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The Austrian Business Cycle Theory and the Crisis of 2008

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EXECUTIVE SUMMARY

The Austrian Business Cycle Theory (ABCT) is a theory that describes the events of boom and busts in an economy. It has its foundations with Carl Menger, Friedrich Von Mises and Eugen Von Böhm-Bawerk. The theory begins with describing how an unsustainable boom occurs, as the Central Bank expands the money supply and suppresses the market interest rate. The interest rate is an important feature of the ABCT, as it provides the people with a signal that reflects their time preference. This interest rate is in Austrian terminology called the “natural” rate of interest. The Austrian theory sees the structure of production with several stages and capital as heterogeneous, containing both a time and a value dimension. Hayek elaborated on the work of the founders, and presented the ABCT in the famous Hayekian triangle.

The ABCT is very controversial among mainstream economists as the theory has many flaws and no empirical testing. The Austrian school is against testing human action, as a matter of mathematical equations.

The ABCT seeks to explain the occurrences of boom and bust cycles with the notion that money supply expands (by the Central Bank), the market rate of interest falls below the “natural” rate of interest and entrepreneurs get a wrong signal leading to them engaging in more long term investment projects. But as this altering of the production process isn't backed by savings, the boom has to end in a bust leading to recession.

The theory doesn't find much credibility as it has some major flaws. The Austrians have a very narrow definition of money, which is somewhat misleading in a world where financial innovators develop complex derivatives, and trade them just like money. The Austrian schools belief that free markets are perfect as long as the government stays out the way is highly suspicious as well. They have furthermore an exogenous definition of money, which means that it is the issuer of money, the Central Banks, that have absolute power of how much money circulates the economy.

The Austrian school is shown not to be able to explain the crisis in a satisfying manner as there is nothing in the Hayekian triangle, and therefore the ABCT that is measurable empirically. In the same time, they set forth too many assumptions in the theory that are quite dubious.

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Chapter 1

1.0 Introduction

“The bubbling of Austrian analysis” read the headline of the Financial Times article published in 2004¹. The article mentions that more people are turning their attention towards the Austrian theory of business cycles (ABCT), in order to look for answers for boom and bust cycles. It further mentions that the Austrian theory opposes the Federal Reserve Banking (FED) system, as being the reason for these business cycles. This April another article appeared in the Financial Times, about the Austrian school of economics²; Martin Wolf writes, “I think we can say that conventional neo-classical equilibrium economics did a poor job in predicting the crisis and in suggesting what should be done in response...Yet some would argue that economists working in the Austrian tradition were more nearly right than anybody else”.

This theory views business cycles as the unavoidable consequence of the inflationary and destructive central bank policies and government interventionism. It is in a sharp contrast to the mainstream belief of a business cycle occurrence, and gives an alternative answer to our current financial crisis. Many Austrian economists are arguing that lowering interest rates, increasing government spending and borrowing and expanding the money supply will have ill consequences for the economy at a level never seen before, as a new bubble is being blown up, and this time the crash will be more severe.

The school of economic understanding one sees the world with, is an influencing factor when identifying causes and cures for business cycles. The differences between the mainstream economics and the Austrian economics are multiple, as is the historical lessons and the solutions proposed by these different schools.

¹ John Dizard. October 18, 2004. “The bubbling of Austrian economics”. <http://www.ft.com/cms/s/0/7e056be2-20a1-11d9-af19-00000e2511c8.html>

² Martin Wolf. April 1, 2010. “Does Austrian economics understand financial crisis better than other school of thought?” <http://blogs.ft.com/martin-wolf-exchange/2010/04/01/hello-world/>

1.1 Problem Statement

The ABCT is essentially different to both the Keynesian and Monetarist understanding of business cycles and macroeconomics in general. But what kind of macroeconomics is the ABCT based on? Why is it so different than the mainstream model of business cycles, and how does the macroeconomic understanding of the different schools differ? Why is there a renewed interest on the ABCT, and why does it not hold a place among the mainstream consensus? The measures that are taken to fight the crisis are argued, by Austrians, to be more damaging than doing any good. Why is that so? While most believe that the governments and central banks need to act, the Austrians believe that they have done enough harm. But the question is; on which basis do the different schools argue, and why are the solutions so different?

Based on the above matters, the following problem statement gives the direction of the thesis:

“Which insight does the Austrian Business Cycle Theory give to the present crisis, and what is the mainstream critique against it”?

In order to answer the problem statement, the following questions have to be answered:

1. What is the ABCT?
2. Where does the ABCT have its roots, and what is the mainstream critique against it?
3. Does the ABCT have any validity to explain the current crisis?
4. How is the ABCT different from the mainstream consensus in handling the crisis?

1.2 Methodology

In this section the purpose of the thesis and the theoretical approach will be discussed. Next the structure employed and the information obtained in this paper will be explained.

1.2.1 LIMITATIONS

The literature on business cycles is vast and many books have been written and many viewpoints have been set forth in the debate. The purpose of this thesis, however, is to explain the Austrian view of the current crisis, and discuss how much validity that it has. Therefore other business cycle explanations are disregarded, or touched upon briefly, in order to make use of the limited space for this thesis.

The theoretical framework of this paper will take departure in Ludwig Von Mises (Mises) and F.A. Hayek's (Hayek) explanation of the ABCT, as they are the main contributors in developing and explaining the theory. Furthermore, the work of Eugen Von Böhm-Bawerk (Bawerk) and Knut Wicksell (Wicksell) will be examined as well, as these economists inspired the former named economists. Other Austrian economists will find their way to this thesis when founded suitable, but the main contributors will be the aforementioned.

There aren't in this thesis conducted any empirical testing, as it has been found unfeasible. This is described in more details later in the thesis.

The American economy is the leading in the world and most influential. Most central banks around the world adapt their policies according to the FED, and it can be argued, that the US is where the first events took place, that led to a worldwide recession. Therefore, the discussion of the ABCT will have its main centre of attention, on the US economy.

1.2.2 PERSONAL CHALLENGE

The topic of this thesis was chosen, as the Austrian school of economics caught my attention, during the current financial crisis. The Austrian explanation had a renaissance during the height of the crisis, and their theory of business cycles took up much space, not the least on the internet. I took up the challenge, convinced by the Austrian economists in the media, to write this thesis about why the Austrians understood this crisis best. On my way through the theory, I realized the complexity of the work that lay ahead. The Austrian literature is incredibly hard to comprehend, and appears in between quite illogical. I haven't conducted any empirical testing of the theory for the sole reason that it has been nearly impossible to structure the theory in a way, so an empirical framework can be set up. This issue is described in the thesis.

Nonetheless, I have embarked on the task of reading and understanding, not only the ABCT, but also the foundation that it's built upon. It has been a challenge to write this thesis; but a challenge

that I have benefitted from. I hope that any future thesis writer curious about the ABCT finds this thesis as an inspiration before commencing on their writing. It is not in order to refrain anyone from writing about the Austrian school, which I think deserves recognition for their work, but rather give a direction for their thesis writing. Their focus can be in more workable parts of the Austrian literature.

1.2.3 STRUCTURE EMPLOYED

The structure employed in this thesis can be divided in two parts and five chapters. Below, each chapter is described briefly.

PART 1

Chapter 1:

The first chapter includes the introductory part which is, the introduction, problem statement and methodology.

Chapter 2:

This chapter will explore the work of Böhm-Bawerk, Wicksell and Hayek. The purpose is to see where the ABCT has its roots, in order to get a better understanding of the theory capital heterogeneity, which is distinct to the Austrian literature. A critique of some elements of the theory is presented here as well.

Chapter 3:

Chapter 3 seeks to explain the ABCT in its full form by the Roger W. Garrison (Garrison 2001) graphical exposition of the theory, which he builds on the work of all the economists described in chapter 2. Furthermore, in this chapter a brief discussion is taken on the main differences between the Austrians, and the Keynesian and Monetarist business cycle theories. Here, the critique against the ABCT is presented. In addition, also a brief summary of historical differences, in the form of the dispute of the reasons for The Great Depression, is presented.

Part 2

Chapter 4:

This chapter begins with describing the chain of events that caused the subprime lending crisis and the freeze up of the international interbank market. Thereafter the shortcomings of the ABCT are identified, which are hypothesis that are needed in order to conduct an empirical analysis. There are given reasons, why the ABCT runs short of giving itself validity. A very brief presentation is given of the American economist, Hyman Minsky (Minsky) and his theory of speculative asset price bubbles. It is further discussed how the Austrians see as a solution to the crisis, and what the arguments against their solution is. In order to sum up, a brief discussion is taken on what this author views as being strengths and weaknesses of the ABCT.

Chapter 5:

Chapter 5 will present the answers to the questions asked in the problem statement, in a conclusion.

Chapter 2

2.0 The Austrian School of Economics

The reason that this school is referred to as “Austrian”, is the fact that it was founded and elaborated by three Austrians, namely; Carl Menger, Friedrich von Wieser and Eugen von Böhm-Bawerk³. It was an outcome of the clash with the German Historical School, where Menger stressed that using mathematical treatment of economical issues was not feasible.

Many believe that Menger’s “principles of Economics” (1871), was the groundwork for the Austrian School. Menger argued that value essentially was subjective, and economics therefore was a subjective science. Goods have no inherent value but rather are valued as they satisfy a human need or desire. The desire for the following goods will be less intense, as the human need may reach a satisfaction. The followers of Menger refined the subjective theory and elaborated on cost and capital and interest theory. Böhm-Bawerk contributed to the theory of

³ Henry Hazlitt: “Understanding “Austrian Economics”. Published in “The Freeman”, 1981.

capital, where he emphasized the importance of time in the economic process, and therefore expanded the theory to include the time preference principle. There have been some changes in the Austrian theory of capital, but Böhm-Bawerk's rationalization on the interest and the process of roundabout or indirect production has still an essential position in Austrian theory⁴.

Böhm-Bawerk further defined capital as the produced factors of production. He's main idea was that roundabout means of production would increase the level of productivity for human beings. The meaning of roundabout method is that the producer makes a good indirectly by using the natural powers in material objects. This means that by using indirect method of production, the length of the production increases as the process gets more sophisticated. But the end result, more roundaboutness, yields a higher production⁵.

The next generation of Austrians were Ludwig Von Mises (Mises) and F.A.Hayek (Hayek). Hayek was influential in his debates where he challenged socialism, and claimed that it was unfeasible in a modern economy, because of lack market prices and hence there was no rational resource allocation. Both Mises and Hayek have contributed to the development and shaping of the ABCT. Their justification of cyclical swings caused by credit expansion has added significantly to the structure of Austrian economics.

The first generation laid the basis for the Austrian School, while the second generation developed the ABCT with inspiration from the British Currency School, and not least Knut Wicksell's theory of natural interest rate. The Austrians that followed Mises and Hayek, have used the ABCT in analyzing recessions and other major events that has happened in the past and present.

2.0.1 APRIORISM AND THE AUSTRIAN SCHOOL

Austrian economic analysis is done on the basis of theoretical deductive reasoning; empirical analysis is not widespread in Austrian economics⁶.

The reason is that Austrians believe economic incidents to be a social environmental phenomenon, which are too complex and variable to perform experimental analysis. This is the very reason that Austrians don't conduct mathematical analysis, but rather have a qualitative

⁴ Thomas C. Taylor: "An introduction to Austrian Economics". P.9.

⁵ M. Northrup Buechner: "Roundaboutness and Productivity in Böhm-Bawerk. P.499

⁶ Thomas C. Taylor: "An introduction to Austrian Economics". P.10.

orientation. Also the methodological individualism is an important feature of Austrian economics. It is a widely used expression in social sciences. It is a method that intends to understand economic issues at an individual level. They try to understand the whole economy and its processes through the actions of individuals⁷.

The Austrian School rests on the methodological perception of economy which is based on aprioristically methodology; or rationalism. Mises was in his career a stark defender of the apriorism; that knowledge can be gained without reference to experience. This theory had a considerable significance within the circles of economists' in the 1920's in 1930's, largely due to Mises. He created a circle of economists and philosophers known as the Mises Circle that promoted this methodology. In contrast there was the logical positivist's (the Vienna Circle) that opposed this methodology and claimed the importance of empirical evidence. The fundamentalist logical positivists denied the existence of a priori knowledge (knowledge that is independent of all particular experiences) and subscribed themselves to a posterior knowledge (which derives from experience alone). The positivists made the point that if the theories only had an a priori character then these theories would have a complete lack of substance and have no explanatory power. The rationalists disagreeing reasoned that there existed a priori reasoning that explained a certain truth, but wasn't formed on the basis of observations. This a priori knowledge had its foundation (was deduces) from our intellect⁸.

The battle between the rationalists and the positivists was whether there existed a hypothesis that told something about a reality, but wasn't deduced from it (was a prior) called synthetic a priori judgements. The rationalists claimed that there existed these realities; Imanuel Kant made the case that pure mathematics and pure science was synthetic a priori judgement⁹. The positivists made the point that all the synthetically a priories the rationalists claimed, was indeed analytical judgements without any empirical core. They were for that reason by the positivists said to be "armchair theorizing"; they constructed (or rather tried to) empirical theories completely independent of the reality¹⁰.

⁷ Ludwig Von Mises: "The principle of methodological individualism". <http://mises.org/story/3409>

⁸ Christian Knudsen. "Økonomisk Metodologi". P.82

⁹ Kant's Synthetic A Priori Judgments, <http://www.nutters.org/docs/kant-sap>

¹⁰ Christian Knudsen. "Økonomisk Metodologi". P.83

Mises, like Kant, rejected the use of empirical observations in the study of economics and instead favoured logical analysis; "All concepts and theorem of praxeology are implied in the category of human action. "...The only way to cognition of these theorems is logical analysis of our inherent knowledge of the category of action. We must bethink ourselves and reflect upon the structure of human action. Like logic and mathematics, praxeological knowledge is in us; it does not come from without"¹¹. All economic and social phenomena have their roots in human actions; therefore the action of a human is characterized as the fundamental a priori category within praxeology. There would be no economic or social phenomena if this category didn't exist¹². From praxeology, Mises develops the idea that every human action is aimed to improve that person's satisfaction. Individuals will seek to increase their satisfaction by removing sources of dissatisfaction. Hereby it is possible by the synthetic a priori judgements to deduce absolute true implications. Murray Rothbart says; "Furthermore, since praxeology begins with a true axiom, A, all the propositions that can be deduced from this axiom must also be true. For if A implies B, and A is true, then B must also be true"¹³. To test the implications which can be deduced from the axioms¹⁴ of praxeology is hence completely unnecessary, as the truths in these implications are already evident¹⁵.

The methodological apriorism is indeed controversial within mainstream economics, and as the Vienna School a posterior empirical approach of thinking is the prevailing way of conducting economic sciences, then it is understandable that some Austrian scholars have tried to distant themselves from Mises' apriorism. Hayek and Fritz Machlup (Machlup) among some tried to, but however didn't reject the apriorism completely as they argued that the pure logic of choice was insufficient for the elaboration of the entire body of economic thought¹⁶. Roderick T. Long notes¹⁷; "The praxeological approach has always been a hard sell. We live in an empirical age, in which claims to a priori knowledge are regarded with suspicion".

¹¹ Ludwig Von Mises, Human Action A treatise on economics, fourth revised edition p.64

¹² Christian Knudsen. "Økonomisk Metodologi". P.85

¹³ Murray N. Rothbart: "The Logic of Action One: Method, Money, and the Austrian School" p.59

¹⁴ Axiom: is a proposition that is not proved or demonstrated but considered to be either self-evident, or subject to necessary decision.

¹⁵ Christian Knudsen. "Økonomisk Metodologi". P.85

¹⁶ Peter T. Leeson and Peter J. Boettke, Global Prosperity Initiative Working paper 27; "Was Mises Right? Philosophical Progress and the Methodology of Economic Science"

¹⁷ Roderick T. Long. "Wittgenstein, Austrian Economics, and the Logic of Action", p. 3

2.1 Austrian Capital based macroeconomics

The Austrian formulates the concept of the capital structure as being a process of many stages of production. Entrepreneurs that operate at different stages of production base their decisions on their knowledge and expectations. Their knowledge appears from the market informed prices, wages and interest rates. All these individual entrepreneurs decision is what allocates resources over time¹⁸. Capital theory of this kind is based on the foundation that time separating input of a commodity and the output is a substitute for capital¹⁹. The key understanding of Austrian capital theory is that manufacturing and consuming capital takes time, which is an element of the definition of capital.

This heterogeneous concept of viewing capital as having a time dimension and a value dimension, have a long and distinct place in Austrian literature. Menger typified goods in terms of “orders”; those of higher order and lower order²⁰. Hayek took up this concept when shaping his (in)famous triangle. He showed that goods move in “stages” of production and in equilibrium the “length” of the structure of production was in accordance with the consumers and producer’s preference between present and future²¹.

The Austrian approach to macroeconomics is defined by its willingness to take both time and money serious, argues Roger Garrison (1984). The critique therefore towards main stream economics is that they treat both time and money far too superficially, when in mind the importance of these aspects in real world economics²². Modern growth theory focuses on one single stage of production in which capital is added with other inputs and out comes the final good. This homogeneous capital definition lacks reality argues the Austrians.

As time passes, any individual will be conscious about the passage of time, since the knowledge changes. “Taking time serious” takes a different approach, than the assumption that there is perfect knowledge and rational expectation in the behaviour of the entrepreneurs. It is simply unsuitable when discussion real world market processes in Austrian macroeconomic capital theory. “Time is the medium of action” has the consequence that the actions of individuals are

¹⁸ Roger W. Garrison: “Time and money; The macroeconomics of capital structure. P.33

¹⁹ Gerald P. O’Driscoll Jr. & Mario J. Rizzo: The economics of time and ignorance. P.162

²⁰ Kirsten Foss, Nicolai Foss, Peter G. Klein & Sandra K. Klein. December 20, 2001. “Heterogeneous Capital, Entrepreneurship, and Economic Organization”

²¹ Ibid.

²² Steven Horwitz: Microfoundation and macroeconomics. P.3

interpreted as being speculative. All human actions take place through time, and as knowledge is modified in the process, the actions are speculative to some degree²³.

An artificial altering of the money supply changes the saving-investment ratio²⁴. It happens as interest rates are affected by the credit creation. The saver will sacrifice current consumption for future, while the borrower (investor) will invest if the price of a good produced is profitable, when selling the product in the market. The equilibrium will be the “natural” rate of interest, where each individual’s preference for time has an impact on the saving-investment ratio. The Austrian natural interest rate is a quite unique instrument, which Böhm-Bawerk and Wicksell develops, and it is taken up by Hayek.

The interest rate reflects the price which is valid for the time aspect, whether one wants to save or consume. The “natural” interest rate is very important in the Austrian macroeconomic sphere, because every productive action involves time; therefore producers are influenced to their choice of investment by the change in the interest rate. When the interest rate is in equilibrium, meaning it reflects time preference for both savers and investors, there will be no malinvestments by the producers. If the interest rate however does not reflect this equilibrium, there will be a mismatch between saving and investing. Time preference is thus in the Austrian literature defined as a preference for either consuming today (high time preference), or saving and accruing an interest on the saving (low time preference). The idea is that as long as the money in the economy is stable, the “natural” rate of interest will distribute savings and investments according to people’s time preferences, but this equilibrium is disturbed when a Central Bank drops ‘helicopter’ money into the economy, and suppresses the market interest rate below this equilibrium “natural” rate of interest²⁵. This “natural” interest rate is developed by Böhm-Bawerk and Wicksell, and implemented by Hayek. Next we will see how this came into being.

2.2 Natural rate of interest (Böhm-Bawerk and Knut Wicksell)

Böhm-Bawerk’s discussion on the interest rate was centered on the notion that interest existed because present goods were appreciated more highly than future goods, which he gave three reasons for. Böhm-Bawerk calculated the interest rate with a number of determinants which, for

²³ Steven Horwitz: Microfoundation and macroeconomics. P.4

²⁴ The word “artificial” is popularly used by the Austrians when discussed how the FED expands the money supply, and therefore the entrepreneurs’ time preference.

²⁵ J. Grayson Lilburne. Mises daily, January 15, 2010. “Of time and marshmallows”.

some of them, he assumed a priori to be given. The interest rate that he was concerned with was however not the market rate of interest, it was rather the internal rate of return²⁶. Böhm-Bawerk never brought in the influence of money on the interest rate, as he regarded it as having a temporarily effect. Money does not have a long term effect on interest rate argued Böhm-Bawerk. Additional money that runs into the banking system will lower the interest rate, but in the same time reduce the purchasing power of money. When inflation appears, the prices of capital goods will increase which therefore absorbs the increased supply of money and pushes the interest rate back to equilibrium²⁷.

Wicksell elaborated on Böhm-Bawerks studies, and further developed the theory of the interest rate. Wicksell introduced the term “natural interest rate” which at his time led to a debate about how the Central Banks should pursue their interest rate policy. The natural rate of interest is the rate on loans which is neutral in respect to commodity prices. The point is that the natural rate neither raises nor lowers the prices²⁸. These two developers of the interest rate, at which the Austrians have elaborated the ABCT, will be discussed further.

2.2.1 BÖHM-BAWERK

One cannot discuss the formation of the natural interest rate, with time preference as a condition without mentioning the name of Böhm-Bawerk as he pioneered this theory. He gives three reasons for the formation of the natural interest²⁹;

1. Present wants are more intense than future wants in relation to the means for satisfying them, chiefly for the following reasons:
 - a. Earning capacity may be greater in the future than at present.
 - b. Some people are in more urgent need now because of illness, loss, and so forth.
 - c. The holder of a durable asset is at liberty to use it either now or in the future. Money in particular is durable and cheap to store; hence a person intending to spend it only in the future, nevertheless, values present money more highly because holding it is a way of keeping his options open.

²⁶ Freidrich A. Lutz; “The Theory of Interest”, p.12

²⁷ Freidrich A. Lutz; “The Theory of Interest”, p.130

²⁸ Larry J. Sechrest. “Two Natural Rates: Friedman and the Austrians”. P. 4

²⁹ Yeager (1993 pp.118-119) summarizes these reasons; the following is from his summarization.

2. Many people underestimate future wants relative to present wants because they lack imagination or will power or are uncertain about their life spans.
3. Present goods have a technical superiority over future goods; roundaboutness is productive.

The first condition rests on the assumption that people value present goods more highly than future ones and therefore future goods are traded at a discount or reverse; present goods are traded at a premium. The second condition implies that future needs are not perfectly clear to market participants, and irrational behaviour from these individuals will have an impact on time preference. Mises writes³⁰; “Satisfaction of a want in the nearer future is, other things being equal, preferred to that in the farther distant future. Present goods are more valuable than future goods”. The positive time preference has different degrees with the market participants. Those who have a low degree of time preference value future value of money higher than present value and vice versa. Therefore the low time preference actors will lend to the actors who have a high time preference. The third condition is based on the marginal productivity of capital. When the length of the production process increases, more goods can be produced.

In order to understand the interest rate that Böhm-Bawerk introduces, there are two concepts that are essential; the period of production and the subsistence fund.

