



LUND UNIVERSITY  
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**Master programme in Economic History**

# Setting the Pace of Capitalism

*- A Post-Keynesian Perspective on Interest and Profits as a Monetary Phenomenon*

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*Abstract:* Financial markets turn all their attention towards the Federal Reserve Bank and the European Central Bank whenever there are the slightest rumors of a change in the policy rate of interest. But why is this rate so important and what is the theoretical basis of its existence in the first place? In modern economic literature theories of interest are rarely explicitly touched upon and interest is often simply taken for granted in most textbooks. This paper intends to show that there does not exist one single theory of interest. Although the history of economic thought and current central banking policy, demonstrates a clear tendency to view interest as a real phenomenon, there exists a large group of post-Keynesian economists who, instead, tend to view interest as a monetary phenomenon. By looking at lessons from actual experience this paper shows how the historical and contemporary post-Keynesian challenge to the consensus view potentially allows us to interpret interest as purely a monetary phenomenon. Furthermore, it attempts to show how this interpretation, if accepted, has far reaching consequences, not only regarding the understanding of interest, but also our understanding of profits and the distribution of income.

*Key words:* History of economic thought, post-Keynesianism, monetary theory of interest, endogenous money, Silvio Gesell, John Maynard Keynes, Knut Wicksell

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# Setting the Pace of Capitalism

## - A Post-Keynesian Perspective on Interest and Profits as a Monetary Phenomenon

*The carter feeds his horse, greases the axles, sweats and curses; it is only just that he should be paid. The merchant keeps his shop, pays his rent, broods and calculates; he, also, should receive something. But the banker, the savings-bank, the money-lender – what is their service?*  
- Silvio Gesell, *The Natural Economic Order* (1958[1929]: 384)

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## 1. INTRODUCTION

### 1.1 Background

Every once in a while, during the year, financial markets turn all their attention towards the Federal Reserve Bank (FRB) of the United States and its Federal Open Market Commission (FOMC) charged with setting the US policy rate of interest; the federal funds target rate. Because the dollar serves as the primary reserve currency of almost all countries in the world and because the majority of all financial assets are denominated in dollars, the setting of this rate has consequences, not just on Wall Street, but all over the world. But what determines the level of this rate? What decides if it goes up or down? Are there any fundamental economic rule determining the rates' adjustment and if so, what does this rule imply? In one way, the question appears rather easy to answer, but in another, this seemingly innocent question constitutes a tempting chance to open Pandora's box of diverse and contradictory theories of interest.

The easy answer to the question, however, is, yes. For the world's leading central banks, and in particular for the FRB and its FOMC, there exist a guiding concept used to determine the federal funds target rate called 'the natural rate of interest'. The concept stems from the Swedish economist, Knut Wicksell (1851-1926) who defined the natural rate of interest as that rate of interest which is compatible with a stable price level. Adding to this principle the policy objectives of low unemployment and an inflation target of 2% the FRB uses a modern version of what is basically Wicksell's principle to construct the 'neutral federal funds rate' which according to the chairman of the FRB, Janet Yellen, can be defined, "as the value of the federal funds rate that would be neither expansionary nor contractionary if the economy were operating near its potential." (Yellen 2015; 2016).

The entire concept of any natural or neutral rate of interest hinges on *one* central assumption; specifically, that the rate of interest is essentially what can be called a *real* phenomenon. This means that the rate of interest is said to exist because there exists an average rate of profits on the real capital assets in the economy which the

money rate of interest then somehow reflects. However, there is also a much more complex and radical approach to the seemingly simple question just stated in the above.

As it turns out there exists a theoretical framework which heavily criticizes or outright rejects everything in the proposition specified by Janet Yellen and the FOMC above. The economists working within this framework reject the idea of interest as a real phenomenon and instead view interest as purely a *monetary* phenomenon, that is, a rate determined by the nature of money and the way in which the monetary system is structured. However, with the exception of one of these economists, namely John Maynard Keynes, their work is fairly unknown and unnoticed in mainstream economics.

While the classical and neoclassical economists writing in the 19<sup>th</sup> and 20<sup>th</sup> century, in one way or the other, tended to view the rate of interest as a real phenomenon, or at least a phenomenon guided by real forces, a few economists dissented from this view. The most notable of these, Pierre Joseph Proudhon (1862-1930), Silvio Gesell (1862-1930), and Keynes, were grouped together by Dudley Dillard (1942b) as economists who held highly familiar views concerning the nature of interest. All of them shared the view that interest should be regarded as a monetary phenomenon adding unnecessary costs the sphere of exchange in turn creating the basis for unearned income, surplus value and rentier capitalism.

Economists today tend to view the existence of interest as a given and theories of interest are rarely explicitly stated in the literature. Nevertheless, by the frequent mentions of the so-called natural rate of interest in papers and reports from central banks and their economists it is safe to say, that the current consensus view is based on the loanable funds theory of interest and clearly views interest as a phenomenon guided by real forces. But dissenting views are still around.

