities between the 1907 recession and today's recession. The market in the early 1900s was greatly impacted by an influx of new financial instruments that encouraged people to invest. Similarly, the credit default swaps market grew significantly in the past few years. While the U.S. lacked a central bank in 1907, there is still much to be learned about the solutions employed to end the Panic. For instance, one of the early attempts to end the Panic involved giving money to banks—the same solution utilized by the Federal Reserve today. In determining the causes of the Panic of 1907 and evaluating the attempted solutions to end the Panic, I research hope to shed some light on today's recession.

INDEX WORDS: The Panic of 1907, Recession, Gold standard, The Federal Reserve, National Banking Act, Credit default swaps, Secretary of the Treasury, Bank of England, Knickerbocker Trust Company

CAUSES OF THE PANIC OF 1907 AND ITS IMPLICATIONS FOR THE FUTURE

By

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A Thesis Submitted to the Honors Council of the University of Georgia
in Partial Fulfillment of the Requirements for the Degree

BACHELOR OF BUSINESS ADMINISTRATION

in ECONOMICS

and FINANCE

with HIGH HONORS

Athens, Georgia

2010

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ACKNOWLEDGEMENTS

I thank my advisor, Dr. Fred Bateman, for giving me the opportunity to work in a very interesting area, and for his support and guidance throughout my undergraduate studies at the University of Georgia. In addition, a thank you to Dr. Myra Moore who introduced me to studies in economic history, and who sparked my interest in the subject.

I thank Dr. David Robinson for editing this work and the UGA Librarians for helping me find resources to gather my research.

Finally, I thank my friends who helped me edit this thesis and acquire the necessary resources. A special thank you also to my parents and siblings for their love and support throughout my collegiate career, especially in the last semester during which this thesis was written.

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CHAPTER ONE
TWENTIETH CENTURY BANKING IN THE UNITED STATES

To truly appreciate the Panic of 1907 and its implications for the future, one must understand the economy in the early 20th century. The issues in the banking sector left United States banks vulnerable to a “run on the bank,” which occurred when a large number of bank customers suddenly withdrew their deposits. Typically, a run on the bank occurred when depositors believed that a bank may become insolvent. A “panic” ensued when several banks suffered runs at the same time and had the potential to cause an economic recession. However, the problems in the banking sector merely compounded the United States’ exposure to the international markets. When a recession in Europe began, it spread to the United States, which was exposed through both the international trade markets as well as the intrinsically linked monetary system.

As the United States did not have a central bank, clearing houses provided the banking system with some stability. Clearing houses were financial institutions that exchanged specie or local bank notes. The most well known clearing house during the Progressive Era was the New York Clearing House. Clearing houses settled bank, railroad, and stock and commodity transactions. They also helped settle international payments. To allow a clearing house to clear for a bank, the bank had to put in a deposit and agree to become a member of the clearing house’s system. If a clearing house was willing to clear for a bank, it was a positive sign because it meant that the bank had enough funds to back up its notes. When a clearing house decided not to clear for an institution, it generally caused a run on the bank or banks. In this way, the clearing houses served as a lender of last resort to all of their members.

The United States economy began to encounter some economic stress in 1905 and 1906 (Richard McCulley, 1992, p. 119). The Roosevelt administration and New York's financial leaders on Wall Street began to propose a central bank (McCulley, 1992, p. 119). The United States had not had a bank since President Andrew Jackson allowed the charter for the Second United States National Bank to expire in 1836. The world was now experiencing rapid industrial expansion, especially in the United States and Germany, and credit became tighter, thus straining the money markets in the United States (McCulley, 1992, p. 120). The Arms Race caused a strain on national treasuries, as the country was forced to spend money on the advancement of military technology to ensure national security. By 1906, "finance bills" or credit to the United States was estimated to be $500 million (McCulley, 1992, p. 121). However, Wall Street believed that the economy would continue to grow and stock prices would continue to increase.

The National Banking Act, originally passed in 1864, was considered an important step towards reforming banking in the United States. The Congress at the time viewed the banking industry as more of a commercial bank than an investment bank, and the National Banking Act reflected that thought process (Robert West, 1977, p. 18). The National Banking Act established national banks as a form of commercial banks and gave them the capability of issuing a new type of bank note backed by United States government bonds at face value. Congressmen wanted to create a single currency within the United States because after the Civil War there had been several forms of specie used within the country. Therefore, by backing the national banks with a United States Treasury five percent redemption fund, the United States could take more control over its monetary system (Jeremy Atack and Peter Passell, 1979, p. 503). Additionally, the National Banking Act limited the total amount of notes that banks could issue as a whole while separating the issuance and redemption functions.