Böhm-Bawerk illustrates the roundabout technique with a fishery example; fishing by hand, one will be able to get more fishes if fishing with a hook. If the process is even more prolonged and fishing takes place in a boat that is built with a net that is sewed, then many more fishes can be caught and consumed and thus the roundabout is productive. Further he argues that each lengthening of the production process with the harnessing of additional powers of the nature naturally makes such lengthening productive so that the output increases. It can't continue on forever though, there comes a point where the rate of increase of the output will become smaller and at a further point there won't be any increase in output. This is his law of greater productivity of the more roundabout methods of production for which present goods have a technical superiority over future goods. Böhm-Bawerk writes; “It is an elementary fact of experience that methods of production which take time are more productive. That is to say, given the same quantity of productive instruments, the lengthier the productive method employed the greater

³⁰ Ludwig Von Mises. “Human Action”. A treatise on economics, fourth revised edition p.483

the quantity of products that can be obtained”³¹. Böhm-Bawerk states that his law of the period of production is merely an interpretation on an accepted fact that productivity of labour increases with the amount of capital combined with it³². But what about when the lengthening of the production structure stretches to the point where the output decreases? Böhm-Bawerk finds it unlikely, however, that the savings will be so great that they will take the *subsistence fund* to a level where the average period of production is stretched past that point. The rate of interest will therefore always be positive³³.

In determining the period of production to find the interest rate, Böhm-Bawerk uses the case of even flow period of production. In the beginning of the production process one can assume that all materials are applied instantaneously at the beginning of the process and no further are added later on. But Böhm-Bawerk assumes that the applications of productive services are divided evenly throughout the whole production period³⁴.

The subsistence fund is the stock of goods which have reached different stages in the process of production. Frank Shostak writes³⁵; “It would appear that there is a mysterious navigator who continuously modifies the complex network of the production structure in order to cater for individuals’ changing requirements. It seems that the production structure has, as it were, a self-regenerating mechanism, a kind of life of its own.Careful examination, however, shows that without a key ingredient, the entire infrastructure could not have emerged. The ingredient that makes it all possible is what Mises calls the subsistence fund”. Richard von Strigl (Strigl) argues that the length of the roundabout method of production is determined by the size of the subsistence fund³⁶.

The function of the subsistence fund is to make roundabout production possible. Strigl writes³⁷; “The extent to which the roundabout method of production can be lengthened is restricted, however, by the limited nature of the subsistence fund. The greater this fund, the longer is the roundabout factor of production that can be undertaken, and the greater the output

³¹ Böhm-Bawerk; “The Positive Theory of Capital”, p.38

³² Freidrich A. Lutz; “The Theory of Interest”, p.8

³³ Freidrich A. Lutz; “The Theory of Interest”, p.17

³⁴ Freidrich A. Lutz; “The Theory of Interest”, p.5

³⁵ Frank Shostak; Mises Daily: “The Subsistence Fund”. Wednesday, August 25, 2004.

³⁶ Richard von Strigl; “Capital and Production”, p.7

³⁷ Richard von Strigl; “Capital and Production”, p.7

will be". If a shorter roundabout method is employed than the subsistence fund allows for, then output will be smaller than it could have been. If the reverse was true, then the roundabout process would have to be interrupted. The function of the interest rate in Böhm-Bawerks world is then to make entrepreneurs to chose a length of the roundabout process that coincide with the subsistence fund, meaning the original factors of production to be sufficient in the process without interruption³⁸.

Böhm-Bawerk introduces some assumptions³⁹ in order to determine the interest rate. There are however four unknowns that need to be determined, namely; amount of product, interest rate, wage rate and period of production. Böhm-Bawerk has the following solution to determine the unknowns; the subsistence fund is given and different wage rates can be tried until equilibrium is reached.

2.2.2 CRITIQUE

Böhm-Bawerk only assumed the production of one good and left out durable goods. If there were several goods in his model, then he had to take in the consideration of relative prices, which he neglected. It is moreover imaginable that taking more roundabout measure of production is more productive some times, but the reasons given for that by Böhm-Bawerk are very out of the ordinary.

He further calculates the average period of production on the premises of weighted arithmetic average; this is possible due to the fact that he applies a simple interest instead of compound interest. When calculated with a compound interest, the average period of production is actually reliant on the interest rate⁴⁰. Furthermore, describing the length of the production structure by a single "average" number was a grave deficiency which even Menger criticized him

³⁸ Freidrich A. Lutz; "The Theory of Interest", p.11

³⁹ F.A. Lutz lists 7 assumption made by Böhm-Bawerk in "The Theory of Interest" p.12 which follows; 1. There are no durable goods. 2. Labour, which is homogeneous, is the only factor of production, land is free. 3. Competition exists between entrepreneurs and workers. 4. The law of greater productivity of more roundabout method of production is valid. 5. Only one commodity is being produced. 6. The value of the subsistence fund is given and 7. Production process is an even flow process.

⁴⁰ Freidrich A. Lutz: The Theory of Interest. P.21

for; “This attempt Böhm-Bawerk was sharply criticized by John Bates Clark (1893) and by Menger himself, who called Böhm-Bawerk’s capital theory “one of the greatest errors ever committed””⁴¹.

If one were to look for how long the duration was for a production process for a certain good, then following durations had to be considered: a) The duration of producing the machine; b) the duration of the production of the goods made with the help of the machine all the way to the final stage; c) the durability of the machine; d) the durability of the goods made with the help of the machine all the way up to the final service. All four mentioned durations have to be considered⁴². When considering the length of a production process, then it gives no meaning whatsoever to take account of how long time it took to produce the machine, and the tool that produced that machine, and the time it took to produce that tool all the way back to when it was only dust. Neither entrepreneurs nor any economist can ever make productive use of this information, even if he is able to actually calculate the different durations.

It is additionally a serious point of criticism that Böhm-Bawerk treats the subsistence fund and the number of workers as given. The problem arises when more than one commodity is introduced, then the subsistence fund needs to be given in value terms. The value cannot be some a priori number as the value consists of the discounted future returns; which is a function of the interest rate and the length of the period of production. Furthermore it cannot be, of the subsistence fund, given some time structure in order to fit the equilibrium⁴³.

2.2.3 WICKSELL

In comparison with Böhm-Bawerks model, Wicksell has in his theory of interest, considerably increased the number of variables that are taken into account. He develops an equilibrium structure that not only takes the time preference into account, but also has more than one factor of production and more than one commodity⁴⁴. Another new feature with Wicksells theory is that in his definition of capital investment per worker does not only consist of wage (w)⁴⁵, but also the rent (r) for the land that the worker own. An important distinction Wicksell makes is to work with

⁴¹ Kirsten Foss, Nicolai Foss, Peter G. Klein & Sandra K. Klein. December 20, 2001. “Heterogeneous Capital, Entrepreneurship, and Economic Organization”

⁴² Fritz Machlup. The journal of political economy, volume 43, number 5, October 1935. “Professor Knight and the period of production”.

⁴³ Freidrich A. Lutz: The Theory of Interest. P.22

⁴⁴ Freidrich A. Lutz: The Theory of Interest. P.27

⁴⁵ Which is the case with Böhm-Bawerk’s theory.

compound interest instead of simple interest as Böhm-Bawerk did. This leads him to the conclusion that the length of the period of production is a function of the interest rate, wherefore he abandons the controversial “average” period of production proposition. The equilibrium condition can be determined by finding six unknowns; output, wage, rent, interest rate, amount of land to be combined with each unit of labour and the average period of production⁴⁶.

If introducing a second commodity at the same time, the productivity function of the second commodity is different from the first. There are new unknown in the equation that has to be solved; first of all, the price of the new commodity is not known. Secondly, output, amount of land per unit of labour, average period of production and total amount of land, labour and capital are the new unknowns. The interest rate, wage and rent are assumed to be the same for both productions. When introducing this new commodity, what essentially is the issue, is determining the exchange relation between commodity A and commodity B. In the equilibrium situation it is therefore necessary to assume that the demand for commodity B is equal to the supply of commodity B⁴⁷.

The value of the interest rate, when all monetary flow of funds is balanced, is the market interest rate. The natural rate is the rate that is neutral to prices, which neither raises them nor lowers them. Furthermore, when the asset stocks are unchanged and money supply and demand is balanced, the natural interest rate is formed which include the flows of planned savings and investment. In equilibrium the market rate and the natural rate will be the same.

Wicksell argued that a monetary expansion would disturb the equilibrium and the market interest rate would fall below the natural rate⁴⁸. The implication of charging a different rate, than the natural rate is that the stability will be disturbed which will affect prices. If the natural rate was to be above the market rate, then the prices would rise as credit would be cheaper due to the lower market rate. If the natural rate was lower than the market rate on the other hand, then prices would fall as credit would be in short supply in contrast to the preference shown by the natural rate⁴⁹. Hayek was inspired by this Wicksellian theory of “natural interest rate” and used it to explain the ABCT. Time preference and unsustainable credit expansions is a

⁴⁶ Freidrich A. Lutz: The Theory of Interest. P.24-26

⁴⁷ Freidrich A. Lutz: The Theory of Interest. P.27

⁴⁸ Knut Wicksell. “Interest and Prices”. P.102

⁴⁹ Knut Wicksell. “Interest and Prices”. P.100

cornerstone in the ABCT, and essential is the Wicksellian natural rate as the business cycle has its beginning when the market rate is lower than the natural rate.

Hayek was greatly inspired by Böhm-Bawerks structure of production and the roundabout thesis. Moreover, he was inspired by Wicksell's natural rate which, if not in equilibrium, would disturb relative prices. Hayek made the distinction that he worked with a heterogeneous capital definition. Hayek instead focused on the time that elapsed within a production process between the application of an input, and the emergence of a consumer good. In his model, capital can take the form of partly finished goods on their way through the production structure, and temporary tools with the aim to produce certain goods at a certain future date. How the composition of the production structure is, matters for both long term growth and for business cycles⁵⁰. Next a presentation of Hayek's contribution to the formation of the ABCT will be presented.

2.3 The structure of production

The Austrian model of the structure of production is based on a model that views goods in process. It gives an emphasis on both the time dimension and the value dimension. Hayek introduced a graphical illustration of this process known as the Hayekian Triangle. Figure 1 below shows the triangle. The horizontal axis represents the time dimension. In figure 1 there are five stages of production, it can be expanded to as many stages as possible, but will add to the complexity of the triangle. The vertical axis shows the value of consumable products of the production process. The slope of the triangle can be understood as the interest rate, for which the entrepreneur is getting his pay back when selling the output, after it has gone through from the early to the late stage of production.

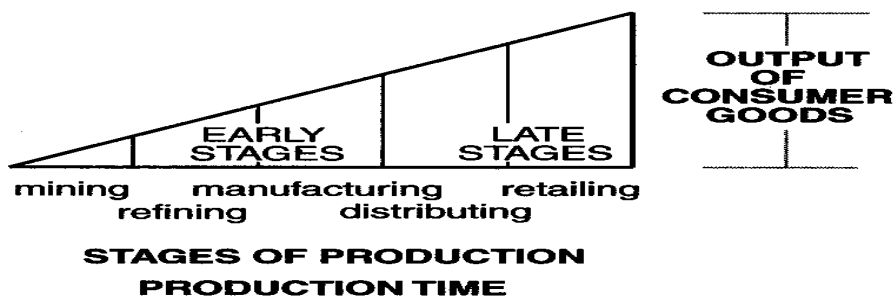


Figure 1: Hayekian Triangle. Source: Garrison (2001)

⁵⁰ Lawrence H. White. "The collected works of F.A.Hayek". Volume 12, the pure theory of capital.

The early stage of production that is located to the left of the triangle represents higher orders of production, and is more distant to the end- consumer. The right hand side of the triangle involves lower stages of production, as goods are in the process of leaving the production line, and ready to be sold to the consumers.

Figure 1 is based on the time preference and the structure of production at a certain point of time. If these preferences change for a reason; which can be that consumers become more future oriented which lowers current consumption in favour of savings. The decreased consumption lowers the demand for investment goods in the late stage of production, which will reduce the height of the triangle. The increased savings reallocates resources among the stages of production, which increases the length of the production as savings shifts the demand for input from late to early stage of production. Figure 2 shows this change in time preference. Also note that the slope of the triangle is less steep, which indicates that savers get less interest for their savings. This is a consequence of the reduced time preference; consumers are forgoing consumption now for future consumption⁵¹.

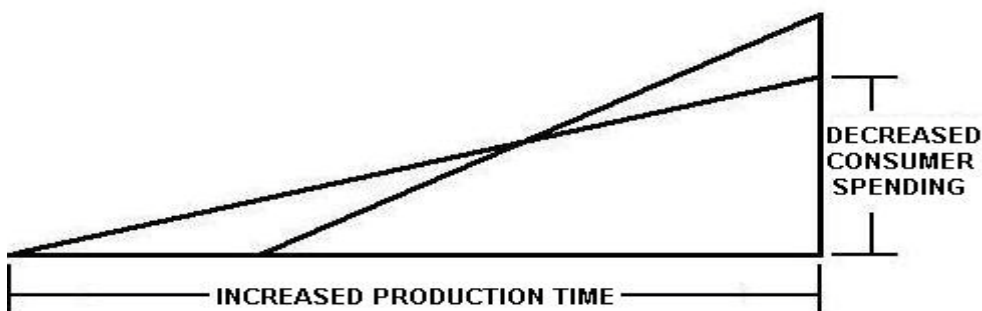


Figure 2: Decreased time preference induces more savings and investments. Source: Garrison (2001)

The Hayekian triangle takes time into account, but only time that is related to the production process. There exist goods that take longer time to consume than only use them once where after they are worn out. Durable goods yield service or utility over time, and are not worn out immediately. These goods last a long time, such as cars, electronic devices, houses etc. Dealing with these durable goods would mean that the Hayekian triangle would have to extend the time

⁵¹ Roger W. Garrison: "Hayekian Triangles and Beyond".

dimension beyond only the production phase. Figure 3 shows this extension of the Hayekian triangle which William Stanley Jevons illustrated in his 1871 book; *Theory of Political Economy*⁵².

The left hand side triangle is mentioned before, but the right hand side triangle represents the durable goods that provide the consumer with a service, or serves them in any fashion. It can be observed that these services are declining over time, expressed in value terms. One explanation of the decline in value is the fact that goods don't last forever. As time progresses, a certain good will lose its value and become worthless. Imagine for instance a refrigerator that serves the owner well, but after ten years it is well behind the newest models on the market, both in terms of style and technology. A second reason is that discounting for time makes the value of a certain good become less, the longer the time horizon is. That means that the ten year old refrigerator is discounted to the present, whereby it loses value in the discounting process⁵³.

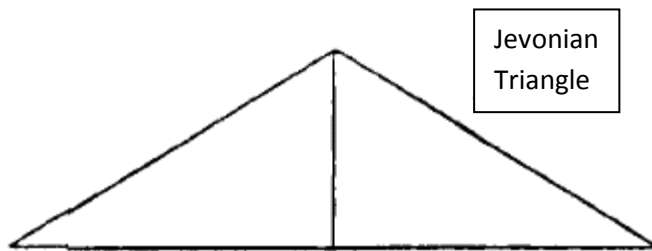


Figure 3.

When the slope of the triangle gets less steep, and thereby expands the base of the pyramid, the interest rate is reduced as well. The reduction of the interest rate simply gives an incentive for consumers to buy durable goods, as future consumption is favoured rather than present consumption.

2.3.1 HAYEKIAN TRIANGLE – A CRITIQUE

In the stages of production, the goods move from one stage to another. The base of the pyramid is however labelled “output of consumer goods”, which have one to believe that it is the money value of the goods that is represented rather than the goods themselves. The triangle as a whole must therefore be interpreted as being the money value of all goods, or the money payments

⁵² Roger W. Garrison: *Time and Money, The Macroeconomics of Capital Structure*. P.47

⁵³ Roger W. Garrison: *Time and Money, The Macroeconomics of Capital Structure*. P.48

associated with supplying the consumer with the final good. The base of the pyramid must therefore be the cost of producing the final consumer good, and not the value of the consumer good⁵⁴. The double interpretation of the vertical line is that it can give a snapshot picture of the stages of production, or give a complete history of how the end product has been processed through the stages and the duration of that time. Hayek argues that the triangle gets narrower as the methods of production changes, and the entrepreneurs engage in lengthier roundabout methods of production. What is strikingly defective in the triangle is that the structure of production, the vertical line, expands. The time it takes to produce one good, and get it through the different stages simply expands. How is it possible to argue that the production process get more time consuming when added more money resources into it? The double interpretation of the vertical line means that it measures both the total time and the number of production stages. If assumed that Hayek really meant that the total time doesn't expand when more roundabout method is used, but rather the number of stages of production, then the term "time" in the triangle is simply misleading. Even if this was the case, then it is highly unlikely that the number of production stages increase when more money resources are added. In fact, the most likely outcome would be the exact opposite⁵⁵.

It is rather odd that higher amount of saving, more investments and more production make the base of the triangle to fall. It is in the model necessary for the increased amount of saving, to induce fall in the price of producing and likewise the price of the end good. This reduction has to be large enough to make the purchasing power of money to increase so that the extra production of goods can be consumed in the end; thus leading to a fall in the base of the triangle. Hayek obviously assumes that equilibrium can be sustained by any mix of investment and spending on consumer goods⁵⁶. The base of the triangle can therefore be reduced to a minimum, which does not imply that there obviously are technological limitations to the amount of investment that can be made. Furthermore, for the equilibrium to sustain it is a prerequisite that the lower cost of production spills over to the sales price to the costumers; i.e. the price must fall as much as the cost of production has fallen. This is highly unlikely to happen. If the prices don't correspondingly move down with the lower production costs, the consumers will lose purchasing

⁵⁴ C. D. H. Cole. "Studies in world economics". P.123

⁵⁵ Whenever a technology is standardized, then the time it takes to produce the good decreases sharply.

⁵⁶ Ibid. P. 147

power and therefore wealth. In this case, a stable money supply doesn't guarantee that the equilibrium can be sustained. It is unusual that Hayek believes in the sustainability of the equilibrium with a stable money supply that calls for deflation, but it is even more unusual that he can see some desirable effects of reducing the money supply in some cases. Increasing the money supply, he contends, will lead to instability. Hayek argues that if there is less roundaboutness and thus the structure of production shrinks, then the money supply should shrink accordingly. On the other hand, if the stages expand, then the money supply should stay the same. For obvious reason⁵⁷ he doesn't explain why this is so⁵⁸.

Hayek claims that an increase in money supply always will destabilize the equilibrium. He sets out in the assumption that the economy is at full employment and in equilibrium, if then the money supply rises, whether it be credit given to consumers or producers, the extra money will find its way to the last recipients of income. These will therefore use the money to demand either consumer goods or producer goods, which will inflate and therefore disturb the relative prices. He don't consider the additional amount of money as being used for the purpose of financing alone, which in turn will not create price inflation and the equilibrium can be sustained.

Hayek's outset is in a state of equilibrium. When the equilibrium is shaken, then it is best to do nothing (monetary and fiscal policy) and the equilibrium will restore itself through deflation and thus increased base of the pyramid. He doesn't seem to have thought about the risks of deflation; what will happen when debt burdens begin to hurt the general public, entrepreneurs and the government? The remedy for the disequilibrium seems to go through a semi collapse of the economy, where there is nothing but to swallow the bitter pill of a depression.

Hayek uses the time preference frame when explaining of a system in equilibrium. What the time preferences in turn depends upon, is the "natural" interest rate which sends some signals to both producers and consumers about resource availability. Garrison writes⁵⁹; "...the natural rate is seen as an equilibrating rate. It is the rate that tells the truth about the availability of resources for meeting present and future consumer demands, allowing production plans to be

⁵⁷ Which I don't know which are.

⁵⁸ Ibid. P.149

⁵⁹ Roger W. Garrison. "Natural and neutral rates of interest in theory and policy formulation".

kept in line with the preferred pattern of consumption. By implication, an unnatural, or artificial, rate of interest is a rate that reflects some extra-market influence and that creates a disconnection between intertemporal consumption preferences and intertemporal production plans". The "natural" rate of interest is a source of information that creates equilibrium in the Hayekian triangle, by distributing the availability of resources among early and late stages of production. Garrison stresses that the "natural" rate of interest is the one that is set on the loanable funds market, by the market forces of supply and demand for capital⁶⁰. But it is unfortunately not that simple. This "natural" rate is an evolution coming back from Böhm-Bawerk (some say Jevons or Menger) and Wicksell and therefore implies; a) that roundaboutness is productive, b) the "natural" rate lengthens and shortens the structure of production, c) it reflects the time preference of all inhabitants in an economy, d) if set wrong, it disturbs relative prices. It seems that it is too much to ask for a single rate of interest.

Chapter 3

3.0 The Austrian Business Cycle Theory

3.0.1 Fractional reserve banking and inflation

Business cycles have their initial birth, when additional credit is created and made available into the market. This credit is not backed by gold, hence fractional reserve banking makes it possible to increase the monetary base, and set in motion the boom and bust cycle. "The business of banking falls into two distinct branches", writes Mises⁶¹ and continues; "the negotiation of credit through the loan of other people's money and the granting of credit through the issue of fiduciary media, i.e. notes and bank balances that are not covered by money". He distinguishes between these two methods of banking calling the first for commodity credit, and the second for circulation credit. The difference between these two is that in commodity credit, the lender temporarily surrenders money to the bank in accordance with his time preference of consumption. The difference with circular credit is that money has been created and lend to the ultimate individual, without any other market participant supporting that loan, in terms of saving or due to their time

⁶⁰ Roger W. Garrison. "Time and money, the macroeconomics of capital structure". P. 36.

⁶¹ Ludwig Von Mises: The theory of money and credit. P.261

preference⁶². The creation of the additional fiduciary media allows the FED to increase credit beyond the limit of their assets.

In early times the banks original purpose was to store the money they received. But the idea of fractional reserve banking has early roots, and it is often told that the goldsmiths discovered this modern form of fractional reserve banking⁶³. As people paid the goldsmith to store their money (in gold and silver coins), he realized that people used the issued receipts to exchange goods in the marketplace. As these receipts became widely accepted, most people would let their money be in the goldsmiths vault. He began issuing more receipts, and lending it to people, than he had money in the vault. There was however a run on the goldsmith banking business, and as he couldn't honour his commitments, he was hanged. But fractional reserve banking didn't die with him. Today the fractional reserve system is institutionalized through the Central Banking System argues the Austrians.

Banks that later came in as the holder of people's money, engaged in fractional reserve banking as well. The main problem for the banks was that they at all time have more liabilities than cash in their vaults. If too many customers demanded their money at one time, the bank would go bankrupt. Through history many bank runs have taken place, as the public's fear of the security of their money, have triggered a domino effect throughout the whole banking sector. It was exactly the fear of this outcome that could destroy the whole banking sector, which was the main reason behind the creation of a Central Bank. In times of distress, the Central Bank could provide the system with liquidity. The creation of the Federal Reserve System in the US in 1913 was due to the "panic of 1907", which sent shock waves across the nation. Although the FED can act as the lender of last resort and save a bank, this policy is often criticized by Austrians. The Central Bank creates a moral hazard issue, where bankers lose fear of gambling with other people's money they argue⁶⁴.

The credit creation is at the hands of the FED, and as this is the main reason of the creation of business cycles, then the Austrians are a major opponent it. Another point of dissatisfaction with the FED's creation of money out of "thin air" is that they are the main causers

⁶² Ludwig Von Mises: The theory of money and credit. P.264

⁶³ G. Russell Barber Jr.: The one hundred reserve system.

