



LUND UNIVERSITY

School of Economics and Management

Master programme in Economic History

The Panic of 1857 in the absence of a National Bank

Peter Kostadinov

ehi14pko@student.lu.se

Abstract: Research on financial crises is important and especially relevant nowadays when the economy is slowing down globally. The crisis 2007-8 and the Great Depression of the 20th century are the longest and most severe financial calamities ever experienced and they share some eerie similarities with the Panic of 1857 – they all originate in the US but have international implications because they take place in a world of interconnected trade. Despite being similar, these crises are different in their length, severity and the way they were handled by the authorities. The two longest and most severe develop in the context of a National Bank having control over the money supply of the nation, while the shortest in the 19th century developed absent of a government bank. These crises contradict the conventional wisdom postulating that in the absence of centralized control over the money supply crises was a recurring theme in the 19th century US. The recessions after the panics of 1819, 1837 and 1857 suggest that lower monetary inflation and no government bank resulted in less severe crises. The crashes of the 19th century and especially the Panic of 1857, tended to cause the most pain on the people who were taking advantage of the system.

Key words: financial crises, panic of 1819, panic of 1837, panic of 1857,

EKHM51

Master thesis (15 credits ECTS)

August 2015

Supervisor: Anders Ögren

Examiner: Tobias Karlsson

Table of Contents

Chapter I: Introduction	3
1.1 - Background	3
1.2 - Previous Research	4
1.3 - Aim and Justification	6
1.4 - Theoretical Framework	7
1.5 - Data and Methods.....	15
Chapter II: Empirical Findings	16
2.1 - Panic of 1819	16
2.2 - Panic of 1837	18
2.3 - Panic of 1857	21
Chapter III: Analysis.....	24
Conclusion.....	26
Reference List	27

Introduction

Background

Research on financial crises has always been important and it is especially relevant nowadays when the global economy is struggling to recover from the Panic of 2007-8. The recent crisis and the Great Depression of the 20th century are the longest and most severe financial calamities ever experienced and they share some eerie similarities with the Panic of 1857 – they all originate in the US but have international implications because they take place in a world of interconnected trade. Yet, these crises are different in their length, severity and the way they were handled by the authorities. The two longest and most severe develop in the context of a central bank having the control over the money supply, while the mildest in the 19th century occurred in a period when the government had the least power over the issuance of paper money. These crises contradict the conventional wisdom postulating that in the absence of centralized control over the money supply crises was a recurring theme in the 19th century. The recessions after the panics of 1819, 1837 and 1857 suggest that lower monetary inflation and the absence of a government bank resulted in less severe crises. The crashes of the 19th century are “short and sharp and tended to inflict the most damage on the people who were gaming the system and getting the most out of it.”(Thornton 2015).

Ever since John Maynard Keynes published “The General Theory of Employment, Interest and Money” in 1936, the world’s perception of economics changed. Mister Keynes saw disequilibrium in the nature of the market system which he thought was the reason why sometimes things in the economy go wrong. He recommended that governments control the economy when times are good, tax and regulate people and businesses and hold the money, so when things go wrong, they could pour that money back into the economy and stimulate it - rather than allow market self-regulation. His concepts gained immediate popularity among world’s authorities and the time that followed the publication of his book, saw the development of Keynesian type of economies around the world, but especially in the United States. Since 1971 when US President Richard Nixon looked into the television camera and said, “We’re all Keynesians now.” the understanding of the balance between supply and demand and the self-regulating mechanism of the free market were ignored.

Unlike the previous crises of the 20th century, the Global Financial Crisis of 2007-08, is perhaps on its way to change that trend of worldwide acceptance for the Keynesian or similar theories – because none of the traditional Keynes’ intervention tools have proven successful so far. The contemporary

perceptions of how the boom bust cycle functions is inconsistent with the phenomena of the 19th century. The Panic of 1857 is particularly interesting because of the way the crisis was approached is the complete opposite to what contemporaries would suggest and yet it was mild and quick. The money supply fell, the interest rates rose, the government did not increase its spending and no business or banks were bailed out and yet the recession lasted just 6 months (Woods 2013). The origins and the development of the 2007-2008 crisis, so far could be argued find their most authoritative explanation in the Austrian business cycle theory (Tempelman 2010). For that matter, it could be beneficial to apply the Austrian reasoning onto other economic crises like the Panic of 1857 for which we might not have a comprehensive understanding. Could the paradoxical development of the Panic of 1857 be exactly due to the way the crisis was handled?

Previous Research

Research on financial crises has always been a relevant field of study. Accordingly vast amounts of literature are dedicated to the origins and the development of economic crises from many different periods and places. Understanding financial crises is a complex challenge that requires an understanding of macro financial linkages (Claessens and Kose 2014). Perhaps for this reason the most notable studies on financial crises are usually conducted in such regard – from macro-economic perspective. One such study often considered as an authoritative one is Reinhart and Rogoff (2009) where the authors provide an impressive overview of crises from the Middle Ages to present days. They argue about the importance of early warning indicators and international cooperation and emphasize on the negative effects coming from the "this-time-is-different thinking."

The literature on financial crises in general has predominantly focused on the relevance of different factors for explaining crises. The vast majority of scholars and researchers (Garber, 2000; Kindleberger, 1978; Wen and Wang, 2010; Rajan, 2005; Mendoza and Terrones, 2008; Dell’Ariccia, 2013) agrees that the economic turmoil is often a variety of events, such as considerable credit expansions and increase of asset prices, interruptions in banking services, particularly the extension of loans, substantial balance sheet problems, and the necessity for government stimulus. While these events occur in a result of different factors, economic crises often are preceded by credit and asset booms that subsequently turn into busts (Claessens and Kose 2013). Such studies include some classical references like Keynes (1936) Minsky (1975) and Kindleberger (1978). Minsky (1975) for example, emphasized that over-accumulation of private debt leads to a speculative borrowing and

argued that when the debts exceed the amount that the borrowers could pay off from their incoming revenues lenders tighten their credit policy which subsequently leads to a contraction in the economy.

The writings of some economists from the Austrian school of economic thought like Mises (1912), Hayek (1933), Rothbard (1969), etc. suggest that financial crises often originate in excessive credit creation and the subsequent speculative lending practices that lead to misallocation of capital. On the other hand, their business cycle theory suggests that the root cause of such developments is usually found in monetary policy which leads to *“exclusion of the most important regulator of the market mechanism, money, from itself being regulated by the market process”* (Hayek 1976:102).

The state of the current research on the Panic of 1857 but on the crises preceding the creation of the Federal Reserve System as well is usually conducted from a historical macro-banking perspective. Qualitative statements are very often used to support a certain point and this is not surprising as the lack of enough empirical data from the time makes statistical approaches and large-sample econometric analysis very difficult. Murray Rothbard (1962) finds support for the notion that the crises of 1819 came as a result from a vast monetary inflation, while Scott Trask (2002) blames bank monetary inflation for the Panic of 1837 and argues against the perception that President Jackson`s policy to shut down the second Bank of the United States instigated a depression. While the Panics of 1819 and of 1837 occur during the period of existence of the First and the Second banks of the United States, the Panic of 1857 takes place during the era of free banking (1846 – 1862) – no National Bank, no federal chartered banks and accordingly most decentralized issuance of paper money. While the first two federal chartered banks were far from having the powers of a present day central bank, they certainly had some privileges over the state banks such as lending to the US government, serving as a depository of federal funds or issuance of notes that are receivable in taxes. That gave them an advantage that other bank notes did not have (Woods 2011). The Panic of 1857 occurs in the absence of a National Bank but comes as a result similar to the preceding panics, investment boom producing overcapacity due to railroad construction occurring ahead of demand (Riddiough 2011).