The National Banking Act also addressed an issue that American banks had often experienced in the past: over-issuance. Minimal capital requirements were instituted to ensure that banks had enough capital to service the amount of business they were expected to acquire (West, 1977, p. 19). This minimum capital requirement operated on a tiered system, and a part of the problem with the minimum capital reserve requirement was that reserves were not limited to gold. Rural-based banks or “country banks” often invested in city banks through call loans for clearing house purposes and to redeem notes (West, 1977, p. 38). Country banks were allowed to keep a percentage of their required reserves as deposits with correspondent city banks. City banks could also do this with central reserve city banks. Only central reserve city banks, like those banks in New York City, were required to hold all legal reserves as gold.

For the most part, problems with the tiered reserve system arose in the fall months of the harvest season. The banks benefited from the profit opportunities that exceeded the interest charge of attracting deposits and were able to obtain these opportunities through “call loans” which were available on the stock exchange (West, 1977, p. 130). Call loans, however, were not very liquid. Rural bank customers came to request gold during the harvest. For every dollar of gold paid to a rural bank customer, three dollars of reserves were lost by the system as a whole because money was triple counted in the tiered reserve system. If a large number of banks decided to call back the loans at the same time, the trading on the stock market might cease, thus making the call loans uncollectible. Thus when rural bank customers made a run on the bank, many country banks would call back their call loans at the same time, causing the call loans to become uncollectible. As the country banks were unable to collect on their loans, they went bankrupt in high numbers, which disturbed the economy as a whole.

A significant feature of the National Banking Act was that it created the office of Comptroller of the Currency within the Treasury Department. The Comptroller of the Currency oversaw “general administration” (Leonard Helderman, 1980, p. 143). Note issues were secured by a deposit of bonds with the Comptroller of the Currency (Helderman, 1980, p. 149). With this security measure, paper money could circulate and represent an “equal value of collateral,” which would make it easier for banks to deposit bonds or other securities while providing the opportunity for a productive investment. However, the problem with this ability to deposit bonds was that the securities deposited were not assets that were immediately available. As such, most bank notes were not stable. Bank notes also varied in proportion to the collateral’s quality and also its general availability.

The banking sector had been exposed to problems via the National Banking Act. An important problem with the Act was that it did not cover all banks. The popularity of state banks had declined during the Civil War, and Congress hoped that this trend would continue. As such, state banks were allowed to continue functioning, and it was believed that eventually national banks would replace the state ones. State banks, however, became more popular after 1870 and soon outnumbered the national banks in the country. The tiered system of banking, which included city banks, country banks, and reserve banks, made it more difficult for national banks to compete with state banks. State banks could perform several different functions, while national banks were more limited by the higher reserve requirement. The biggest problem with the National Banking Act was that it had no provision for the creation of additional legal tender in a crisis time, which caused the "problem of inelastic currency" (Atack and Passell, 1979, p. 515). Essentially, specie was fixed in the short term and there was no lender of last resort. Therefore when a bank went bankrupt, which was often pre-Federal Reserve, there was no lender to which to turn.

The formation of trust companies took advantage of the exposure of the banking sector. Trust companies were originally formed as corporations to serve the wealthy by protecting their assets via safeguarding deposits and providing insurance (Atack and Passell, 1979, p. 509). However, by the early 1900s, trust companies had evolved. These companies became a critical part of the merger movement as they began acting more like banks because they could supply commercial banking services. The trust companies put significant pressure on state banks to the point that there were no state banks chartered in Maine, Massachusetts, and Vermont at the turn of the century (Atack and Passell, 1979, p. 510). Trust companies were not required to keep adequate reserves, thus providing a threat to credit structure of the United States (Esther Taus, 1943, p. 121). Trust companies had the additional benefit of being allowed to maintain a wider asset portfolio than banks were allowed (Robert Bruner and Sean Carr, 2007, p. 67). Between 1897 and 1907, the assets of trust companies in New York grew 244 percent, while national banks and state banks grew significantly less (92 percent and 82 percent respectively). It was common for “men interested in industrial and mining securities” to control organization chain banks such as the Knickerbocker Trust Company and the Traders’ Bank (Taus, 1943, p. 121). Given that trust companies were more likely to be speculative than banks and were relatively unregulated, the trust companies were less associated with clearing houses.

A significant characteristic of the Panic of 1907 that separates it from other bank panics in United States history is the disturbance of the trust companies. The large corporations and big banks exacerbated the lack of a lender of last resort. While some trust companies cleared their money through clearing houses, most companies were not members of the New York Clearing House. Because of this, the New York Clearing House was not responsible for coming to the aid of trust companies when their customers began to request their money in large numbers.

