

Yochanan SHACHMUROVE

Department of Economics, The City College of New York

A historical overview of financial crises in the United States

Abstract: One of the few constants since the United States declared its independence is the presence of frequent financial crises with similar causes. In the nineteenth century, these panics were frequent with eight occurring over the century. However, following the Second World War there was a period of relative calm, which may have led to complacency. The Savings and Loans and the current financial crises have shown that these events remain a very real threat to economic stability.

I have greatly benefitted from research assistance by Zach Winston from Pennsylvania State University and Gregory Kauffman from the University of Pennsylvania.

Keywords: financial crises, economic booms and busts, housing prices, banking panics, bank runs, panic of 1857, panic of 1873, panic of 1893, banking regulations, government debt, fiscal and monetary policies, bankruptcy, financial institutions, gold standard, gold-silver bi-metallic standard, the Great Depression, Dow Jones industrial average, Glass-Steagall Act, Bear Stearns, Lehman Brothers, J.P. Morgan, Dodd-Frank Wall Street Reform and Consumer Protection Act: Volcker Rule, United States, United Kingdom, Poland.

JEL codes: B0, E0, E3, E4, E5, E6, F0, F3, F4, G01, G1, G2, H5, H6, N1, N2, P1.

Introduction

Critics have long maintained that financial crises, booms and busts are an inherent part of the capitalist system. The current financial crisis that began in 2007 has reignited the debate about the causes and consequences of previous economic downturns. While some look at the differences among crises, both historical (e.g., Bordo 2008; Bordo & Haubrich 2010; Klomp 2010), and as related to the specific mechanics of the shock triggering a crisis (e.g., Gorton 2008), others emphasize their similarities across countries and historical episodes (e.g., Reinhart & Rogoff 2008a, 2008b, 2009a, 2009b, 2010).

This paper presents an overview of the history of financial crises, primarily in the United States. The conclusion is similar to that by Reinhart and Rogoff (2009a, 2009b), namely, these crises are similar.

According to Reinhart and Rogoff (2009b), severe financial crises share three characteristics. First, asset market collapses are deep and prolonged. Real housing prices decline an average of 35 percent over six years, while equity prices collapse an average of 55 percent over a downturn of about three and a half years. Second, the aftermath of banking crises is associated with profound declines in output and employment. The unemployment rate rises an average of 7 percentage points over the down phase of the cycle, which lasts, on average, over four years. In addition, output falls, from peak to trough, an average of over 9 percent, although the duration of the downturn, averaging roughly two years, is considerably shorter than for unemployment. Third, the real value of government debt tends to explode, rising an average of 86 percent in the major post-World War II episodes. As they point out, the main cause of debt explosions is not the costs of bailing out and recapitalizing the banking system. The main cause of debt increases are the inevitable collapse in tax revenues that governments incur as a result of deep and prolonged output contractions, and the countercyclical fiscal policies in advanced economies aimed at counteracting the downturn.

The remainder of the paper is organized as follows. Section II presents a narrative of three major nineteenth century American financial crises. Section III details the financial crises in the twentieth-century. Section IV describes the current crisis from an American perspective, and the responses of the U.S. and the U.K. Section V summarizes financial crises in Poland. Section VI concludes.

1. Nineteenth century financial crises in the United States

As a newly developed country, the United States experienced a period of frequent banking panics in the nineteenth century with eight major crises. These eight episodes include the Panics of 1819, 1837, 1839, 1857, 1873, 1884, 1893 and 1896. Details of the three major crises of that century that occurred in the years 1857, 1873, and 1893 are described below.

1.1. The panic of 1857

The panic of 1857 is characterized by the closure of the Ohio Life and Trust Company, a collapse of the stock and bond markets, and a sharp recession. Figure 1 shows the collapse of the stock market, which fell 36 percent from August to October, 1857. This crisis began with an unprecedented discovery of gold. To illustrate the magnitude of the gold discovery, note that from the year 1492 until 1850, the annual value of gold mined averaged \$9 million, whereas the corresponding value for the years 1851 until 1860 averaged \$133 million (Conant 1915, p. 637).

Since the United States was on a bi-metallic, gold and silver, standard at the time, the discovery of gold effectively doubled the money supply. Consequently, a speculative bubble emerged, mainly in railroads and the land required to build them with nearly \$700 million spent over nine years accounting for seven-ninths of all railroads in the United States (Conant 1915, p. 637).



Figure 1. The panic of 1857
 Source: www.globalfinancialdata.com

As the bubble burst, speculators were unable to repay their debts causing some banks to fail. This increased the likelihood of further bankruptcies of financial institutions. Following these bank runs, the stock and bond markets collapsed exacerbating the problem. As banks failed, many cities and states suspended the convertibility of bank deposits into gold. However, lacking a central monetary authority, nation-wide coordination among banks was impossible. Thus, when Philadelphia suspended convertibility and New York City did not, bank runs induced by fear occurred in New York City. Eventually, on October 13, 1857, New York suspended convertibility (Calomiris & Schweikart 1991, p. 822).

As the crisis continued, some regional coordination of banks emerged. Institutions, such as the New York Clearing House, coinsured coalitions in Indiana and Ohio,

and branch banking in the South. The United States was relatively successful in responding to this panic limiting further bank failures. However, more isolated banks were unsuccessful during this crisis. For example, 14 of Indiana's 32 free banks failed during the crisis. On November 20, New York resumed partial convertibility and a major crisis was finally averted (Calomiris & Schweikart 1991, p. 828).

1.2. The classical gold standard

Following the Panic of 1857, there was a shift from the bimetallic, silver and gold, standard towards the classical gold standard. The passage of the Coinage Act of 1873 ended the legal status of bimetallism in the United States and created a pure gold standard regime (Friedman 1990, p. 1165). Since many countries already adopted the gold standard, it allowed for relatively free capital flows among them. The gold standard in the United States led to a period of frequent crises, deflation, and concentrated reserves in New York (Bordo & Haubrich 2010, p. 6).

1.3. The panic of 1873

The first major United States crisis under the classical gold standard occurred on the same year as the passage of the Coinage Act of 1873. Similar to the Panic of 1857, the Panic of 1873 was preceded by a railroad boom leading to a sharp stock market decline. In this case, the decline was less severe than the panic of 1857, dropping 15.7 percent from August to October as illustrated in Figure 2. It became apparent that railroads corporations were unable to cover their debt obligations, and the bubble burst. This burst led to the failure of trust companies in New York and Brooklyn in early September and the failure of a bank, Jay Cooke & Co, on September 18, which precipitated a banking panic. Runs occurred in nineteen Washington, New York and Philadelphia banks and trust companies on September 19. The stock exchange closed for ten days and the United States was in crisis. Consequently, more banks failed, production decreased and for six years "the pall of depressed industry lay over the United States" (Conant 1915, p. 655–656).