The literature concerning the Panic of 1857 is relatively abundant as both contemporaries and present day scholars were interested in it. Such studies involve the works of Gibbons (1859), Van Vleck (1943), Spiegelman (1948), Fishlow (1965), Peter Temin (1969), Huston (1987 & 1983), Calomiris and Schweikart (1991), etc. Most of the work that has been done already on the Panic of

1857 is focused on the causes of the crisis and less amount of literature follows the discussions and the impact of remedies and policies that were introduced during the crises. Even though scholars often have different takes on what is the weight of different factors in the origin of the 1857 crisis, they largely agree that the collapse of Ohio Life Insurance and Trust Company caused the run on the banks and triggered the recession. On the other hand, there is a considerable debate on what causes the collapse of Ohio Life Insurance and Trust Company. A recent study, from 2012 (Riddiough & Thompson) offers a detailed analysis and presents new evidence regarding the company's investment policies and management system. It concludes that the collapse was caused by excessive risk taking, lack of internal control and external monitoring. The study also labels the company 'a prominent shadow bank at the nexus between eastern finance and western economic development'. The paper also conducts analysis of 17 representative railroads for the four years prior to the Panic of 1857 and argues how high leverage and a rapidly depreciating capital stock was combined to create an unsustainable business model in the face of decreasing demand and overcapacity. Other scholars also find the causes of the Panic of 1857 in a preceding boom rooted in credit expansion (Soto 2009). On the other hand, unlike the two preceding crises of 1819 and of 1837 that have been investigated from an Austrian perspective, there is no comprehensive study so far applying the Austrian business cycle theory to the Panic of 1857. The crises of the first half of the 19th century – despite being similar in their origin - develop differently and the development after the Panic of 1857 suggests that market self-correction resulted in a short recession relative to the other two crises.

Aim and Justification

The aim of this study is to gain a deeper understanding of the origins of the Panic of 1857 as well as its development in the absence of a Central Bank to act as lender of last resort. Although a comparison between the crises of 1819 and of 1837 and the Panic of 1857 is not the primary objective, the study aims at identifying the similar root causes of the crises and contrast the different approaches to the economy. Following the theory of the business cycle the study suggests that the absence of government support or special treatment for banks and businesses during the Panic of 1857 did not encourage more speculative investments and allowed the market to self-correct which led to a relatively quick recovery.

As the first financial crisis to spread internationally along clearly delineated lines (Allen 2001) the

Panic of 1857 provides an opportunity to better understand some principal features of financial crises in a time of a relatively simpler economy yet still in the early phase of interconnectedness with other parts of the world.

Theoretical framework

Nowadays the widely accepted theory of depressions is courtesy of the British economist John Maynard Keynes who came up with a simplified view on the boom and bust cycle in his book, 'The General Theory of Employment, Interest, and Money', published in 1936. Keynes saw inflation as a result from too much spending by the people and suggested that at times as such the government should step in with higher taxation and cut the excessive spending power. On the other hand, if the economy is contracting then this is a result of an insufficient spending on the part of the private sector, so in that case the government should increase its own spending to boost aggregate spending and accordingly stimulate the economy. Such attitude towards the economy is shared among many schools of economics and its grounded in the notion that the free-market system fails from time to time and it's the government's duty to step in and press on the gas or if necessary slam the breaks (Rothbard 1969). The basis for having such a perspective on the capitalist economy was actually provided by Karl Marx, who concluded in the wake of the modern industry that the market economy is doomed to fail because of the recurring crises that will get worse and worse to the point where people will lose patience, revolt and destroy the system. Modern economists do not necessarily agree with Marx in his pessimistic view of capitalism, but largely agree on the point that market failures are inherent to the system and only a wise government policy can ultimately prevent a failure.

However, in order to accept that critical point in the Keynesian and other theories that share similar grounds, we must refute the general theory of equilibrium between supply and demand because there is nothing in the general equilibrium theory that accounts for the recurring boom-bust cycles (Rothbard 1969). In an essay on the causes of economic depressions Murray Rothard (1969) says that applying Keynesianism to trade cycle analysis and the general theory to the general price analysis as done in present times is impossible because they are mutually exclusive and because the economy is one integrated whole that cannot be analyzed in 'tightly-sealed compartments'. He points out that keeping the business cycle theories and the general price theories separate raises another critical issue that modern depression theories fail to explain. The question is how does it happen that in times of crisis the business world suddenly starts to suffer from massive losses.

Businessmen and entrepreneurs whose jobs are basically to forecast future movements of prices as well as supply and demand for goods and services suddenly all experience severe losses and suddenly all turn out to be wrong in their forecasts. The Keynesian and similar theories would account these losses to a sudden drop in consumer spending, but then the question remains how come businesses and entrepreneurs who were making profits yesterday all of a sudden lost their forecasting skills and were not able to see that drop in consumer spending coming. Furthermore, Rothbard (1969) argues that consumer spending cannot be the root problem of the system since during crises, it is the capital-goods industries that usually suffer first and most. These are the industries that produce machines, raw materials, i.e. producers' goods and not consumer goods. The crises of the first half of the 19th century are no different with the railroad, mining and steel industries experiencing the most trouble.

A theory of depressions that explains such developments exist even though it is often ignored by economists for explaining both recent as well as historical phenomena. The Austrian business cycle theory is rooted in the works of Carl Menger's 'Principles of Economics' (1871) and Eugen von Bohm-Bawerk's 'Capital and Interest' (1884). However, its first comprehensive exposition was developed by the Nobel Prize winning Austrian economist Ludwig von Mises in his book 'The Theory of Money and Credit' (1912). In the early 1930's the cycle theory was brought to the attention of the English-speaking world by a student of Mises, F. A. Hayek, who also received a Nobel Prize partly because of his work on the theory in his book 'Prices and Production' (1931). It was, on the other hand the work of the Swedish economist Knut Wicksell 'Interest and Prices' (1898) that for the first time drew the attention to the effects of excessive credit creation on the capitalist system and provided the grounds for the Austrian theory of misallocation of capital during booms. The theory was further developed in Murray Rothbard's 'America's Great Depression' (1963) where it is argued that the monetary policy of the Federal Reserve in the 1920's caused the depression while the interventionist policy of President Hoover after 1929 contributed to rising unemployment and thus prolonged the crisis. The most recent work on the theory was done by Roger Garrison in his "Time and Money: The Universals of Macroeconomic Theorizing" (2005) which contributes with its useful and clear graphical exposition of the trade cycle theory.

The Austrian business cycle theory builds upon the theories of classical economics, such as the works of David Ricardo, who was one of the first to realize that alongside modern industry, another institution with crucial importance for the market system had developed – the institution of banking (Rothbard 1969). Modern banking was realized to hold the key to the recurring boom-bust cycles because of its ability to expand credit and accordingly the money supply of a nation in the form of

paper money which in theory are redeemable in gold but in practice are not. Murray Rothbard (1969) explains the relation between the expansion of bank credit with the trade cycle. A bank that has 1000 ounces of gold and issues bank money for 2500 ounces of gold clearly has issued 1500 more than it can redeem, but as long as there is no run on that bank it can continue operating normally. That bank successfully expanded the money supply of the nation with 1500 ounces of gold and by extending credits the bank made profits. The more the bank loans out the bigger are its profits. As the supply of paper money increases the incomes and expenditures of the people in that country increase as well as the prices of all goods and services and the nation experiences an economic boom. Such boom, however, is described by Murray Rothbard (1969) as inflationary, while Garrison (2005) calls it unsustainable growth because it is triggered by credit creation and it is not supported by savings. The inflationary boom sets the stage for its own demise and Rothbard (1969) is explaining why with a hypothetical example with England. As the money supply and income increase in England, people start purchasing more goods from abroad. As the English prices go up they start losing their competitiveness with the goods of other countries which have not inflated or inflated their money supply to a lesser degree. Englishmen begin buying more goods abroad while foreigners now buy less in England and spend more at home. The result of that is a decline in English exports and a flow of money out of England. However, the foreigners would not be interested in holding their money in the form of paper and locked up in English banks, so they'll proceed to exchange their notes with the English banks for gold and gold would be the money that persistently flows out of the country as the inflationary expansion continues. As the outflow of gold continues while banks continue to expand their paper notes the process intensifies to a point that banks become alarmed for their ability to redeem liabilities in gold. At some point banks lose their nerve and contract their credit expansion in order to save themselves. Such development is often triggered by a large scale run on the bank. The contraction of bank credit reverses the trend as the boom is followed by a bust. The supply of money falls which in turn leads to a fall in prices of goods and services and eventually the English goods become more attractive compared to foreign products. Exports rise and gold starts flowing back into the country and the contraction of bank money alongside with an expanding gold base returns the economy into a vibrant condition.