CHAPTER 2
THE INTERNATIONAL ECONOMY AND THE GOLD STANDARD

The international market in the early twentieth century was booming and had been ever since the end of the American Civil War. Between 1880 and 1930, there was a rapid increase in international trade as the world economy grew rapidly (Geoffrey Jones, 1996, p. 36). International trade grew at much higher rates than world output, growing at more than 60 percent per decade at times. The world's two biggest economies were Britain and the United States. At the end of the nineteenth century, Britain was the world's largest exporter and London served as the international financial center of the world (Jones, 1996, p. 37). However, the United States was growing quickly. Between the mid-1890s and 1906, the United States economy's annual growth rate was 7.3 percent (Bruner and Carr, 2007, p. 7). By the early 1900s, the United States had replaced Britain as the world's largest economy (Jones, 1996, p. 38).

The United States economy was heavily involved in international trade, producing about 36 percent of the world's manufactured goods. The commodity trade balance (exports less imports) became positive in the 1870s and remained so until 1914. Exports grew in the United States for two main reasons. Extensive expansion of the railroad business after the end of the American Civil War caused transportation costs to fall dramatically (V.I. Bovrykin and Rondo Cameron, 1991, p. 49). The states also formed an immense free trade area. Many economists acknowledge that free trade allows producers and consumers to allocate resources most efficiently. Distorted prices, caused by intervention in the market, can cause overproduction, as existing firms may produce more goods or more firms may enter the industry.

Despite the United States being the biggest economy in the world, United States' involvement in the international investment market was not significant. Asexpected when a country is growing as dramatically as the United States was at the turn of the century, there was a great demand for capital (Bruner and Carr, 2007, p. 7). Britain remained the world's financial center. Free-standing companies were established in Europe "for the purpose of doing business outside that country" (Schoter and Wilkins, 1998, p. 1). The United States generally maintained little interest in other countries outside its sphere of influence (i.e. the Western hemisphere). For this reason, free-standing companies were less prevalent in the United States than they were in Europe, and the United States was more often an established target for European free-standing companies. Prior to 1914, the United States had been involved in the international financial market, but it never became a significant player, especially when compared to Britain, France and Germany (Bovrykin and Cameron, 1991, p. 48). Due to its rapid growth rate, the United States was able to absorb much of the funds of investors, both domestically and abroad (Bovrykin and Cameron, 1991, p. 50). Most United States investors were content to invest within the United States economy. This may have occurred because the mechanism of foreign investment was less developed in the United States than it was in Europe.

The widespread adoption of the gold standard facilitated foreign investment across many countries outside the United States. The gold standard, which most major economically developed countries were on by the early 1900s, bound the monetary systems of most countries together. Under the gold standard system, a standard economic unit of account is transferable into a fixed weight of gold. The United States officially began operating on the gold standard in 1900. The price of gold in the United States was $20.67 per ounce (Gold Standard Act, 1900). According to the monetary theory, world markets determine interest rates and prices, and the central bank of a large country, such as the Bank of England at the time, can only impact interest rates and prices by using its influence over the world (Eichengreen and Flandreau, 1985, p. 58). Countries like the United Kingdom, the United States and other countries on the gold standard could not directly influence the money supply (Eichengreen and Flandreau, 1985, p. 59).

The causes of the Panic of 1907 in the United States have been theorized about for several decades, but there does not seem to be conclusive evidence on what the exact cause was. While the banking system in the United States was flawed, the United States had had other panics that were not as devastating to the economy. The Panic of 1907 caused a country-wide credit crunch which limited the ability of the United States companies, especially banks and trusts, to recover.

CHAPTER 3
CAUSES OF THE PANIC OF 1904

While the gold standard made international investments easier, it also made it impossible for countries to adequately control the money supply. Countries could not control the money supply as well as today, thus the economy was more susceptible to changes in the balance of payments. Changes in the United States balance of payments and international financial distress caused the economic turmoil in the United States economy in 1907.

During his tenure as Secretary of the Treasury (1902-1907), Leslie M. Shaw began a policy to intervene in the market when necessary. Shaw believed that the role of the Treasury was to safeguard the money markets as well as the Treasury. To this end, Shaw began to advance money to banks "based on adequate bond collateral" in 1903 (Taus, 1943, p. 108). By discounting money, the Treasury under Shaw acted more like a central bank. Between 1903 and 1904, there was a small deficit in the Treasury deposits as government expenditures rose (mainly due to work on the Panama Canal) and a slight reduction in trade. In October 1905, Shaw found it difficult to assist banks in meeting appropriations (Taus, 1943, p. 109). By the next year, however, the Treasury had a surplus of $25,699,322.21 (Leslie M. Shaw, 1907).

In 1906, Shaw used the government surplus to "facilitate imports of gold," a plan which proved fruitless. Under this plan, "any depository national bank which engaged in importing gold" could make cash withdrawals from the Treasury in the amount of gold anticipated to arrive. The goal of Shaw's move was to stimulate the importation of gold. It is of note that Shaw did not opt to add deposits to national banks, as this was the premier tactic for relieving the stress on the market. Shaw may have opted not to do this due to stress on the United States Treasury. American bankers at the time also believed that this move would “greatly encourage them to make gold imports” from abroad (“Gold Engaged in London: New York Has Asked for $7,500,000. There It Is Said,” 1906).