Nowadays the dissenting case for the interpretation of interest as a monetary phenomenon is primarily carried forth by heterodox economists regarding themselves as belonging to the post-Keynesian school of economics. Thus, one of this schools' most influential economists, Marc Lavoie (1996: 277) wrote: "For post-Keynesian monetary theory to be truly distinct from various neoclassical versions of monetary theory, both the loanable funds approach and the Wicksellian natural rate of interest must be discarded."

## **1.2 Aim and Purpose**

Although interest remains a central element in 21<sup>st</sup> century economics and a powerful force governing both economic incentives and the distribution of income, the phenomenon is often simply taken for granted in economic textbooks. This was not always the case. The classical and neoclassical economists of the 19<sup>th</sup> and early 20<sup>th</sup> century went far to explain the philosophical and theoretical justification for there to exist a rate of interest on money and by looking at the current mainstream economic consensus, one might argue that they did a pretty

good job. However, at the same time as these economists laid out there often contradictory theories of interest Proudhon, Gesell and Keynes presented the dissenting view that interest should be viewed as a monetary phenomenon and today this view is carried on against the modern consensus in an updated theoretical framework by the majority of post-Keynesians.

The purpose of this paper is to present the dissenting view of interest as a monetary phenomenon in both historical and contemporary economic thought and to present the challenge that this view poses to any ‘real’ theory of interest. The paper will investigate how lessons from actual experience can influence the way we think about interest and profits in a modern monetary framework thus attempting to answer the question: What are the implications for established theories of interest when exposed to the historical and contemporary challenges provided by Gesell, Keynes and the post-Keynesians, and how can interest and profits be interpreted as a monetary phenomenon in the 21<sup>st</sup> century?

### **1.3 Structure of Analysis and Existing Literature**

To carry out our investigation the paper will be divided into three sections. The first section will establish the historical basis for our analysis; the second will provide a discussion of some theoretical issues regarding the nature of money necessary to clarify before, in the third section, we can establish how interest and profits can be viewed as a monetary phenomenon in a modern economic framework.

In the first section, we will present some of the philosophical and theoretical reasoning suggested in the 19<sup>th</sup> and early 20<sup>th</sup> century that came to serve as the foundation for interpreting interest as a real phenomenon. After that we will present the nonconforming view of the three economists, Proudhon, Gesell, and Keynes, grouped together by Dillard (1942b) emphasizing the work of the latter two dissenters. It will be shown how their views not only constituted an alternative theory of interest but actually also a revolutionary break with the conventional view on profits and “the objectionable features of capitalism”.

Before moving on to the second section, the loanable funds theory of interest which came to be viewed as *the* theory of interest after the second world war will be presented. More importantly however, it will be noted that most of the discussion on the nature of interest in the history of economic thought rested on a premise of an ‘exogenous theory of money’. This meant that most economists, including Keynes, viewed money as an asset in scarce supply, the amount of which was exogenously determined by the monetary authorities.

The second section is dedicated to correcting the theoretical errors broad about by the exogenous theory of money and provide the theoretical foundation necessary to bring our investigation into the future. With the help from Joseph Schumpeter and his *History of Economic Analysis*, published in 1954 (2006), we will correct the mistaken view that banks function as intermediaries lending already existing funds rather than creating new

money when issuing new loans. This will set the ground for us to establish the endogenous theory of money and apply it in our further investigation.<sup>1</sup>

The amount of economic literature stating the endogenous nature of money have steadily risen since the 1980's. Although it was included in Wicksell's *Interest and Prices* from 1898 (1962) it was only in the work of the post-Keynesians Hyman Minsky, Nicholas Kaldor, and Basil Moore in the 1970's and 80's that the theory was conceptualized and explicitly asserted in economics.

Instead of referring to a wide collection of literature on this subject we will refer to two central authorities in our rejection of exogenous money and affirmation of the endogenous theory of money; the veteran Charles Goodhart, who served as professor of monetary economics at London School of Economics and was part of Bank of England's Monetary Policy Committee, and a paper published by the Bank of England itself in 2014 under the title, "Money Creation in the Modern Economy".

Before moving on to the third section we will discuss the economic implications associated with applying the endogenous theory of money to Keynes' notion of 'liquidity preference' and Wicksell's notion of the natural rate of interest, although Wicksell did in fact include the endogeneity of money in his analysis. Before ending the section, it will be argued, especially by paying reference to the literature on the so-called Gibson Paradox, that the natural rate of interest remains a somewhat fragile concept.

In the third and final section the post-Keynesian perspective will be applied. In the section we will attempt to demonstrate how interest and profits can be interpreted as a monetary phenomenon within a modern economic framework and present the implications associated with doing so.