This is how the market economy self-regulates itself according to the Austrian theorizing. The depression is the mechanism which is triggered as a consequence of the inflationary boom and is the market's way of getting rid of the distortions and capital misallocation of the boom period (Mises 1912). The depression is unpleasant but necessary to clear up the excesses and return the economy to a sustainable level (Mises 1912, Rothbard 1969, Garrison 1996). The cycle then starts all over

again as the natural behavior of the banking institution is to expand credit, so when the system returns to a stable condition banks embark on their usual practices. But banks are also part of the free market economy, so why it is possible for them to avoid the market self-regulation and expand their balance sheets at the same time with no apparent consequences? The trade cycle theory (Mises 1912, Hayek 1931, Rothbard 1962) postulates that in a truly competitive free market environment, banks could not possibly create excessive credit at the same time or at least not without facing imminent consequences because any expansion by a bank which would quickly increase its debt obligations would in term make the bank`s competitors suspicious, so they will request redemption in cash or gold the same way as the foreigners in Rothbard`s hypothetical example would exchange their bank notes for gold, though at a much faster pace. This will prevent the inflationary boom from continuing and keep the money supply on its natural free market level. Long term credit expansion, on the other hand is possible when the banking system acts as a cartel (Rothbard 1969). When a government bank, which has a monopoly over government business exists, banks are able to expand in concert and for a longer period of time. The government bank acquires the control of the banking system by monopolizing the issuance of paper money that are receivable in taxes, and by forcing the other banks to use the government bank as their client (Rothbard 1969, Woods 2011). Now the extension of the government`s bank notes provides another pillar alongside gold for the entire banking system to expand credit on a larger base and the boom-bust cycle continues. The expansion of the money supply explains the fluctuations in price levels, but on the other hand the question why the sudden business failures predominantly in the capital goods sector occur, remains.

The further development of the business cycle theory was done by Ludwig von Mises in the 1920`s and F.A. Hayek in the 1930`s and is comprehensively elaborated in Hayek`s *Monetary Theory and the Trade Cycle* (1929), and *Prices and Production* (1931). With the government bank stimulating credit creation through expanding its own liabilities, it causes inflation in the nation`s money supply and accordingly bids up the prices of goods and services (Rothbard 1969). Mises (1912) was the first one to point out that it also does something else. The expansion of bank credit lowers the natural interest rate in the economy below the level at which it would have been if based on a supply and demand equilibrium. The lower interest rate stimulates economic activity, so large scale projects which would not have been perceived as cost-effective in the higher interest rate environment can now be initiated. This leads to an increase in the demand for labor and production goods which in term bids up wages and accordingly prices of consumer goods. That upward trend can go on for some time, but it cannot go indefinitely because neither the labor force, nor the

production materials had increased. All that had increased is the quantity of paper money (Mises 1936). Another aspect of the lowering of the interest rate is the change of time-preference that it reflects (Rothbard 1969, Garrison 2005). In a free market environment the interest rate is determined by the time-preference of the participants in the economy. Present goods or money, which are readily available now are being exchanged for a future good, an IOU that can only be spent at some future point. Of course people always prefer money in the present rather than getting the same amount of money, but some time in the future, so that is why the present money or present good have a premium in the market over the future money or future good. That premium is the interest rate and it is determined by people's preference as to how much they are willing to save and invest compared to consume at present. A fall in the time-preference leads to more saving and investment, less consumption, lower interest rates and economic growth (Rothbard 1969, Garrison 2005). When the interest rate decreases not because of a change in the time-preference of the participants in the market, but artificially because of the expansion of credit, businesses act as they would always do if savings had genuinely increased, they expand their investments in capital goods and construction compared to the production of consumer goods. Mises (1936) argues that the inflationary boom can continue uninterrupted as long as the majority of the participants in the market believe that the upward movement will stop in the close future, so when they realize that there is no reason for the inflation to stop a panic sets in and suddenly the majority becomes hesitant to exchange money for goods as now keeping money implies loss of value. Such was the case Mises (1936) suggests in Weimar Germany between 1921 and 1924. All prices rise as well as foreign exchange rates while the local currency goes almost to zero to the point where the value of the currency collapses.

Another possible outcome presents if the banks decide to stop the expansion of credit on time in order to save themselves and prevent a collapse (Rothbard 1969). When they do that, on the other hand, many business projects, especially the lengthy and costly ones which have been launched during the period of low interest rates, now do not appear sustainable because of the higher borrowing costs. Such enterprises are now forced either to cut down on their operations or even close down. The halt in credit creation makes prices go down and now all the projects which appeared profitable in the lower interest rate market are threatened by more expensive borrowing costs and lower commodity prices (Mises 1936).

Once the cycle reverses and a depression sets in, it becomes very difficult to acquire new loans because of the general credit restriction alongside rising interest rates. Mises (1936) explains why during times of depression, even an artificial lowering of the rate of interest fails to stimulate the

economy. He argues that even though the cash reserves of individuals and banks might grow, the depression continues as these funds stay inactive. Now the risk of possessing an interest-bearing securities is not compensated by a corresponding increase in the rate of interest, so banks and investors hold their money in order to protect themselves from a potential devaluation. Instead of investing their capital people prefer to allow their bank accounts to grow even though the profitability of that is very low or even hold gold, which not only pays no dividend, but also involves storage expenses.

The period of depression is also prolonged if the authorities try to prevent wage levels from going down. Mises (1936) argues that if wages are not allowed to go down after the inflationary boom this results in a persistent and massive unemployment. The business cycle theory postulates that the depression is over only after prices and wages are allowed to adapt to the quantity of money in circulation (Mises 1912, Mises 1936, Rothbard 1969). The longer the period of inflationary boom is, the longer is the period of speculative malinvestments and accordingly the longer is the period of recovery before returning to normal economic activity. In his 'America's Great Depression' (1963) Murray Rothbard argues that all attempts to stimulate economic activity by prolonging the period of credit expansion can only produce a very short term results while sowing the seeds for an even worse situation in the near future that would prolong the depression as more massive distortions, malinvestment and capital misallocation will inevitably result in more time needed for the level of prices, wages, and interest rates to adjust.

In his "Time and Money: The Universals of Macroeconomic Theorizing" Garrison (2005) provides a comprehensive graphical exposition of the Austrian business cycle theory. Figures 1a and 1b provide a summary of the core of the theory using the common macroeconomic concepts of saving and investment. The level of investment is influenced by the supply and demand for credit resources. The supply of loanable funds is reflected by the willingness of individuals to save at different interest rates and the demand, on the other hand the willingness of businesses and entrepreneurs to borrow and undertake investment projects. The two figures represent the equilibrium in the credit market: the rate of interest on the vertical axis is i and the amount of saved income and borrowed for investment is A , as shown on the horizontal axis.