Internationally in 1906, the Bank of England was full of activity, as interest rates fluctuated in recovery from a decline in money market activities. In April 1906, the Bank of England decreased the minimum discount rate to 3.5 percent from 4 percent. This reduction in interest rates followed speculation that the Bank of England would not “be unwilling to lose gold to New York” (“The Monetary Situation: April Disbursements Expected to Stiffen Call Money Market,” 2906). The Bank of England’s move was viewed as a positive sign of the “improving money market abroad” (“The Monetary Situation: April Disbursements Expected to Stiffen Call Money Market,” 1906). It was also expected to stimulate foreign lending in the United States. Investors would want to invest in the United States because they could buy securities at low interest rates in England and sell at higher interest rates in the United States. *The New York Times* reported in April 1906 that “it has been expected that the drain of cash from New York to the interior would be diminished soon after the call was issued by the comptroller of the currency for a statement of the condition of national banks” (“The Monetary Situation: Passage By Congress of Deficiency Bill Will Give Some Relief,” 1906). The summer months of 1906 were relatively quiet. Money was considered “easy” as the Bank of London considered reducing its interest rates. Copper shares fell, but most other stocks and markets remained strong. Prices overall, however, were moving lower ("Prices Move Lower: Reactionary Tendency Continues in a Dull Market," 1906).

In early 1907, the activity abroad began to increase. The Bank of London raised its interest rates again. However, as interest rates rose, major economies such as England, France, and Germany indicated that America was "the most dangerous factor" due to "excessive contagoes" (London Money Situation: America Still Considered to Be the Most Dangerous Factor," 1907). There was a demand for gold coming from several countries including Brazil, Argentina, and Egypt. In fact, the Bank of London experienced large withdrawals of gold from Rio de Janiero because Rio de Janiero was not "anywhere near satisfied in her needs for gold" ("Rates Advance in London: Gold Withdrawals for South America Cause Astonishment," 1907). Reports of underdeveloped countries, such as Brazil, Argentina, and Egypt, requesting money is significant because underdeveloped countries were most likely to maintain "current-account deficits" (Drummond, 1987, p. 17). For underdeveloped countries "any temporary disruption to the payments position would automatically bring some coins out of circulation and into the banks so that the monetary reserves would be replenished as the money supply when down" (Drummond, 1987, p 17). *The Times* believed that "too drastic withdrawals might have an untoward effect" in the market ("London Watching New York: Conditions in the Market Here Puzzling Foreign Investors," 1907). By February, there was a net gain of only $18,972,000 for New York banks as compared to $21,788,000 in 1906 and $36,668,00 in 1905 (see Appendix 1)

(The Monetary Situation: Very Small Net Gain In Cash Last Week From the Interior, 1907). There was speculation in the United States that the amount of gold imports would depend on aid from the Treasury, as a significant amount of gold would be need to be imported ("The Monetary Situation: Very Small Net Gain in Cash Last Week From the Interior," 1907). Meanwhile, the world economy began to experience a decline as London raised its interest rates in an attempt to stem the ever-increasing withdrawals of gold.

Even as London's coffers were slowly being dried up, France began hoarding money. France was in the process of becoming a larger world power in terms of its banking prowess. During the Boer War (1899-1902), France lent a significant amount of money to Britain and Russia. In 1905, France also lent the United States $150,000 while money was tight in the United States. The Banque de France's policy around 1906 was to buy up English bills in Paris. This prevented the Bank of England from raising its rates too high when there was an increase in demand with gold withdrawals from the Bank of London. Because of the strain on its deposits, the Bank of London rose interest rates in January 1907 ("Rates Advance in London: Gold Withdrawals for South America Cause Astonishment," 1907). Not only was the Banque de France buying British bills, but it was also hoarding any cash it received. In February 1907, the *New York Times* reported that France was worried about income tax measures that could potentially drive money abroad ("French Tax Bill Feared: Moderate Papers Apprehensive-Bankers Criticize the Measure," 1907). Presumably, France hoarded money in order to increase liquidity in France. The hoarding of gold can present a threat to the economy because it lowers the amount of money in circulation.