First, the assumptions of money scarcity resulting from viewing money as an exogenously and independently determined variable is cleared out. Accordingly, it should become evident that any theory seeking to explain interest as a real phenomenon in modern economics will have to adhere to the Wicksellian concept of a natural rate of interest and consider this the last ditch of defense against a monetary theory of interest.

Moving on, the post-Keynesian challenge to the natural rate theory will be discussed and it is right here to mention the work of four economists who must be considered central in this challenge, namely, Massimo Pivetti (1985, 1991, 2001), Colin Rogers (1989), Basil Moore (1988, 1991), and John Smithin (2003). While Pivetti and Moore combines their thorough theoretical exposition with historical and quantifiable evidence from the workings of the Bank of England and the FRB, the evidence provided by Rogers and Smithin is of a more

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<sup>1</sup> The Endogenous theory of money states that the amount of money in a given economy, rather than being determined exogenously by the monetary authorities, is determined endogenously by banks who create credit money in accordance to creditworthy demand. The theory is therefore a break with the idea that money is a scarcely available good.

theoretical character. However, when supported by the work of other post-Keynesians the challenge that these four economists provide must be considered fairly strong.

On the basis of the challenge provided we will proceed by offering a simple monetary theory of interest as it could possibly be stated if the existence of any natural rate was to be rejected. Finally, we will present some economic implications following this theory before ending our paper with our conclusion.

Regarding semantics there are some important qualifications to be made. Irving Fisher, Wicksell, and Keynes respectively used the terms, 'rate of return over cost', 'natural rate of interest', and 'marginal efficiency of capital' to explain the significance of the rate of interest. Although the precise meaning of these terms differs slightly, after having been introduced, the expressions used throughout the following parts of the paper will be the Wicksellian term, 'natural rate of interest' and 'rate of profit', and 'average rate of profit' understood as the rate of profit attainable to the real sector through the utilization of generally accessible and dominant means of production. Further it shall be noted that we are here using the classical concept of profits meaning that profits are reckoned gross of interest payments on borrowed funds (See Pivetti 1985: 81n). Therefore, when we are using the term 'profits' this has to be understood as the share of revenue from which interest income paid to creditors must be deduced to arrive at 'net profits'.

Regarding the term interest, it should be noted that an entire complex of rates exists and that no single rate can ever be defined as *the* rate of interest. Because capital formation is primarily concerned with a long term perspective, when speaking of the rate of interest in this paper we will be referring to a theoretical rate, understood as an average of the long-term loan rates of interest which would be offered to the most creditworthy firms in a given economy.

Finally, when working with interest one should furthermore be clear whether speaking of nominal or real rates and throughout this paper the latter concept will be used since the real rate of interest constitutes the actual price paid by firms for the accumulation of capital. Although we will be speaking only of 'the rate of interest' throughout this paper it should be specified that, unless otherwise stated, what is here meant is the 'real rate'.

## **2. EARLIER THEORIES OF INTEREST: NEOCLASSICAL AND HERETICAL**

### **2.1 Neoclassical Theory of Interest**

Much as money and the term 'value' has caused great problems for economic science, the same can be said of interest. Theories of interest exist in many shapes and while some have evolved from the classical economists into

forms of generally accepted theories, others have been made obsolete through changes in economic thought and development. Not least through the evolution of money and banking.

An important theory that carried a great share of influence on neoclassical theories of interest was the so-called abstinence theory which describes interest as a reward to the money lender for the postponement of consumption. The theory was presented in its most complete form by Nassau Senior (1790-1864) and he defined abstinence as a sacrifice by lenders specifically in the process of capital creation. The theory could hardly be said to make up a complete theory of interest as it was only concerned with issues relevant for the supply of savings excluding the dynamics of productivity and demand from the equation (Blaug 1980: 201).

In the work of Frédéric Bastiat (1801-1850) the fundamental thought was identical to that of Senior (Böhm-Bawerk 1890: 288) although he called the postponement of gratification 'delay' or 'privation'. The theory of abstinence would later be refined by John Stuart Mill who would give a more familiar definition to abstinence as a reward for forbearing to consume one's capital and Mark Blaug, in his, *Economic Theory in Retrospect* (1980: 204), in short, describes the abstinence theory as an explanation of interest as, "a reward for those who can afford to lend present wage goods in return for future wage and non-wage goods."

Alfred Marshall in his, *Principles of Economics* would develop the theory of abstinence from the supply side but also include a demand perspective. Thus, according to Marshall, the rate of interest was governed, on the supply side, by 'prospectiveness' or time preference and, on the demand side, by potential productivity of the means of production. Rather than being a reward for 'abstinence' Marshall (1895: 668) saw, in interest, a reward for 'waiting' and criticized the Marxian idea of interest as a kind of unpaid labor, arguing that such ideas implicitly assumed, "that the service performed by capital is a 'free' good rendered without sacrifice" (Marshall 1895: 669).