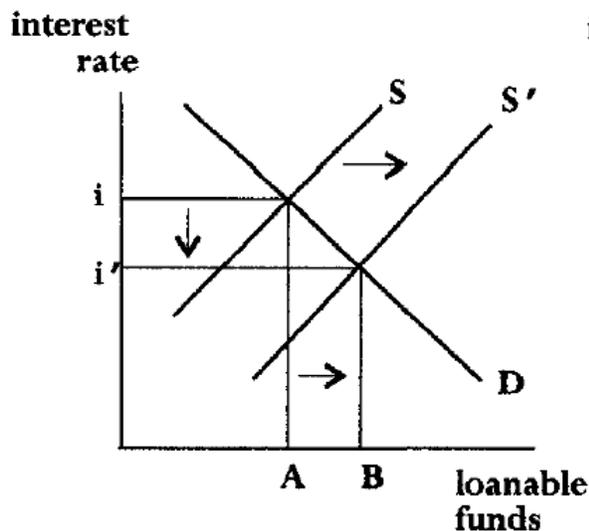


Figure 1a

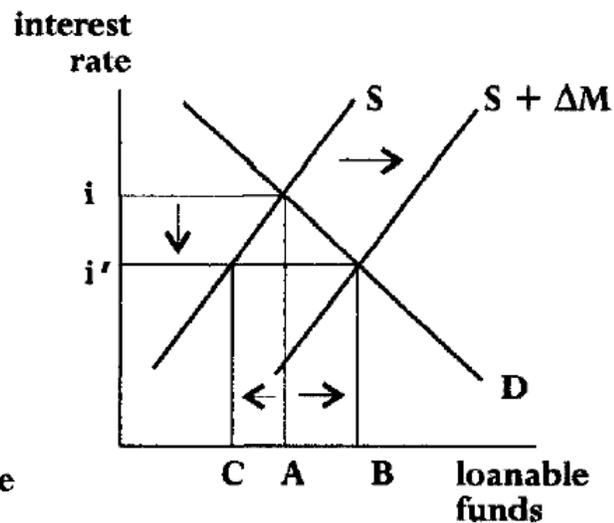


Figure 1b

Source: Garrison (2005)

Both figures show an increase in the supply of credit and the initial effects on the interest rate and the level of borrowing for investment. The outcome of the process is different depending on whether the increase in the supply of credit is a result from an increase in savings by individuals or from credit expansion. Figure 1a shows an outcome where people have become more future oriented, shifting present consumption for the future, which leads to increase of savings and loanable funds which in term leads to a lower interest rate, from i to i' . The increased economizing by the people shifts the supply curve from S to S' . Now businesses are beginning, undertaking projects that in the previous higher interest rate market were not considered profitable. The economy's productive capacity is increasing and that leads to a genuine expansion of the economy (Garrison 1996).

Figure 1b points out how the scenario plays out when the increased supply of loanable funds does not come as a result from an increase in savings, but rather increase credit creation. The supply curve shifts from S to $S + \Delta M$ assuming that people have not become more future oriented, but rather the supply of credit increased because of new money injected into the credit market. The fall of the interest rate from i to i' leads to increased business investment by the amount AB where at the same time the actual savings rate falls down to AC . The interest rate in that case is kept artificially low and stimulates growth in the absence of any new savings. At some point investment should fall back in line with the actual rate of savings which inevitably leads to a bust (Garrison 1996).

Figure 1a and 1b illustrate the concept of overinvestment in the trade cycle theory which is the difference between the actual rate of savings and the supply of loanable funds - CB. On the other hand, another central aspect of the theory – the much more complex concept of malinvestment which essentially is the misallocation of capital during inflationary booms is not represented on figure 1b. The idea of capital misallocation was largely developed by F. A Hayek (1931) who illustrated the multi-stage, time-consuming production process through the so called ‘Hayekian triangle’. As explained by Garrison (2005) the interest rates governs not only the levels of investment in the economy, but also the allocation of resources within the investment sector. He argues that the economy’s temporal structure of production consists of investment subaggragates defined by their temporal relationship to the consumer goods they help to produce. Research and development, for example, or mining are more distant to the output of consumer goods than retail and wholesale operations, which are temporally closer to the final goods in the hands of consumers. An increase in savings would imply a change in the consumption pattern, i.e shifting consumption to the future, which gives a signal to businesses and entrepreneurs to favor long-term investment projects than current production of consumer goods. A credit driven decrease in the interest rate, on the other hand creates a disequilibrium between the current spending pattern of income earners and the production decisions that generated their income (Garrison 1996). The mismatch between earning and spending eventually turns the boom into bust as the boom eventually gives way to a high real rate of interest as overinvested market participants bid against one another for increasingly scarce resources and the recession that follows the inflationary boom is simply the market’s way of recognizing the sustainability of the growth (Garrison 2005). Liquidations and capital restructuring follow and they are the process through which economic activity is brought back in line with consumption preference (Garrison, 1996).

There is not one general theory that can explain all economic crises because as argued by many scholars (Garber, 2000; Kindleberger, 197; Wen and Wang, 2010; Rajan, 2005; Mendoza and Terrones, 2008; Dell’Ariccia, 2013) crises are determined by a wide variety of different factors. On the other hand, however, it could be argued that the crises instigated by excess of credit expansion follow the boom-bust pattern expressed in the Austrian theory of the business cycle.

Data and Methods

This study relies primarily on secondary qualitative and secondary quantitative data. The secondary data extracted from different sources allows for a better understanding of the context and helps in the identification and narrowing down of an area of research that is often concerned with extreme complexity. The secondary sources also aid at singling out suitable variables which help in identifying the appropriate themes and questions of the paper.

The study is looking to find support for an existing hypothesis relying on a theory which, even though is not new, is rarely applied to that particular historical period. The study employs a qualitative exploratory design which allows for a flexibility and adaptability to new evidence and facts (Adams & Schvaneveldt, 1991). According to Bryman (2012) such exploratory design involves three main techniques, including literature search. For the purpose of this study a thorough literature search has been carried out in an attempt to identify and establish a relevant context and theoretical framework.

According to Bryman (2012) the most viable approach to qualitative analysis of data is the content analysis technique which allows for the identification of the recurring themes in the material. For that reason a thematic analysis approach combined with a form of open coding was employed and introduced together with a grounded theory which, according to Bryman (2012) is the prevalent framework for qualitative data analysis. The combination between open coding and thematic analysis signifies a more explanatory approach of the researcher (Bryman, 2012).

Employment of secondary sources of data is always associated with a certain risk of bias, but the paper is trying to minimize that risk combining several perspectives to the research to provide a comprehensive description of the phenomenon in question (Wisker 2009), ensure that the outcome is not accidental and generate credible and reliable results (Yin, 2009).

Empirical Findings

Panic of 1819

The Panic of 1819 was the first major economic crisis in the US and its origins can be traced to the aftermath of the Napoleonic Wars (1803–1815) (Rothbard, 1962). In his *Panic of 1819* (1962) Murray Rothbard argues how the economic landscape in the US changes after the introduction of the Second Bank of the United States in 1816 which is established to offset the widespread circulation of private bank notes created as a result from the acquired debt following the War of 1812. The War of 1812 between the US and Great Britain occurs largely as a result of many issues remaining unresolved from the American Revolutionary War like trade restrictions imposed by the British or the British support for some Indian tribes against the American expansion (Stagg 1983). During the War of 1812 there is no operational national bank in the US as the First Bank of the United States is abolished the previous year 1811. In the absence of a national bank the money for the war were borrowed from private banks. Private banks were issuing their own currency and accordingly the extensive borrowing on the side of the government results in a widespread circulation of different bank notes. In the aftermath of the war the question about the need of another National Bank is raised with the consensus being that such institution is needed to lend money to the US government in extreme situations like a war. So, in 1816 the Second Bank of the United States is established and according to Rothbard's (1962) analysis the bank engages in an inflationary boom during the first years of its existence. Some statistics provided by Rothbard (1962) suggest that the Second Bank of the United States, notably expands the money supply after issuing 19.2 million dollars in paper money while at the same time having specie worth of 2.5 million dollars to back it up with. The expansionary behavior of the National Bank can also be related as argued by Rothbard (1962) to the establishing of many new state banks, which numbers are rising from 232 in 1816 to 338 in 1818. Rothbard (1962) suggests that the total money supply of the nation is increasing from around 70 million dollars in 1816 to 95 million in 1818.

The expansion of the notes of the National bank provided an opportunity for the private banks to expand credit as well (Woods 2011). The Second Bank of the United States is established to act as a limiting force and offset the wartime expansion of the private banks notes, but in reality the banks continue to expand not only in number but in note issues as well and without the obligation of redeeming in specie. But why it happens that in the situation, not just the National Bank, but the other banks as well begin issuing much more notes than they have precious metals in their vaults to

back it up with and more importantly why they think they can get away with it? Woods (2011) suggests that such development can be attributed to the, so called right of suspension of specie payment. The suspension of specie payment basically means that when a bank cannot meet its depositors demands it can legally refuse to honor its depositors request for withdrawal and Woods (2011) argues that such legal right largely subsidized the expansionary behavior.