Simultaneously, the adoption of the gold standard in the United States caused a period of severe deflation, further hindering the repayment of debts. Figure 3 illustrates the deflation in this period, for both the United States and the United Kingdom. Prices in the United States fell from a high of nearly 200 to a low of 90 between late 1860s and end of the 1870s. In response, the United States Treasury attempted to ease the money markets by purchasing \$24 million in bonds. However, this injection of liquidity was largely unsuccessful since a minimal amount of money reached New York. Additionally, the Treasury issued over \$26 million in clearing-house certificates, which enabled banks to exchange their securities for cash.

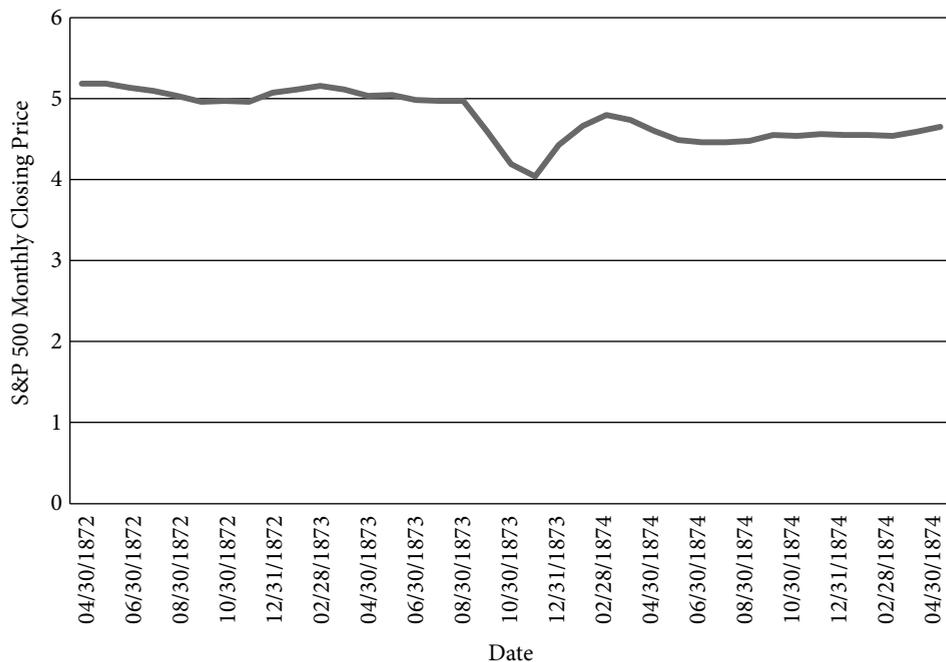


Figure 2. The panic of 1873
 Source: www.globalfinancialdata.com

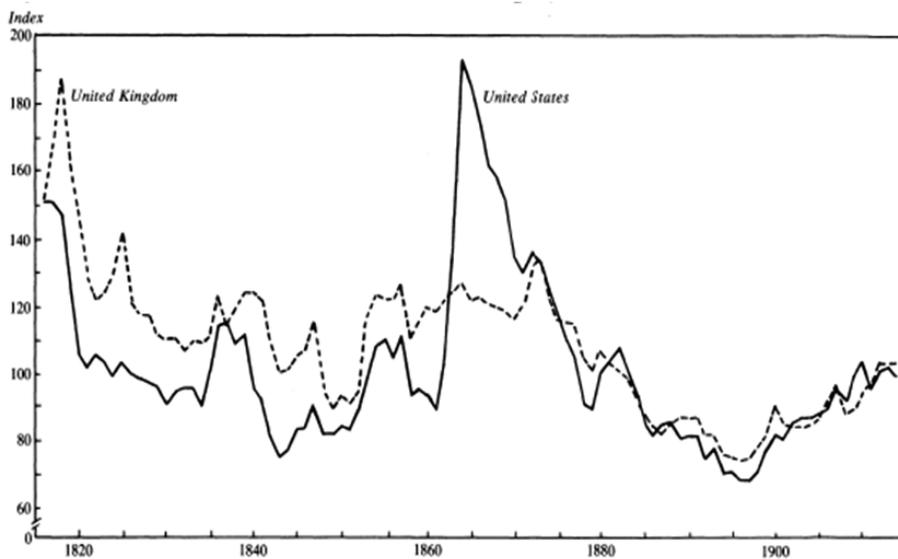


Figure 3. Wholesale prices in the United States and United Kingdom 1815-1914
 Source: (Warren & Pearson 1935, p. 13-14, 87)

The issuance of these certificates was more effective, but insufficient to stabilize the system. The combination of the burst of a bubble and an entrenched deflation led to a prolonged depression in the United States. While this panic was similar to the Panic of 1853, it was more severe (Conant 1915, p. 656).

1.4. The panic of 1893

As in the other two crises, the Panic of 1893 was preceded by railroad speculation. Additionally, although the United States remained on the gold standard, due to political pressure, the Sherman Silver Purchase Act of 1890 was enacted. The Act required the government to purchase more silver expanding the money supply and increasing prices (Bordo & Haubrich 2010, p. 6). Eventually, the bubble burst, the stock market declined sharply and bank runs ensued leading to a threat to the gold standard. Figure 4 presents the S&P 500 monthly closing price for this period. In order to maintain the gold standard, J. P. Morgan and other prominent bankers, bailed out the financial system, acting as lenders of last resort, on February 8, 1895 (Conant 1915; Strouse 2000). The name J. P. Morgan will reappear more than 100 years later in the crisis of 2007, when J.P. Morgan acquired Bear Stearns.