As the United States economy began a slow descent and Secretary Shaw prepared to end his tenure, Congress granted the new Secretary of Treasury more power. Action was necessary as the stock market (measured by an index of all listed stocks) fell 7.7 percent in the few months between September 1906 and February 1907 (Bruner and Carr, 2007, p. 19). While 7.7 percent itself is a rather unremarkable decline for a five-month period, it is significant in that this was a market in which growth was the norm and this decline indicated a growing trend downward. On March 4, 1907, Congress amended previous laws regarding the Treasury that allowed the Secretary of the Treasury to determine the collateral required for depository banks. Additionally, the Treasury could legally deposit government funds in "qualified national banks" (Taus, 1943, p. 119). The new Secretary of Treasury, George B. Cortelyou, continued many of Shaw's policies, as he too shared the belief that the Treasury had to "consider and protect the banking system." To this end, Cortelyou almost immediately ordered "that any bank which had increased its circulation under the terms of the department announcement of Oct. 22, 1906, and was accordingly required to return its additional circulation during the months of March and August, might retain its additional circulation on notification to the Controller." Cortelyou's order was designed to increase liquidity of the banks, but it did not help the trust companies at all, even though many trusts that had begun to function more like a bank than a company. Trust companies were significantly invested in foreign markets with little reserves in place. In May

1907, Cortelyou also chose not to call in any government deposits. Instead, the United States exported 30 million dollars in gold to the Bank of England to ease pressure abroad. This action left New York unusually short on gold, especially in preparation for the coming harvest season in autumn(Bruner and Carr, 2007, p. 30).

In a reaction to the changes in consistent gold outflow and gold withdrawal pressure from periphery markets, European central banks raised interest rates, which reversed the flow of gold to the United States (Atack and Passell, 1979, p. 516). While the banks in the United States were feeling a slight amount of pressure from the activity abroad, they were boosted by the United States Treasury. However, there was little protection for the trust companies. The trust companies did not have the resources necessary to clear money, and they were not stable banking institutions. Because of this, there was a strain on the United States markets despite the gold inflow. Thus a combination of Secretaries of Treasury policies and the interdependent nature of the world economy left the United States vulnerable to the financial distress that began in Europe in 1906.

CHAPTER 4
GOVERNMENT AND MARKET REACTION IN 1907

The Panic of 1907 greatly disturbed the entire economy at a level that had been unprecedented. The Panic brought attention to Wall Street and the "concentration of banking resources" as well as the failure of the government to prevent a "suspension of banking payments that rippled across the nation" (McCulley, 1992, p. 143). In early 1907, American stock prices fell dramatically, particularly with popular stocks. For instance, the stock price of Union Pacific fell 30 percent in less than two weeks (Atack and Passell, 1979, p. 516).

Confidence in the entire credit market was further threatened when the third-largest trust company, the Knickerbocker Trust Company, went bankrupt in mid-October 1907. There was tension in the market, as companies such as the National Bank of North America, the New Amsterdam National Bank, and the Mercantile National bank had also failed. Prior to the failure of these stalwart companies, there had been trouble with the United Copper Company partially due to speculation in the copper market (Bruner and Carr, 2007, p. 30). The tension in the market caused the failure of Knickerbocker to become rather more significant in the minds of customers. The Knickerbocker Trust Company fell primarily because of its inability to pay off more than $50 million in deposits (Atack and Passell, 1979, p. 516). The company's top executive, Charles Barney, resigned shortly thereafter. Additionally, the problems of Knickerbocker were exacerbated when the National Bank of Commerce, Knickerbocker's usual clearing house agent, refused to clear for it (Bruner and Carr, 2007, p. 71). Knickerbocker's bankruptcy provided an economic shock to the United States economy, and that made already uneasy investors stop investing.

In reaction to Knickerbocker's problems and other trust company problems, the public and country banks began holding cash excessively, sharply impacting the monetary supply (Eugene White, 1983, p. 78). The reserves of the New York banks went from a surplus of $11 million to a deficit of $54 million, and the New York Stock Exchange fell almost fifty percent from the previous year (Atack and Passell, 1979, p. 516). Prices of commodities dropped 21 percent, which essentially erased the commodity price increase between 1904 and 1907. Industrial production dropped by 11 percent and imports were reduced by twenty-six percent. Unemployment rose from under 3% to over 8%. Even immigration decreased as the total number of immigrants entering the country was only 750,000 as compared to 1.2 million in the previous year (Bruner and Carr, 2007, p. 142).

In an effort to help mitigate the problems of the Panic of 1907, the private sector pooled together a solution, but the problem was too big for the private sector alone to solve. Initially, the Secretary of the Treasury deposited over $25 million of federal funds into New York banks (White, 1983, p. 78). However, this was not enough to stem the flow of the crisis and the private sector became involved. The representatives of the most powerful banks in New York, including George F. Baker of the First National Bank and James Stillman, president of the National City Bank, met collectively at the behest of J. P. Morgan (McCulley, 1992, p. 146).

Together they attempted to stem the trust company failures by helping the Trust Company of America and meeting the demands for currency.