⁶⁴ Jeffrey Tucker, Mises monthly; Dec.1998, Vol.16, No.12. : "Mr. Moral Hazard".

of inflation⁶⁵. According to Mises⁶⁶; “To avoid being blamed for the nefarious consequences of inflation, the government and its henchmen resort to a semantic trick. They try to change the meaning of the terms. They call "inflation" the inevitable consequence of inflation, namely, the rise in prices. They are anxious to relegate into oblivion the fact that this rise is produced by an increase in the amount of money and money substitutes. They never mention this increase. They put the responsibility for the rising cost of living on business. This is a classical case of the thief crying "catch the thief." The government, which produced the inflation by multiplying the supply of money, incriminates the manufacturers and merchants and glories in the role of being a champion of low prices”.

The effects of a credit expansion are many as prices rise due to inflation, which (inflation) is not a rise in prices, but rather an expansion of the money supply. Inflation erodes people’s wealth and discourages savings, which are essential when during a boom people have borrowed and spent too much money. This understanding of an expansion of the money supply as having a causal relationship with prices is again a legacy of Hayek’s triangle⁶⁷.

But the main cause of concern, in the Austrian formulation when credit is expanded, is not that the newly created money has an effect on all prices all at once, or in some other random manner. The credit expansion first and foremost depresses the interest rate, which is the price that indicates the market for credit, and therefore is vital when undertaken new investment projects. This will mislead the market participants and misallocate capital in the production structure⁶⁸.

3.1 Sustainable and unsustainable growth

Sustainable growth is characterized by the consumer-producer interaction and their preferences. Producers have a will to invest and that is made possible by the consumers, in the form of higher savings. Sustainable growth under a hundred percent gold standard would mean that prices would

⁶⁵ Inflation, as we discussed earlier, is seen as a destabilizing force in the Hayekian triangle.

⁶⁶ Ludwig Von Mises: *The Commercial and Financial Chronicle*, April 26, 1951

⁶⁷ He argued that a credit expansion will lead to inflation and disturb relative prices, as credit granted to both consumers and producers will find its way to the final recipient, making prices to rise.

⁶⁸ Roger W. Garrison: “The Austrian Theory of the Business Cycle In the Light of Modern Macroeconomics”. *Review of Austrian Economics*. Vol.3, 1989.

decline due, to the higher level of productivity⁶⁹. The natural rate of interest allocates resources in such a way that consumption and investment decisions are in balance, and therefore the economy will always be moving along a sustainable growth path. When consumers save more, their time preference is reduced, which will lower the “natural” rate. This will impact the structure of production in such a way that resources are released from late stage of production. Instead, due to the lower borrowing costs, early stages of production will see an increase as producers will find it more profitable to engage in new ventures. Thus, the “natural” rate of interest tells the story about how much a society has of available resources to fund the necessary investment project and consumption needs, in present as well as in the future. This equilibrium can however be disturbed, if a different interest rate is charged relatively to the natural rate⁷⁰.

The natural rate of interest can be disturbed by the FED argues the Austrians, as they can decide to lower the federal funds rate by increasing the money supply, although there is no change in the consumer-producer preference. Growth now becomes unsustainable as the underlying conditions don't match the lower interest rate. The cheaper credit makes producers to borrow and invest, but no additional savings have been made to back it up. This growth is then policy induced rather than preference induced⁷¹.

Figure 4 shows the policy induced boom and bust cycle, developed by Garrison (2001, p.69). The lower right hand-side graph illustrates the market for loanable funds. There is now a difference between market rate and the natural rate, and additionally there is a gap between savings and total loanable funds; they are both affected by the additional credit. When new money enters the system, equilibrium interest rate shifts downwards.

⁶⁹ John P. Cochran, Steven T. Call and Fred R. Glahe: “Austrian Business Cycle Theory: Variation on a theme”. The quarterly journal of Austrian Economics, Vol.6, No.1 (Spring 2003) P.68

⁷⁰ Roger W. Garrison: “Natural and neutral rates of interest in theory and policy formulation”. *Quarterly Journal of Austrian Economics* (Winter 2006) Vol. 9, No. 4.

⁷¹ Roger W. Garrison: Time and Money, The Macroeconomics of Capital Structure. P.76.

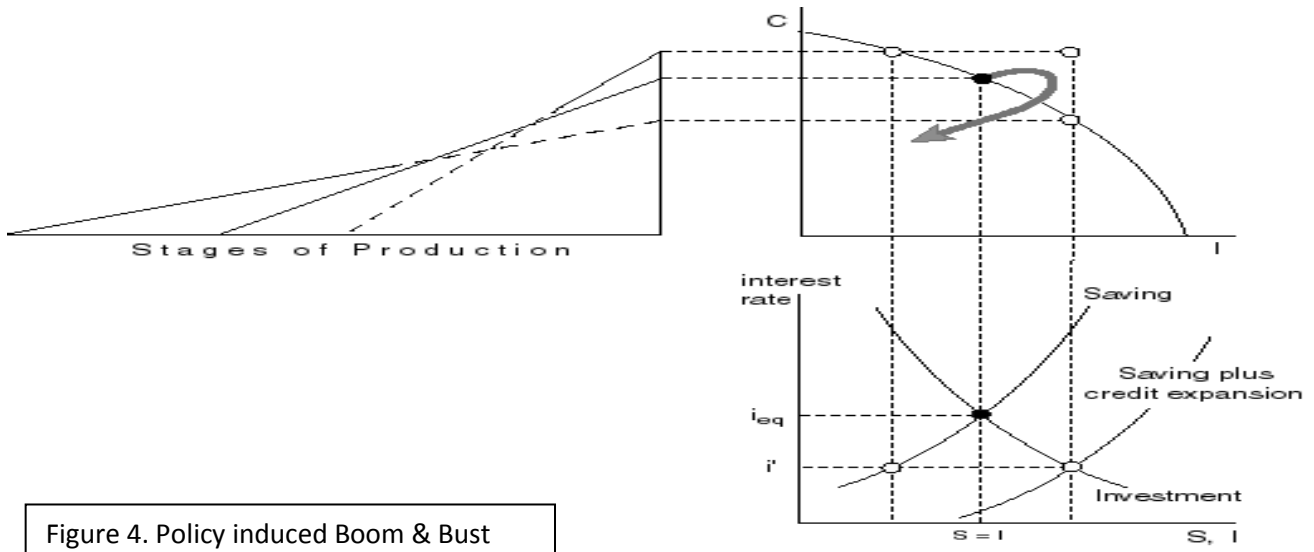


Figure 4. Policy induced Boom & Bust

The upper right hand-side shows the production possibilities frontier (PPF). It illustrates the trade-off between consumption and investment. When interest rate is lowered due to the credit expansion, however, both consumers and producers spend more money. This has two conflicting effects on the Hayekian Triangle. Producers find investments attractive at a lower interest, and therefore the structure of production shifts to the early stage of production which can be seen in the steepness of the Hayekian Triangle. On the other hand, the consumers are driven to increase spending as savings are discouraged by the lower interest rate. It is visible as the Hayekian Triangle gets a steeper slope. As consumers' demand for products rise, the late stage of production sees an increase in resources that are bid away from the early stages. There is an obvious conflict between investment and spending, which pulls the PPF in each of their direction. But as the producers are the first comers to the new money, they will have access to more funds through the banking system at an attractive interest rate. The economy is at this time producing beyond the PPF, which means higher growth than under normal conditions, as investments are increasing and so is consumption.

The low interest rate favours the producers, and thus shifts the structure of production from late to early stages of production, and attracts resources to long term projects. This change in structure stimulates the creation of durable goods, R&D and other long term projects. This prolongation of the early stages is called "malinvestments". The consumers demand for more goods in the late stage is on the other hand called overconsumption in the Austrian literature (Mises 1966).

The boom stage of the economy leads to an increased demand from the producers for production material and labour force. The increasing demand leads to a rise in the price of labour wages, these wages spill over to the consumption goods, where the prices increase as well. As production costs more, the producers seek more credit, and turn to the lending institutes. Mises remarks: "If the banks were to refrain from any further extension of credit and limited themselves to what they had already done, the boom would rapidly halt"⁷². But he explains further that bank keep expanding the credit line to these businesses, the effect being that prices and wages carry on rising. But the rise must end at some time. When the bust sets in, labour is freed from the early stages of production as projects are being abandoned. The prices of late stage product will also fall, due to companies looking to clear their inventories of unsold items.

The credit expansion changes the production structure, without the preference of the actors in the market has changed. In the short run this change is welcomed by every actor in the economy as the boom brings about a period of prosperity; rising stock markets, real estate and other durable goods rise in price. Businesses expand their capacity, and people get the pleasure of higher standard of living⁷³. The boom is unsustainable, and hence it must end in a bust in order to change the savings-investment ratio, PPF and production structure back to equilibrium. Investors realize that the early stage activities are unprofitable and needs to be liquidated. This liquidation releases capital and labour, which in the correction phase of the economy is absorbed in the other production stages.

3.1.1 HANDLING THE BUST

The prosperity during the boom seems to make everyone happy. During the boom no authority is questioned about the economic policies, and politicians take undue credit of the seemingly prosperous conditions. No artificial boom driven on credit expansion can last forever; "In fact, all this amazing wealth is fragile, a castle built on the sands of illusion"⁷⁴. The bust leaves the government and the Central Bank with two alternative ways to react.

⁷² Ludwig Von Mises: "The Austrian Theory of Trade Cycle and Other Essays". P.26

⁷³ Thomas E. Woods Jr.: Meltdown. P.70

⁷⁴ Ludwig Von Mises: "The Trade Cycle and Credit Expansion: The Economic Consequences of Cheap Money". Paper of the British Experts, April 8, 1943

The first measure is to provide the failing businesses with more credit, despite the inflationary pressure on prices. As the previous credit expansion is sought to be fought by more credit expansion, inflation will reign and prices and wages will increase substantially. The initial cause of the bust (credit expansion) is not recognized, and the recession is fought with tools that will further damage the economy. Every new form of credit deforms the capital structure even more, which will make the bust even more painful as capital will be wasted and resources misallocated. The end is a collapse of the money and credit system by hyperinflation⁷⁵.

The second option is to recognize the problem and act thereafter; credit is contracted by the FED as inflation is tried to get under control. This has effects as well. Interest rates need to increase when businesses' need for additional credit is not satisfied in order to shun a corporate bankruptcy. Prices will drop and unemployment will be rising; all in consequence of a credit expansion that wasn't due. In the Austrian sense, it is important to withdraw the money that has been put in the market, in order to return to equilibrium⁷⁶.

One might ask which of these two options are to be preferred. The first option in the eyes of the Austrians will prolong the crises and make the landing even harder, and might destroy the currency altogether. The second option is, in the Austrian opinion, to be chosen in the light of a period of an unsustainable boom⁷⁷. This discussion will be presented later, in section XXXX, first will be presented a short examination of the Keynesian and the Monetarist business cycle theory, after a summation of the ABCT.

3.2 ABCT- in summary

The ABCT appear from a comparison between sustainable and unsustainable growth. The sustainable growth is maintained by higher savings, whereas the unsustainable growth comes about from a credit expansion. The credit expansion is possible because the Central Bank prints additional fiduciary media, and in the process artificially lowers the interest rate. The natural rate of interest, which is a signal of the time preferences of individuals in an economy, is being directed

⁷⁵ This holds true if assumed that the Hayekian triangle is correct along with the assumptions he made for the triangle.

⁷⁶ Garrison criticized the way that the FED determines the Federal Funds Rate. Appendix A presents Garrisons objection.

⁷⁷ Ludwig Von Mises: "The Trade Cycle and Credit Expansion: The Economic Consequences of Cheap Money". Paper of the British Experts, April 8, 1943

downwards. The entrepreneurs mistake the lower interest rate with people's willingness to save, and therefore engage in new investments prolonging the production structure.

Hayek illustrates the capital structure of production in his graphical representation where he draws a triangle. The Hayekian triangle focuses the analysis on roundaboutness of the production process and the equivalent output that is the result. The credit expansion alters the equilibrium of the Hayekian Triangle, the market for loanable funds and the PPF. With the creation of new money, the producers get a false signal and therefore begin to draw resources to the early stages of production. In mean while the consumers are, due to the low interest rate, willing to consume more in the present and forego future consumption. The prices will rise due to the increased demand, and producers will profit engaging in new projects. But when the boom will be lacking towards its end, the prices will begin falling as consumers' demand will be decreasing and early stages of production will be abandoned.

The discrepancy between saving and investment eventually turns the boom into a bust. As the interest rate tries to move towards its equilibrium level, people need to increase savings in order to compensate for the previous overconsumption. Producers need to desert projects, and the economy will need to go into a recession in order to find a balance again. Here, the government and the Central Bank faces a decision; whether to allow the economy to balance or to continue on the same path. If continued as before the authorities will prolong the crisis, and not let the equilibrium to be restored. Instead they will only make further damage, and the inevitable bust will be even harder. Rather, the policymakers should allow the market to clear malinvestments and for those to be liquidated. The interest rate should be allowed to increase, and no further credit expansion should be made, in fact the credit should be subtracted so that the market could function more productively and excess capacity could be cleared.

3.3 The Keynesian Business Cycle Theory- a brief comparison

Keynes, in his analysis of the fluctuations in the economy, points to the fact that variations in output and employment are a result of inadequate aggregate demand. The Keynesians therefore seeks to explain how to boost the demand side, and develop policies that stabilize the demand, in

order to avoid a downturn. For if there is a climate of a stable economy, more investment projects will be carried out, and potential output will grow at a quicker pace⁷⁸.

While in a period of slump, unemployment is caused by high real wages. Keynes argued that wage cuts cannot be implemented because of regulations and wage contracts. The Austrians argue to abolish minimum wages, unions and long term contracts in order to improve the flexibility in the labour market. Keynes would argue that in order to boost the employment, nominal wages had to fall more than prices, thus real wages would be falling. But therein lays a paradox; as real wages fall people will consume less, which will reduce consumer demand and that would reduce the aggregate demand as well. This will in effect reduce business sales and revenues and profits. He advocated a lowering of the interest rate. A rise in the interest rate reduces productive investments and unemployment will in effect rise. If, however, interest rate was to be lowered then it would simply have the reverse effect. Compared to the Austrian School this is the exact opposite policy recommendation as the Austrians as Keynes didn't see a higher interest rate promote more savings and investment. Therefore it is not up to the market to determine what the interest rate should be, through the natural rate of interest; rather the Central Bank was to artificially lower the rate to get more investment and consumption and therefore achieve the wanted full employment⁷⁹.

In an environment of falling prices and wages, people will begin saving and hoarding money in the expectation that prices will continue falling. This deflationary atmosphere could send the economy in a depression, as nominal debts would be more expensive in real terms and stress businesses. The decreased interest rate is to be achieved by expanding the monetary base, but as the interest rate reaches a level where it cannot go any further down, any further increase in the money supply won't help boost consumption. People will simply hold on to the additional money. This is by Keynes called the liquidity trap. The savings would actually result in making the recession even worse⁸⁰. The ABCT offers a quite different story; hoarding, saving and deflation is a good thing to get the economy back on track. People don't hoard and save for irrational reasons, but rather to protect themselves from the uncertain future. The reduced consumption will make

⁷⁸ John Sloman: "Economics", fifth edition. P.484

⁷⁹ Keynesian Business Cycle Theory: "History of economic theory and thought".
<http://www.economictheories.org/2008/11/keynesian-business-cycle.html>

⁸⁰ John Sloman: "Economics", fifth edition. P.520

prices fall, especially in the early stages of production. The purchasing power increases because of the deflation, and the inflation during the boom, particularly in durable goods, will find its equilibrium at a lower level. Debt will be liquidated and increased savings will in the future make room for more investments, which will speed the adjustment process⁸¹.

The solution offered by Keynes is that through fiscal deficit (government spending) and increase in the money supply (monetary policy), the multiplier and accelerator effect will increase aggregate demand, and expand national income and employment in order to get full employment. So during a recession the government should run budget deficits and cut taxes, and reverse this policy when times are good. Keynes rejected the Austrian quantity theory of money; increase in money supply meant a rise in prices (inflation), rather he argued that if high unemployment existed with idle machines and idle resources, that is, a slack in the economy, then an increased spending of money might lead to considerable increase in real income and have a minor affect on prices. If money supply was lowered in attempt to reduce prices, then that might lead to a decline in output and employment, hence real income rather than prices.

The Keynesian doctrine was a rejection of Say's law of supply creating its own demand and therefore full employment. Keynes argued that it was rather demand that created supply. A rise in aggregate demand would mean that firms would produce more and hire additional workers, but a fall in aggregate demand would lead to less output and more unemployment.

Keynes therefore concluded that the invisible hand of the market was insufficient in creating enough demand, the government and Central Bank (to a lesser extend) was to play a great role in controlling aggregate demand⁸².

The Keynesian revolution, however, saw a sudden decline in popularity in the 1970's, as the failure of the Phillips Curve was apparent. If reflationary policies were the cure for unemployment and deflationary policies were the cure for inflation, what was then to be done if both inflation and unemployment were on the rise? The stagflation, rising unemployment and inflation, paved the road for the monetarist revolution headed by Milton Friedman.

⁸¹ Mark Thornton: "The upside-down world of John Maynard Keynes". Mises Daily, 4-23-2009.

⁸² Mark Skousen:"Dissident on Keynes". P.4

3.4 The monetarist Business Cycle Theory- a brief comparison

The most powerful critique of the Keynesian economics came from a Chicago School's professor, Milton Friedman. Friedman examined the historical relationship between money supply and prices; thereafter he concluded that inflation was a monetary phenomenon. If money supply was rising faster than the potential output of the economy over the long run, then inflation would be the end result⁸³. He seemed to have the explanation of the stagflation at the current time, and the leaders of the West embraced his policies. He had influence in both the US and UK, where he advised Ronald Reagan and Margaret Thatcher. The Keynesians however did agree with the Monetarists that if demand was expanded too fast over a longer period, then inflation would be the end result.

Monetarists reintroduced the following equation $MV=PY$, which stems from Irvin Fisher. In the long run, where both V and Y are independently determined, they are not affected by changes in M . Friedman found the velocity of money V , to be constant and was therefore unaffected by the interest rate. The change in M (money supply) would therefore only affect P (prices), asserted Friedman.

The rising inflation during the 1960's, was explained by the monetarists by the increased money supply. The higher money supply leads to higher aggregate demand, rising prices, higher output and employment, but only in the short run. Workers and firms will expect higher prices and wages, and in the long run the extra demand is eaten up by inflation. If the government is tempted to raise the money supply again in order to boost aggregate demand, then the inflation will in the long run go even higher. A reduction of the rate of growth of the money supply will on the other hand lead to lower inflation without long- run increases in unemployment⁸⁴. High level of inflation is therefore doomed to be a destructive force by the monetarists, much like the Austrians, but Friedman advocated a steady rise in the money supply in order to meet cyclical needs. Other than controlling the money supply, the government should get out of the way and let the market function and run its own course. The self-correcting mechanism inherently built in the market would take care of itself, and the aggregate supply would grow as firms and workers react to market incentives.

⁸³ John Sloman: "Economics", fifth edition. P.456

The long-term growth is disturbed by monetary disequilibrium, which is the result when the Central Bank decreases the supply of money when liquidity is needed, or fails to increase it at the level that is demanded. The lack of supply of money and price inflexibility will start a recession. An economic boom on the other hand is triggered by an extensive credit expansion that inflates nominal prices and wages, whereby individuals overestimate the real prices. The overestimation triggers a boom since production expands and labour is needed. In the monetarist model, full employment is thus depended on the right pursue of monetary policy that provides price stability; an increase of the monetary base that accommodates long-term growth⁸⁵.

The Austrians argue that the Monetarists in their theory of Business Cycles simply neglect relative prices and capital theory. Their focus is on the general price level, which therefore can underplay the significance of the increase of the money supply⁸⁶. The neglect of capital theory is the reason behind Friedman’s critique of the ABCT. Friedman questions business cycle theories in general that treat boom and following busts, as a series of events that are portrait as being logical and sequential. Rather in his Plucking Model (see figure 5) he portrays the economy’s output as falling below a given trend. In each recession the return to an overall trend represents the previous fall. His argument is therefore, based on his research, that; “evidence (showing a zero correlation between boom and succeeding bust but a high correlation between boom and preceding bust) is decisive refutation of Von Mises”⁸⁷.

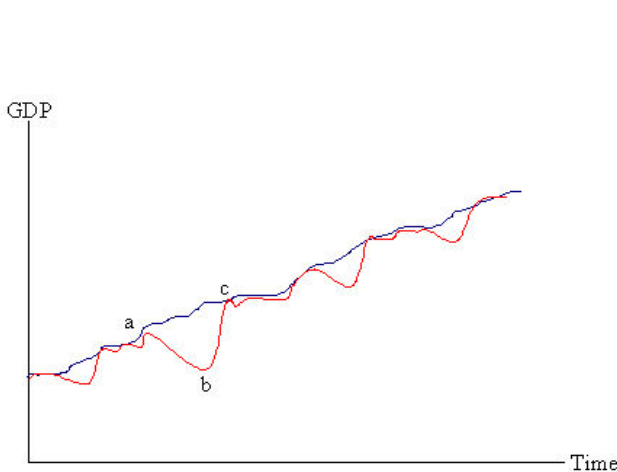


Figure 5

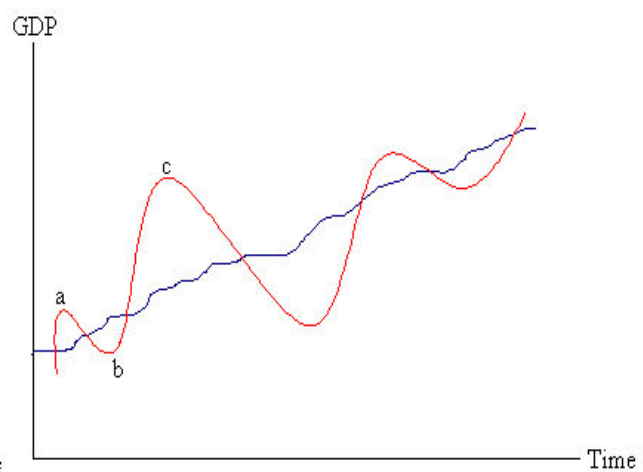


Figure 6

⁸⁵ John P. Cochran: "Austrian Business Cycles, Plucking Models, and Real Business Cycles". P.9

⁸⁶ Peter R.A. Van Maanen: "Monetarist Business Cycle Theories: A Critique". P. 25

⁸⁷ Daniel J. Hammond. "An Interview with Milton Friedman on Methodology." The History of Economic Thought and Methodology, 1992. P.102

The board represents an upper limit, or ceiling, to output, while the string is plucked downward by recessionary shocks at irregular intervals. The extent of the output decline will vary across recessions, but output will always rebound to the ceiling level, so that recessions can only have temporary effects on output. Friedman first suggested the Plucking Model in 1964⁸⁸, but the theory was overlooked until 1988 and reintroduced by Friedman. He describes his work with the Plucking Model in 1988 as; “The recent surge of renewed interest in business cycles in general, and of real business cycles in particular, brought to mind a “plucking model” of business fluctuations that I suggested some twenty-five years ago but that has sunk into complete oblivion⁸⁹”.