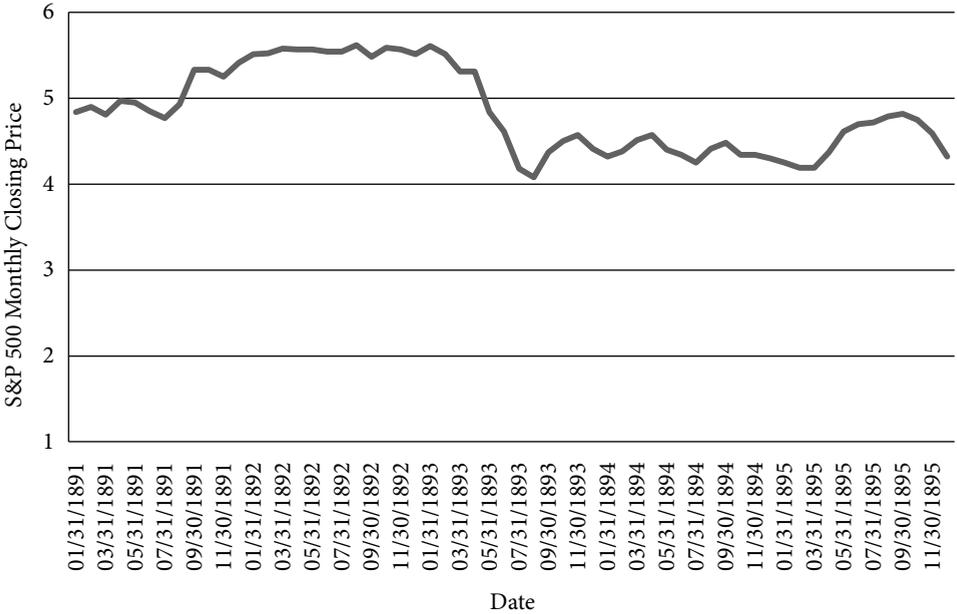


Figure 4. The panic of 1893
 Source: www.globalfinancialdata.com

1.5. Summary of nineteenth century crises

The crises of the nineteenth century had similar characteristics. Several periods of speculation, particularly in railroads, led to bubbles that burst and caused crises, banking panics and economic downturns. This chain of events were often exacerbated by the following factors: limited diversity of banks due to restrictions on branch banking; the lack of a lender of last resort to stabilize the system; the existence of financial institutions not subject to financial regulations; and a money supply that could not increase in times of crisis. The next crisis, The Panic of 1907, led to an attempted resolution of these structural issues.

2. Twentieth century financial crises – the panic of 1907

The Panic of 1907 began with an adverse shock following earthquakes in San Francisco in 1906. This shock occurred as money drained from New York as well as foreign countries to aid in the earthquake relief, that shrank the money supply elsewhere (Bordo & Haubrich 2010). As money flowed away from New York towards San Francisco, the stock market dropped. The owner of the United Copper Company, F. Augustus Heinze, saw this decline in the value of his company as a speculative attack. He attempted to corner the market by buying all the shares in order to squeeze the shorts.

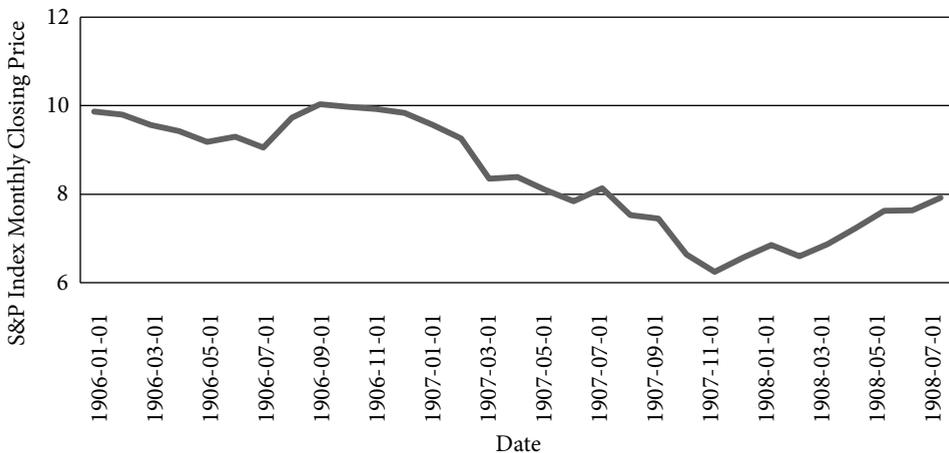


Figure 5. The panic of 1907
Source: www.globalfinancialdata.com

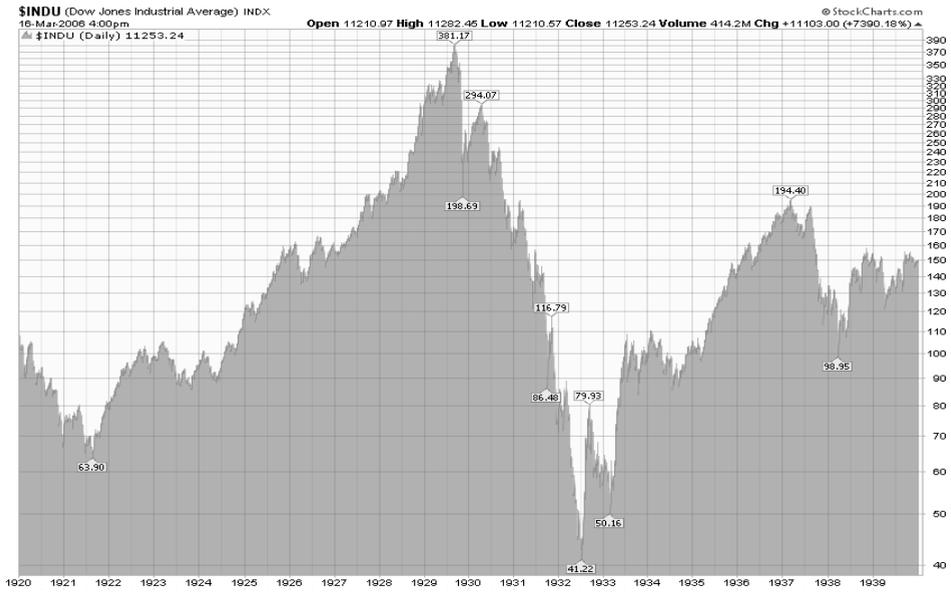
This technique failed and Heinze could not repay the debt for the shares that he had borrowed from the Knickerbocker Trust Company and eight other banks. Thus, the Knickerbocker Trust and these other banks faced default, which led to a collapse of an already weak stock market and a run on the banks. Figure 5 depicts the S&P index for that period. These events severely reduced the liquidity of banks raising fears for their solvency. Similar to the Panic of 1893, J. P. Morgan organized a group of bankers to bail out the financial system acting as the lender of last resort. However, the panic only ended with the suspension of convertibility. As in past crises, the panic was associated with hundreds of bank failures, a significant drop in the money supply and a deep recession, leading to popular support for the passage of the Federal Reserve Act of 1913 and stricter banking regulations (Bordo & Haubrich 2010).