It is worth mentioning that contemporaries of the Panic of 1819 were not clueless about the expansionary policy of the National Bank and the consequences of that. An editorial writer called William Legget (1984:92) for examples writes the following about the Panic of 1819: “For the two or three years preceding the extensive and heavy calamities of 1819 the United States bank, poured out its issues at such a lavish rate that trade and speculation were excited in pre-natural manner”.

Rothbard (1962) argues that in the aftermath of the War of 1812 the prices of the domestic goods rose under the impact of the vast expansion of the money supply and the peacetime settled with a scramble for foreign trade as total imports rose from \$5.3 million in 1811 to \$113 million in 1815, and to \$147 million in 1816 with British exports to the United States alone totalling \$59 million in 1815, and \$43 million in 1816. He continues that investment in real estate, turnpikes, and farm improvement projects increased dramatically alongside the prices in these fields. Rothbard (1962) argues that the federal government facilitated large-scale speculation in public lands by opening up for sale large tracts in the Southwest and Northwest by granting very loose credit terms to buyers, which led to public land sales averaging \$2 million to \$4 million per year in 1815 and 1816, to a peak of \$13.6 million in 1818.

Rothbard (1962) explains that in the summer of 1818 the Bank of the United States was struggling to maintain specie payments and the emergence of a premium for specie on the market led to loss of confidence in the banking system. The problem was aggravated by the pressure of paying the Federal debt and mostly the repayments of the Louisiana purchase which were owed abroad and had to be repaid in specie (Rothbard 1926). The result of that pressure led to a series of contractions of credit and forced curtailment of credit by the National Bank. The branches of the Bank were ordered to call on the state banks to redeem heavy balances and notes held by the Bank. Rothbard (1962) argues that the contractionist policy forced the state banks, in debt to the Bank, to contract their loans, the result of which was that the bank notes in circulation estimated at \$68 million in 1816 fell to \$45 million in January, 1820. The severe monetary contraction, lasting through 1820, led to a wave of bankruptcies throughout the country and a panic resulting in an eagerness to sell stocks of goods at very low rates. The increased demand for liquidity, Rothbard (1962) argues, was followed by a heavy drop in commodity prices, land, and rent prices, drop in public land sales

and higher interest rates accommodating the scarcity of loanable funds. Accordingly, manufacturers suffered from the general price decline, but the contraction in credit as well, which led to drastic declines in employment in the cotton, woolen and iron industries (Rothbard 1962).

The process of debt liquidation and monetary contraction lasted until 1821 when signs of recovery finally appeared following a normalization in banking activities. Rothbard (1962) finds that the Panic of 1819 has a lot of similarities with later financial crises: expansion of bank notes; followed by a specie drain from the banks both abroad and at home; a crisis with a contraction of bank notes, runs on banks, and bank failures. In another work of his Rothbard (1983) argues that the fact that many states permitted banks to suspend specie payments during the panic prolonged the adjustment period and accordingly the depression. One of the best political economists of the American 19th century, William Gouge famously writes about the Panic of 1819 in his 'A Short History of Paper Money and Banking in the United States' published in 1833: ""The bank was saved, but the money was ruined." referring to the paper money inflation of the Second Banks of the United States.

The Panic of 1837

The Panic of 1837 can be traced back to a vast monetary inflation beginning in 1830 (Temin, 1969; Trask, 2002; Rothbard, 1983 & 2002, Woods 2011). For just a few weeks in April 1837 more than 200 businesses fail while the losses from bank failures in the next two months are around \$100 million, resulting in 343 out of 850 banks close, 62 partially fail and shock in the banking system from which it never fully recovers (Bancroft 1902). In his 'History of Money and Banking' Murray Rothbard (2002) provides statistics of the increase of the total money supply over the period preceding the Panic of 1837. The total money supply had risen from \$109 million in 1830 to \$159 million in 1833, an increase of 45.9 percent, or an annual rise of 15.3 percent. Breaking the figures down further, Rothbard (2002) suggests that the total money supply had risen from \$109 million in 1830 to \$155 million a year and a half later, which accounts for a 35 percent increase. He blames the expansion on the Bank of the United States, which increases its notes and deposits from January 1830 to January 1832 from a total of \$29 million to \$42.1 million, a rise of 45.2 percent. The total money supply is rising from \$150 million at the beginning of 1833 to \$267 million at the beginning of 1837, or an 84 percent, meaning 21 percent increase per year. Like during the Panic of 1819 the Bank of the United States acts as an expansionary subsidy rather than a limiting force for the state banks (Rothbard 1962). Trask (2002) explains that the proponents of central banking in the 20th century have blamed the Panic of 1837 on President`s Jackson's policy against the Second Bank of

the United States by depriving it of its regulatory powers over the state banks and providing the latter with the public money as a speculating fund. However the works of scholars like Temin (1969) and Rothbard (1962) suggest that the monetary inflation began already in 1830 while Jackson`s removal of the federal deposits from the Bank of the United States is happening in 1833. However, both Temin (1969) and Trask (2002) agree that by depositing the government funds in the state banks, President Jackson did contribute to the inflation of the mid-1830s. Temin (1969) argues that the monetary inflation was made worse by the influx and then the retention of Mexican silver. However Trask (2002) points out that in fact it was the fractional reserve banking that caused the inflation rather than the influx of Mexican silver by itself as for every new Mexican silver dollar deposited in a bank by an American merchant or manufacturer, the bank created at least five new paper dollars or paper credits. The rapid increase in the money supply of the 1830`s results in rising prices and business boom (Trask 2002). The inflationary boom is orchestrated by the Second Bank of the United States (Woods 2011) and the editorial writer of that time William Legget (1984:93) recognizes in 1830`s that artificial credit creation is to blame about the unsustainable boom. His analysis of the period leading to the Panic of 1837 is as follows:

“What has been, whatever must be, the consequences of such a sudden and prodigious inflation of the currency? Business stimulated to the most unhealthy activity; a vast amount of overproduction in the mechanic arts; a vast amount of speculation in property of every kind and name, at fictitious values; and finally, a vast and terrific crash, when the treacherous and unsustainable basis crumbles beneath the stupendous fabric of credit, and the structure falls to the ground, burying in its ruins thousands who exulted in the fancied security of their elevation. Men, nowadays, go to bed deeming themselves rich, and wake in the morning to find themselves stripped of even the little they really had. They count, deluded creatures! on the continued liberality of the banks, whose persuasive entreaties seduced them into the slippery paths of speculation. But they have now to learn that the banks cannot help them if they would, and would not if they could. They were free enough to lend their aid when assistance is not needed; but now, when it is indispensable to carry out the projects which would not have been undertaken but for the temptations they held forth, no further resources can be supplied”.

In 1837, the boom comes to an end, as Mexico is forced to discontinue its copper coin issue by the outflow of silver, while the Bank of England, worried about inflation at home, tightens its own money supply by raising interest rates (Rothbard 1983). The late 1836 contraction in the English money supply causes a bust in the American cotton export trade in London, followed by pressure for a demand for specie on the American trade and the banks (Rothbard 1983). Like during the Panic of 1819 the bank`s answer to the demand for specie was an allowed by the government suspension of specie payments in May 1837. Legget (1984:98) writes the following:

“Any person who has soberly observed the course of events for the last three years must have foreseen the very state of things which now exists.... He will see that the banks ... have been striving, with all their might, each emulating the other, to force their issues into circulation, and flood the land with their wretched substitute for money. He will see that they have used every art of cajolery and allurements to entice men to accept their proffered aid; that, in this way, they gradually excited a thirst for speculation, which they sedulously stimulated, until it increased to a delirious fever, and men, in the epidemic frenzy of the hour, wildly rushed upon all sorts of desperate adventures. They dug canals, where no commerce asked for the means of transportation; they opened roads, where no travelers desired to penetrate; and they built cities where there were none to inhabit....”