In figure 5 it is observable that there is a downturn from the ceiling (a → b) due to the “pluck”. The upturn (b → c) is measurable as the economy experiences a rebound back to the ceiling, of course taking in account of the upward moving slope.

In figure 6 the natural model is illustrated. The difference here is that the downturn from a → b has no relation (cannot predict) to the following upturn (b → c). Friedman uses his data to show a correlation between these “plucks”, and therefore finds support for his model rather than the natural rate model. Lately there has been some support for Friedman’s “plucking model” found by Tara M Sinclair⁹⁰ and Kim and Nelson⁹¹.

Austrians, on the other hand, argue that there are different levels of aggregations employed by Friedman and Mises. While Friedman operate in terms of total output (which is the sum of the investment and consumption goods sector), Mises (Austrians) operate at a lower level of aggregation (different stages of production with investment and consumption goods sector separated). Garrison notes; “Taking account of the differing levels of aggregation, the data described by the plucking model are wholly consistent with the Austrian theory” and furthermore;

⁸⁸ Milton Friedman, “Monetary studies of the National Bureau”, The National Bureau enters its 45th year, 44th Annual Report 1964, pp.7-25

⁸⁹ Milton Friedman, “The “Plucking Model” of business fluctuations revisited”, December 1988.

⁹⁰ “Asymmetry in the Business Cycle: Friedman's Plucking Model with Correlated Innovations”, George Washington University - Department of Economics, September 2008.

⁹¹ Chang-Jin Kim and Charles R. Nelson; Friedman's Plucking Model of Business Fluctuations: Tests and Estimates of Permanent and Transitory Components. Journal of Money, Credit and Banking, Vol. 31, No. 3, Part 1 (Aug., 1999), pp. 317-334

“The over commitment of resources to early stages of production, the distress borrowing associated with the (ultimately unsuccessful) attempt to finance the completion of these production projects, and finally the secondary deflation that may greatly magnify the resource idleness during the adjustment period are all consistent with the plucking model. Thus, even strong empirical support for plucking, if based upon the output aggregate, would not rule out boom-bust theories. Quite to the contrary, the Austrian theory offers special insights as to how a boom-bust market process can leave a trail of bust-boom aggregates”⁹².

3.5 ABCT- Critique from the mainstream economics

Paul Krugman (Krugman) is maybe the most respected and influential economist today. The “Hangover Theory” is a synonymous to the ABCT, a name given by Krugman in his critique against the ABCT. Krugman writes; “The hangover theory is perversely seductive—not because it offers an easy way out, but because it doesn't...Powerful as these seductions may be, they must be resisted—for the hangover theory is disastrously wrongheaded”⁹³. The first objection Krugman has against the ABCT is the fact that it promotes recessions as being a necessary condition of a period of boom. Krugman believe that recessions should be fought with policies that make people spend more, not less. The ABCT solution that credit should be contracted seems to be a great concern for Krugman, as he argues that the Hangover Theory can do real harm. He believes that credit should be expanded in order to restore prosperity, in line with what Keynes believed. Krugman uses the analogy of the baby-sitting⁹⁴ economy in his description of how to fight a recession, and it’s quite simple what needs to be done: “Recessions, in other words, can be fought with printing money- and can sometimes (usually) be cured with surprising ease”⁹⁵. He is supported in his claim by Gordon Tullock (Tullock), as he contends the Austrians disbelief in inflation. Inflation can run continuously and at an accelerated pace for a long time, especially in present world with Central Banks to oversee and control it somehow.

⁹² Roger W. Garrison: “Friedman’s Plucking Model: Comments”. *Economic Inquiry*, vol. 34, no. 4 (October), 1996.

⁹³ Paul Krugman: “The Hangover Theory”. Dec. 4 .1998. <http://www.slate.com/id/9593>

⁹⁴ In the model every member offers baby-sitting service to one another. They in return receive a coupon for every service they provide (baby-sitting) which gives them the right to use the coupon in the future. Recessions come about when couples begin hoarding or saving coupons in order to use them for special occasions. When are not using their coupons (spending), the rest of the couples won’t be able to get hold of new coupons (earning), which will lower the aggregate demand, and therefore also aggregate supply.

⁹⁵ Paul Krugman: “The return of depression economics- and the crisis of 2008. P. 20

In the second objection, Krugman, asks why the unemployment rises due to a collapse in the early stage of production. He argues that since consumers spend less on investment goods, then they must increase spending on consumption goods as total spending is equal to total income. But the Austrian response is that the shift from investment goods-sector to consumption goods-sector doesn't have to take place, if the monetary base is decreased through a credit crunch. In this scenario the boom will simply disappear. Furthermore, the ABCT does not predict mass unemployment while the malinvestments are being liquidated. It originates from rigid wages and if workers accept lower wages, then mass unemployment is not a factor⁹⁶.

Krugman concludes that the ABCT has a "powerful emotional appeal", especially to those who opposes government action (and the Central Bank printing money)⁹⁷. It is obvious that if the ABCT misdiagnoses the cause, they are clearly wrong about the right cure for the decease. Krugman is in his view partly supported by Friedman⁹⁸: "I think the Austrian business-cycle theory has done the world a great deal of harm. If you go back to the 1930s, which is a key point, here you had the Austrians sitting in London, Hayek and Lionel Robbins, and saying you just have to let the bottom drop out of the world. You've just got to let it cure itself. You can't do anything about it. You will only make it worse. You have Rothbard saying it was a great mistake not to let the whole banking system collapse. I think by encouraging that kind of do-nothing policy both in Britain and the United States, they did harm". Even though Krugman and Friedman are talking about two different situations, they appear to agree on that the Austrian medicine for a bust is incorrect.

Furthermore, Bryan Caplan (Caplan)⁹⁹ and Tullock questions why the ABCT assumes that producers never learn from the credit expansion, and the artificially lower interest rates. They argue that businesses learn from previous mistakes, and they would be able to anticipate an increase in the interest rate from the very low level.

⁹⁶ David Gordon: "Hangover Theory: How Paul Krugman has misconceived Austrian theory".

⁹⁷ In fact Krugman find the amazement of the ABCT by some to be: "Some libertarians extol the Austrian theory, not because they have really thought that theory through, but because they feel the need for some prestigious alternative to the perceived statist implications of Keynesianism". <http://www.slate.com/id/9593>

⁹⁸ Peter Brimelow. "Talking Money with Milton Friedman." *Barron's*, 25 October 1982, pp.6-7

⁹⁹ Bryan Caplan: "Whats wrong with Austrian Business Cycle Theory".

http://econlog.econlib.org/archives/2008/01/whats_wrong_wit_6.html

Tullock extends his criticism, and questions the lengthening of the production process when credit expands. He admits that certain things take time to build, but once the factory is constructed and in production, then the time frame gets insignificant. He reasons that it is correct that the interest rate is of important matter when deciding to build a factory, but not when deciding how much to produce¹⁰⁰. Tullock don't believe that a rise in the interest rate will have that severe a consequence, as the ABCT is predicting. He disputes the fact that the earlier stages of production will be abandoned as many unfinished projects will still be able to be completed, even with a higher interest rate, which still can be profitable.

The ABCT claims that during a boom, the interest rate is artificially lower than the natural rate of interest. During an asset price bubble, which is caused by the lower rate according to ABCT, the policymakers find themselves in a dilemma, writes Guido Zimmerman (Zimmerman)¹⁰¹. If the Central Bankers decide to pre-emptively prick the asset bubble, then the consequences could be a crash because of declining asset prices. In terms of the ABCT, a bubble should never appear if the interest rate indicates people's preference towards investment and savings. If a bubble is building up, then interest rates should be allowed to move upwards. But Zimmerman believes that such policy actions have the cost of creating output losses in the present, in order to avoid any bubble in the future. A cost-benefit analysis is therefore necessary, of whether the insurance policy is too costly compared to future crashes. Zimmerman moreover argues that bubbles can't be detected before they burst, and therefore should the Central Banks not act upon them.

Deflation during a recession is certainly a good thing in the Austrian vocabulary, but in the mainstream economics there seems to a consensus that it has an adverse effect for the aggregate demand, and is therefore something that needs to be fought. First, deflation with falling prices and fixed wages will make real wages higher, and therefore suppress the demand for labour creating unemployment. Second, deflation leads to higher real interest rates which are thought not to be good for the economy in a distressed situation. There are several reasons why a higher real interest rate is not favoured by the mainstream. Firstly, the higher real rate will make people save rather than spend. Secondly, deflation weakens the balance sheet of firms which leads to

¹⁰⁰ Gordon Tullock: "Why the Austrians are wrong about depression". The review of Austrian Economics. P.75

¹⁰¹ Guido Zimmerman: "Austrian monetary policy views: A short critique". The quarterly journal of Austrian Economics. Vol.6. No.4 (winter 2003). P.77

more bankruptcies especially when people are spending less in the same time. Bankruptcies is not only a threat in the business community, but also in the general population as the debt burden induced by people will be worth more in real terms. FED Chairman Ben Bernanke (Bernanke) talking about deflation said: "...the best way to get out of trouble is not to get into it in the first place" and to the solution of deflation continued "...under a paper-money system, a determined government can always generate higher spending and hence positive inflation (by printing money)¹⁰².

The gold standard is surely the way to prevent boom and bust cycles in the eyes of the Austrian School, but it is utterly disliked in the mainstream consensus. There are many reasons for that. Perhaps the most important is that in a recession the government will be bound by the restrictions in the gold standard, and not be able to increase the supply of money and therefore not be able to use the monetary policy as a tool to meet the extra demand for liquidity. Other reasons follow that it is too costly, or there is simply not enough gold to facilitate all transaction, or keep up with the growth in business activity. A gold standard is simply not the answer to recessions in the mainstream view, especially if one sees deflation as a menace to economic health; because deflation is exactly what one will get in recessions under a gold standard¹⁰³.

Perhaps the chief critique against the Austrian School lies in the belief that the ABCT is the sole and only theory that explains boom and busts in a satisfactory manner. While many economists today see the Keynesian and Monetarist account of business cycles as complementary, and not in opposition to each others, the ABCT in contrary views itself as the ultimate truth and disregards the other theories as being deficient in capital theory, or in lack of praxeological understanding of human actions. The reason why the ABCT lies outside the mainstream, Zimmerman notes; "It is not due to a grand conspiracy against Austrian scholars but due to their monocausal, often ideological-driven economic reasoning"¹⁰⁴. The Austrians distant themselves to a great extent from the mainstream schools, and claims the ABCT to be very different than the

¹⁰² Ben Bernanke: "Deflation: Making sure "it" doesn't happen here". Remarks by Governor Ben S. Bernanke Before the National Economists Club, Washington, D.C..November 21, 2002.

<http://www.federalreserve.gov/BOARDDOCS/SPEECHES/2002/20021121/default.htm>

¹⁰³ Many economists argue that it was the mix of the gold standard, and deflationary policies run by the American government that caused and prolonged the depression in the 1930's.

¹⁰⁴ Guido Zimmerman: "Austrian monetary policy views: A short critique". The quarterly journal of Austrian Economics. Vol.6. No.4 (winter 2003). P.79

IS/LM framework. But there are striking similarities in the mainstream business cycle theories and the ABCT. It would therefore be better for the Austrian school to see those similarities, rather than dismissing them as false on an ideological ground.

3.6 A critique from the inside

It is apparent in the Austrian literature that they support a 100 percent gold standard and free banking. If this monetary system is embraced, then there will be no boom and bust cycles. Therefore abandoning fractional reserve banking and putting an end to inflation will give the economy a stabilizing effect. There are, however, Austrians that do not believe that all fractional reserve systems are fallacious, namely two; George Selgin (Selgin) and Lawrence White (White). Selgin recognizes that if the credit expansion does not match the public's demand for money, and an excess liquidity is created, then the ABCT holds true. But the ABCT will not unfold itself if the increase of money supply is a response to an increase in the demand for money¹⁰⁵. Certainly the Central Bank will be keener to increase the monetary base in an unhealthy manner that can set in motion a business cycle. Competing commercial banks, on the other hand, are more capable of running the fractional reserve system by creating the money themselves and increasing the monetary base in consistency with the underlined growth pattern; they meet the public's demand for money better than a Central Bank would¹⁰⁶. Selgin and White agree that monetary instability contribute to business cycles and crisis, but their notion of instability is linked to Central Banking and government interventions, not fractional reserve banking itself¹⁰⁷.

It is apparent that from a mainstream point of view, the Selgin and White argument would be favoured over the classic 100 percent gold backed system. Hereby not meant that there would be a definitive agreement with Selgin, White and the mainstream, but rather an assertion that we live in an age of fractional reserve banking, and the likelihood of that to disappear in the near future is dwindling. An abolishment of the Central Banking system is likewise highly

¹⁰⁵ George Selgin. "Should we let banks create money", The Independent Review, summer 2000. P.97

¹⁰⁶ Ibid. P.98

¹⁰⁷ George Selgin and Lawrence White: "In defense of fiduciary media- or, we are not devo(lutionists), we are Misesians!" The review of Austrian Economics. 1996, Vol.9, No. 2. P.100

improbable, but recognition of fractional reserve banking from within the Austrian circle is certainly remarkable¹⁰⁸.

Selgin and White conclude by stating that fiduciary media is not fiat money, and a monetary system that operates with under some commodity standard, fiduciary media and competitive banking does provide economic stability. Therefore will this system be more preferable to the current fiat money standard, which has removed all linkage to any gold redemption. But it will also be more favourable to the 100 percent gold standard that removes all use of fiduciary media¹⁰⁹.

3.7 Historical differences- The Great Depression

The Great Depression is an era of economic history that still to present day dictates how to resolve crisis situations. This crisis paved the way for the Keynesian revolution, but it lost its fame later to the Monetarist counterrevolution. The Keynesian theory have found its way back to glory, which can be seen in the light of Krugman, who is a Keynesian, was awarded the Nobel Prize in Economics in 2008. This was by many seen as a victory of state interventionism, and praised the committee to have learned from the current crisis¹¹⁰. Krugman himself calls for a return of demand- side economics¹¹¹. In order to fully understand the policy actions taken today, it is very important to understand how the mainstream schools differ in opinion regarding The Great Depression, relative to the Austrian School. Therefore a brief discussion is taken below.

The Great Depression had its first visible sign in the stock market crash of 1929, now known as the “black Thursday”. The acting president at that time was Herbert Hoover (Hoover), and according to the Keynesian view, he turned the stock market crash into a recession and depression. Hoover is in the light of history, blamed of focusing on balancing the budget; instead

¹⁰⁸ This should be taken with an ease, as there is no sign that any other than Selgin and White from the Austrian School, speaks in defense of fractional reserve banking. Frank Shostak (Shostak) replies to this concluding that Selgin and White’s analysis look at the demand for money from a macro perspective, rather than from the individual’s level. Therefore they are bound to ignore the misallocations of resources that fractional reserve credit expansions create. Frank Shostak: “Fractional reserve banking and boom-bust cycles”.

¹⁰⁹ Ibid. P.105

¹¹⁰ The lesson was obviously that the free market economy- the liberal belief- is inherently unstable. Capitalism was deemed dead, and therefore had to be controlled by the government.

Source: Danish newspaper “Information”. “30 år med klap for øjet”. <http://www.information.dk/198983>

¹¹¹ Paul Krugman: “The return of depression economics- and the crisis of 2008”. P.182

he should have followed an expansionary fiscal policy¹¹². The actions of the FED have been widely criticized as well. Operating under a gold standard, the FED contracted the money supply by 30 percent during a three year period from 1928¹¹³, which creates a negative aggregate demand shock, and dragged the whole world into a depression. The Keynesians certainly preferred Franklin D. Roosevelt (FDR), as he introduced the New Deals spending programs, in order to get the U.S out of the depression. And these spending programs were what pulled America out of the depression¹¹⁴.

The Monetarists account of The Great Depression interpreted the crisis in a different manner. Friedman and Anna Schwartz (Schwartz), in their 1963 book¹¹⁵, argued that it was the wrong FED policies to reduce the money supply that caused and prolonged the crisis. The fact that the money supply was contracted when businesses and banks needed money was the reason for the many bankruptcies and thus higher unemployment. Their conclusion was therefore that if the FED had increased the money supply in order to accommodate the higher demand for money, then the level of bankruptcies would have been less severe, and the economy would have been much more stable¹¹⁶. This view is often criticized as the notion is that FED did expand the money supply, but it was the banks that held on to the extra liquidity.

The Austrians differ substantially in the understanding of The Great Depression, than the two mainstream schools. Austrians point to the fact that neither of the mainstream schools considers the increases of the money supply between 1921 and 1929. In this period the money base was expanded by 55 percent, averaging 7.3 percent a year. This money took the form of additional loans to businesses, rather than additional circulation currency¹¹⁷. Hoover, which by the mainstream was believed to be a laissez-faire man, is by the Austrian perceived as being the exact

¹¹² Paul Krugman: "The return of depression economics". Foreign Affairs, Vol 78. No.1. 1999. P.57

¹¹³ Lawrence W. Reed: "Great myths of the great depression". P.5

¹¹⁴ Paul Krugman: "The conscience of a liberal- New Deal Economics". New York Times, Nov.8. 2008.

<http://krugman.blogs.nytimes.com/2008/11/08/new-deal-economics/>

¹¹⁵ "A monetary history of the United States , 1867-1960"

¹¹⁶ Speech by Ben Bernanke: "Money, Gold and The Great Depression". March 2. 2004.

<http://www.federalreserve.gov/boarddocs/speeches/2004/200403022/default.htm>

¹¹⁷ Thomas E. Woods Jr.: "Meltdown". P.96

opposite¹¹⁸. FDR and his New Deal policies continued to inflate the economic bubble; or rather it didn't let it deflate. Capital was diverted to unsound businesses, prices and wages were manipulated among others. The Austrians believe that New Deal policies were not what ended the depression; they made it persist for a long time. The free market policies would have brought the economy back on track as resources needed to be allocated correctly. Government intervention made things even worse, and should be resisted.

Chapter 4

4.0 The Financial crisis

The global financial crisis came with a fury and speed most didn't expect. It has initiated a heated debate on the causes of the crisis, and thereafter on the crisis management. Many have blamed the unfettered capitalistic system; which is inherently unsustainable, they argue. The greed of the bankers to get quick profits and the unregulated markets that was the playground for these people. They cry for regulations, and throughout the world the governments have found the old Keynesian textbooks from the shelves; a second coming of Keynes some proclaim¹¹⁹. On the other hand, some blame the governments, and especially the Central Banks, to be responsible of creating a bubble economy that couldn't last. Among them are, not surprisingly, the Austrians. In the next section, a discussion on the causes and the handling of the crisis will be presented. Thereafter will be investigated, whether the ABCT has any valid claim to explain the crisis.

4.0.1 UNDERSTANDING DERIVATIVES AND THE RISK ASSOCIATED WITH THEM

Derivatives are contracts between two parties involving an underlying asset. In its essence it is a very simple thing, but in reality the derivatives market have given policy makers a great deal to worry about, as the derivatives market is a very complex and large one. There are basically three forms of derivatives contracts; futures, swaps and options. The derivatives are used to hedge against any future risk, this can be attained by deferring the risk of the underlying asset from one party to another. Imagine Mr. Harris; he needs to buy steel in order to build cars, which he then

¹¹⁸ Hoover is perceived as being a "socialist" rather than a capitalist. He launched public works project, raised taxes, expanded emergency loans to businesses and didn't let wages fall. That is why John Nance Garner (runner for presidency in 1932), said that Hoover is "leading the country down the path of socialism".

Source: Lawrence W. Reed: "Great myths of the great depression". P.6

¹¹⁹ Notably the Austrians.

sells around the world. If he is uncertain about the supply of steel, he can go on the futures market and pre-order steel in a futures contract with a steel manufacturer which provides Mr. Harris with an IOU. This contract is derived from something underlying; the steel. But if Mr. Harris is worried whether the steel manufacturer is able to deliver, he can hedge the contract by buying another derivative; an option. Mr. Harris can buy an option from another steel manufacturer to buy steel from him, in the case of the first steel manufacturer not being able to deliver. Mr. Harris now is worried about the volatility of the interest rate on his business loan. In order to avoid the risk of higher interest rates, he swaps his floating interest rate with a fixed interest rate with a bank. The bank is willing to take the risk of floating risk as they estimate the interest rates to be low for a period. When hedging to reduce risk, then derivatives are a form of insurance against that risk. It is very effective that there can be a transfer of risk from one party to another in the financial markets, and thus reallocates risk from those who do not want it to those who are willing to take the risk. But now imagine that Mr. Harris for some reason don't need the steel that he already paid for, he can then go on the market for derivatives trading and sell his IOU to another party. The problem occurs as the buyer of the IOU really isn't interested in the underlying asset, but rather in the IOU contract itself. They might buy it to sell the contract with a profit to another party that buys the contract for the same exact reason; to sell it on with a profit¹²⁰. This speculation is very lucrative as long as the prices of the contracts goes up, when the prices move down, on the other hand, it can be a serious problem not only for the speculator, but also for the whole financial system. But how is that possible one might wonder. In order to understand that one needs to understand the Credit Default Swaps (CDS).

The CDS's are simply an insurance against default¹²¹. Imagine again Mr. Harris, he bought 10 billion dollar worth of Lehman Brother shares. Now Mr. Harris gets worried about the risk of drop in share prices because of the increased leverage in the banking sector. He signs a CDS contract with a financial institution, pays them a premium and hedge against a falling share price. Mr. Harris, however, wants some collateral from the insurer, in case of a Lehman collapse. The collateral is not that high when the economy is healthy and the risk of default small. But Mr. Harris is not the only one making such insurance with the financial institution, there are many so called

¹²⁰ Annemette Skak Jensen. Central Bank of Denmark, Capital Markets Department. "Credit Default Swaps".

¹²¹ Ibid

counterparties that are insured and are demanding collateral. If the financial institution is downgraded, then the collateral call is going to go even further up as Mr. Harris and all other counterparties see a higher risk. The twist here is that the financial institution has many counterparties, but Mr. Harris is engaged not only in protecting his own investment, but also in insuring other people in with their investments through this financial institution. These people that Mr. Harris insures might then be insuring other people as well. A mighty web of unbelievable complexity has occurred, and it all depends on this financial institution to pay up in case of default, in any of the individual's insurance policy that is bound in this web. An issue of concern with the CDS's is that one doesn't need to own shares in a certain company in order to insure it, rather one can simply buy an insurance against the share prices going down in a certain corporation. In the case of it happening, the insurer is obliged to pay the counterparty. Suddenly a CDS becomes a way of betting on the fall of a company¹²². In order to add to the complexity, these contracts are made in the over the counter (OTC) market which, in contrast to the exchange traded derivatives, are unregulated and no federal agency oversees the transactions. In this market the participants don't really know how much exposure the institution has to other contracts. This uncertainty and lack of knowledge poses additional risk to these contracts¹²³. The CDS's have "glued" the financial institutions together. When these start going under because of their great exposure to CDS's, then they start pulling other financial institutions down with them, thus creating a systemic risk to the financial system that is unbearable.