2.1. The creation of the federal reserve

The Federal Reserve Act of 1913 was a response to frequent banking panics throughout the United States history. This act led to relative stability, with the absence of banking panics from 1915 to 1929 (Bordo & Haubrich 2010). However, the founding of the Fed also created moral hazard by providing a lender of last resort, encouraging the financial sector to undertake riskier investment expecting the Fed to bailout the system when crises occur.

2.2. The Great Depression

The Great Depression was similar to many earlier crises. A stock market bubble preceded the crisis, followed by a crash, and subsequent banking panics that led to an economic downturn. Figure 6 shows an astounding drop in the Dow Jones Industrial Average from mid-October to mid-November of nearly 45%. Figure 7 depicts the stock market index of the time, the S&P 90 that dropped 21 percent from October 26 to 29 (from 25.94 to 20.43) in four days. Figure 8 presents the dramatic number of bank failures throughout this crisis with nearly 10,000 bankruptcies. With the creation of the Federal Reserve, this type of dramatic event was supposed to be prevented. The last three figures, Figures 6–8 show that the Federal Reserve had failed and many notable researchers even consider the actions of the Fed to have exacerbated the crisis (for example: Friedman 1990; Bernanke, Gertler & Gilchrist 1999). To illustrate, the Fed lowered interest rates from 4% to 3.5% in 1927 loosening monetary policy, which helped to create the speculative bubble and shortly after reversed its policy by raising interest rates from 3.5% to 5% from February to May 1928. As in the previous crises, this severe depression led to a regulatory response that would shape the American economy, particularly the banking sector, for years to come (Bernanke, Gertler & Gilchrist 1999; Ahamed 2009).



(Dow Jones Industrial Average (1920-1940 Daily))

Figure 6. Dow Jones industrial average daily chart 1920-1940



Figure 7. The Great Depression
 Source: www.globalfinancialdata.com

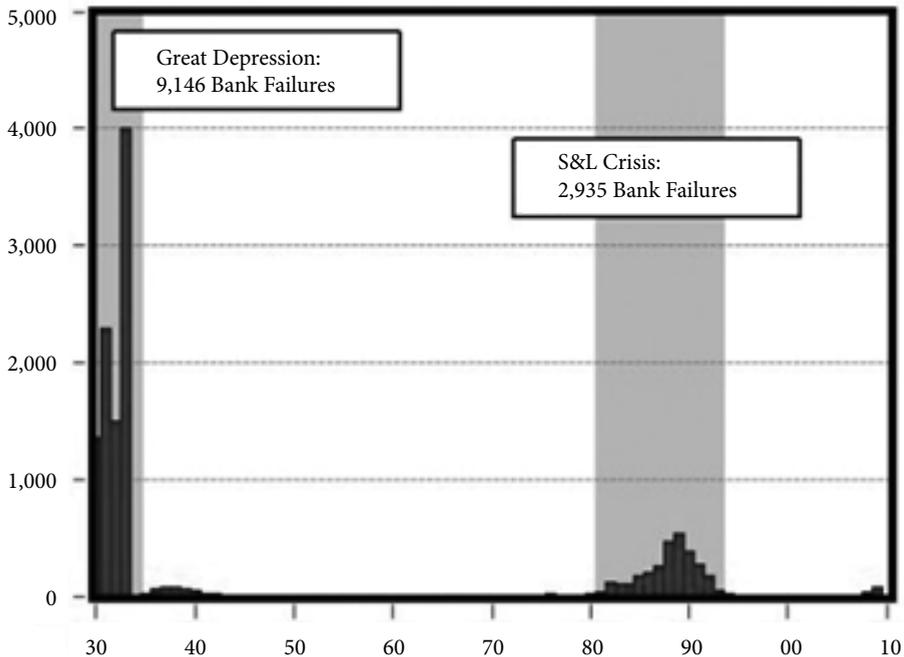


Figure 8. U.S. bank failures, 1930–2009
 Source: www.FDIC.gov

2.3. The regulatory response to the Great Depression

The most influential of these reforms was the Glass-Steagall Act of 1933. This act limited the size and scope of banks. The key aspects of this Act included preventing bank holding companies from owning other financial companies and Regulation Q. This last regulation limited the interest rates paid to depositors in savings accounts. These regulations would later be removed. This Act also created the Federal Deposit Insurance Corporation (FDIC) aimed at preventing bank runs by providing insurance on deposits. Other institutions that were created during this time included the Federal National Mortgage Association, also known as Fannie Mae, and the Federal Home Loan Mortgage Corporation, known as Freddie Mac, to support the housing market that collapsed during the depression. As in the past, the federal government used the crisis to expand its regulatory role in the financial sector.

After the Second World War, banking panics were a rare occurrence. Simultaneously, free market ideas became more popular which led to an era of deregulation where many of the provisions of the Glass-Steagall Act were repealed (Bordo & Haubrich 2010).

2.4. The Savings and Loans Crisis

The first step towards dismantling of the Glass-Steagall Act occurred in the early 1980's prior to the Savings and Loans (S&L) Crisis. Following the Second World War, banks had high liquidity and a low-risk portfolio reducing bank failure. Meanwhile, a heavily regulated, government backed, and a relatively unprofitable Savings and Loans sector emerged. The inflation of the 1980s and the belief that the system was safe forced the government to deregulate the S&L institutions in 1980 and 1982. One of this deregulation included the removal of Regulation Q. Thus, the S&L institutions gained the advantages of commercial banks without being regulated as such.

The deregulation of the early 1980s set off a period of increased risk taking that led to the S&L Crisis. As in the past, a bubble preceded that burst due in part to higher nominal interest rates, which led to a stock market crash in 1987 known as "Black Monday" when the S&P 500 fell from 282.7 to 224.8, a 20.5% drop, and severe turmoil in the financial sector (see Figure 9). This crisis had the highest number of bank failures since the Great Depression at 2,935 as illustrated in Figure 8. However, unlike any of the previous crises, Alan Greenspan, the Chairman of the Federal Reserve, bailed out the financial sector by dramatically reducing the Fed Funds Rate, a policy that later would become known as the "Greenspan Put" (Reinhart & Rogoff 2009). This intervention saved many banks and revived the economy. Following this crisis, more deregulation occurred, including the repeal of Glass-Steagall in 1999. Particularly, the restrictions on branch banking and on bank holding companies to own other financial assets were removed. Additionally, deposit insurance and capital requirements for banks were increased.