The efforts of J.P. Morgan and his contemporaries, while appreciated, did not initially work as well as desired. The Panic of 1907 was merely a reaction to the fundamental problem with currency in the United States. For day-to-day business in the United States, people in the United States used national bank notes, United States Treasury notes, gold coin and certificates, silver coin and certificates, and other forms of subsidiary currency (Robert West, 1977, p. 32). The amount of silver currency and United States Treasury Notes was fixed. However, the gold currency was allowed to grow as the “amount of monetary gold grew” (West, 1977, p. 32). As the European banks increased their interest rates, the amount of gold coming into the United States increased. This caused an elasticity of money problem that resulted in a short-term expansion and contraction. During the crisis, the demand for currency could not be met without drawing down reserves. According to the National Banking Act, which was amended in 1894, banks were required to reserve twenty to twenty-five percent of deposits in coin (West, 1977, pp. 38-43).

CHAPTER 5
THE FORMATION OF THE FED

The Panic of 1907 provided evidence that fundamental banking reform was needed, and the government acted with several laws enabling banking reform. The first act that the government passed in an effort to reform the banking industry was the Aldrich-Vreeland Act. Passed in 1908, the Aldrich-Vreeland Act was more of an “emergency currency bill” than a banking reformation law (West, 1977, p. 50). The Aldrich-Vreeland Act of 1908 provided for the organization of “National Currency Associations” to be composed of no fewer than 10 banks in sound financial condition. It was done to enable the banks that formed them to issue emergency bank notes against the security of bonds and commercial paper. The Act also created the National Monetary Commission, which had the most lasting impact of the Act. The National Monetary Commission’s purpose was to examine the United States banking system and provide a recommendation to prevent events such as the Panic of 1907. As a result of the National Monetary Commission’s findings, the Federal Reserve was created in 1913.

The formation of the Federal Reserve (the Fed) was a reflection of the United States’ need for a central bank. The creation of the Fed and the Fed’s responsibilities demonstrate the belief that an institution like a central bank was necessary to ensure bank liquidity in times of financial stress. The government hoped to help to end the series of bank panics by regulating the monetary supply in the United States and create an “elastic” currency (Johan van Overtveldt, 2009, p. 23). The Fed was charged with three major tasks: to serve as a lender of last resort, to serve as a fiscal agent for the federal government, and to serve as a clearing house. While clearing houses had been used with some degree of success in the past, the Panic of 1907 proved that clearing houses were not enough of a substitute for a central bank because they lacked the ability to freely expand the monetary base (White, 1983, p. 79). To ensure that the Fed could continue, the Federal Reserve Act of 1914 gave the Fed a permanent charter. All national banks were required to join the Fed, while country banks were given the option to join. Given Americans' general distrust of large, powerful government institutions, the Fed was divided into twelve regional banks that were privately funded. Each of these banks was capable of creating its own discount policy. There was also a central board that presided over each of these twelve banks (Van Overtveldt, 2009, p. 24). To institute the Federal Reserve, national banks were closed and reserves were moved to the Federal Reserve banks, where the reserves could be kept safe from speculative fluctuations (West, 1977, p. 100).

There were several goals for the new Federal Reserve, many of which remained unmet for many years to come. With the creation of the Fed, the United States hoped that the real bills doctrine would finally have a chance to operate. The real bills theory is the belief that banks should primarily invest in short-term commercial bills, which would then allow credit to be regulated without causing inflation or deflation. In reality, the real bills doctrine never operated because it is inconsistent with the gold standard (White, 1983, p. 100). Using the real bills theory, bankers appear to have no influence on credit or prices. However, the benefit of the real bills doctrine is that it led the United States to note creation, making United States currency less tied to United States government bonds and less inelastic. Dollars became more liquid in the United States when the Fed lacked complete understanding about its role in the United States monetary system (West, 1977, p. 148). A side effect of the real bills doctrine was the “effect of higher interest rates on the discounting procedure” (West, 1977, p. 171). The cyclical nature of the American economy at the time meant the newly created Fed could still be exposed to bank panics and sharp business cycles. It would be left to the leadership of the Federal Reserve chairmen to guide the economy through crises in the future. However, a lack of understanding about the power of the Fed meant that the early Fed’s history was characterized by periods of monetary disturbances. The inability of the Fed’s leadership to completely understand its power arguably led to or deepened the recession that became the Great Depression.

Despite the lack of understanding regarding the true power of the Federal Reserve, the foundations for which the central bank of the United States were strong. In the few years after the formation of the Fed, interest rates were significantly more manageable, and waves of banking panics were not seen until the Great Depression. The Panic of 1907 exposed the problems of the National Banking Act of 1864 and demonstrated the need for the central bank. With the creation of the Fed, the United States has been significantly better able to control its monetary policy and react quickly to economic troubles in the United States.

CHAPTER 6
THE PANIC OF 1907 VS. THE "GREAT RECESSION" OF 2008-2009

There are many similarities between the current recession and the Panic of 1907 recession. While no recession is ever quite the same as those that occur in the past, there is a significant connection between the "Great Recession" of 2008-2009 and the Panic of 1907.