According to Rothbard (1983) and Woods (2011) the allowed suspension of specie payments led to a depreciation of bank notes at varying rates which crippled the interregional trade within the United States. The suspension of specie payments in 1837 is followed by a contraction of bank credit. However, in the following year New York state banks are forced by law to resume their payments in specie which quickly results in other banks resuming specie payments as well. Rothbard (1983) suggests that during 1837 the money supply fell 16 %, wholesale prices by over 30% while gold continued to flow into the country. He argues that such deflationary period was healthy for the economy as this was the market's way to recover from the monetary inflation and prices to adjust to the quantity of money in circulation. That healthy deflation Rothbard (1983) argues, brought back a relatively quick recovery in 1838. However, after the resumption of specie payments restored confidence in the banking system state governments embarked on a new spending spree with borrowed money on public projects relying that the newly issued bonds will be bought up mostly from Britain as cotton prices were rising and the volume of cotton trade with Britain as well (Rothbard 1983). When cotton prices started falling down in the beginning of 1839 the pressure on trade and the banking system was renewed. The Bank of the United States, which was heavily invested in the cotton trade was forced to suspend specie payments again in the autumn of 1839 triggering a new episode of general bank suspensions and contraction of credit (Rothbard 1983). The period between 1839 and 1843 saw massive monetary and price deflation and also the shutting down of the National Bank in 1841.

Murray Rothbard (1983) labels the deflationary periods healthy for the economy as they allow for the liquidation of unsound investments, debts and banks, including the Bank of the United States. He also argues that the effects of the massive deflation do not have the same devastating effect on the real economy as to the banking system. He points out that even though the rate of real investment for the period 1839-1843 falls by 23% the real consumption increases by 21% as well as the real GNP by 16%, which oddly enough makes the deflationary period an era of economic

growth and provides some support for the notion that the crises of the 19th century “tended to inflict the most damage on the people who were gaming the system and getting the most out of it.”(Thornton 2015).

The Panic of 1857

The Panic of 1857 comes as a result from a preceding inflationary expansion of the money supply (Woods 2011, Soto 2009) which leads to a boom in the most capital-intensive industries of the time – railroad construction and mining companies (Soto 2009). The subsequent downturn in these industries impacts the iron, steel and coal industries and on August 22, 1857 a panic sets in with many banks suspending operations (Soto 2009). Many scholars agree that the origins of the Panic of 1857 are rooted in the financing of the western railroads and the land speculation in the eastern financial markets (Calomiris and Schweikart, 1991, Riddiough and Thompson, 2011, Woods 2011, Soto 2009). Calomiris and Schweikart (1991) argue that the proximate cause of the panic was the bankruptcy of securities brokers who borrowed from eastern banks to finance their dealings in the stock and bond markets.

Similar explanation is provided by Riddiough and Thompson (2011) who label the Panic of 1857 the first sub-prime mortgage crisis and relate to Calomiris and Schweikart (1991) paper concluding that the declining fortunes of the western railroads as well as the decline in western land value, along with a concentration of asset risk and reserve drain in New York City banks explain the origins of the panic. Most of the existing literature on the Panic of 1857 places a great importance on the failure of the Ohio Life Insurance and Trust Company as a signal for the onset of the crisis, but Riddiough and Thompson (2011) are the first to point out more specifically the reasons behind the failure. They describe the company as a prominent shadow bank at the nexus between eastern finance and western economic development and argue that Ohio Life Insurance and Trust Company case is indicative of all that was wrong in the economy at the time. Their analysis show similarities to the sub-prime mortgages and their securities issued prior to the Financial Crisis of 2007-08 such as analogous lending and securities practices that include no documentation mortgage loans with a deferred interest payment obligation, inflated property appraisals in support of high loan amounts, inadequate and misleading disclosure to potential security investors, and improper accounting at the time of securities issuance in which the issuer assumed significant liability in the event of poor securities investment performance.

Woods (2011) also suggests that states had even backed railroad bonds, promising to make good

on those bonds if the railroad companies did not which, according to him encouraged more speculative borrowing and contributed to the crisis. Riddiough and Thompson (2011) base their analysis on the examination of 17 representative railroad companies of the time and is focused on two financial innovations - the railroad farm mortgage and the farm mortgage-backed security which, according to them are largely responsible for a speculative investment environment, which fed the western railroad construction boom. Riddiough (2012) recognizes that the two prior panics in the 19th century and especially the Panic of 1837 have direct consequences to the build up to the Panic of 1857. He points out that after defaulting on their bonds after the Panic of 1837, many states had to restrict public funding for transportation projects which shifted the burden of financing such projects to cities and individuals. Moreover, he explains that prior to 1837 significant amount of foreign capital coming from England and Europe was helping the funding of such projects, but after the crisis of 1837 these funds dried up quickly as foreign investors lost confidence after the crash. The California gold rush of 1848-1849 Riddiough (2012) argues, changed the attitude of foreign investors, which led to an influx of foreign capital and a railroad boom starting 1850. He estimates that for the period 1850-1856 more than 25% of the US GDP was derived from the railroads. The increased demand for agricultural products in the light of the Crimean War (1853-1856) was a contributing factor to the railroad boom as it encouraged both farming activity and migrating to the western states as well as railroad tracks being laid well ahead of demand Riddiough (2012). Huston (1983) argues that the end of the war in Europe contributed to a falling food commodity prices starting in 1855 and declining demand which caused a sharp decline in the railroad share prices. These declines Riddiough and Thompson (2011) argue meant increases in the cost of equity capital for the railroad companies and came at the time when the railroad boom was at its peak. The implications of such development for the railroad companies were that they had to use more debt relative to equity to finance themselves, which resulted in higher-leveraged firms that became increasingly creative in the ways they sourced and packaged finance, with many railroads engaging in stock-watering schemes, off-balance sheet financings, and generally doing anything possible to raise capital without disclosing its true cost or its leveraging effects (Riddiough 2012). Riddiough and Thompson (2011) explain how the railroad companies began approaching farmers whose property lay near the path of the railroad line asking them to mortgage their farm to the railroad in return for shares of stock in the railroad where the dividends from the stock would be at least equal to the interest required on the mortgage. Such transaction was very lucrative from the farmer`s perspective because at no apparent cost the farmer increases the value of its land and gets to share the success of the railroad company through its appreciating stock (Riddiough and

Thompson 2011). Riddiough (2012) explains that in essence this was a sub-prime loan and even better than the sub-prime loans offered during the Crisis of 2007-08 in that the railroad farm mortgages were high-leverage, no-documentation, no-down-payment loan that also required no mortgage payment at all. For the part of the railroad company the deal meant that the railroad could claim that it successfully sourced local equity capital and now proceed to monetize the railroad farm mortgage by issuing a farm mortgage-backed security, effectively a covered bond offered by the railroad company to investors on the east coast and in Europe. Based on their sample analysis of the western railroads Riddiough and Thompson (2012) find out that there is no evidence of any interest paid on the railroad farm mortgages bonds and since non-payment of interest would have constituted a default on the bonds while at the same time none of the bonds were declared to be in default prior to default of the largest mortgage holder – Ohio Life Insurance and Trust Company on August 24, 1857, they suggest that the interest costs were buried somewhere in the company's books in order not to reveal the fact that the railroad farm mortgage bond interest obligation was the company's, not the farm mortgagor's. Such scheme Riddiough and Thompson (2012) argue essentially allowed the railroad companies to report significantly lower leverage ratios and to acquire much more debt as their true financial condition would otherwise allow them. The question if the banks issuing the loans were aware of the misleading accounting remains, and probably can never be answered in the absence of enough evidence from the period. Such question, on the other hand is very similar to the question if the banks prior to the Crisis of 2007-08 were aware that they are issuing risky mortgages to credit unworthy borrowers. Riddiough and Thompson (2012) analysis shows that is likely that leverage was understated for all of the western railroads in their sample which suggests the high degree of excessive credit creation that is taking place prior to the panic. Trask (2002) estimates the increase in the money supply for the three years preceding the panic from \$575m. to \$647m.