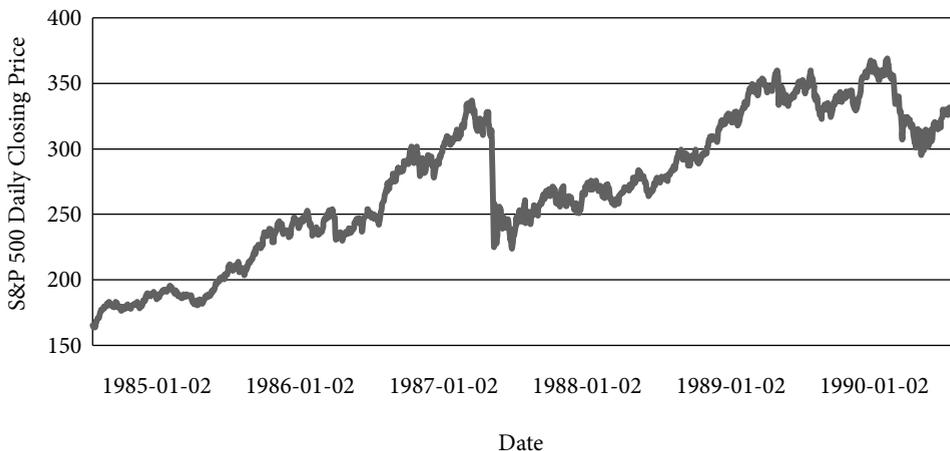


Figure 9. The Savings and Loans Crisis

Source: www.globalfinancialdata.com

2.5. Summary of twentieth century crises

To summarize, the financial crises of the twentieth century were similar to their ancestors. They followed a pattern similar to their nineteenth century counterparts, usually beginning with a speculative bubble, which was followed by a severe stock market crash and a recession. While the response by government has not always been the same, the boom and bust cycle has continued. Some common causes for this cycle include inadequate regulation of the financial sector. Many of these aspects have carried over into the current financial crisis.

3. The current financial crisis

The current financial crisis has been the greatest downturn since the Great Depression. The crisis began with a housing bubble that burst in 2007. This expansion and dramatic collapse of housing prices is illustrated in Figure 10. The S&P/Case-Shiller Home Price Index, which shows a dramatic increase from 2003–2006, dropped over 25 percent from the middle of 2006 to the end of 2009. This bubble was caused by several factors including low interest rates, as shown in Figure 11, which led to criticism that the “Fed kept interest rates too low for too long,” government programs to pursue increased homeownership, and large trade deficits leading to foreigners investing heavily in the United States. In addition, the structure of the financial system exacerbated the bubble, as there were highly leveraged institutions that often had the principle agent problem where they invested other people’s money and thus

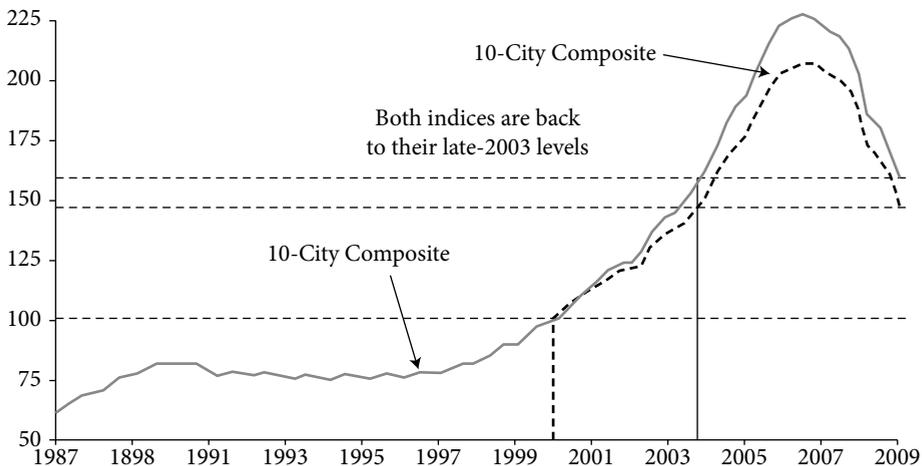


Figure 10. S&P/Case-Shiller Home Price Indices

Source: <http://www.standardandpoors.com/indices/sp-case-shiller-home-price-indices>

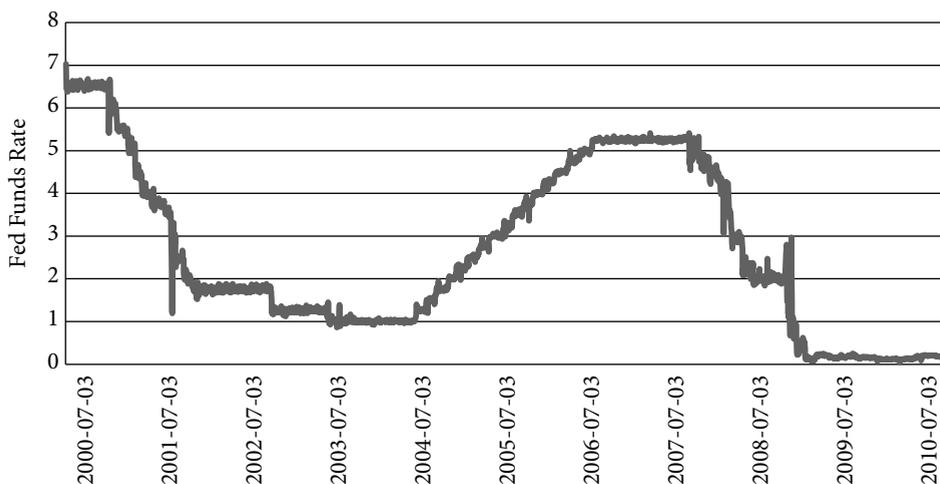


Figure 11. Daily fed funds rate 2000–2009

Source: <http://www.newyorkfed.org/markets/omo/dmm/historical/fedfunds/ff.cfm>

took increased risk. As the housing price began to decline, people could no longer afford their mortgage payments and the bubble burst setting the stage for the current financial crisis.