Although Marshall recognized that lending at interest in medieval times might have caused a negative impact on the economic freedom of the borrowing class, he criticized early thinking regarding interest for being somewhat naïve. For instance, why would it be legitimate to lend real assets at a fee but illegitimate to lend money at a fee? He accused the scholastic writers on interest for having,

*...obscured the fact that he who borrows money can buy, for instance, a young horse, whose services he can use, and whom he can sell, when the loan has to be returned, at as good a price as he paid for him. The lender gives up the power of doing this, the borrower acquires it: there is no substantial difference between the loan of the purchase price of a horse and the loan of a horse. (Marshall 1895: 666-7)*

The theoretical reasoning behind the neoclassical theory of interest culminated in the work of Irving Fisher. In his, *The Theory of Interest* (1930) he refined the theory of abstinence, or waiting, in a framework embracing the notion of 'time preference' first introduced in its earliest form by Carl Menger. Fisher's goal was



to explain, “how the *rate of interest* is caused and determined” and his point of exit was to, “...define the *rate of interest as the per cent of premium* paid on money at one date in terms of money to be in hand one year later.” (Fisher 1930: 13 (Fisher’s italics)). He noted that he was developing his principle based on what was essentially the Austrian economist, Böhm-Bawerk’s principle of ‘perspective undervaluation of the future’ (Fisher 1930: 62).

In *Capital and Interest*, Eugen von Böhm-Bawerk (1890: 428) had settled his thorough investigation into the established theories of interest by concluding that an appropriate theory of interest would necessarily have to be based on time and, “the influence of Time on human valuations of goods.” His principle of the perspective undervaluation of the future rested upon two assumptions of which the first is the most important. First, that individuals tend to provide for the future less goods than necessary, and second, that calculations concerning future economic needs always rests upon some rational expectation which always have the risk of turning out different (Böhm-Bawerk 1930: 416-419). According to Böhm-Bawerk’s principle, then, it would follow that the stronger the undervaluation of the future would be in a given community, the higher the rate of interest on loans would be (Böhm-Bawerk 1930: 419).

The time preference theory of interest formalized by Fisher based on Böhm-Bawerk’s Austrian principle, hinged on the relation between what he called the ‘impatience principle’ and the ‘investment opportunity principle’ and he did not see any difference between explaining why there is interest and how the rate of interest is determined (Blaug 1980: 558). The investment opportunity side of his interest theory refers to his concept of ‘rate of return over cost’ which can be defined as the rate of discount at which present net values of two alternative investment options are equal.

The impatience principle, which he also called ‘the willingness principle’, in interaction with the investment opportunity principle would set the rate of interest:

*Impatience is impatience to spend, while opportunity is opportunity to invest. The more we invest and postpone our gratification, the lower the investment opportunity rate becomes, but the greater the impatience rate; the more we spend and hasten our gratification, the lower the impatience rate becomes but the higher the opportunity rate.* (Fisher 1930: 177)

Within the neoclassical framework and its explanations for the existence of interest it later came to be accepted that there existed a so called ‘natural rate of interest’<sup>2</sup> which can be described as an average of own-rates of capital goods throughout the economy. The natural rate of interest was defined by the founder of its theory, Knut Wicksell, as, “a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise nor to lower them.” (Wicksell 1962: 102)

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<sup>2</sup> Wicksell would later come to regret this terminology and exchanged the term, ‘the natural rate’ with terms such as ‘ordinary rate’, ‘normal rate’, and ‘average profits on capital’ (Blaug 1980: 650). However, seeing that ‘the natural rate’ became the one used throughout most economic literature, it will be used throughout this paper as well.

According to Wicksell, if the average rate of return on capital investment was higher than the interest rate on bank loans, a cumulative process towards escalating disequilibrium would commence. This cumulative process would continue as long as the rate of return on investment was higher than the loan rate, making it profitable for people to continuously take out loans for investment in capital. At some point however, when full employment had been reached and the demand for savings satisfied, inflation would start to kick in through the continued creation of new capital. At that moment, the role of the monetary authorities would be to increase the policy rate (at the time through setting the yield on government bonds) to a level high enough to push up loan rates and limit the amount of new investment and capital creation. The goal was monetary equilibrium which would be achieved when the loan rate of interest was equal to, 1) The expected yield of newly created capital, 2) a level where the supply of savings and demand for loans were in equilibrium, and 3) a level at which the general price level could remain stable (Blaug 1980: 651). Together, these three elements make up the so-called neutrality of money which is a basic prerequisite for the quantity theory of money.<sup>3</sup>

Although the rate of interest on money could fluctuate in relation to the natural rate determined by real factors, according to Wicksell, such a gap between the two rates could only last for a short period of time before the two rates eventually would have to converge (Bertocco 2013). Therefore, in the theory of interest thought out by Wicksell, the money rate of interest would ultimately become a phenomenon guided by real factors.