It is important to understand a potential cause of the current recession. While there are a variety of factors caused the recession, it is widely accepted that the subprime mortgage crisis in early 2007 was a warning sign and a potential cause of the current recession. The housing market began to decline in 2007. This decline in the housing market greatly impacted government-sponsored mortgage companies such as Fannie Mae and Freddie Mac. Both Fannie Mae and Freddie Mac had an implicit guarantee with the United States government that if the companies went bankrupt, the federal government would bail them out. With such a guarantee, Fannie Mae and Freddie Mac were able to create a moral hazard environment. A morally hazardous environment is created when those who are insured begin to take greater risks than they would have had they not been insured. Interest rates for Fannie Maw and Freddie Mac were lower than other private companies that operated in the same market. Fannie Mae and Freddie Mac were artificially profitable and able to take risks that other companies might not have been able to. While the management of Fannie Mae and Freddie Mac believed that they had mitigated the risks associated with doing business in a highly cyclical market, it is evident that the correct steps to minimize the risks were not taken (J.D. Foster, 2009).

While housing booms and busts are a natural part of the economy, there is substantial evidence that activity in the credit default swap market may have contributed to the severity of today's recession. Credit default swaps are essentially contracts between two companies. The company seeking to protect itself would make payments to the seller of the credit default swap. If the loan or bond (both instruments of giving credit) defaults, then the company that bought the credit default swap receives a payment from the seller of the swaps. The main risk associated with credit default swaps is counterparty risk, or the risk that the counterparty may not be able to pay for various reasons, not the least of which is bankruptcy. Essentially, credit default swaps allow companies to speculate in the market against companies that may fail by buying credit default swaps or buying insurance against a company's failure. Credit default swaps were used on some subprime mortgages. Those who were interested in buying credit default swaps could buy them from companies like the American Insurance Group (AIG) and Bear Stearns (Shah Gilani, 2008).

Due to the nature of these credit default swaps, the Federal Reserve believed that it could not allow AIG and Bear Stearns to fail because there would be far-reaching affects throughout the economy. Between June 2007 and December 2007, the gross market value of credit default swaps rose from $817 billion United States dollars to $2,020 billion. The credit default market continued to rise throughout 2008, as the gross market value of credit defaults was $5,116 billion dollars (See Appendix 2)(Semiannual OTC Derivatives Statistics at end-June 2009, 2009). Sellers of credit default risks had major problems when the housing market began to decline rapidly because it meant that there was a significant amount of money that the companies had to pay. These companies were simply “too big to fail” in the sense that they had many credit defaults to pay off and not enough cash to do it with. For instance, if Bear Stearns or AIG had gone bankrupt, those who had bought credit default swaps would not have been paid. If these companies were expecting payment in case of default, more companies might have gone bankrupt, as they would have been expecting a payment that would not be coming (Giliani, 2008).

The Federal Reserve and other central banks such as the European Central Bank have also been considered as perpetrators of the current recession. It is argued that the Fed and its counterparts in other countries pursued overly expansive monetary policies. The Fed began dropping the federal funds reserve rate in response to the small recession in 2001. Low interest rates encourage investors to invest in assets, thus possibly making the expansionary policy a possible reason for the asset bubble. However, the chairman of the Fed at the time, Alan Greenspan, recognized that monetary policy was becoming ineffective. Long-term bond rates, an indication that the monetary policy is in effect, were not moving while short term bond rates were moving in the direction that the Fed wanted (J.D. Foster, 2009).

While the causes of the current recession may not have had direct international origins, such as the recession during the Panic of 1907, the market reaction to the recession is remarkably similar. As the subprime mortgage crisis that began in early 2007 continued, the market reaction was to buy more credit default swaps. In one year, the credit default market gross value rose from $2,020 billion to $5,116 billion dollars (see Appendix 2) (Semiannual OTC Derivatives Statistics at end-June 2009, 2009). The rise in credit default rates can be viewed as the market's expectation for the future. Additionally, there was a sense of anticipation in the market as Lehman Brothers fell in September 2008. The failure of Lehman can be adequately compared to the failure of the Knickerbocker Trust Company. Following the bankruptcy of Lehman, the price of financial company bonds fell and the availability of credit fell. Banks began to place a premium on extremely liquid companies, or companies with a significant amount of cash on hand.

The primary difference between the Panic of 1907 and the current recession has been the government response to the market. In 1907, the Federal Reserve did not exist and thus there was no lender of last resort. As a result of this, interest rates could rise and continue to rise. Only the intervention of J.P. Morgan and his contemporaries prevented the rise of the interest rates, as they provided money to companies and became a temporary lender of last resort. Today, however, the Federal Reserve acted more swiftly to changes in the market than J.P. Morgan. The Federal Reserve dropped the federal funds rate to 3.5% in January 2008, months before Lehman ever fell (Michael M. Grynbaum and John Holusha, 2008). In December 2008, a mere two months after Lehman went bankrupt, the Federal Reserve opted to drop federal fund rates to 0% - 0.25% (Daniel Nasaw, 2008).