3.1. Bear Stearns and Lehman Brothers

The ramifications of the bubble bursting became apparent in March 2008 with the near collapse and rescue of Bear Stearns, a large investment bank. J.P. Morgan Chase rescued them, in a government assisted takeover on March 14, initially at \$2, later raised to \$10 per share. Figure 12 shows the rapid decline of Bear Stearns with a stunning 86.86% decline in March of 2008. However, this only provided a temporary respite for the financial system as at the peak of the crisis on September 15, 2008 Lehman Brothers, a large financial institution failed in what was the largest bankruptcy in history. Figure 13 highlights the dramatic collapse of Lehman with its stock price dropping from over \$80 a share in 2007 to near \$0 by the end of 2008.

3.2. The governmental response to the current financial crisis

Following this collapse, the lending markets froze, banks began to liquidate their assets, and the stock market declined sharply leading to widespread speculation for the identity of the next bank to fail (see Figure 14). In response, the Fed and Treasury urged Congress to pass the Troubled Asset Relief Program (TARP), which

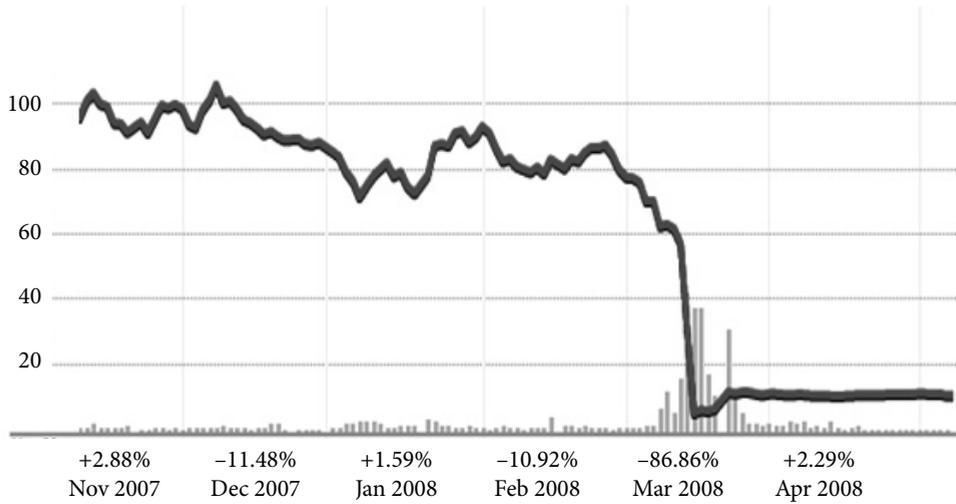


Figure 12. The Collapse of Bear Stearns
 Source: <http://markets.ft.com>



Figure 13. The Collapse of Lehman Brothers
 Source: www.bigcharts.marketwatch.com

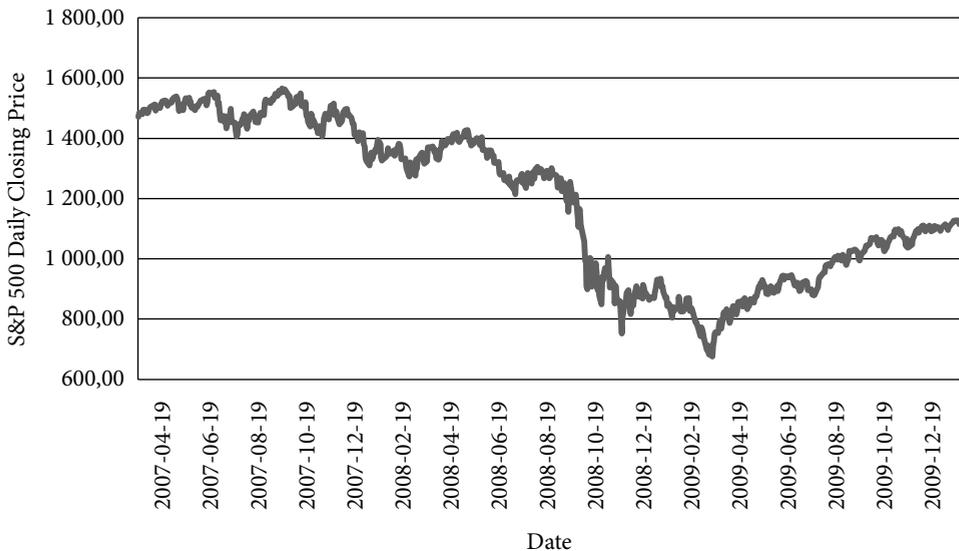


Figure 14. The current financial crisis
 Source: www.globalfinancialdata.com

later became a \$700 billion bailout of financial institutions and the auto industry. Other measures included, the Fed reducing the Fed Funds Rate to near zero levels and then printing more money through quantitative easing. During this period, the government also placed Fannie Mae and Freddie Mac into receivership, passed a record stimulus package, and removed of mark-to-market accounting. Despite these extraordinary measures, banks continue to fail and the recovery still appears extraordinarily fragile at the time of this writing.

3.3. Dodd-Frank Wall Street Reform and Consumer Protection Act

In order to combat the threat of future financial crises, the United States Congress passed a financial regulatory bill, named the Dodd-Frank Wall Street Reform and Consumer Protection Act. This bill is aimed at providing protection for consumers from unfair treatment by financial institutions; limiting the size of financial companies to avoid the “too big to fail” phenomenon; preventing future bailouts; reforming the Federal Reserve; and regulating the derivatives markets. In order to protect consumers this bill will create the Consumer Financial Protection Bureau. This institution will have “the authority to ensure American consumers get the clear, accurate information they need to shop for mortgages, credit cards, and other financial products, and protect them from hidden fees, abusive terms, and deceptive practices” (*Summary... 2010*).

In order to limit large financial companies and prevent future bailouts this bill creates the Financial Stability Oversight Council (FSOC), adopts the “Volcker Rule”, and requires large financial firms to provide the so called “funeral plans.” Specifically, the FSOC will be able to make recommendations to the Federal Reserve on imposing constraints on large entities and regulate non-bank financial institutions if they “pose a threat to U.S. financial stability.” The FSOC also can force financial companies to divest some of its assets if they pose a threat to the financial system (*Summary... 2010*).

The „Volcker Rule,” a measure named for Paul A. Volcker, the former Federal Reserve chairman, restricts the ability of banks whose deposits are federally insured from proprietary trading (Volcker 2010). Moreover, the bill “requires large, complex financial firms to submit plans for their rapid and orderly shutdown should the company go under” (*Summary... 2010*).