In contrast to the preceding two panics of the 19th century, but especially the panic of 1837-1843, the Panic of 1857 is mild and quick as the pressure for liquidity passes over the course of the winter following the onset of the crisis in August (Trask 2005). Many railroad companies and banks fail, but the rapid liquidations put businesses into motion already by the next spring (Trask 2005). Woods (2011) argues that the decision of President James Buchanan to allow the liquidation to run its course contributed to fast recovery. President Buchanan shares in his first annual message: "*It is apparent that our existing misfortunes have proceeded solely from our extravagant and vicious system of paper money and bank credits.*" (Woods 2009:92). Buchanan also points out that as long as banks were permitted to expand credit beyond the level of deposits they held on reserve, "*these revulsions must continue to occur at*

regular intervals.” (Woods 2009:92). For the first time in the 19th century a legislation encouraged by the President was passed by Congress to provide an immediate forfeit of a bank charter in the event that the bank suspended specie payments which Woods (2011) argues discouraged further excessive issuance of new credit, preventing further inflation of the boom and contributed to the quick stabilization of the economy.

Analysis

The business cycle theory is consistent with the financial crises of the first half of the 19th century as far as they can be traced back to monetary inflation. The panics of 1819, 1837 and 1857 occur after economic booms that eventually prove to be unsustainable. It could be argued that monetary inflation is just part of the whole picture and does not tell the whole story or that the expansion of the money supply through credit preceding all three crises is just a simple correlation and does not necessarily explain the crises. Such reasoning has valid grounds only if there was no articulated economic theory that explains such causation. To a certain extent the origins of these crises find an explanation in the theory of the business cycle.

The development of the Panic of 1857, also suggests that in the absence of a national bank the monetary inflation was on a much smaller scale and accordingly the following recession is much shorter than compared to the preceding crises. The panics of 1819 and of 1837 are developing during the period of existence of a government bank. The First and Second banks of the US engage in monetary inflation and instead of acting as limiting force to the other banks they encourage more risk taking and issue more money than can be redeemed in gold. Even though the first two national banks are not central banks in the modern context, they still have the same effect on credit expansion. The Panic of 1857 develops in the absence of a National Bank and no form of relief is offered to the banking system during the crises. As a result the liquidations after the panic are rapid and the recession lasts only six months.

The business cycle theory postulates that monetary inflation and longer inflationary periods are associated with longer period of recession as the market economy needs more time to clear up the distortions and misallocations of capital. The development of the three panics in the first half of the 19th century suggests that the deeper contractions of the economy are associated with the size and scope of the monetary inflation. Rothbard`s (1962) statistics suggest an increase in the money supply

from \$70 million dollars in 1816 to \$95 million in 1818 and prior to the panic – a 36% increase in two years resulting in a depression taking place between 1819 to 1821. Scott Trask (2002) provides banking and currency estimates for the periods from 1830 to 1837 to illustrate the excesses of the boom period. The money supply increases from \$134 million in 1830 to \$311 million just prior to the panic – a 132 percent increase and 7 years of monetary inflation the result of which is a massive contraction of the economy that takes place between 1839-1843. Trask's (2002) estimates for the three years prior to the Panic of 1857 show an increase in the money supply by 12 percent. These estimates support the notion that the higher the monetary inflation is, the longer is the period of recession.

The period leading up to the Panic of 1857 correspond to Rothbard's (1962) argument about the natural behavior of the banking system to expand credit, but having to face consequences for reckless risk taking in the absence of a government bank. The crisis occurs during the period of free banking which is the closest historical period to the description of the truly competitive market environment, according to Mises (1912), Hayek (1931), and Rothbard (1962). The evidence from Riddiough and Thompson (2011) suggests that financial practices similar to the modern sub-prime lending allowed business and banks to fuel a speculative. As Rothard (1962) argues, when there is no government bank the consequences of the excessive expansion by a bank are imminent because with quickly increasing debt obligations it makes its competitors suspicious and they request redemption in cash or gold. By doing so, they keep the bank in check and prevent the inflationary boom from continuing, forcing everyone to keep the money supply on its natural free market level. The failure of Ohio Life triggers the Panic of 1857 and even though it is not clear what exactly causes the run on the bank, it is clear, according to (Riddiough, 2012), that the bank is almost entirely invested in the railroad boom. The most risk taking bank is the first to face bankruptcy.

The crises of the first half of the 19th century have in common that the investment booms occur in the most capital-intensive industries of the time – railroad construction, mining, building of turnpikes, etc. and accordingly the downturns begin from them. During 1857 the slowdown also impacts the steel and coal industries after the decline in mining and railroad profits. According to the Austrians such development follows the effects of the increased supply of credit on the interest rate and level of borrowing for investment. According to (Riddiough & Thompson, 2012) in the case of 1857 is clear that the railroad companies suffered most during the recession.

During the crises of 1819 and 1837 banks are permitted to cease operations if they cannot meet their depositors demands. It could be argued that such legislation encourages more risk taking and prolongs the speculative boom. What is different during the Panic of 1857 is that for the first time the banks are facing an immediate forfeit of their charter in the event that they suspend operations. The prospect of losing the right to do business legally is a major difference in 1857 compared to the crises before. The liquidity of the government bank and the legal right to suspend payments in gold during the panics of 1819 and 1837, may have encouraged more risk taking, caused more distortions and longer recessions. Accordingly, the opposite development after the Panic of 1857 suggests that the banks acted more cautiously.

Conclusion

Research on financial crises is very important, especially in the present times of uncertainty and slowing global economy. The complexity of the financial markets today makes the crises of the 19th century an opportunity to investigate a phenomenon in a relatively simpler economy but still interconnected. Modern scholars find evidence that the exotic financial instruments that we are using today probably originate in the middle of 19th century, so a good perspective on that period could also benefit current understanding.

The Panic of 1857 to a certain extent share similar origins with the preceding two crises, yet in the absence of a Central Bank and a privilege to suspend specie payments, the recession was the mildest in the 19th century. The conventional wisdom that government stimulus is necessary to end the recession is wrong in the case of the Panic of 1857. With falling money supply, rising interest rates and no increased government spending the recession is much shorter compared to the preceding two crises. The periods leading up to the panics of 1819, 1837 and 1857 suggest that lower monetary inflation and the absence of a government bank results in less severe crises. Compared to the Great Depression and the Great Recession the crashes of the 19th century are shorter and the economy tends to recover faster while the business that suffer the most, especially in the case of 1857, are the people more or less responsible for the crisis.

REFERENCE LIST

ADAMS, G.R., & SCHVANEVELDT, J.D., (1991). *Understanding Research Methods*. Longman Group.

ALLEN. L., (2001), *Global Financial System 1750-2000*. London: Reaktion Books

BANCROFT, H. H., (ed.), (1902), *The Financial Panic of 1837. The Great Republic By the Master Historians*, Vol. 3.

BÖHM-BAWERK, E., (1884), *Capital and Interest*. [Online]. Available from: <https://mises.org/library/capital-and-interest>. [Accessed: 6th May 2015].

BRYMAN, A., (2012). *Social Research Methods*. (4th ed.) New York: Oxford University Press

CALOMIRIS, C. W., & SCHWEIKART, L., (1991). "The Panic of 1857: Origins, Transmission, and Containment". *Journal of Economic History* 51: 807–834.

CLAESSENS, S., & KOSE, M. A., (2014), *Financial Crises: Explanations, Types, and Implications*. In: CLAESSENS, S., KOSE, M. A., LAEVEN, L., & VALENCIA, F. (eds.). *Financial Crises: Causes, Consequences, and Policy Responses*. Washington: IMF Publications.

DELL'ARICCIA, G., IGAN D., LAEVEN. L & TONG, H., (2014), "Policies for Macrofinancial Stability: Dealing with Credit Booms and Busts". In: CLAESSENS, S., KOSE, M. A., LAEVEN, L., & VALENCIA, F. (eds.). *Financial Crises: Causes, Consequences, and Policy Responses*. Washington: IMF Publications.

FISHLOW, A., (1965), *American Railroads and the Transformation of the Ante-Bellum Economy*. MA: Harvard University Press

GARBER, P. M., (2000), *Famous First Bubbles: The Fundamentals of Early Manias*. Cambridge: MIT Press.