4.0.2 THE DERIVATIVES DRIBBLE, THE RATING AGENCIES AND BANKING IN THE SHADOWS

When discussing the housing bubble it is hard not to talk about the Collateralized Debt Obligations (CDO's). The CDO is the derivative that made large returns on low risk exposure possible during the housing boom, and everyone loved them. The CDO's are backed by an asset which can be about anything; car loans, credit card debt, corporate debt or house mortgages. During the housing boom, banks and other financial institutions began creating the CDO's, out of several house mortgages, into bonds and sold them on to investors around the world. This process is called securitization. Under securitization the financial institution transfers mortgages into special

¹²² Matthew Phillips, Newsweek September 27, 2008. "The monster that ate Wall Street".

<http://www.newsweek.com/id/161199>

¹²³ Shannon D. Harrington and John Glover, Bloomberg.com October 10, 2006. "Credit default swaps may incite regulators over inside trading". <http://www.bloomberg.com/apps/news?pid=20601087&sid=aAMb0.6cgOLs>

purpose vehicles (SPV), which packages the mortgages and refines itself by issuing mortgage backed securities. In this process the risk is transferred from the original institution to the SPV and to those holding the mortgage backed securities¹²⁴. The idea with securitization seemed to be that risk associated with bank lending would be turned to investors that were ready to take the risk. However, it turned out that this risk was absorbed by the banking sector itself. The reason for this was that the banking sector wanted to get more leveraged and profit from it, and therefore the risk stayed mostly in the banking sector¹²⁵. The mortgage backed securities were structured into tranches, which rank according to their priorities. The first comers are the senior tranche, the second is the mezzanine tranche and the holder of the final tranche is the equity tranche. It can be useful to structure different securitizations into such tranches, as the risk is efficiently allocated to those that best can bear it. The different tranches got rated by rating agencies and most senior tranches were labelled with AAA ratings, while the later tranches were categorized with lower ratings. But the securitizations were being made from the secondary market as well, meaning that there existed a second layer of securitizations made from first layer securitizations¹²⁶. These second layer securitizations, which also existed of mezzanine and equity tranches from the primary securitizations, were labelled with AAA ratings by the ratings agencies. The investors and banks buying these CDO's, rated at AAA, believed that there was no risk, or very low risk, that their investments were going to default as they were rated to be very secure. No one really made any due diligence of their own in order to assess the risk in these investments. Beside that it was a time consuming effort, it was also very difficult to see through these mortgage backed securities. The rating agencies have been blamed, by some, of being the main cause of confusion, and luring people to buy these deadly toxic debts. The three main agencies were Standards & Poors, Moody's and Fitch¹²⁷. There was a clear conflict of interest as these rating agencies were hired, to rate the mortgage backed securities, by the issuers of these securities. The ratings agencies gave good

¹²⁴ MARTIN F. HELLWIG. DE ECONOMIST 157, NO. 2, 2009. "SYSTEMIC RISK IN THE FINANCIAL SECTOR: AN ANALYSIS OF THE SUBPRIME-MORTGAGE FINANCIAL CRISIS". P.139

¹²⁵ TOBIAS ADRIAN and HYUN SONG SHIN. "The shadow banking system: implications for financial regulation". P.6

¹²⁶ MARTIN F. HELLWIG. DE ECONOMIST 157, NO. 2, 2009. "SYSTEMIC RISK IN THE FINANCIAL SECTOR: AN ANALYSIS OF THE SUBPRIME-MORTGAGE FINANCIAL CRISIS". P.155

¹²⁷ David Teather, The Guardian. 28 January 2003. "SEC seeks rating sector clean up".

<http://www.guardian.co.uk/business/2003/jan/28/usnews.internationalnews>

ratings to their clients, as they were competing with other rating agencies. And the one giving the best ratings, were most likely to be hired for the job.

The scope of financial troubles became clear to both the general public and policymakers when two major investment banks gave away in 2008. The collapse of Bear Stearns and Lehman Brothers marked a beginning of highly tumultuous times, and panic erupted in the financial markets around the world. These investment banks don't run like normal depository banks that are covered by the FDIC (Federal Deposit Insurance Corporation) or with the FED as the lender of last resort. This meant that they were out of reach of the governmental regulatory system, as they didn't allowed deposits and consequently escaped the oversight from the regulators. Normal banks are obliged to hold a certain amount of cash on their balance sheets, in order to be liquid in the event of a disaster. The shadow banking system, as they are not a part of this system, was much more leveraged than normal banks. These banks borrowed very short term liquid assets, and lent and invested in more illiquid and long term assets. These highly leveraged shadow banks invested heavily in mortgage backed securities. The short term loans demanded for these banks to refinance their operations through investors. This kind of banking showed to be a decisive factor in propelling the global financial meltdown.

4.0.3 FOLLOW THE CROWD BEHAVIOUR

There is a clear indication that the holders of the mortgage backed securities underestimated the risk involvement. The institutions responsible for the securities quickly bundled these and sold them to investors, and they didn't have any incentive to make sure of the creditworthiness and thus the quality of the securities. Banks and other financial institutions held many of these investments as they gave a handsome return, but the returns were calculated on a dubious manner. These investments were so complex to understand that a separate due diligence by investors seemed impossible. The risk in these securities were somewhat hedged through CDS contracts by investors, but due to an overoptimistic future prospect of the economy and reliance on the ratings agencies, the hedge only covered a minor of the exposure. Moreover, the institutions hedging the securities didn't pay any notice to the opportunity that counterparties to the hedges themselves might be in difficulties. During the crisis it became clear that these hedges

were left to the investors themselves to cover, as many of the insurance issuers defaulted on the claims¹²⁸.

The financial institutions failed to take the proper time to make the correct risk management; instead it was taken as a routine and standard measure was applied without further consideration. The hunger for high returns was propelled by the fact that it had become a norm to maximize shareholder value, unrespectable of the risk associated with it. The managers pursued a short term strategy to get the most of their investments, in order to satisfy institutional investors and the rest of the stakeholders. This pursue led to a whole industry in search for the “good” investment that not only satisfied the stakeholders, but also made sure that you followed the industry standard in creating profit making. In other words; all fell in the same trap of getting quick returns and getting paid generously for doing so.

4.0.4 THE SYSTEMIC RISK UNFOLDS

In 2006 the default rates in the housing market began to mount and it soon thereafter became clear to the market that pooling the mortgages into securitized assets didn't reduce risk. The investors concentrated the risk with borrowed funds that themselves were funded with short term loans. A leverage of 20:1 will thus convert a 5% realized loss into a 100% loss of original capital; therefore a leveraged investor lost all its capital at even low default rates¹²⁹. The losses were great, but not greater than the preceding crisis that hit the US and the world economy. This made most observers to conclude that the bust was going to lead to a minor recession, but they didn't calculate the systemic risk that had crept in the financial system.

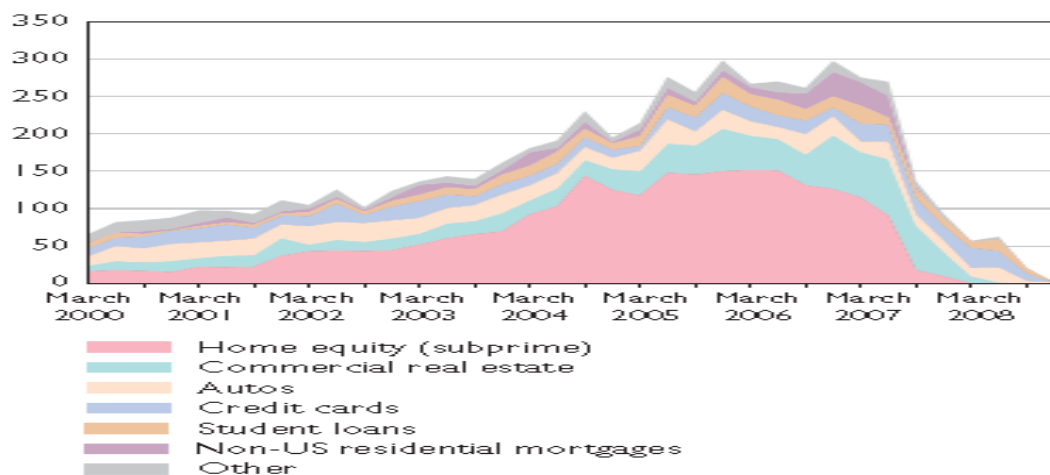
The banking industry had set up structured investment vehicles (SIV's) for the purpose of investing in the asset backed securities, and as these operated in the shadows of financial regulations, they had leverage ratios of nearly 100%. They were in need of short term refinancing in order to invest in long term securities. When in 2006 these institutions began realizing losses on their investments in the mortgage market, the confidence in the shadow banking system began to fade away. The liquidity that these banks needed in the short run now suddenly was pulled away from them, as many money funds withdrew their money seeing that

¹²⁸ MARTIN F. HELLWIG. DE ECONOMIST 157, NO. 2, 2009. “SYSTEMIC RISK IN THE FINANCIAL SECTOR: AN ANALYSIS OF THE SUBPRIME-MORTGAGE FINANCIAL CRISIS”. P.160

¹²⁹ Paul Mizen, Federal Reserve Bank of St.Louis Review, September/October 2008. “The Credit Crunch of 2008: A discussion of the background, market reactions, and policy responses. P.539

the risk was too high. The shadow banks now had a problem with refinancing themselves, and pay their short term debt. The only option for them was to sell their long term assets in a “fire sale” in order to scramble in some cash¹³⁰. The fire sale naturally depresses the price of such assets and put further pressure on all others holding such assets. The consequence was that the banks, due to their declining asset values, were hurt on their balance sheets and sold assets in a self reinforcing process. This process led to a shadow bank run just as happened in the 1930’s writes Krugman¹³¹. The issuance of asset backed securities stopped almost right away as can be observed in figure 7. This had the obvious effect that the credit lines to consumers stopped and getting a loan was almost impossible. Another obvious conclusion can be made from figure 7; the build-up of asset backed securities took years, but the deleveraging of them was done in a very short period of time. No one really questions the fact that the financial industry was overleveraged and needed to deleverage, but when deleveraging happens at a pace as seen here is unprecedented. The banks need of cash made deleveraging a hazard to the economy rather than a natural consequence of an overleveraged industry. As banks were selling assets their lines of credit were drying up in haste; asset backed commercial paper (ABCP) which have functioned as a source of fund for the SIV’s dropped from providing \$1.2 trillion in credit to \$700 billion as can be seen in figure 8.

(USD billions)



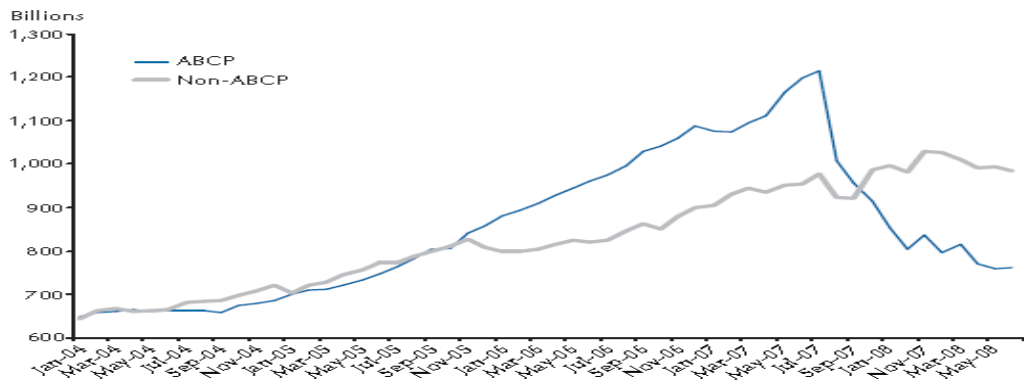
Sources: JP Morgan Chase and Adrian and Shin (2009).

Figure 7

¹³⁰ David Wighton, Saskia Scholtes and Gillian Tett. Financial Times.Com. November 6, 2007. “Risk of securities fire sale mounts”. http://www.ft.com/cms/s/0/17f683c2-8c9b-11dc-b887-0000779fd2ac.html?nclick_check=1

¹³¹ Paul Krugman, “The return of depression economics, and the crisis of 2008”. P. 171

Commercial Paper



SOURCE: Federal Reserve Board/Haver Analytics.

Figure 8

The “mark-to-market” principle made the banks realize their losses immediately, and ratings agencies began downgrading these banks which led to a domino effect of deleveraging in the banking industry. The table below lists some of the major corporate write downs made by the banking sector.

Top Corporate Writedowns

Bank	Writedowns (billion U.S.\$)
Citigroup	46.40
Merrill Lynch	36.80
UBS	36.70
AIG	20.23
HSBC	18.70
RBS	16.50
IKB Deutsche	14.73
Bank of America	14.60
Morgan Stanley	11.70
Deutsche Bank	11.40
Ambac	9.22
Bardays	9.20
Wachovia	8.90
MBIA	8.41
Credit Suisse	8.13
Washington Mutual	8.10
HBOS	7.50

SOURCE: Reuters.

These write downs fuelled to the uncertainty in the market, and there was a fear that further write downs would come, as there were an uncertainty about how many skeletons the banks had hidden off their balance sheets. The mistrust among banks led to a freeze up in the interbank market; the market in which the banks lend to each other in the short run. This breakdown of refinancing was not only limited to the SIV’s, but in fact had an effect in the banking industry in the whole world. It was harmful to those institutions that relied on the open markets rather than deposits to fund their operations¹³². The CDS market gets heavily affected

by the write downs as well. As explained earlier, when a CDS issuer gets downgraded, the

¹³² MARTIN F. HELLWIG. DE ECONOMIST 157, NO. 2, 2009. “SYSTEMIC RISK IN THE FINANCIAL SECTOR: AN ANALYSIS OF THE SUBPRIME-MORTGAGE FINANCIAL CRISIS”. P.172

collateral calls on the insurance increases as well due to the additional risk. When the investments began going bust, the insurance holders made their claims. The problem was that the CDS issuers themselves were in liquidity trouble, and there existed a fear in the market that they would not be able to cover the insurance claims. The mounting of the collateral calls added to the demise of these institutions to raise cash¹³³. The CDS made possible for investors to leverage themselves up, and systemic risk is intensified by concentrating the exposure on few interconnected institutions that are buyers, sellers and underliers of the contracts¹³⁴. This meant that when one player in the market ran in trouble, it pulled down the others as well.

This crisis have been characterized by a web of complex financial innovations which created products that on the paper had a risk distributive effect and aided the financial system in creation of credit. Unfortunately not many could comprehend the complexity and misread the risk associated with their investments. Moreover, a class of derivatives appeared that made possible bets on the actors in the system. It also tied the players in the system together, so if one failed the others would follow. One could argue that money had gone mad, and the financial world in a casino mode. It came as a surprise to the players when the casino stopped paying out, and major down grading were realized on their bets. The surprise was likewise big on the liquidity and solvency problem in the shadow banking system and panic made a run on these institutions possible. A credit crunch set in as lack of transparency made interbank market freeze over as no one trusted each others. The CDO's and other types of asset backed securities made the institutions heavier (leveraged) and the CDS's bound these institutions together so when Lehman Brothers collapsed, all the others nearly plunged down with Lehman. The risk had suddenly become systemic, creating a downward spiral in the international financial system.

4.1 The financial crisis – the Austrian account

When talking about the financial crisis, the Austrians always point to the creation of the US Federal Reserve. The FED was created in 1913 after a war and a financial panic. The war was the Spanish- American war of 1898 where a vast amount of government debt was issued, and banks were given the incentive to hold this debt. The financial panic was that of 1907; a speculative

¹³³ Anne Duquerroy and Mathieu Gex. Banque De France, Financial Stability Review, No.13 September 2009. "Credit Default Swaps and financial stability: risk and regulatory issues".

¹³⁴ Ibid

bubble, inflated by railroad construction and credit creation by trust companies, busted. The consequence was bankruptcies and a collapse of confidence¹³⁵. The government saw its role as a financial stabilizer, and some years later the FED system was created in order to secure that confidence¹³⁶. It is essential in modern day financial system to have a Central Bank that runs the monetary policy and provides the stability needed one could argue. But the Austrians define the beginning of each and every crisis on the monopoly money creating institution that suppresses the market interest rate lower than the natural interest rate¹³⁷.

Many Austrians point to the community reinvestment act (CRA) of 1977, as to see the beginning of the housing bubble. The act was designed to encourage commercial banks and saving institutions to borrow to the low and moderate income families. The congress passed the law to stop discriminatory credit practices against the low earning individuals. This law was seen by the Austrians to have an adverse effect as the banks made loans to less than creditworthy borrowers, and therefore was forced to take on a risk that they didn't wanted to take¹³⁸. Through the 1990's, this law was updated and alongside with the taxpayer relief act it meant that many more low and moderate income families were taking on mortgages and buying houses. The government created, for the public, an incentive to buy houses and get heavily indebted as the interest on mortgages is deductible argued some.

The creation of Fannie Mae (1938) and Freddie Mac (1970) as a government sponsored enterprise (GSE) played a big role in inflating the housing market. Fannie Mae and Freddie Mac created a liquid secondary market for mortgages. This resulted in the financial institutions selling their mortgages to this secondary market, in order to free up funds to make additional mortgages. The unfortunate effect was that banks lost the incentive to check the mortgages that they were issuing and selling on the secondary market. This was a lucrative business for the banks as they earned a fee for each mortgage they sold on the secondary market. In the traditional subprime loan practice, the person loaning could be facing temporarily economical difficulties. Therefore the interest rate was lower the first years and then higher the

¹³⁵ Susan Strange. "Mad Money, when markets outgrow governments". P.142

¹³⁶ The US Central Bank is quite young compared to other Central Banks (the German or the British). There had been earlier tries to establish a Central Bank in the US in 1791 and 1816, but both times the opponents of this system (Andrew Jackson, Thomas Jefferson among others) made sure to close the FED.

¹³⁷ More on this in the next section

¹³⁸ Thomas J. DiLorenzo, Mises Daily April 30, 2008. "The CRA Scam and its Defenders".

rest of the duration of the loan; also called adjustable rate mortgages (ARM). It was not only the subprime lenders who were engaged in ARM lending, but also the prime mortgage lenders. As long as the house prices kept rising and the short term interest rate was low, then the loans could be refinanced at a lower interest rate. It all began crumbling when, in 2006, the house prices began to drop and the interest rate going up. This time around the borrowers didn't have the economic incentive to pay the monthly mortgage at a higher interest rate. The magnitude of the housing crisis was even worsened by the fact that people had been speculative buying houses in order to sell them with a profit. The speculators sell the houses before the ARM expires, but as home sales was dropping it suddenly got tougher to sell¹³⁹. Another issue in having Fannie Mae and Freddie Mac as GSE's was that they had competitive advantages in the form of tax and regulative privileges over their competitors. As they were GSE's, investors expected the government to step in if they ran into trouble (which happened). This made it possible for these companies to raise money on the stock exchange and buy mortgages in the secondary market at a higher price than its competitors; i.e. inflating house prices¹⁴⁰. The whole world was dragged into the housing crisis of the US, as these subprime loans were being packed into Collateralized Debt Obligations (CDO), and sold as investment objects at AAA rating. Once the recession hit the rest of the world, housing markets around the globe saw a decline added additional fuel to the fire.

The deflated housing bubble was unattainable without the interference of the FED¹⁴¹. Peter Schiff (Schiff) remarks¹⁴²; "George W. Bush once explained the real estate debacle with the observation that "Wall Street got drunk", well so did Main Street, but let's not forget where the booze came from". Short after 9/11 and in the aftermath of the dot.com burst the FED began lowering interest rates, eventually down to 1 percent from June 2003 until June 2004. In order to achieve that the FED expanded their balance sheet considerably "with more dollars being created between the years 2000 and 2007 than in the rest of the republic's history"¹⁴³. The lower interest rates made long term project more profitable, and the supply of newly built houses were

¹³⁹ Thomas E. Woods Jf. "Meltdown". P.23

¹⁴⁰ Thomas E. Woods Jf. "Meltdown". P.15

¹⁴¹ Blaming the FED's loose monetary policy, in order to explain the crisis, is not only the Austrian way of explaining the housing bubble. Paul Krugman, the Nobel Laureate, also blames Alan Greenspan of not removing the punchbowl, when the party was ongoing. He, unlike the Austrians, emphasizes not that much on the CRA and Fannie Mae and Freddie Mac, rather he points to the unregulated shadow banking system as the main cause.

¹⁴² Peter Schiff. "Crash Proof 2.0". P. 198

¹⁴³ Thomas E. Woods Jf. "Meltdown". P.26

greater than the demand for them. The savings were quite simple not large enough to support the lengthening of the production structure and resources were being drawn away from projects that accommodate consumer demand. The combination of “cheap” credit, the GSE’s, lax lending standards and mismatch between savings and investments made the housing bubble appear (boom) and burst (bust). The chairman of the FED, Alan Greenspan, is blamed to be the main responsible of letting things getting out of hand¹⁴⁴.

4.2 A search for validity in the ABCT

When explaining the housing bubble and the following crash, how can then the ABCT be used as an explanatory factor? There are three main things that need to be correct in order for the theory to be valid; 1. The FED lowered the interest rate more than the natural rate of interest with a monetary expansion 2. Borrowing increased to higher stages of the production process and lengthened the average structure of production. 3. Prices raise more in the higher order relative to lower order goods. The implication is naturally (for Austrians) that the expansionary monetary policy reduced the federal funds rate below natural interest rate, so the entrepreneurs begin engaging in more lengthily investment projects that lengthened the average production structure. This has the effect that prices rise substantially in the higher order goods creating a boom. The connection to the housing bubble has therefore to be a loose FED monetary policy, where a vast creation of money finds their way in the housing market.

The FED’s monetary policy

The Austrian theory of business cycles predicts that an increase in the money supply starts an artificial boom with malinvestments as a result in the higher order of production. There is however different measures of money supply that indicate the level of money in the economy; the table in appendix B gives an overview of the different measures.

The different M’s are widely known and accepted by mainstream economists. The M1 is a narrow measure of money supply while M3 the broadest. But the FED stopped publishing the M3 numbers since March 2006; therefore many prefer to look at the MZM as a measurement for the broad money supply. The Austrian True Money Supply (TMS) measure is a reaction against

¹⁴⁴ In appendix C, a discussion is taken in defence of Alan Greenspan.

the mainstream notion that the link between money supply and economic indicators is broken. Frank Shostak¹⁴⁵ writes on the TMS: “This definition shows clearly that any expansion in money supply results solely from central bank injections of cash and commercial banks’ fractional reserve banking”.

Looking at the money aggregates in figure 9 it is visible that there has been a rise in all of the included money measures.