To reform the Federal Reserve, this Act allows for a one time audit examining the lending of the Federal Reserve during this financial crisis; restricts its emergency lending power; and requires the Fed to disclose more of its actions with a time lag. During the Great Depression of 1929, a law was passed that allowed the Fed to lend to any individual, partnership, or corporation if five members of the Federal Reserve Board in Washington declare the circumstances to be unusual and exigent (Wessel 2009). This bill prevents the Federal Reserve from lending to individuals but allows it to lend subject to approval of the Secretary of the Treasury if the lending is broad-based and not to revive insolvent firms.

Lastly, this bill improves transparency and accountability for the derivatives market by creating central clearing and exchange trading facilities for derivatives. In addition, it gives the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission the authority to regulate Over-The-Counter Derivatives (derivatives not traded on an exchange) and requires them to pre-approve derivative transactions before the clearing house can approve them (*Summary... 2010*).

3.4. The United-Kingdom regulatory response to the current financial crisis

The United Kingdom (U.K.) has suffered a similar crisis to that of the United States. The U.K. financial regulatory structure prior to the crisis was two tiered with a Financial Services Authority (FSA) that regulated the financial services industry and the Bank of England (the central bank) that set monetary policy and promoted financial stability. With the failure of regulation, the U.K. government abolished the FSA and assigned its powers to the Bank of England. However, unlike the United States, other financial regulations are not currently being discussed.

4. Polish financial crises

A full detailed analysis of Polish financial crises is beyond the scope of this paper. Interestingly, one of the leading researchers of Polish financial crises is the current chairman of the United States Federal Reserve Bank, Ben Bernanke. The financial crises in Poland have been infrequent, particularly compared to the two developed economies of the U.S. and the U.K. Three major crises have occurred in Poland since 1900, in July 1926, June 1931, and in 1991. The first crisis occurred when bank runs caused three large banks to abort payments. This persisted until 1927.

The second crisis in June 1931 happened during the global Great Depression. During this crisis, there was a run on banks, especially those associated with Austrian Creditanstalt during the Central European hyperinflationary period (Bernanke & James 1990). Figure 15 shows the increase in the unemployment rate from 1929 to 1932 in Poland as compared with the U.S. and the U.K. The unemployment rate in Poland increased by 6.9 percentage points, as opposed to the U.S. and U.K., that each had double-digit increases in their unemployment rates (Reinhart & Rogoff 2009b, p. 269).

The only crisis considered a banking crisis by Reinhart and Rogoff, (Reinhart & Rogoff 2009b, p. 152–153) is the 1991 crisis, which occurred following the end of communism in Eastern Europe. During this crisis seven of nine treasury-owned commercial banks (which represent 90 percent of credit), the Bank for Food Economy, and the cooperative banking system experienced solvency problems. In

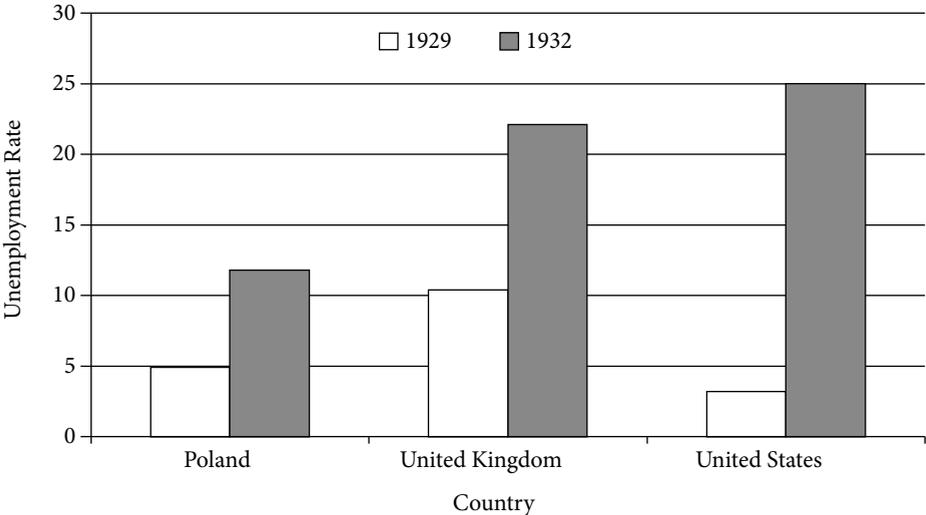


Figure 15. Unemployment in the US, UK, and Poland; 1929 and 1932

Source: (Reinhart & Rogoff 2009b, p. 269)

response to the collapse, the Polish government recapitalized the banks. The cost of the bailout totaled \$1.65 billion or 2 percent of the Polish GDP (World Bank 2003).

4.1. Ramifications of the current financial crisis on the Polish stock market

Figure 16, shows the effects of the recent global financial crisis of 2007–2010 on the Polish stock market, by plotting the WIG:WSE Index for the last five years. The figure illustrates both the sharp decline in 2008 where the index fell by more than

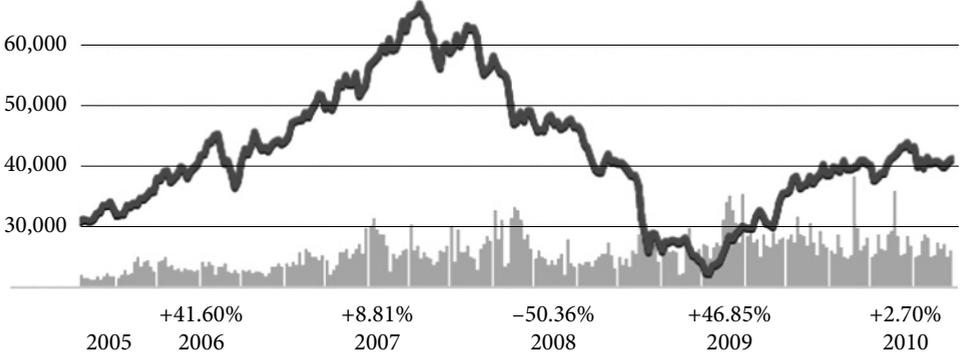


Figure 16. The WIG:WSE Index for the last five years
 Source: <http://markets.ft.com/tearsheets/performance.asp?s=WIG:WSE>