We can now run through some of the common elements in neoclassical economics regarding the theory of interest:

First, the act of borrowing, in neoclassical economics, is most often seen to be associated with the postponement of gratification, waiting, or even abstinence of savers (Graziani 2003: 149). The compensation for these displeasures comes in the form of interest paid by the borrower to the saver who have momentarily abstained from consumption. However more importantly, in neoclassical theory, the money rate of interest is seen to be a 'real phenomenon' meaning that it is derived from the rate of profit on real capital active in the supply of goods and services. In other words, interest on money exists because there exists a more or less similar general rate of profit on real capital (Schumpeter 2006: 1084). Therefore, according to the neoclassical economists, the loan rate of interest would not exist if by some means the rate of profit on real capital could be reduced to zero.

Second, with Wicksell as the one exception, the neoclassical theory of interest is founded on an assumption of a scarce and finite supply of money, the amount of which is strictly regulated by the monetary authorities. In other words, the supply of money is exogenously given either, as under the gold standard, by a

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<sup>3</sup> Neutrality of money is the idea that changes in the amount of money, at least in the long run, only affects nominal variables, such as prices, and not real variables, such as economic growth, unemployment and consumption.

limited supply of gold or, after the gold standard, by a limited supply of fiat reserves. It therefore follows that the general level of interest on money is endogenously set within the market in response to the supply and demand for a given fixed amount of money. Banks are rarely seen as creators of money in the form of credit but rather as intermediators of already existing money between borrowers and lenders (Parguez & Seccareccia 2000: 430). Because money creation by banks is rarely included in the neoclassical framework the bank is also not normally seen as receiving interest payments. As noted by Augusto Graziani (2003: 150), "In the neoclassical model, interest paid to the banks doesn't appear." As we shall see later however, Wicksell, as one of the few neoclassical economists, managed to include the function of banks in his analysis thereby avoiding most of the neoclassical misunderstandings.

Third, in neoclassical economics, it is generally agreed that there exists some state of equilibrium in which the supply of savings and the demand for loans is balanced at a level capable of providing a stable development in the level of prices, at least in the long run. This equilibrium would become associated with a natural rate of interest towards which the money rate of interest should gravitate for price stability to prevail.

It is interesting to note that there exists a break in the theory of interest as it was presented by the classical economists compared to the way it was presented in neoclassical theory. To the classics, understood as Adam Smith, David Ricardo, John Stuart Mill and Karl Marx, interest played a significant role for the distribution of the social surplus and was always viewed as a certain proportion of profits. Their analysis of interest therefore focused on the economic factors determining this proportion (Moore 1991). This analysis was revived on a broad scale when John Maynard Keynes published *The General Theory of Employment Interest and Money* in 1936.

## **2.2 Establishing Interest as a Monetary Phenomenon: The Exogenous Money View**

When Keynes published his *General Theory*, he came forth with a fundamental challenge to the neoclassical theory of interest. His theory attacked the notion of the rate of interest as guided by real forces and instead pointed to interest being a monetary phenomenon acting as the primary factor regulating economic development, prices and distribution. The radical proposition was noted by Arthur Pigou in his review of Keynes' book writing that:

*[i]n some passages he appears to deny that real conditions have anything to do with the money rate of interest ... [and] seems to agree with Gesell that "the rate of interest is a purely monetary phenomenon." If this were in fact his view, Mr. Keynes' divorce from classical thought would be complete. (Pigou 1936: 124).*

A central element in Keynes' analysis of the rate of interest was the concept of the marginal efficiency of capital which carries some resemblance to Fisher's 'rate of return over cost' and Wicksell's concept of the 'natural

rate of interest' or 'average profits on capital'. Keynes defined the marginal efficiency of capital as, "the rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during the life just equal to its supply price." (Keynes 1970: 135). In other words, it is the expected net rate of return on the purchase of some additional capital asset. With an expected positive marginal efficiency of capital on some capital good, investment in that capital good can be expected to generate a rate of profit. In the words of Dudley Dillard (1949: 134-5):

*The 'marginal' efficiency of a particular type of capital asset is the highest rate of return over cost expected from an additional, or marginal, unit of that type of asset. The marginal efficiency of capital in 'general' is the highest rate of return over cost expected from producing an additional, or marginal, unit of the most profitable of 'all' types of capital assets.*

The most important cost to consider when deciding whether to take on a new project of investment naturally becomes the rate of interest on the loans which needs to be taken out in order for investment to take place. According to Keynes therefore, it was a matter of logic that the rate of investment will be broad to a level at which all classes of capital assets has had their marginal efficiency of capital pushed down to the level of the rate of interest on loans (Keynes 1970: 136).

Whereas the neoclassical economists sought to explain both the level of interest and the ontological basis for its existence in economics, as a phenomenon created and guided by real factors, Keynes would look elsewhere for his theory of interest. According to him (1970: 137) knowledge regarding the marginal efficiency of capital does not make us able to deduce either the rate of interest or the value of some particular asset. It would have to be done in some other way.