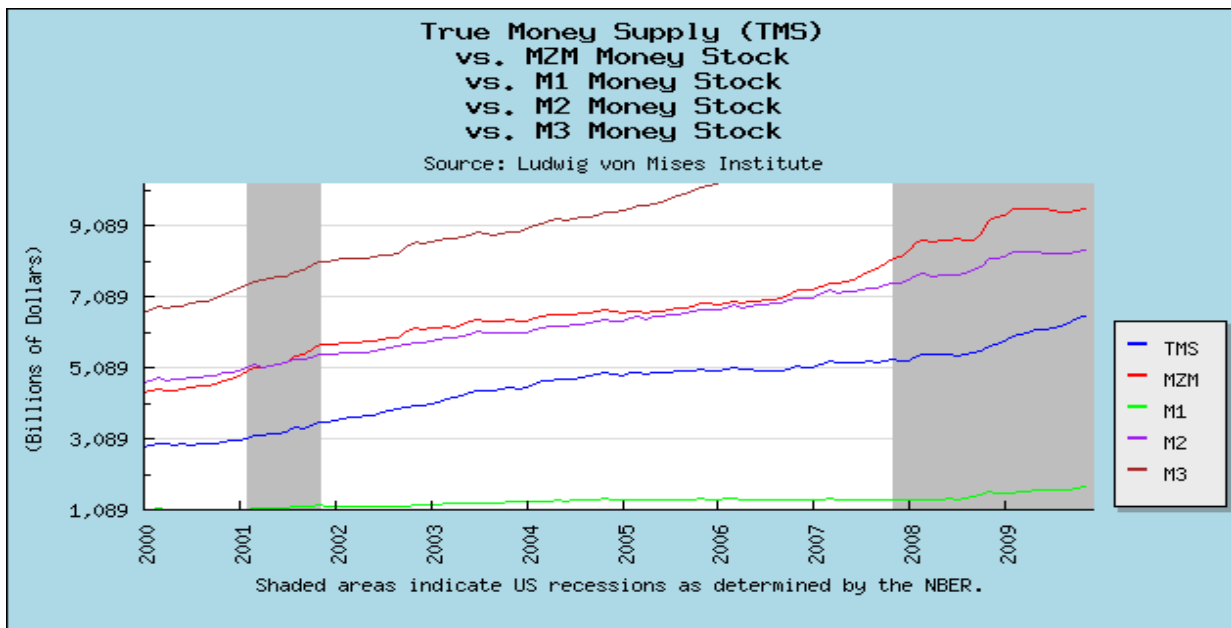


Figure 9 – M3 stopped being published in 2006

Looking at the year to year growth rate as shown in figure 10 below, we can see that there is a rise in the different M’s during the recession in beginning of the millennium, which can be associated with the FED depressing the interest rate to combat the recession. The rate at which the supply of money increases during the recession ranges between 10% (M1) and 21% (MZM). Even after the recession when the housing bubble formats, the level of rise in money aggregates continues. In the period 2002-2006, the money aggregates rise between 2 - 10% p.a. (roughly). The Austrians does have a point that the FED, in the aftermath of the dot.com bubble, increased the money supply considerably¹⁴⁶. But the question is whether the growth in the supply of money fuelled the housing bubble? The Austrians argue that the FED provided the liquidity (booze) to the financial sector; instead they should have subtracted the money supply by selling assets, or tightened the reserve requirements in order to contaminate the excess credit creation.

¹⁴⁵ Frank Shostak, “THE QUARTERLY JOURNAL OF AUSTRIAN ECONOMICS VOL. 3, NO. 4 (WINTER 2000)”

¹⁴⁶ Considerably relative to GDP growth.

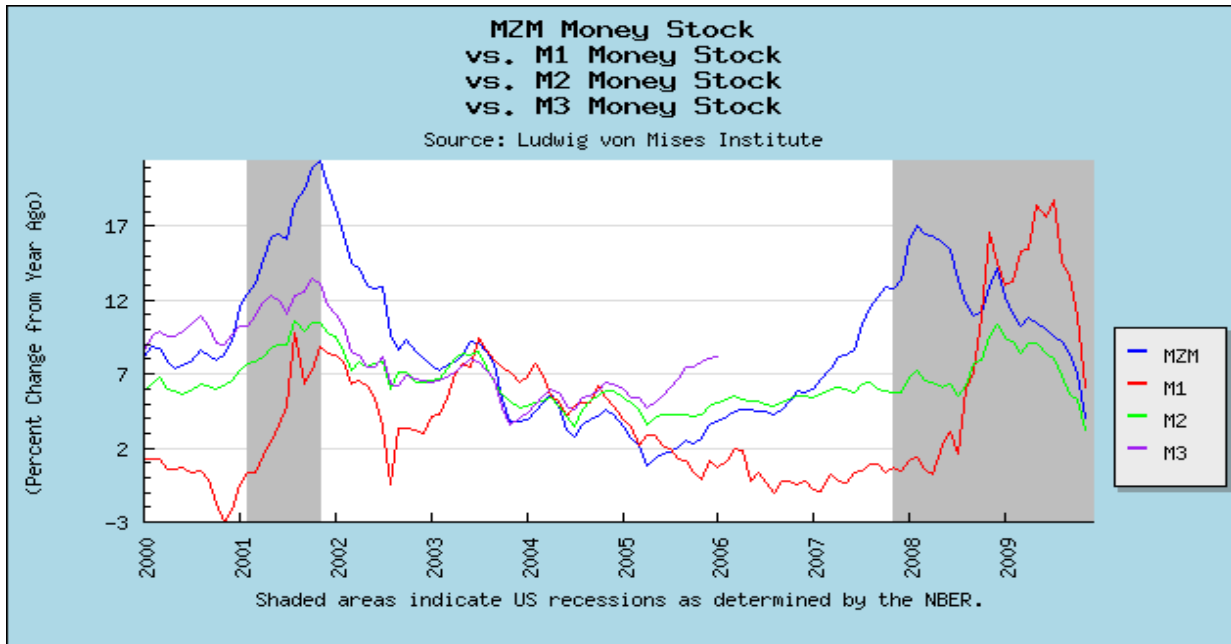


Figure 10 – M3 stopped being published in 2006

The rise in the money supply seems rather explosive on the chart, but thereby concluding that the FED is responsible of a loose monetary policy and thus the housing bubble, seems a bit to hasten a conclusion. The expansion of the money supply does not have to be unbalanced and therefore destabilizing, if there is an equal rise in the demand of the liquidity. This can be demonstrated by the sharp increase in the monetary base by the FED, in the following of the Lehmann Brothers bankruptcy. The inter-bank market froze up and the demand for liquidity rose. If the demand for liquidity accordingly has been rising during the housing boom, the FED can simply have accommodated the preference for liquidity. The rise of the money aggregates does not have to rise coinciding with the GDP figures, as the financial sector might be in a quicker growth than the overall economy, and therefore in need of the additional liquidity. For these reasons it doesn't seem like a valid claim from the Austrians that the FED ran a loose monetary policy that was too unbalanced and lead to a housing boom.

Furthermore, the Austrians, claim that due to the sharp increase in the monetary base, there will be an equal rise in inflation. As the monetary base had risen substantially, the dollar will be facing hyperinflation. The Austrians seem to forget the velocity of money; during the Great Depression the velocity of money decreased significantly, likewise the velocity of money have fallen to a great extent during the financial crisis. This can be a result of a near breakdown of

the financial sector, and financial innovations are fading away¹⁴⁷. This gives the FED room to increase the monetary base without the fear of inflation, in contrary; the real fear is deflation.

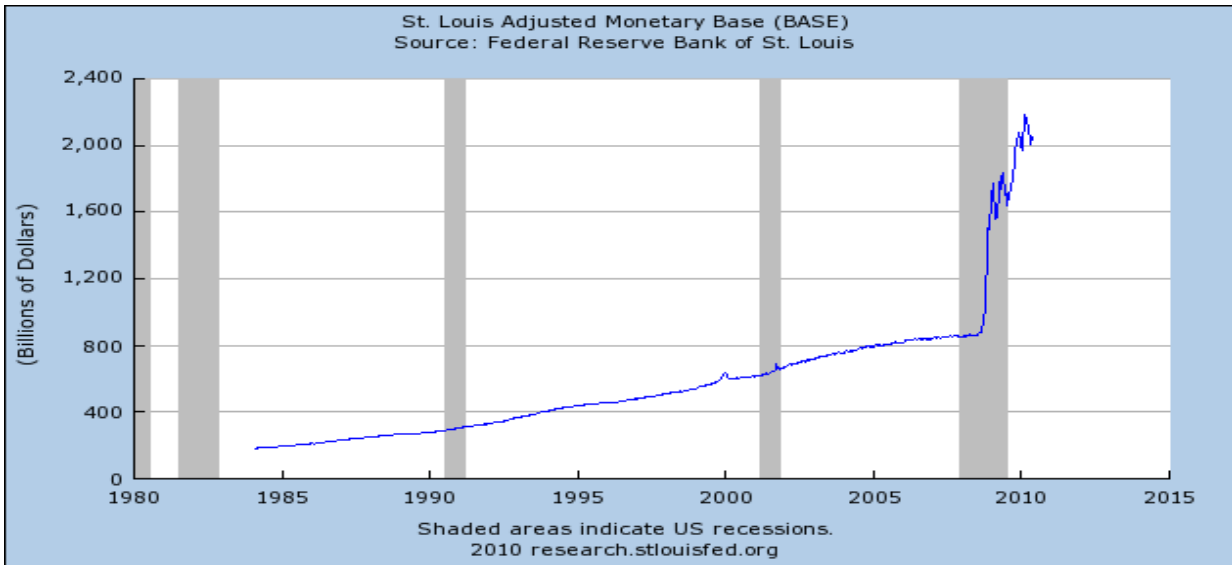


Figure 11

4.2.1 THE MONEY CONTROL AND THE FED

Before embarking on the hypothesis of the FED being the one that ultimately controls how much money that should flow around in the economy (also called an exogenous definition of money that is held by the Austrians and the Monetarists), it is likely important to discuss how the Austrian definition of money is and how relevant it is in a modern day economy.

It all began with a barter economy where people exchanged goods with other goods, then they became dissatisfied with this system and chose a medium of exchange that everyone accepted; this has historically been gold. Gold has an intrinsic value, it fulfils the role of the medium of exchange, it doesn't lose its value through time (like paper money) and gold can't be printed thus there won't be boom and bust cycles if the governmental agencies are kept out of the equation. So goes the argument from the Austrians when defining what money really is. With this definition of money, there is not left any room for imagination. This leads the Austrians to the next logical interpretation; inflation is simply an increase in the supply of paper money, relative to the gold backings. This means that if money supply increases with an x percentage amount, as will inflation; also called classic dichotomy which means that money is neutral, and therefore doesn't

¹⁴⁷ John Mauldin. Newsletter, September 11, 2009. "Elements of deflation, Part 2".

have an effect on real variables but only the price level¹⁴⁸. The creator of inflation is therefore the creator of this artificial money¹⁴⁹, which is the FED. The FED can control money in the economy through three main policy tools; open market operations, setting the federal funds rate and setting a minimum reserve requirement for commercial banks.

There are a number of difficulties with the above described Austrian concept of money and money control. First, the definition of money, as being a well defined quantitative instrument that simply is gold, could work well in conditions long time ago when the only means of payment was gold and other commodities. But in a modern capitalistic world, where financial institutions innovates complex derivatives, the meaning of money as simply being gold is outdated. Money is not just commodity money; rather it is something that possesses some kind of “moneyness”, something that can be accepted as an asset. It is furthermore highly dubious to claim that money supply is exogenously determined by the FED. The financial institutions have an innovative way of creating products that have money-like qualities. If the FED doesn’t provide the agents in the market with liquidity, then most likely the financial institutions will create the money themselves. The implication for this is then that fluctuations in monetary aggregates can be driven outside the influence of the FED; which is the endogenous money theory. The connotation for the Austrians is that the FED doesn’t start any artificial credit creation, which in turn starts an artificial boom that diverts the entrepreneur’s time preference. Rather the demand driven credit creation do reflect the entrepreneur’s preference for liquidity, which means that macroeconomic failures aren’t due to poorly executed monetary policy. The endogenous money theory further questions the FED monetary policy’s ability to target any monetary aggregates. Such a policy is likely to fail, instead the FED have to look for other means of conducting the monetary policy. The only likely policy left is then pursuing an interest rate policy¹⁵⁰.

The Austrians don’t believe in money being determined endogenously, and make the case of a money expansion process of being an innovation, and in the control, of the FED. Frank Shostak writes¹⁵¹; “If the multiplier process requires the support of the central bank then one can infer that, in a free market without the central bank, the likelihood of such a process emerging is

¹⁴⁸ Brian Snowdon and Howard R. Vane. “ An encyclopedia of macroeconomics”. P. 125

¹⁴⁹ Relative to “real” money; namely gold.

¹⁵⁰ Thomas I. Palley, November 2001. “Endogenous money: What is it and why it matters”.

¹⁵¹ Frank Shostak, Mises Daily March 01, 2007. “Do Central banks really inflate? No, says the post-keynesians”.

not very high". It is true that the minimum reserve ratio policy tool was used in the past by most Central Banks in order to control commercial banks multiplication of credit, but as stated above, the financial institutions now have several ways of getting around that limitation. If the Central Bank somehow does succeed in regulating and controlling the money supply in one part of the system, then most likely the Goodhart's law comes into play. The law states that attempts to control one part of the system only will divert business to other unregulated parts of the system. The problem then for the FED is how to control the money supply when the authorities begin controlling say M0, then it will become a poor indicator of the money supply as financial institutions may divert their money creation to other places, which in turn lead to the breakdown of the money demand relationship¹⁵². The classical approach to monetary policy is that there is a stable money demand function, whereby the FED can target a money aggregates policy and thus control future inflation level. The Austrians see the demand for money as being a stable one as money is gold, and if there is a higher demand for money then the value of money simply increases and vice versa. Therefore the Austrians find that the circulating gold in the society is "always sufficient to secure the services that money provides" writes Frank Shostak and continues, "Hence, in a free market, the whole idea of the optimum rate of growth of money is absurd"¹⁵³. This controversial Austrian approach firstly implies no credit creations, but more importantly that there the money demand is not only stable, but it is at also nearly constant¹⁵⁴. On the financial institutions ability to create money, the Austrians note; "Various financial innovations do not create new forms of money, but rather new ways of employing existing money in transactions"¹⁵⁵. It must therefore be the FED that have provided that money, which the financial institutions make use of when engaging in their innovations game.

The Austrians hangs on vigorously to the claim that the FED controls money supply exogenously, but it is quite hard to deny that money isn't what it once was. The FED hasn't got the control to set money aggregates as it suits them. The minimum reserve requirement, to which degree the money is multiplied in the banking sector, is abandoned by several countries¹⁵⁶ where

¹⁵² K. Alec Chrystal and Paul D. Mizen. "Goodhart's law: It's origin, meaning and implications for monetary policy".

¹⁵³ Frank Shostak, Mises Daily October 8, 2001. "How much money should there be?".

¹⁵⁴ Nearly because gold is still being extracted from the ground, and therefore the money supply will still increase but at a very slow rate, compared to under a fiat currency.

¹⁵⁵ Frank Shostak, "The mystery of money supply definition".

¹⁵⁶ Among them Denmark and Canada

there are no reserve requirements for the banks. The controlling the monetary base M_0 , with open market operations is in vain as well. If the FED tried to control the supply of cash and hence the creation of credit, a bank might still be able to expand credit if it was holding cash in excess of the minimum reserve requirement. The banks could attract the cash away from the unregulated financial institutions and therefore Goodhart's law would still be effective¹⁵⁷. If the FED still tried to control the monetary aggregates (if possible at all), then there would be quite substantial fluctuations in the interest rate. As the demand for money is unstable, a vertical M would mean that interest rate is determined by the demand of money (L). If further assumed that the demand for money is inelastic, a change in L would thus give large fluctuations¹⁵⁸. Therefore the modern monetary policy sees to target an interest rate policy rather than a money supply policy. The actions of the FED in the market are therefore defensive, as the purpose is to compensate the flows of payment between the central bank and the banking sector.

4.2.2 CENTRAL BANKS AND ASSET PRICE BUBBLES

The FED's goals are; maximum employment, stable prices and moderate long term interest rates¹⁵⁹. These are the goals that the FED is expected to fulfil. Looking at the GDP growth since 2000 and the CPI inflation measure (figure 12 and 13) it is visible that inflation have been quite stable/moderate; the range have been between 1% to nearly 5% between the year 2000 and 2008. Likewise has the GDP growth been stable in the range of 1% to 2%, in the period after the dot.com recession.

The FED in fact did accomplished their goals in this frame but are still, by the Austrians, put to blame for the asset price bubble in the housing sector. The FED themselves believe that it isn't their responsibility to identify and prick asset bubbles, as they don't know what the appropriate price is for an asset at a given time. They argue that it is hard to define whether the price is moving upwards due to change in some fundamentals, or because prices are out of line with the fundamentals. Even if a bubble were to be detected, then raising the federal funds rate wouldn't keep speculators away from investing in an asset, if it offered a return that were to

¹⁵⁷ John Sloman, "Economics, fifth edition". P. 566

¹⁵⁸ Ibid p.567

¹⁵⁹ <http://www.federalreserve.gov/pf/pf.htm> "The Federal Reserve System; Purposes and Functions". Chapter 2.

exceed the cost of acquiring and holding the asset for a period. Instead the economy could be harmed by the rising interest rate¹⁶⁰.

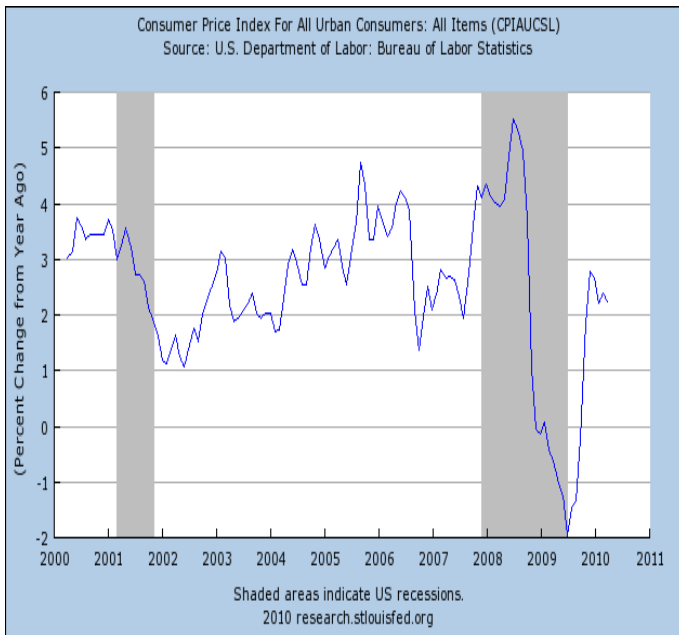


Figure 12

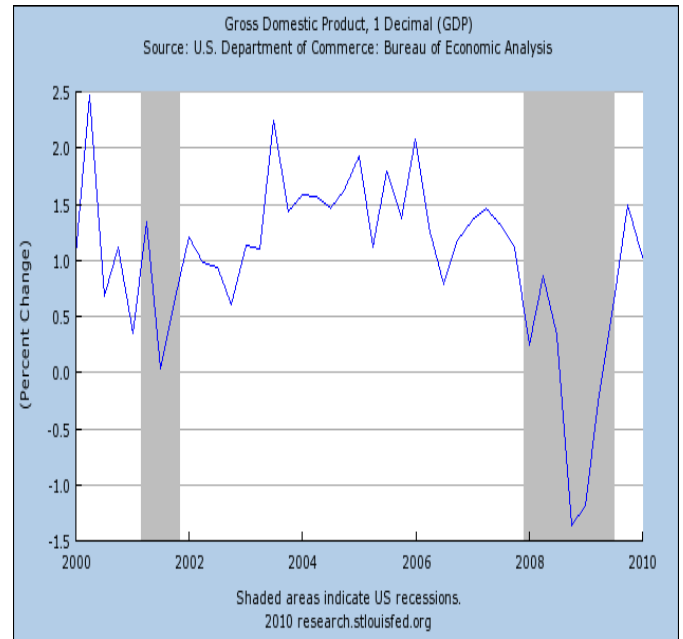


Figure13

It seems like a plausible reason that the FED should not engage in pricking asset price bubbles; they simply don't have enough tools to take on that assignment. There shouldn't be expectancy on the FED to avoid asset bubbles unless they are equipped with appropriate supervisory instruments. The proper instruments for the FED could be margin requirements for borrowing, or setting minimum requirements on mortgage lending by banks¹⁶¹.

It is likewise important to note that the credit bubble that led to the housing boom was created, as identified earlier, outside of the system; namely in the shadow banking system. Here the authority of the FED doesn't rule, rather it is the responsibility of the policy makers to regulate. Instead the politicians have been deregulating, and given the financial institutions more room to act as they see fit. As the situation is now, then it was the policy makers rather than the FED that should have pricked any asset bubbles.

¹⁶⁰ "US Monetary Policy, an introduction":

<http://www.frbsf.org/publications/federalreserve/monetary/MonetaryPolicy.pdf>

¹⁶¹ Richard N. Cooper, Professor of international economics, Harvard University. "Should, or can Central Banks target asset prices?"

With this said, it is a very dangerous thing for a Central Bank to fully ignore any potential asset bubbles, with the reason that it simply lies outside of their jurisdiction. In 2002 the former FED chairman Alan Greenspan said that bubbles can't be identified and the FED can only handle the aftermath¹⁶². It simply sends a wrong signal to the actors in the markets that the FED will bail out the "too big to fail" institutions¹⁶³. The likelihood of asset bubbles are increased due to this moral hazard; being oblivious of the bubble during soaring asset prices and afterwards cutting interest rates and bailing out institutions that have great losses, seem to a recipe for continues reckless behaviour¹⁶⁴.

It is not, as a policy maker, a wise move to stop an asset bubble as their focus is the short run, and pricking a bubble might cost a re-election. Therefore it seems more plausible that the FED took on this responsibility as one might expect the FED first of all having the expertise and secondly be free of political pressure. But even not Alan Greenspan has been free of influence in his period of reign. He has been criticized heavily of satisfying the market players, by pursuing a policy that accommodated the interest of politicians and strong interest groups.

Finally, even if asset prices are out of reach of the FED, they should still be monitoring them in order to give qualified recommendations to the policymakers and the general public about the level of prices; regardless that they don't know whether it is fundamentals or other "irrational exuberance" is behind the climbing asset prices. The FED hasn't got the tools to combat asset bubbles, but they do have a saying (to some degree) in the future prices (not only consumer but also asset) by setting the expectations for the future. If they warn that there might be an unsustainable price level, then perhaps the policy makers might interfere or it might put a damper on the asset price level. This actually happened during the US housing boom, unfortunately in the wrong direction. In 2004, Alan Greenspan rejected any housing bubble as "most unlikely" and Ben Bernanke in 2005 said that "home price increases largely reflect strong economic fundamentals"¹⁶⁵. The economy can be in a serious trouble when people are caught in a bubble-state, but even more serious can the problem be, when both the policy makers and Central Bankers are caught in the bubble-state as well.

¹⁶² John H. Makin, Principal Caxton Associates. "Should, or can Central Banks target asset prices?"

¹⁶³ Which, due to the interconnection of the financial institutions, are more or less everyone.

¹⁶⁴ Jose De Gregorio, Governor Central Bank of Chile. "Should, or can Central Banks target asset prices?"

¹⁶⁵ Paul Krugman, New York Times, September 6, 2009. "How did economists get it so wrong".