While the Federal Reserve in 2008 acted more swiftly than J.P. Morgan in 1907, there was a crucial difference in the way that the lender of last resort role was played. When J.P. Morgan bailed out companies in trouble, there were few limitations placed on companies. Today, however, there were strict limitations placed on companies that received Troubled Asset Relief Program (TARP) funds. To qualify for TARP funds, companies had to agree to subject executive compensation to the Secretary of Treasury. For instance, severance payments to companies which may have decided to release their executives would be regulated. Additionally, TARP reserved the right to suspect mark-to-market accounting if the SEC deemed it necessary (Summary of the Troubled Assets Relief Program ("TARP"), 2008). These restrictions may have an impact on the success of the TARP program as they might prove too confining for the companies borrowing money through TARP.

CHAPTER 7
CONCLUSION

The Panic of 1907 is one of the most interesting recessions in United States history. It exposed the problems of the National Banking Act of 1864 and demonstrated the need for the central bank. The restrictions of the National Banking Act allowed the trust companies to become heavily involved in the banking sector and without regulation and reserve requirements. The Panic of 1907, however, began prior to the bank panic due to changes in the international economy and the actions of the United States Treasury.

With the creation of the Fed, the United States has been significantly better able to control its monetary policy and react quickly to economic troubles in the United States. The bailout of the companies in 1907 is remarkably similar to the current recession. Given the relatively short nature of the Panic of 1907, it seems to be a fair assessment that the Federal Reserve proceeded with a good plan based on lessons learned from the 1907 recession. While it is unclear the extent to which the TARP restrictions has had the economy's recovery, it remains obvious there are significant similarities between the current recession and the Panic of 1907. The Panic of 1907 was thus highly instructional for the United States and deserves further attention and study.

Appendix 1
Net Gains in Currency, January – March, 1903-1907

The following table shows the net gains in currency from the interior by weeks during the first three months of each year, 000 omitted:

Week End	1907	1906	1905	1904	1903
Jan 3	$2,842	$3,342	$6,280	$9,065	$3,437
Jan 10	8,604	7,459	12,036	8,227	9,572
Jan 17	5,395	2,964	6,481	6,249	7,171
Jan 24	1,043	5,802	4,943	3,099	5,691
Jan 31	848	2,221	6,928	2,310	8,700
Feb 7	….	807	2,638	4,985	3,885
Feb 14	….	2,296	1,593	4,757	2,265
Feb 21	….	1,377	2,987	4,810	673

The Monetary Situation: Very Small Net Gain In Cash Last Week From the Interior, 1907

Appendix 2
Amounts Outstanding of Over-The-Counter Derivatives

By risk category and instrument
In billions of US dollars

Risk Category/Instrument	Notional Amounts Outstanding					Gross Market Values				
	Jun 2007	Dec 2007	Jun 2008	Dec 2008	Jun 2009	Jun 2007	Dec 2007	Jun 2008	Dec 2008	Jun 2009
Total Contracts	**516,407**	**595,735**	**683,814**	**547,371**	**604,622**	**11,140**	**15,834**	**20,375**	**32,244**	**25,372**
Foreign Exchange Contracts	**48,645**	**56,236**	**62,893**	**44,200**	**48,775**	**1,345**	**1,807**	**3,591**	**12,244**	**2,470**
Interest Rate Contracts	**347,312**	**393,135**	**458,304**	**385,896**	**437,195**	**5,063**	**7,177**	**15,011**	**3,591**	**15,478**
Equity-linked Contracts	**8,590**	**8,469**	**10,177**	**6,159**	**6,619**	**1,116**	**1,142**	**1,146**	**1,051**	**879**
Commodity Contracts	**7,567**	**8,455**	**13,229**	**3,820**	**3,729**	**638**	**1,898**	**829**	**829**	**689**
Credit Default Swaps	**42,581**	**58,244**	**57,403**	**41,883**	**36,046**	**721**	**2,020**	**3,192**	**5,116**	**2,987**
Single-name instruments	24,2436	32,496	33,412	25,740	24,112	406	1,158	1,901	3,263	1,953
Multi-name instruments	18,341	25,757	23,991	16,143	11,934	315	852	1,291	1,854	1,034
Unallocated	**61,713**	**71,194**	**81,719**	**65,413**	**72,255**	**1259**	**1,790**	**2,303**	**3,645**	**2,868**
Gross Credit Exposure						**2,672**	**3,258**	**3,859**	**4,556**	**3,744**

Semiannual OTC derivatives Statistics At End-June 2009, December 2009

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