To answer the questions of why there exists a particular rate of interest Keynes developed a new concept called 'liquidity preference'. The rate of interest according to Keynes would be a result of the supply and demand of liquid money balances in light of some level of uncertainty and not, as with the neoclassics, the price which brings the supply of savings and the demand for investments into equilibrium. In the words of Keynes (1970: 167): "Thus the rate of interest at any time, being the reward for parting with liquidity, is a measure of the unwillingness of those who possess money to part with their liquid control over it." Even though the development of the liquidity preference theory of interest as it was advanced by Keynes and his antecedents, serves as a topic worthy of thorough discussion, it was another aspect of Keynes' theory of interest which had the potential to fundamentally disturb the science of economics.

As we have seen, Keynes accepted the neoclassical idea that there did exist an equilibrium at which the marginal efficiency of capital in general would be equal to the rate of interest. However, Keynes' revolutionary break with the neoclassicals was that he turned the direction of causality on its head. Instead of the rate of profit

associated with capital investment, i.e. the marginal efficiency of capital, guiding the rate of interest, it was the rate of interest which guided the level of the marginal efficiency of capital. Thus, it becomes obvious why the rate of interest plays such a vital role in the determination of effective demand and why the level of the rate of interest is of utmost importance in Keynes' monetary analysis:

*The significant conclusion is that the output of new investment will be pushed to the point at which the marginal efficiency of capital becomes equal to the rate of interest; and what the schedule of the marginal efficiency of capital tells us, is, not what the rate of interest is, but the point to which the output of new investment will be pushed, given the rate of interest. (Keynes 1970: 184).*

Or as put more bluntly in his post-*General Theory* article in the *Quarterly Journal of Economics* (1937a: 222-3): “instead of the marginal efficiency of capital determining the rate of interest, it is truer ... to say that it is the rate of interest which determines the marginal efficiency of capital.”

The consequence of this analysis was that the own rate of interest on money “rules the roost” (Keynes 1970: 223), ruling the level of capital gains that a particular capital asset would have to attain for its owner to stay in business or enter business in the first place. In Keynes' later writings (1973: 235; 1937b: 245) he would explicitly refer to interest as being a “monetary phenomenon” indicating that this was only a natural consequence of the analysis presented in his *General Theory*.

This revolutionary departure from the orthodox theory of interest presented in the *General Theory* made a surprisingly small impact on the economic debate following the Second World War. Especially when compared to the substantial debates following from other aspects of his *General Theory* (Preparata 2002). However, Keynes' break with the neoclassical theory of interest did not pass unnoticed in the momentous work, *History of Economic Analysis*, published by Josef Schumpeter (2006) in 1954.

According to Schumpeter, when Keynes engaged himself with the task of interpreting interest as purely a monetary phenomenon, entirely disconnected from the rate of return on real capital, he tasked himself with a theoretical endeavor which would come to nothing (Schumpeter 2006: 1084). Moreover, he would also implicitly group himself with a set of economists so little noticed that they came to be completely forgotten. Nevertheless, according to Schumpeter, one of these economists, the German, Silvio Gesell, “was however rescued from oblivion by Lord Keynes”.

In the *General Theory* Keynes attributed five pages to the work of Gesell (1970: 353-358) and calls him a, “strange unduly neglected prophet” (1970: 353). The close connection between Gesell and Keynes' theory of interest has led a number of economists to suggest that Keynes might in fact have been inspired by the work of Gesell in interpreting interest as a monetary phenomenon (Dillard 1942a, 1942b, 1946; Darity, Jr. 1995; Seccareccia 1993; Onken 2000; Preparata 2002; Ilgmann & Menner 2011; Ilgmann 2015).

Like Keynes, Gesell would reject the orthodox theories of interest prevailing during the time of his writing. He rejected the idea of interest as a result of ‘waiting’ or ‘positive time preference’ as well as the existence of a causal relationship running from the rate of return on real capital assets to the rate of interest on money. Instead, just like Keynes, he would turn the causal relationship upside down arguing that the rate of interest on money was *the* factor guiding the return on real capital assets. This meant that Gesell viewed the return on real capital as existing simply because there existed a real rate of interest on money. In his *Natural Economic Order* (1958) which was published in English in 1929<sup>4</sup>, much like Keynes would write six years later, Gesell (1958: 386) wrote, “Interest on money is not influenced by interest on so-called real capital (houses, factories) though the converse ... is true.”

As the cause of the existence of a real rate of interest on money Gesell pointed to the imperishable quality of money in relation to the perishable goods that money was created as a means of exchange for. That is, according to Gesell, while money would not lose any of its purchasing power over time due to the gold standard prevailing under the time of his writing, the very opposite is the case for the goods that producers need to sell in order for them to stay in business. This gave money, and the possessor of money, a power to only make the service of money available to the market at a certain premium which Gesell termed *urzinz* or in English ‘basic interest’. He carefully distinguished this rate from other factors contained within the money rate of interest including a premium for risk and an inflation offset for the compensation of the creditor in accordance to the expected rate of inflation during the duration of the loan.