4.2.3 THE LACK OF VALIDITY IN ABCT

The ABCT explains the creation of a boom beginning with a Central Bank increasing the money supply. As discussed above, the FED has very little control of the money supply through the monetary policy. The FED makes use of the short term interest rate policy and accommodates the demand for money. It further is highly likely that the banking sector can create the “money” that they need, out of reach from the FED. Taking the next steps in the ABCT we see that due to the higher money supply, the interest rate is pushed below the natural rate of interest, thereby lengthening the period of production and creating malinvestments and over consumption. In order to search to validate the Austrian claims on the current crisis, two things need to be determined; the period of production and the natural rate of interest¹⁶⁶.

When discussing the natural rate of interest in the Austrian envision, then one gets a bit puzzled and quite confused if trying to measure it. The natural interest rate, in Austrian perspective, is the rate, which is the sum of the time preference of individuals in an economy. The natural rate has the specific task of always aligning savings and investments, and thereby setting the equilibrium level of consumption and investments. How is time preference of an individual measurable in an economy? Or even more pressing; how can we measure time preferences of all individuals in an economy? Seemingly no one has found the answer yet, not even the Austrians. The concept of the natural rate is quite attractive; there exist a rate of interest that keeps the economy on a sustainable growth rate always and if that rate is allowed to function, then the economy will never get out of its equilibrium. It definitively sounds attractive, but nonetheless unrealistic. The Austrians should not clinch to this mythical concept, because there is nothing in reality some sort of natural interest rate. During the housing boom the cost of acquiring a house was low for a foreseeable future, and people bought houses as the interest rate was low. But the housing market turned into a mania not because it was cheap to buy houses, but rather because people began speculating in higher prices in the future, whereby they could gain a profit of their speculation. If we even assumed that the interest rate was at its “natural” level, say at 7%, then there is still no certainty that the mania could have been avoided if people anticipated higher prices in the future and began speculating.

¹⁶⁶ The theory can still hold an important feature, if it can be shown that the level of money alters the production structure, even if the money suppliers isn't the FED, as the interest rate is being suppressed relative to its natural level.

The natural rate of interest has a direct effect on the period of production in the ABCT. When the FED has printed a sum of money and artificially lowered the interest rate, the period of production is lengthened creating more stages in the production structure¹⁶⁷. In the same time, the consumption is not sacrificed due to more investments, therefore there will be a boom in the early stages of production (creating malinvestments), and higher consumption in the late stages (creating over consumption). It is again here a puzzle why the production structure is lengthened because of a lower FED funds rate than the natural interest rate. Why should it take more time to produce houses during an artificial boom? Rather the proposition of a “wrong” interest rate should be that there would be invested more heavily in longer projects, and the output in the end would therefore be greater. The most likely explanation for the Austrians to still cling on to the lengthening of production structure hypothesis is that they have a hard time getting past Böhm-Bawerk. The structure of production is simply lengthened because entrepreneurs will engage in more roundabout measures of production, which would give good sense in a Robinson Crusoe island where the inhabitants still catch fish with their bare hands. But in a modern and technical advanced economy, lengthening the production structure doesn’t make much sense. Simply prolonging the production process doesn’t make the process more effective. The implication with the Austrian heterogeneous capital should lean towards explaining how the “wrong” interest rate increases investments in early stages relative to late stages (not the length of the stages), and how the increasing interest rates depresses the price of these long term investments projects with higher unemployment as a consequence. The theory makes another grave mistake in saying that when interest rates rise, then these long term projects will be abandoned¹⁶⁸. The housing bust led to a fall in prices, and entrepreneurs who didn’t finish their projects simply didn’t walk away from already in-progress-project. They rather suffered a net loss.

The above discussion makes any empirical testing not only difficult, but also impossible. First, if one actually does prove that there is a causal relationship between money supply and asset prices, then how does one prove that it is due to the extra money suppressing interest rate below equilibrium? Here the next problem arrives; what is the equilibrium interest

¹⁶⁷ Roger W. Garrison. “Time and money; the macroeconomics of capital structure”. P. 69.

¹⁶⁸ Larry J. Sechrest. “Two Natural Rates: Friedman and the Austrians”. P. 6.

rate (i.e. Natural interest rate)? And again, if the natural rate is somehow determined then yet another problem arises; is the period of production lengthened and how much?

It is not feasible to talk about lengthening or shortening of the period of production if you don't know how to measure it. On this paradox it is written¹⁶⁹; "Given the lengthy debates between the Austrian school (and within the Austrian school itself) on the problems of measuring a heterogeneous capital stock, it is surprising that relatively little analytical effort has been devoted to the concept of heterogeneity itself. The notion of heterogeneous capital is crucial not just for Austrian capital theory, but for (Austrian) economics in general. For example, economic calculation – the tool entrepreneurs use to align the economy's structure of production with consumer wants – would be severely limited in a world of homogenous capital". Maybe the Austrians have satisfied themselves with an a priori reasoning that the theory is correct, and doesn't need to be empirically tested to prove its validity.

Furthermore, the Hayekian triangle explains how there are more investments in the early stages of production during a boom; it further explains that during a bust the period of production shortens. But it fails to explain why there isn't a lengthening of the period of production again, when the interest rate comes down again. Right now the FED has cut the interest rate to practically zero, but no more houses are being built for that reason. Garrison writes¹⁷⁰; "The lectures that F. A. Hayek delivered at the London School of Economics in the early 1930s were punctuated with triangles—triangles of a sort his audience had never before seen.... What exactly did Hayek see in them? Why could most of his audience see nothing at all in them?"

Almost 80 years have passed, and the audience still don't see what the Austrians apparently see. It would be better for the Austrian school to abandon this triangle that most see nothing in.

4.2.4 THE (IM)PERFECTION OF THE FREE MARKETS

The Austrians do not believe in the infamous "perfect market hypothesis" that has been laid as a foundation for the monetarist school of thinking. In the Austrian explanation of a boom and bust cycle, the irrationality of actors in the market is central. On the other hand, however, they don't

¹⁶⁹ Kirsten Foss, Nicolai Foss, Peter G. Klein & Sandra K. Klein. December 20, 2001. "Heterogeneous Capital, Entrepreneurship, and Economic Organization"

¹⁷⁰ Roger W. Garrison. "Hayekian triangles and beyond"

believe in human action as being inherent unstable causing boom and bust cycles; they believe lies not with the perfect markets, but with free markets. A free market is free from economic intervention and regulation by governments, which only has to remove all hindrances away from the free market so it can function. They do not miss opportunities of distancing themselves from the monetarists, which ideologically are closer to them than Keynesians, as they are in support of a Central Banking system that promotes a fiat paper currency.

The current crisis has by some been highly due to a capitalistic system that ran its course, which is a statement that annoys the Austrians greatly. According to them the free markets have never had a chance to actually work, the government interference has the blame. The following remark by Congressman Ron Paul explains what a free market is in the Austrian perspective really is¹⁷¹: “Capitalism should not be condemned, since we haven't had capitalism. A system of capitalism presumes sound money, not fiat money manipulated by a central bank. Capitalism cherishes voluntary contracts and interest rates that are determined by savings, not credit creation by a central bank. It's not capitalism when the system is plagued with incomprehensible rules regarding mergers, acquisitions, and stock sales, along with wage controls, price controls, protectionism, corporate subsidies, international management of trade, complex and punishing corporate taxes, privileged government contracts to the military-industrial complex, and a foreign policy controlled by corporate interests and overseas investments. Add to this centralized federal mismanagement of farming, education, medicine, insurance, banking and welfare. This is not capitalism!”

The Austrian school believes in the gold standard, which they want reinstated in its original form; meaning a 100% gold backing. It is somewhat naively to believe that the banks will actually obey this rule, as banks always find ways of escaping 100% reserve requirements. The Austrians are aware of this, therefore they suggest free banking. Under free banking there are no inflationist Central Banks, but the banking sector themselves have the right to print their own paper currency which then is backed by a commodity chosen by the public (gold). The bank is not subjected with regulations, the market determines the total supply of money and since there is no Central Bank to be the lender of last resort, the banks can actually go bankrupt in case of a run

¹⁷¹ Ron Paul. Mises Daily, April 16, 2008. “Has capitalism failed?”

on the bank whereby the depositors lose their money in the bank¹⁷². The idea with free banking is that the foolishness of the FED monetary policy will be replaced with the cleverness of the market, which is in much better position to define the monetary policy that is in line with individual's time preference. The cost of borrowing or saving will therefore find its equilibrium level at the natural interest rate, because the free markets actually got the chance to work¹⁷³. But yet, for this to happen there still exist the assumption that the banking sector, which now has the possibility of printing their own money, don't engage in fractional reserve banking. Even this seemingly huge problem will be taken care of the free markets. In absence of a Central Bank and the risk of going bankrupt, the moral hazard thus again returns and keeps the banks from printing more money than they have to show for it as backings. The following summarizes this by Mises¹⁷⁴; "If the governments had never interfered, the use of banknotes and of deposit currency would be limited to those strata of the population who know very well how to distinguish between solvent and insolvent banks. No large-scale credit expansion would have been possible. The governments alone are responsible for the spread of the superstitious awe with which the common man looks upon every bit of paper upon which the treasury or agencies which it controls have printed the magical words legal tender".

The above statement implies that free banking makes sure that there are no wild credit expansion due to moral hazard issues, therefore the banking sector will chose a 100% reserve system. Now, why is not possible that the market chooses a fractional reserve system instead, which has been the case historically?¹⁷⁵ There have been boom and bust cycles even in the gold standard periods, tulip mania of the seventeen century among the more famous ones. There was a 100% backing with gold in Holland at that time, therefore it should be clear that there actually does exist asset price bubbles in spite of a full backed currency¹⁷⁶.

¹⁷² Larry J. Sechrest, "Free banking; theory, history and a laissez faire model". P. 4.

¹⁷³ Thomas E. Woods Jr. "Meltdown". P.152-156.

¹⁷⁴ Ludwig Von Mises, "Human Action". P.448

¹⁷⁵ Pascal Salin, "In defence of fractional monetary reserve".

¹⁷⁶ The Austrian economist, Doug French, calls the tulip mania a prove of the ABCT; "As kings throughout Europe debased their currencies, through clipping, sweating or by decree, the Dutch provided a sound money policy, which called for money to be backed one hundred per cent by specie. This policy, combined with the occasional seizure of bullion and coin from Spanish ships on the high seas, served to attract coin and bullion from throughout the world. The end result was a large increase in the supply of coin and bullion in 1630s Amsterdam. Free coinage laws then served to create more money from this increased supply of coin and bullion, than what the market demanded. This

This author is not convinced with the Austrian free market hypothesis that evades any occurrences of business cycles. Rather it is more probable that the problem lies in the nature of the human being to behave irrational at times, more than the problem is that some Central Bank keeps disturbing the human being of making rational decisions based on available information. This author is also biased towards that money supply is determined endogenously rather than exogenously. This opens up for a different, and perhaps more valid explanation of what happened during the housing mania, leading to a boom and bust cycle.

4.3 Hyman Minsky and the US housing bubble

Hyman Minsky (Minsky), an American economist, have developed a theory that explains business cycles in a quite different manner than the Austrians. He has expressed a theory of financial instability that describes the uncanny relationship between human behaviour and instability. This theory, which was published in 1986, is called the financial instability hypothesis (FIH). The theory seeks to explain business cycles through the accumulation of debt. Minsky identified three kinds of financiers in the market; hedge, speculative and ponzi finance. Hedge finance units are, explains Minsky, those that can fulfill all their contractual payment obligations by their cash flows. The greater the weight of equity financing, the greater will the probability be that it is hedge financing. Speculative financing is the speculator that can meet its payment commitments on income account on its liabilities, but need to issue new debt (refinance) in order to meet the commitments. The ponzi financiers do not have enough cash flow to either meet their repayment of principle, nor the interest on outstanding debt. These can sell their assets or borrow in order to stay above water. Minsky argues that it can be shown, empirically, that if the debt of an economy is financed by hedge financing, then the economy may well be an equilibrium seeking system. On the other hand, if there are more speculative and ponzi financing, then there is a greater likelihood that the economy is a “deviation amplifying system”¹⁷⁷. Minsky writes¹⁷⁸; “The first theorem of the financial instability hypothesis is that the economy has financing regimes under

acute increase in the supply of money served to foster an atmosphere that was ripe for speculation and malinvestment, which manifested itself in the intense trading of tulips”. Doug French, “The truth about tulip mania”.

¹⁷⁷ Hyman P. Minsky. “The financial instability hypothesis”. P. 7.

¹⁷⁸ Hyman P. Minsky. “The financial instability hypothesis”. P. 8.

which it is stable, and financing regimes in which it is unstable. The second theorem of the financial instability hypothesis is that over periods of prolonged prosperity, the economy transits from financial relations that make for a stable system to financial relations that make for an unstable system". This is in fact an interestingly proposition; stability creates instability. In periods of good and stable economic conditions, the actors in the market will be keener to take on risk and thereby profit more. The weight of the debt structure will therefore move from hedge financing, towards speculative and ponzi financing. The bust, in the FIH, will come when the economy is in an inflationary state due to the debt structure, and the authorities tighten the monetary policy. Suddenly the speculative financing becomes ponzi financing and ponzi financing will go bust. Financing with lack of cash flow will be forced to sell their position thus creating a collapse of asset prices¹⁷⁹.

Transferring the FIH on the housing boom and bust, we can firstly define the three classes of financing. First we have the hedge financing, which is a typical loan where one pays the interest and principal and some years later the loan is paid back. The second is the speculative financing, which is characterized by that one have enough cash flow to fully service the debt, but not to amortize the principal. During the housing boom, these speculative buyers entered the market by a vast amount and took loans where they only paid the interest for a fixed number of years, and afterwards hoped that the interest rate hadn't risen and most importantly; the house price hadn't declined. If the prices of houses have fallen, then the speculative unit cannot afford to refinance as he doesn't have enough equity in the house. Indeed these kinds of speculators entered the market on a speculative basis that the house prices were going up indefinitely into the future. Lastly we have the ponzi financing. These could not even afford the monthly interest payment, but nonetheless they were qualified to get loans with negative amortization. As the name of the loan suggests, one does not pay the full interest but only what one can afford to pay. The remainder is simply added to the principal, making the total debt ever increasing. This is again a consequence of an irrational belief that house prices will continue rising forever. Of irrational behaviour Paul McCulley writes¹⁸⁰; "Humans are not only momentum investors, rather than value investors, but also inherent both greedy and suffering from hubris about their own smarts. It's

¹⁷⁹ Ibid.

¹⁸⁰ Paul McCulley. Global bank central focus, may 2009. "The shadow banking system and Hyman Minsky's economic journey".

sometimes called a bigger fools game, with each individual fool thinking he is slightly less foolish than all the other fools". The speculators and ponzi units in the housing sector kept bidding prices up, as the shadow banking sector was asking for exotic derivatives. The standard for issuing loans dropped in response of this increased demand, and no regulatory institution tried to stop this reckless practice, as they themselves unfortunately are human beings as well.

But the expectations of ever increasing prices came to a stop, when interest rates began rising and more and more ponzi units gave away. The glamorous sub-prime loans began defaulting and investors began losing their investments. Suddenly ponzi units were wiped away and their houses was taken over and put in foreclosure. The speculative units that only could afford the interest payments now faced higher interest rates and couldn't afford to pay the full interest; they now became the ponzi units. This made the house prices collapse, as these units tried to cover their positions by selling their houses. In consequence, the shadow banking system also collapsed as investors in the ABCP market fled.

Robert J. Shiller (Shiller) already warned of the housing bubble in 2005¹⁸¹. In his book, *irrational exuberance*, he set forth a theory of how bubbles are created. He also focuses on the behavioural patterns of the human and his expectations of future asset prices. If asset prices begin to rise, then less sophisticated investors turn up and bid the price up as it is believed that prices will continue their upward journey and fundamentals are forgotten. This irrational exuberance feeds upon itself, and prices rise as "new era" theories enters the market in order to validate the bubble as complete normal. But as the inevitable takes hold and prices begin falling, pessimism takes hold of the market and the downturn thus begins¹⁸². Also other bubble models describe how bubbles are blown up, as investors pay higher prices of an asset even when they know that the asset price is not in connection with its fundamentals; these are named "rational bubble" models. The reason is that investors expect rising future prices to satisfy their demand for return¹⁸³.

The literature on this topic is getting still bigger, as the interest on the role of human behaviour in asset price bubbles have gained much attention, since the stock market bubble at the beginning of the millennium. The study of understanding economic decision of individuals and

¹⁸¹ David Leonhardt, *New York Times*. August 21, 2005. "Be warned: Mr. Bubble worried again".

¹⁸² Kevin J. Lansing. "Asset price bubbles".

¹⁸³ *Ibid*

institutions has been named behavioural economics, and it is worth of further exploration. This further has quite some consequences for policymakers, because how do one regulate against speculative human behaviour? Minsky wrote¹⁸⁴; “In a world of businessmen and financial intermediaries who aggressively seek profit, innovators will always outpace regulators; the authorities cannot prevent changes in the structure of portfolios from occurring...”

4.4 Crisis management

The Austrians way of interpreting the causes of crisis, as we have seen, is not that different than the mainstream approach. The essence of dispute lies rather in the handling of the crisis, or crisis management. The Austrians differ significantly from the mainstream economist’s approach, in looking for remedies for restoring economic health. These differences arrive due to the disparity of ideologies; it is perhaps more correct to say that the differences arrive due to the distinct Austrian a priori tradition and extreme belief in free markets.

The first step towards prosperity is the make reforms say the Austrian school; free market reforms it is. The first step in letting the markets work would be to reinstate the law of bankruptcy. This means that no one will be saved from going under, no matter how big a bank you are. Tax payer bail-outs only make things worse as the unhealthy institutions will be allowed to continue, whereas the market would function more smoothly without these. The banks would have functioned more efficiently, and taken in less risk, if there existed this moral hazard. The government should next abolish Fannie Mae and Freddie Mac as these semi-government agencies sends a wrong signal to the market participants. Another impact of the bail-outs is that it adds debt to the government’s already booming deficit. Problems that are caused by excessive spending and indebtedness cannot be cured with more lending and debt¹⁸⁵. The government should therefore seek to minimize their deficit, and encourage people to save more. It is completely unrealistic argues the Austrians, that the government bails the car industry and tries to boost housing, when obviously there is too much supply of these goods compared to the demand¹⁸⁶.

¹⁸⁴ Hyman P. Minsky. “Stabilizing an unstable economy”. P. 281

¹⁸⁵ Thomas E. Woods Jr. “Meltdown”. P.149

¹⁸⁶ Jeffrey A. Tucker. Mises Daily, December 10, 2008. “The end of the US piano industry”.

The implication for policy makers is that if the market isn't given a chance to clear the malinvestments and overconsumption, then there will persist existing a mismatch in the production structure. This mismatch will eventually seek back to its equilibrium, which is given by the natural interest rate and preference between consumption and saving. An insistence on clinching on to this disequilibrium will eventually make the unavoidable bust even bigger. Therefore the government should let the companies go bankrupt instead of saving them, and the central bank should subtract all the money that it has flooded the market with. The Austrian view of a boom caused by Central Bank money supply has some rather unconventional policy reply for the FED; "So if pumping money is a bad policy what then the central bank should be doing during a depression? The central bank should do absolutely nothing other than allow the recession to take place. Only this approach will permit genuine economic recovery to emerge"¹⁸⁷.

When this policy response is realized, then the next steps can be taken to make sure that these boom and bust cycles will not happen again. Not surprisingly, the first step is to end the fiat paper era and re-establish the golden link. But it is not the end game. The FED is a source of instability, therefore they should be abolished and instead there should be established free banking. From the words of Thomas E. Woods Jr.¹⁸⁸; "It's about time we listened instead to people who have a coherent theory to explain why these crisis occur, saw this crisis coming, and have something to suggest other than juvenile fantasies about spending and inflating our way to prosperity".

We have dealt with the "coherent" theory that is spoken about; therefore the above statement seems to be lacking reason, logic and influence. But what are the right policy responses recommended by the economists that actually have influence? Do they make more sense?

As being prescribed for the Keynesian ideology, Krugman and most of his fellows, disagrees with the Austrian proposition. In fact not only does the Keynesians disagree, but most of the economists, whether they ascribe for a liberal ideology or a more government-interference one. Krugman identifies the failures on the demand side of the economy, as a limitation on prosperity on a large part of the world¹⁸⁹. He asserts that the monetary policy is limited as it has a "zero lower bound"; that is the interest rate cannot go negative in the process of stimulating the

¹⁸⁷ Frank Shostak. Mises Daily, January 3, 2001. "The fallacy of demand".

¹⁸⁸ Thomas E. Woods Jr. "Meltdown". P.158

¹⁸⁹ Paul Krugman, "The return of depression economics, and the crisis of 2008". P. 182

economy. He writes¹⁹⁰; “Fiscal stimulus is the Keynesian answer to the kind of depression-type economic situation we’re currently in”. That is in fact also what the Obama administration is trying to do, stimulating the economy through different spending programs. In disappointment over the lack of results of these programs, Krugman identifies two reasons for the failure. The first reason is that the stimulus package was too small; it needs to be at least four times bigger (going from one percent of GDP to four percent). The second reason is that most of the money has been in the form of tax rebates, and people have therefore saved their money rather than spending them¹⁹¹.

This present crisis needs for us to critically examine the past forty years of “perfect market hypothesis” way of thinking. In addition to that, it is also worth considering the ideology we all carry around; whether it is liberalism, socialism or any other ism. Krugman writes; “The obvious solution is to put in more capital. In fact, that’s standard response in financial crisis”¹⁹²...“that Keynesian economics remain” the best framework we have for making sense of recession and depressions”¹⁹³.

The notion that there are certain standard things to do in a crisis situation makes to this author no sense. I do agree upon that liquidity should be expanded to aid the shaken financial market, but it somehow seems like that there are standard crisis manuals to follow. Krugman sounds as much of a follower of Keynes, as the Austrians are of Mises and Böhm-Bawerk. I do not agree with Krugman that the government should increase the fiscal stimulus four times, or even use it as a policy tool to boost certain sectors. In this sense the Austrians make more sense when arguing that not every industry and corporation needs a bail out. The US government have a staggering budget deficit beforehand, on top of a large balance of trade deficit. How will the creditors respond to Krugman’s proposition? If they get worried about the governments about their ability to honour their commitments, then long term interest rates are bound to rise, which will put on additional pressure on a weak economy and the large debt will be more costly to service.

This author does not fully subscribe to the Austrian solution for the present crisis either, as letting some large corporations go bankrupt simply would create a panic throughout the

¹⁹⁰ Paul Krugman. The New York Times, September 6, 2009. “How did economists get it so wrong”.

¹⁹¹ Paul Krugman, “The return of depression economics, and the crisis of 2008”. P. 187

¹⁹² Ibid. P.185

¹⁹³ Paul Krugman. The New York Times, September 6, 2009. “How did economists get it so wrong”.

economic landscape that would make the panic following Lehmann Brothers collapse, look like a minor incident. It is, however, understandable that the Austrians argue that moral hazard needs to return to the financial markets. It is not a solution to be ready to save the banking sector, and other “too big to fail” institutions every time facing a crisis. In this respect both the Austrians and the mainstream economists seem to agree that there need to be taken some pre-emptive measures, in order to prevent some financial institutions from becoming a risk to the whole system. The development in the shadow banking sector is criticized from both camps, and both camps agree that the guilty is the government’s inaction. The Austrians just claim that it could have been prevented if we had no government. Therefore the solution is to have no regulations at all in a free banking system. This of course sounds preposterous in the ears of the Keynesian economists, who argue more regulations. This author agrees on the notion that there should be more regulations rather than less. In the same time it is equally important to realize that the financial innovation certainly will find loopholes in the regulative system. Professor Minsky said exactly this and continued¹⁹⁴,”...What they can do is keep the asset-equity ratio of banks within bounds by setting equity absorption ratios for various types of assets. If the authorities constrain banks and are aware of the activities of fringe banks and other financial institutions, they are in a better position to attenuate the disruptive expansionary tendencies of our economy”.