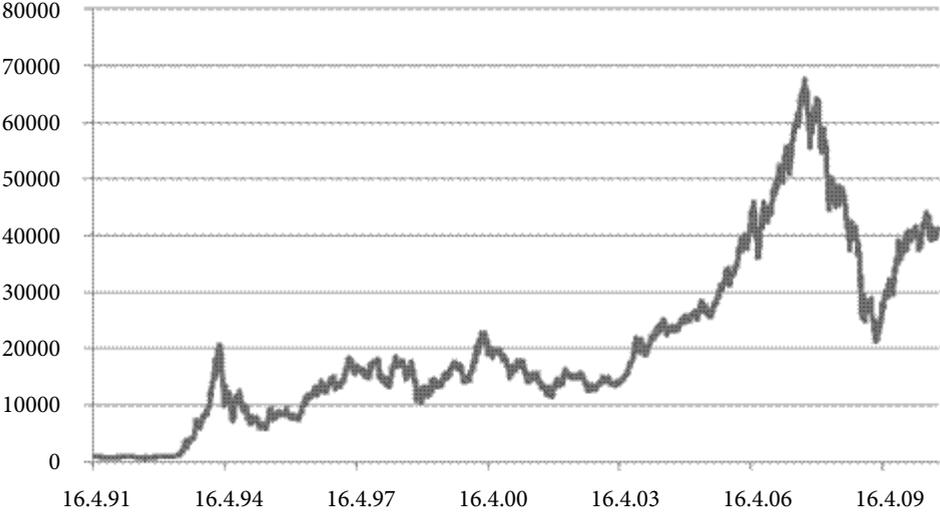


Figure 17. The WIG Index, April 16, 1991 to July 19, 2010
 Source: http://www.gpw.pl/zrodla/gpw/spws/portfele/wigh_en.html#Wykres

50 percent and the slow recovery to its current level, which is still 30 percent below its peak on October 29, 2007.

Figure 17 presents the general WIG index from April 16, 1991 to July 19, 2010 placing the current crisis into its historical context. This figure shows the performance of the Polish stock market over time. The range of this index was from 635.30 on June 23, 1992, to 67,568.51 on July 6, 2007.

Conclusions

This paper describes financial crises in the United States since the second half of the nineteenth century. In the nineteenth century, these panics were frequent with eight occurring over the century. These eight panics included the Panics of 1819, 1837, 1839, 1857, 1873, 1884, 1893 and 1896. This paper details the three major crises: 1857, 1873, and 1893.

Following the Second World War, there was a period of relative calm, which may have led to complacency. The Panic of 1907 led to the creation of the Federal Reserve Bank. The Savings and Loans crisis of the early 1980s and the current financial crisis have shown that these events remain real threats to economic stability in the current millennium.

The paper also details the policy responses to the crises in the United States and the United Kingdom. A short section describes financial distress in Poland since 1926.

The paper claims that for the most part these financial crises are similar in their nature. The conclusion is that future crises will be hard, indeed impossible to eliminate.

References

- Ahamed, L. (2009), *Lords of Finance*, Penguin Press, New York.
- Bernanke, B.S., Gertler, M., Gilchrist, S. (1999), *The Financial Accelerator in a Quantitative Business Cycle Framework*, Handbook of Macroeconomics vol. 1A, eds. John Taylor & Michael Woodford, North Holland, Amsterdam.
- Bernanke, B., James, H. (1990), *The Gold Standard, Deflation and Financial Crisis in the Great Depression: an International Comparison*, National Bureau of Economic Research, Working Paper, no. 3488, Cambridge, Massachusetts.
- Bordo, M.D. (2008), *Growing up to Financial Stability*, Retrieved July 20, 2010, from Economics vol. 2, p. 1–16: <http://www.economics-ejournal.org/economics/journal-articles/2008-12>.
- Bordo, M.D., Haubrich, J.G. (2010), *Credit Crises, Money and Contractions: a Historical View*, Journal of Monetary Economics, no. 57, p. 2–9.
- Calomiris, C.W., Schweikart, L. (1991), *The Panic of 1857: Origins, Transmission, and Containment*, The Journal of Economic History, vol. 51, no. 4, p. 807–834.

- Caprio, G., Klingebiel D. (2003), *Episodes of Systemic and Borderline Financial Crises*, Washington, D.C. Retrieved July 20, 2010, from The World Bank: <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20699588~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html>.
- Conant, C. (1915), *A History of Modern Banks of Issue With an Account of the Economic Crises of the Nineteenth Century and the Crisis*, 4th ed., G.P. Putnam & Sons, New York.
- Friedman, M. (1990), *The Crime of 1873*, *The Journal of Political Economy*, vol, 98, no. 6, p. 1159–1194.
- Gorton, G. (2008), *The Subprime Crisis*, National Bureau of Economic Research Working Paper, no. 14398, Cambridge, Massachusetts.
- Klomp, J. (2010), *Causes of Banking Crises Revisited*, *North American Journal of Economics and Finance*, p. 72–87.
- Reinhart, C.M., Rogoff, K.S. (2008a), *Is the 2007 U.S. Subprime Financial Crisis so Different? An International Historical Comparison*, *American Economic Review, Papers and Proceedings*.
- Reinhart, C.M., Rogoff, K.S. (2008b), *This Time is Different: A Panoramic View of Eight Centuries of Financial Crises*, National Bureau of Economic Research Working Paper, no. 13882, Cambridge, Massachusetts.
- Reinhart, C.M., Rogoff, K.S. (2009a), *This Times Is Different*, Princeton University Press, Princeton, New Jersey.
- Reinhart, C.M., Rogoff, K.S. (2009b), *International Aspects of Financial-Market Imperfections: the Aftermath of Financial Crises*, *American Economic Review*, vol. 99, no.2, p. 466–472.
- Reinhart, C.M., Rogoff, K.S. (2010), *Growth in a Time of Debt*, *American Economic Review*, vol. 100, no. 2, p. 573–578.
- Strouse, J. (2000), *Morgan: American Financier, Harper Perennial*, Harper Collins Publishers, New York.
- Summary of Dodd-Frank Wall Street Reform and Consumer Protection Act* (2010), Retrieved July 14, 2010, from House Committee on Financial Services: http://financialservices.house.gov/Key_Issues/Financial_Regulatory_Reform/comprehensive_summary.pdf.
- Volcker R. (2010, June 25), Retrieved July 14, 2010, from New York Times: http://topics.nytimes.com/top/reference/timestopics/subjects/v/volcker_rule/index.html?inline=nyt-classifier.
- Warren, G.F., Pearson, F.A. (1935), *Gold and Prices*, Wiley.
- Wessel, D. (2009), *In Fed We Trust*, Crown Publishing Group, New York.
- World Development Report 2003, World Bank 2003.