GARRISON, R. W., (2005), Time and Money: The Universals of Macroeconomic Theorizing, [Online]. Available from: <https://mises.org/library/time-and-money-universals-macroeconomic-theorizing>. [Accessed: 23rd April 2015].

GARRISON, R. W., (1996), Central Banking, Free Banking, and Financial Crises. In: *Review of Austrian Economics* 9, p. 109-128. [Online]. Available from: <https://mises.org/library/central-banking-free-banking-and-financial-crises>. [Accessed: 10th May 2015].

GIBBONS, J. S., (1859), "The Banks of New York, Their Dealers, the Clearing House, and the Panic of 1857". New York: D. Appleton & Co.

GOUGE, W., (1833), A Short History of Paper Money and Banking in the United States, p.100, [Online] Available from: <https://mises.org/library/short-history-paper-money-and-banking-united-states> [Accessed: 24th April 2015].

HAYEK, F. A., (1976), Denationalization of Money, The Argument Refined, [Online]. Available from: <https://mises.org/library/denationalisation-money-argument-refined>. [Accessed: 7th April 2015]. p. 102.

HAYEK, F. A., (1931), Monetary Theory and the Trade Cycle, [Online]. Available from: <https://mises.org/library/monetary-theory-and-trade-cycle-0>. [Accessed: 6th April 2015].

HAYEK, F. A., (1931), Prices and Production, [Online]. Available from: <https://mises.org/library/prices-and-production>. [Accessed: 7th April 2015].

HUSTON, J. L., (1983), Western Grains and the Panic of 1857, *Agricultural History*, 57 (1), pp. 14-32. [Online]. Available from https://www.jstor.org/stable/3742656?seq=1#page_scan_tab_contents [Accessed: 25th May 2015].

HUSTON, J. L., (1987), The Panic of 1857 and The Coming of the Civil War. Baton Rouge: Louisiana State University Press

KEYNES, J. M., (1936), The General Theory of Employment, Interest and Money. London:

Palgrave Macmillan

KINDLEBERGER, C., (1978), *Manias, Panics, and Crashes: A History of Financial Crises*. New York: Basic Books

LEGGETT, W., (1984), *Democratick Editorials: Essays in Jacksonian Political Economy*, (ed). Lawrence H. White, Indianapolis: Liberty Press, p. 93 – 98

MENDOZA, E. G., & TERRONES, M. E., (2008), “An Anatomy of Credit Booms: Evidence From Macro Aggregates and Micro Data,” NBER Working Papers 14049.

MENGER, K. (1871), *Principles of Economics*. [Online]. Available from <https://mises.org/library/principles-economics>. [Accessed: 5th May 2015].

MISES, L., (1912), *The Theory of Money and Credit*, [Online]. Available from: <https://mises.org/library/theory-money-and-credit>. [Accessed: 6th April 2015].

MISES, L., (1936), *Socialism: An Economic and Sociological Analysis*, [Online]. Available from: <https://mises.org/library/socialism-economic-and-sociological-analysis>. [Accessed: 9th May 2015].

MINSKY, H. P., (1975), *John Maynard Keynes*. Columbia University Press.

RAJAN, R. G., (2005), “Has Financial Development Made the World Riskier?” *Proceedings*, Federal Reserve Bank of Kansas City, August, pp. 313-69.

RIDDIOUGH, T. J., (2011), *The First Sub-Prime Mortgage Crisis and its Aftermath*, BIS Papers No. 64

RIDDIOUGH, T. J., & THOMPSON, H. E., (2012), *Deja Vu All Over Again: Agency, Uncertainty, Leverage and The Panic Of 1857*. HKIMR Working Paper No.10

ROGOFF, K., REINHART, C., (eds.) (2009), *This Time Is Different: Eight Centuries of Financial Folly*. NJ: Princeton Univeristy Press.

ROTHBARD, M., (1969), *Economic Depressions: Their Cause and Cure*, [Online]. Available from: <https://mises.org/library/economic-depressions-their-cause-and-cure-4>. [Accessed: 7th April 2015].

ROTHBARD, M., (2002), *History of Money and Banking in the United States: The Colonial Era to World War II*, [Online]. Available from: <https://mises.org/library/history-money-and-banking-united-states-colonial-era-world-war-ii>. [Accessed: 19th May 2015].

ROTHBARD, M., (1963), *America's Great Depression*, [Online]. Available from: <https://mises.org/library/americas-great-depression>. [Accessed: 12th April 2015].

ROTHBARD, M., (1983), *The Mystery of Banking*, [Online]. Available from: <https://mises.org/library/mystery-banking>. [Accessed: 19th April 2015].

ROTHBARD, M., (1962), *Man, Economy, and State, with Power and Market*, [Online]. Available from: <https://mises.org/library/man-economy-and-state-power-and-market>. [Accessed: 10th May 2015].

ROTHBARD, M., (1962), *The Panic of 1819: Reactions and Policies*, [Online]. Available from: <https://mises.org/library/panic-1819-reactions-and-policies>. [Accessed: 5th April 2015].

SOTO, J. H., (2009), *Money, Bank Credit, and Economic Cycles*, [Online]. Available from: <https://mises.org/library/money-bank-credit-and-economic-cycles>. [Accessed: 25th April 2015]. p. 484-485

STAGG, J., (1983), *Mr. Madison's War: Politics, Diplomacy, and Warfare in the Early American Republic, 1783–1830*. NJ: Princeton University Press.

SPIEGELMAN, M., (1948). "The Failure of Ohio Life Insurance and Trust Company, 1857". *Ohio State Archaeological and Historical Quarterly* 57: 247–65.

TEMIN, P., (1969), *The Jacksonian Economy*. New York: W.W. Norton

TEMPELMAN, J., (2010), Austrian Business Cycle Theory and the Global Financial Crisis: Confessions of a Mainstream Economist. *Quarterly Journal of Austrian Economics*, [Online] Available from: <https://mises.org/library/austrian-business-cycle-theory-and-global-financial-crisis-confessions-mainstream-economist>. [Accessed: 4th April 2015].

THORNTON, M., (2015), *Why The Powerful Fear Austrian Economics, Love the Fed*, [Online] Available from: http://www.voicesofliberty.com/audio/why-the-powerful-fear-austrian-economics-love-the-fed/?utm_source=Facebook&utm_campaign=VOL&utm_medium=post. [Accessed: 4th April 2015].

TRASK, S., (2002), The Panic of 1837 and the Contraction of 1839-43, [Online]. Available from: <https://mises.org/library/panic-1837-and-contraction-1839-43>. [Accessed: 11th May 2015].

TRASK, S., (2005), William Graham Sumner: Monetary Theorist. In: *Quarterly Journal of Austrian Economics*, Vol. 8, 2. [Online]. Available from: <https://mises.org/library/william-graham-sumner-monetary-theorist-0>. [Accessed: 11th May 2015].

VLECK, V., GEORGE W., (1943), "The Panic of 1857: An Analytic Study". New York: Columbia University Press

WOODS, T., (2013), *Can We Live Without the Fed?*, [Online] Available from: <https://www.lewrockwell.com/2013/01/thomas-woods/can-we-live-without-the-fed/>. [Accessed: 4th April 2015].

WANG, P., and WEN, Y., (2010), "Speculative Bubbles and Financial Crises," *American Economic Journal: Macroeconomics*, Vol. 4, No. 3, pp. 184-221.

WICKSELL, K., (1898), Interest and Prices, [Online]. Available from: <https://mises.org/library/interest-and-prices>. [Accessed: 10th April 2015].

WISKER, G., (2009), *The undergraduate research handbook*. New York: Palgrave MacMillan

WOODS, T., (2009), *Meltdown: A Free-Market Look at Why the Stock Market Collapsed, the Economy Tanked, and Government Bailouts Will Make Things Worse*. New York: Regnery Publishing

WOODS, T., (2011), *Economic Cycles Before the Fed*, [Online] Available from:
<http://www.libertyclassroom.com/panics>. [Accessed: 4th April 2015].

YIN, R.K., (2009), *Case Study Research: Design and Methods* (4th ed.). Thousand Oaks:
Sage Publications.