Although agreeing with Gesell that interest should be seen as a monetary phenomenon ruling the roost and forcing upon real capital its rate of return, Keynes did not agree with Gesell that it was the imperishable quality of money which gave money its power to yield interest. Rather, as we have seen, he pointed to his concept of liquidity preference as an explanation but, as will become evident later, both theories run into major problems when confronted with the endogeneity of the money supply and the exogeneity of the rate of interest. For now we will continue our investigation by looking into the consequences that Gesell and Keynes took from their revolutionary propositions regarding the rate of interest as ruler of the roost.

### **2.3 Euthanasia of the Rentier by Monetary Means**

Inspired by the work of Proudhon, Gesell sought to explain capitalism as an economic condition in which the demand for loan money and real capital exceeded supply, consequently enabling money to yield a positive real rate of interest (Gesell 1958: 244n). As the possessors of money naturally have an interest in having their assets

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<sup>4</sup> His book was published in German as a collection of earlier writings for the first time in 1916 under the title, *Die Natürliche Wirtschaftsordnung*.

yielding high returns they would naturally maintain a scarce supply of money. Otherwise the positive yielding quality of their money-capital would quickly evaporate and not only that; the increased supply of money would soon be put to use in the creation of real capital consequently leading to, not only the real rate of interest on money to virtually disappear, but also to the return on real capital to fade. This, in short, was the analysis presented by Proudhon, Gesell and, later, Keynes who would describe Gesell's work as a type of, "anti-marxian socialism" while stating that, "the future will learn more from the spirit of Gesell than from that of Marx." (Keynes 1970: 355).

Notions like these represented the idea that the objectionable features of capitalism could be ameliorated through changing the monetary system. An idea heavily opposed by Marx (Harvey 2015: 36) and which, already in 1847, in his, *The Poverty of Philosophy* (1978), led him to direct a brutal critique on Proudhon and his *The Philosophy of Poverty* published earlier the same year. Whereas Proudhon and Gesell would explain the existence of unearned income and surplus value by referring to the existence of a rate of interest on money, Marx saw surplus value and exploitation as resulting from the private ownership of the means of production. Although acknowledging the rate of interest as being a monetary phenomenon (Fan-Hung 1939; de Brunhoff 2015: 88; Moore 1991) exacted by the 'financial capitalist' as a part of the 'active capitalists' extracted profits, his focus of revolutionary and political action maintained to be on the relations of capital ownership. The private ownership of the means of production had to be dissolved for the institution of collective ownership to reign supreme if capitalism was to be defeated. For Proudhon, Gesell, and Keynes collective ownership of the means of production in no way presented a viable solution to the ills of capitalism. Rather they saw the problems posed by capitalism as solvable through monetary and fiscal alterations.

To end the scarcity in money Proudhon put brave effort into the attempt of establishing so-called exchange banks in France. At the exchange bank producers would be able to exchange their products for universally acceptable public credit and the rate of interest offered to borrowers wishing to borrow from the exchange bank would only be high enough to cover the costs associated with running the bank (Proudhon 2007: 182). This, according to Proudhon, would remove the hindrance for genuinely free commerce and production (Proudhon 2007: 189).

The solution proposed by Gesell would fix an important issue that he pointed out in Proudhon's proposal, namely that his exchange banks did not solve the problem posed by money as a means of saving. For Gesell, in order for money to not yield a positive real rate of interest, money should only be allowed to function as a means of exchange, not as a means of saving which would cause irregular velocity of circulation, enable hoarding, and subsequent lending at a premium. Therefore, to make money perishable like goods, Gesell proposed a negative rate of interest on money-notes through stamping, and a state monopoly in the issuance of stamped money. This,

according to Gesell, would force money to circulate and strengthen the function of money as a means of exchange at the expense of its function as a means of saving. This would end the inherent scarcity in money and consequently force down the real rate of interest and eventually the profit yielding quality of real capital due to its increased supply.

In his *General Theory*, Keynes (1970: 357) would describe Gesell's idea of stamped money as "sound" and his monetary reform proposals as being, "on the right track" (1970: 234) and like Proudhon and Gesell he pointed out the profit yielding quality of real capital as owing to its scarcity:

*the only reason why an asset offers a prospect of yielding during its life services having an aggregate value greater than its initial supply price is because it is scarce; and it is kept scarce because of the competition of the rate of interest on money. (Keynes' emphasis).*

And, as noted in Nielsen (2016: 18), as Keynes rejected the interpretation of interest as a reward for abstinence he was obligated to follow the logical path of his argument:

*Interest to-day rewards no genuine sacrifice, any more than does the rent of land. The owner of capital can obtain interest because capital is scarce, just as the owner of land can obtain rent because land is scarce. But whilst there may be intrinsic reasons for the scarcity of land, there are no intrinsic reasons for the scarcity of capital. (Keynes 1970: 376)*

Another logical path of Keynes argument, however, was the fact that not only money had a liquidity premium attached to it. Therefore, he saw great practical challenges to the implementation of stamped money as the sovereign monetary unit of account in a single state. Other assets such as, "bank-money, debts at call, foreign money, jewelry, precious metals, and so forth" (Keynes 1970: 358) would simply undermine the monetary authority of stamped money and potentially take its place as the preferred means of exchange.