The present crisis has shown how irrational asset price expectations can create bubbles and destabilize not only the domestic US economy, but rather the global economy. This irrationality is unfortunately seen every now and then, as asset price bubbles inflate and deflate from time to time. It is for the Central Bank to actively go in the market, and set the expectations for the future development of asset prices. This is a very vague argument, but as it is now then there are no other policy tools for the FED to combat asset price bubbles. Currently, many Central Banks use stable inflation targeting as a “crisis preventer”. This has been the policy of choice for many years now, and the Central Banks have been fairly successful in achieving low inflation rates, as inflation worldwide has been very low the past two decades. The unfortunate thing is that there is no link between inflation and business cycles any more, if a Central Bank wants to play an active role in preventing business cycles, then it needs to do implement a different strategy. The Central Banks should be given more policy tools to prevent asset price bubbles and it must be a

¹⁹⁴ Hyman P. Minsky. “Stabilizing an unstable economy”. P. 281

responsibility that should be laid on their shoulders. It is likely important to implement policies that brings back some kind of moral hazard to abstain the financial institutions from taking too much risk aboard. As identified earlier, irrational human behaviour is not just limited to market participants, but also the governmental institutions. There is no guarantee that we have seen the last of the asset price bubbles, no matter how many incentives are taken in order to prevent it from happening. The only thing sure is that there will be more asset bubbles, as each and every time the human being in middle of a bubble thinks to believe that this time it's different. The only thing different next time will be the reaction and handling of the bust. If we have been able to implement tools that cushion the fall, then it won't hurt as much the next time.

What the lesson should be is that there is not one precise text that can tell us how to fight economic crisis, or keep us in a constant economic equilibrium. Economy is not a religion, where the economists should be treated as prophets, bringing with them an exact science or scripture that is to be followed always and ever. Every economic model has defaults, and every (almost) economic model has a contribution to the understanding of economic. Unfortunately this is not the stance that unites the economists today; it is what separates them as too many believe in one ideal ideology.

4.5 Author's remarks

The Austrian theory of business cycles seemed at first glance quite logical; an unsustainable boom comes about from printing money out of thin air and the following bust is the inevitable consequence thereof. Through this process of writing this thesis, it has become more and more obvious for this author that this explanation rest more on moralizing than on actual evidence. Especially when reading Mises, it is as he talks to the feelings of people. He "knows" that fractional reserve banking leads to an unsustainable banking sector a priori. There is no need for an analysis as the banks take the property of people (gold) and lends it out to other people. This is plain theft of people's property. It is an even bigger evil when banks lend more than they have of gold in the vaults¹⁹⁵. Hayek on the other hand tries to argue his way through with a triangle. The problem with the Austrians is that they are too hard to read and understand. This is a problem that not only I encountered; "...Solow admitted that he knew Hayek's Prices and Production: "I did read Hayek as a student (...) I found it completely incomprehensible. I was assigned to read Prices and

¹⁹⁵ Murray N. Rothbart. The Freeman, September and October 1995 "Taking money back".

Production (...) [It was] not that I thought it was wrong that much as I did not understand it (...) I thought there's got to be something wrong with the man that could write that. And I never read [any other work of Hayek], I simply found it incomprehensible"¹⁹⁶. The awkward mix of complexity and extreme ideology driven belief, makes the new generation of Austrians equally incomprehensible.

The Austrians belief of human beings as having the potential of behaving irrationally is a strong concept for the theory. Unfortunately, they believe that only the government and a Central Bank can make the entrepreneurs to behave irrational. When the conditions are right, meaning free markets and free banking, then the irrational behaviour will be eliminated. The blind trust in the forces of the markets is indeed what is irrational in the Austrian school. Their insistency to avoid any form of fractional reserve banking does not have any valid claim, as long as they can't prove that fractional reserve banking leads to boom and bust cycles. It is highly improbable that the FED actually controls the money supply through the monetary policy due to a very innovative financial sector, therefore the exogenous money definition is not worthy of recognition. The Austrians claim that boom and bust cycles are set in progress by the FED then becomes questionable.

The strength in the Austrian school is peculiarly their heterogeneous definition of capital. It is peculiar, as the heterogeneous capital is employed in order to make the Hayekian triangle, with several periods of production which have the ability to stretch and contract. The heterogeneous capitals further link to their "natural" rate complicates the concept even further. It is neither helpful as Hayek's use of the "time" dimension in the triangle is confusing. Even as a heterogeneous capital definition has superiority over homogeneous capital definition, then mainstream models of growth does not make use of heterogeneous capital¹⁹⁷. There is certainly a good reason for that; the Austrians are too hard to understand.

In order to make themselves more influential, the Austrians should abandon their "natural" rate of interest hypothesis, which is immeasurable, and instead put their focus on how

¹⁹⁶ Told in an interview, and Solow further add; "I find the earlier discussions [between Böhm-Bawerk and Clark and between Hayek and Knight] terrible confusing and occasionally incomprehensible to a contemporary economist. Source: Lawrence H. White. "The collected works of F.A.Hayek". Volume 12, the pure theory of capital.

¹⁹⁷ Neoclassical homogenous growth models (Solow one-sector growth model) don't consider production as a time consuming effort with several stages, instead time comes in as time path for capital accumulation, labor force growth and output growth.

the FED sets their interest rates (maybe get some inspiration in the endogenous money theory). The Austrian a priori tradition needs to get an update. The school has a distinctive relationship to the “mathematical economics” which is institutionalized in this school through the immense influence of Mises, but in order to be influent to some degree, they must accept that they need to play by the rules of the game. It is not enough to be “armchair” theorizers. They need to be better at looking for a common ground with other economists; they spent too much time and effort refuting the other camps. There are more similarities between the Austrians and the mainstream economists, than they think.

Chapter 5

5.0 Conclusion

Four questions were asked in the problem statement, which were to be answered in order to understand, if the ABCT can explain the current financial crisis, and what critique is raised against it.

It was firstly identified that the ABCT rests on a foundation built up, mainly by Menger and Böhm-Bawerk, which then Mises and Hayek deduced on and built the ABCT. The core of the Austrian belief is that economics can't take the form of mathematics, as it is the actions of human beings that needs to be looked upon. This led the earliest Austrians to refute the German Historical School, and deduce their own understanding of economic factors and boom and bust cycles; all based on a priori assumptions. The ABCT employs capital as heterogeneous, with the goods going through a time consuming effort of production, through several stages of production. The length of the stages of production can increase or decrease, according to the time preference of all individuals in an economy. What determines the time preference, and therefore the length, is the “natural” rate of interest. This “natural” rate is built upon a notion of roundabout methods of production, which is productive, meaning that when more subsistence fund (savings or capital stock) is available, then producers engage in more roundabout methods of production thus lengthening the production structure. Hayek takes the work of Böhm-Bawerk and Wicksell, where he adopts Wicksell's work on relative price disturbance when “natural” rate is disturbed, and introduces the Hayekian triangle. The triangle is what is known as the ABCT. Having identified the ABCT and the roots it has, it became clear why this theory doesn't find support in the mainstream

consensus. The critique against is massive, even that it explains the outbreak of a boom and bust cycle that resembles somewhat the mainstream boom and bust cycle theory. The cause of concern lies in the triangle and the factors that it includes in an equilibrium situation. I identified the period of production, the time preference and the “natural” rate of interest as being major defects of this theory. If taken separately, then there are points of critique. When the three components are combined, then the whole theory loses all credibility.

Furthermore is explained the Austrian schools extreme belief in the self corrective forces of the free market, and their strong mistrust of fractional reserve banking. It is shown argued that there are limits for what the free market is capable of, and that the fractional reserve system is a reality, whether liked or disliked. It is argued that the Austrian exogenous money definition is in lack of realistic assumption, and a endogenous money definition has more soundness. This leads to two main conclusions; that it is not the Central Bank that always start the menace of an unsustainable boom, and that the Austrian definition of money as a well-defined quantity is outdated. There are several other points of critique raised against the Austrian school, mainly in relation to their strong libertarian point of views.

There was not done any effort to collect data, and try to find any proof of validity for the ABCT. The effort would be in vain, as the theory has many deficiencies. First; it cannot be proven that it is the FED that starts a boom and bust cycle; actually the reverse is more likely. Second; the “natural” rate of interest cannot be determined. Third; the length of the production structure cannot be measured. Fourth; even if one were to try to find the “natural” rate of interest, the problem would be to validate that it reflected the time preference of people. Instead I looked into the theory developed by Minsky in order to find an explanation for the current crisis. This had an alternative explanation of the crisis, which rested on the irrational behaviour of the human being. Unfortunately not much space was available to go deeper into this theory.

The ABCT suggests a remedy for the crisis, which all mainstream economists disregard. The Austrian suggestion is that the government should get out of the way and let the free markets eliminate malinvestments, so that the structure of production can head towards equilibrium. Furthermore, the FED should be banned and the gold standard and the 100 percent gold backing reinstated. This does not give the ABCT much credibility, as mainstream economists

argue that the Austrian schools suggestions will harm the economy, rather than solve the problems.

There is however one aspect of the theory that is superior to the mainstream model; the heterogeneity of capital. Mainstream models see production process of a single stage, where some input is added with some resources, and out comes a good at the other end. The Austrian multiple stage model has a more complex look at where the goods are in the production process. When the mainstream homogeneous model of growth theory has prevailed, even that it has shortcomings, is because the Austrian literature is too hard to read and understand. The “natural” rate of interest, period of production getting lengthier and shorter, time preferences seen in the production structure; all are things that unnecessarily make the understanding of a heterogeneous capital definition too complicated.

The “bubbling” of Austrian analysis seems to be but a trend in crisis times, as a new explanation for a bubbling economy is looked for. The bubbles will most probably run out, as the markets return to “normality”. The next time a crisis erupts, most likely will the ABCT again be looked upon?

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Appendix A

Neutral rate of interest- a critique

Modern day discussion of the natural rate of interest is quite different from the Wicksellian definition, which is interplay of preference between saving and investment. Measuring any form of natural interest in accordance with the Austrian definition is not possible today. Instead the FED, in determining the federal funds rate, decides on the basis of unemployment and inflation. The changes of the federal funds rate therefore highly depend on what the main concern is, inflation (higher rate) or unemployment (lower rate). The seemingly goal became to keep the rate at a level where inflation (price stability) was under control simultaneously with full employment¹⁹⁸.

The Taylor rule¹⁹⁹ used to be a good indicator for setting the neutral rate of interest by the FED:

$$\text{The Taylor rule: } r = p + 0,5q + 0,5(p - 2) + 2$$

The policy implication of the above equation is that the goal of full employment can be achieved best with an interest rate of 4 percent. If q is 0 and p (inflation) is at 2 percent, then r would be 4 percent. The 0,5 attached to both p and q means that the problem with unemployment and inflation gets same weighing. But in reality it is much harder for the FED to strike the right balance between these two concerns in order to achieve the long term stability. "The current rate of inflation and the position of the economy in relation the full employment are not known because of data lags and difficulties in estimating the full employment level of output, adding another layer of uncertainty about the appropriate setting of policy"²⁰⁰. This has clear implications of how the FED sets the federal funds rate in relation to a long term growth strategy. While Friedman's monetary rule implies increasing the money supply at a steady rate, between 3-5 percent a year in order to accommodate long term growth, the actual FED policy suddenly became to adopt a "learning by doing" approach. With no clear money growth target, the FED instead pursues an interest rate target. But with no clear interest rate target to replace the monetary rule, the FED

¹⁹⁸ A publication of the Board of Governors of the Federal Reserve System: "The Federal Reserve System, Purposes and Functions". P.20.

¹⁹⁹ This was first presented by John B. Taylor, a Stanford University Professor, in 1993.

²⁰⁰ Ibid. P.24

sets the interest rate based on newest reports on unemployment figures and price indexes, which means that the FED acts on the market conditions that reign in the future. The critique then is that when setting the target rate, the FED's main concern is "worries and fears rather than data and rules"²⁰¹.

This form of decision making is based on expectations; expectations from the public and not the least expectations from the financial markets on how the FED sets the target rate and whether it is correct or not. The FED admittedly asks the public to understand the policies of the FED, which will make their job easier to ensure full employment and stable prices²⁰². But when setting the rate on basis of the worries of future unemployment and inflation in relation to the expectations from the public, the neutral rate suddenly relies on faith rather than on theory.

In the Austrian point of view it is the absence of connection between the neutral and the natural rate that gives rise to unsustainable growth²⁰³.

²⁰¹ Roger W. Garrison: "Natural and neutral rates of interest in theory and policy formulation". *Quarterly Journal of Austrian Economics* (Winter 2006) Vol. 9, No. 4.

²⁰² A publication of the Board of Governors of the Federal Reserve System: "The Federal Reserve System, Purposes and Functions". P.20.

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Appendix B

The different monetary aggregates

M0	MB	M1	M2
Wide Money	Monetary Base	Money: M0 + Demand deposits	Money and close substitutes
The narrowest definition of money; Consist of banknotes and coins in public circulation	Consist of cash, banknotes and coins, in circulation outside the central bank	Technically defined this is the sum of; the tender that is held outside banks, travelers checks, checking accounts (but not demand deposits), minus the amount of money in the Federal Reserve float	The sum of; M1, savings deposits (this would include money market accounts from which no checks can be written), small denomination time deposits (where small is less than \$100,000), retirement accounts.
	M3	MZM	TMS
	Broad Money	Money Zero Maturity	True Money Supply (Austrian)
Source: Federal reserve bank of St. Louis, Mises.org, dollardaze.org and investopedia.com	M2 plus the large time deposits. Eurodollar deposits, dollars held at foreign offices of U.S. banks, and institutional money market funds.	A measure of the liquid money supply within an economy. MZM represents all money in M2 less the time deposits, plus all money market funds.	Currency in Circulation, Total Demand Deposits, Savings Deposits, U.S. Government Demand Deposits and Note Balances, Demand Deposits Due to Foreign Commercial Banks, and Demand Deposits Due to Foreign Official Institutions.

Appendix C

In defence of Alan Greenspan and the FED

First, it might be a minor exaggeration to blame the reckless lending standards in the housing market based on a law from 1977 (CRA). The argument is that most subprime loans were made by firms that even weren't subject to CRA. Professor of law from Michigan University, Michael Barr, tells that 50% of subprime loans were made by companies that weren't subject to supervision and 30% were made by firms where no routine supervision took place. It is furthermore argued that CRA loans had a higher degree of responsibility as the interest on them carried lower rates than other subprime loans²⁰⁴. The obvious conclusion from above is that the FED didn't regulate the mortgage market, and share the responsibility. Nevertheless, the FED argues that the law should accommodate the low and moderate income neighbourhoods rather than financial institutions making high risk loans that would jeopardize their safety; "To the contrary, the law makes it clear that an institution's CRA activities should be undertaken in a safe and sound manner"²⁰⁵.

Greenspan downplays the role of the ARM's when discussing the origination of the fuel that created the bubble. He explains that ARM's are very weak forecasters of home prices; even though they are a source of cheap financing, they do not a determinant of home prices he says and continues, "If ARMs were not available from 2001 to 2004, home purchases presumably would have been financed with long term debt, which was also very affordable"²⁰⁶. Greenspan, in his defence, further points to the problem of assessing risk by the current models available. Even though the models have become quite complex (both risk and econometric models), they do not

²⁰⁴ Aaron Pressman, September 29, 2008. Bloomberg Businessweek. "Community Reinvestment Act had nothing to do with subprime crisis".

http://www.businessweek.com/investing/insights/blog/archives/2008/09/community_reinv.html

²⁰⁵ <http://www.federalreserve.gov/dcca/cra/>

²⁰⁶ Alan Greenspan, Financial Times April 6, 2008. "A response to my critics".

<http://blogs.ft.com/economistsforum/2008/04/alan-greenspan-a-response-to-my-critics/>

capture all the variables that drives the economic realities. Through generations there have been business cycles which have driven human behaviour between euphoria and fear, and that behaviour has been labelled non-rational. According to Greenspan it should not be a concern whether the human behaviour is rational or not, rather it should be of concern whether the behaviour is observable and systematic²⁰⁷. It is exactly this factor that is missing in the model argues Greenspan, but he do admit that all factors cannot be anticipated and every crisis should be a learning objective for future policies. He further distances himself from the euphorically housing bubble; “But if, as I strongly suspect, periods of euphoria are very difficult to suppress as they build, they will not collapse until the speculative fever breaks on its own”²⁰⁸.

The very low levels of interest rates have been one of the main objections against Greenspan’s policies. He has, among others, been criticized by John B. Taylor (Taylor), the originator of the Taylor rule. Taylor launches his biggest critique when explaining how much lower the “Greenspan interest rate” was compared to “Taylor interest rate”. Figure C shows that the discrepancy between the Taylor interest rate and the federal funds rate at its highest was 4.9%. This was among the prime reason, according to Taylor, for which a bubble in the housing market was created²⁰⁹.

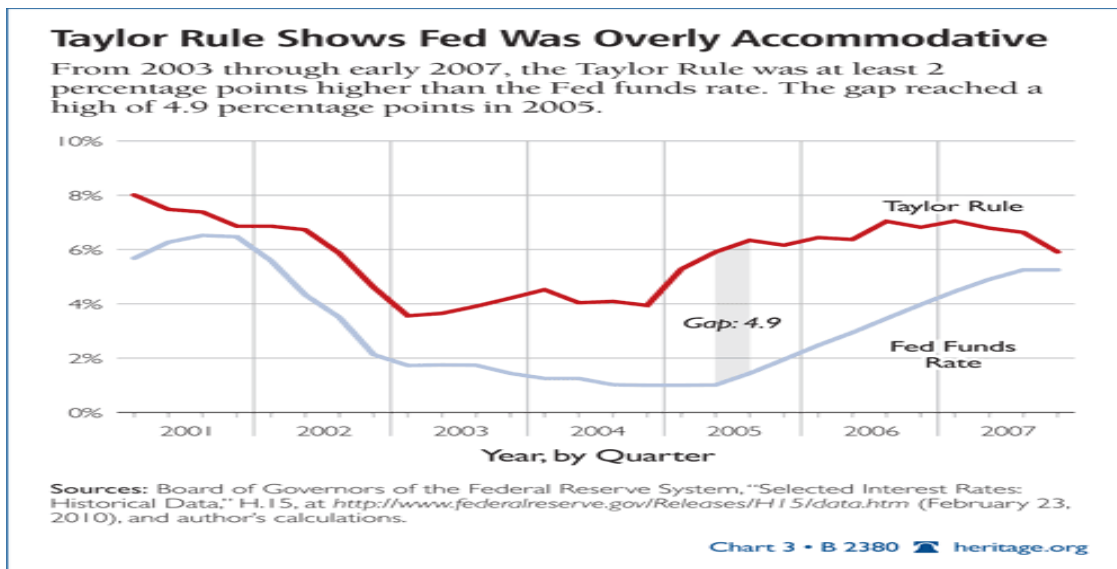


Figure C

²⁰⁷ Alan Greenspan . Financial Times March 16, 2008. “We will never have a perfect model of risk”.
http://us.ft.com/ftgateway/superpage.ft?news_id=fto031620081437534087

²⁰⁸ Ibid

²⁰⁹ John B. Taylor, The Wall Street Journal, February 9, 2009. “How government created the financial crisis”.
<http://online.wsj.com/article/SB123414310280561945.html>

Greenspan replies to the critique by explaining the inappropriate use of short term rates to explain the value of long term assets. He prolongs the counter critique when referring to the Taylor rule as a “useful first approximation to the path of monetary policy, its parameters and predictions derive from model structures that have been consistently unable to anticipate the onset of recessions or financial crises”²¹⁰. Therefore it can’t be the only basis for which the federal funds rate is set.

Through the 1990’s there was a great deal of changes in the global economy as many developing nations went from central planning economies to open markets and witnessed a huge export led economic growth. This led to an excess of global savings relative to global investments. Greenspan argues that this ex ante excess of savings impacted the long term interest rates to decrease in the time period of 2000-2005. The global long term interest rates declined to single digits in 2006, which was the main contributor to the global housing crisis, dispute Greenspan²¹¹. He does agree with Taylor (and the Austrians as well as Krugman) that it was the very low interest rates that created the speculative housing bubble. However, it was not the low federal funds rate but rather the long term fixed-rate mortgages. He argues that the correlation is highly significant between those than the federal funds rate and the housing prices. The FED discovered a disconnection between monetary policy and mortgage rates, as they didn’t respond to FED’s tightening in mid- 2004. Even earlier, Greenspan argues, there was a decoupling between these two rates²¹².

Much of the critique against Greenspan, as he sees it himself, comes from the ideology that he displays. When the global markets came crumbling down the ears of the states, bankers and general public, there seemed to form a general consensus that it was the free capitalistic market forces that, due to their inherently unstable nature, was the cause of the mess. Greenspan had the ideology that this crisis was unleashed from. A fury among people made them look for a reason, and the target was Greenspans ideology. Himself, Greenspan says; “My view of the range of dispersion of outcomes has been shaken, but not my judgment that free competitive markets are by far the unrivalled way to organize economies. We have tried regulation ranging

²¹⁰ Alan Greenspan, Wall Street Journal, March 11, 2009. “The FED didn’t cause the housing bubble”.
<http://online.wsj.com/article/SB123672965066989281.html>

²¹¹ TheEconomist, March 18, 2010. “It wasn’t us”. http://www.economist.com/business-finance/economics-focus/displaystory.cfm?story_id=15719180

²¹² Ibid

from heavy to central planning. None meaningfully worked. Do we wish to retest the evidence?"²¹³

There seems to be some validity in his argumentation that he's being attacked due to his ideology²¹⁴. The world has changes since before the crisis. The demand for regulations and government interference is stronger than ever. It is hard not to compare our current crisis with that of the 1930's; not by the measure of economic downturn, but rather by the changes of ideology back then as well. Greenspan was overwhelmingly popular as long as the "free markets"²¹⁵ supplied the US strong GDP figures, but when it went wrong it was rather a question of right and wrong economic policies and thus returning to the ultimately right ideology. The parallel is not only visible with the Great Depression and now, but also in the 1970's when the economic ideology changed to the favour of the Monetarists. Whether Alan Greenspan is guilty of causing the biggest financial crisis of nearly a decade, or he is an innocent victim due to the changed times, will be more evident a long time from now when history is written or rewritten by the future generations.

²¹³ Alan Greenspan, Financial Times April 6, 2008. "A response to my critics".

²¹⁴ This author, however, is not among those that defend Alan Greenspan. The reason why this discussion is taken is to give a nuanced view of the cause of events.

²¹⁵ The Austrians would object strongly if there weren't quotations to the free market claim under the Alan Greenspan reign.