Instead of stamped money, Keynes (1970: 376) would propose his, "euthanasia of the rentier" and, "the euthanasia of the cumulative oppressive power of the capitalist to exploit the scarcity-value of capital" through the state taking on, "an ever greater responsibility for directly organizing investment" (Keynes 1970: 164). Government spending could then force down the scarcity-value of capital (especially in capital with a secured yield through monopoly advantages, such as infrastructure) by, exogenously, increasing its supply while the monetary authorities could reduce the rate of interest by means of monetary policy to a level capable of providing long term full employment. This, according to Keynes (1970: 221), could rid the economy of many of its objectionable features:

*If I am right in supposing it to be comparatively easy to make capital-goods so abundant that the marginal efficiency of capital is zero, this may be the most sensible way of gradually getting rid of many of the objectionable features of capitalism. For a little reflection will show that enormous social changes would result from a gradual disappearance of a rate of return on accumulated wealth.*



*A man would still be free to accumulate his earned income with a view to spending it at a later date.  
But his accumulation would not grow.*

The theory of interest presented in the *General Theory* was a clear break with the neoclassical theory owing itself, to some extent, to the writings of Gesell and maybe even, implicitly, to the work of Proudhon (Dillard 1942b). With regards to the three common elements in neoclassical theory listed above we can compare the Gesell-Keynes view as follows:

First and foremost, by seeing the money rate of interest as a phenomenon guided by his concept of liquidity preference, Keynes would reject any causal relationship running from the rate of return on capital to the rate of interest on money. Instead, he would, like Gesell, turn the causality on its head. A notion which, at the time, was seen nothing short of revolutionary and which apparently, according to Schumpeter, had to be, “rescued from oblivion”. However, in many other respects, the work of Gesell and Keynes did not present a break with neoclassical theory and to a large degree utilized the same analytical framework.

Second, although Keynes would reject the neoclassical causality in relation to the rate of interest, in the *General Theory*, he would still, like Gesell, accept the existence of an equilibrium in which the rate of interest would be equal to the marginal efficiency of capital (Moore 1991: 228). Thus, the principle of equilibrium, one of the central features of neoclassical economic theory, would be carried on into the future by the *General Theory*.

Third, in the *General Theory*, like in neoclassical theory, Keynes (170: 247) would see, “the quantity of money as determined by the action of the central bank.” Therefore, the rate of interest, although now seen as a monetary phenomenon, would still be given endogenously by the market, given the scarce supply of money, which government could then try to influence through public spending.<sup>5</sup>

It is rejected by Keynes (1970: 166-7) that the rate of interest functions as a return to saving or waiting as such as it, to him, instead is a result of the supply and demand for liquidity in relation to uncertainty. In other words, savings only derive a rate of interest if they are made available to lenders through the purchase of securities; not if they are kept in its most liquid form as hoarded cash balances and the degree of liquidity preference settles the relationship between the two. Not the degree of time-preference which Keynes called the propensity to consume.

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<sup>5</sup> As we shall see later this proposition would pose a problem for Keynes when describing the rate of interest as purely a monetary phenomenon in the light of an endogenous theory of interest.

## 2.4 After the *General Theory*

Gesell's *Natural Economic Order* and Keynes' *General Theory* was only a partial break with neoclassical theory. Their theories of money still hinged on the neoclassical principle of scarcity allowing the rate of interest to become a market-rate determined by the supply and demand for a scarce supply of money (Regarding Keynes see Parguez 2001). This led the way for John Hicks to successfully construct the so-called IS/LM model on top of the Keynesian foundation in which the supply of money is scarce and exogenously given by the monetary authorities. Thus, for the LM curve (which shows the different combinations of interest rates and income for which the supply of money is equal to the demand) the supply of money is assumed to be exogenously fixed by the central bank (Nell 2001). It thereby omits the analysis of the creation of money (Graziani 2003: 22) and the endogeneity of the supply of money which fundamentally challenges the notion of a scarce money supply. According to Goodhart (2009) a fundamental defect with the entire IS/LM framework and its assumption of an exogenously set money supply is that no central bank has ever operated that way.

After the *General Theory*, and somewhat up to this day, the most widely accepted theory of interest in monetary theory, although only rarely explicitly mentioned, tends to be the 'loanable funds theory' (Bertocco 2013). This theory, based on a neoclassical framework, states that the rate of interest, understood as the price of credit, is based on the supply and demand for loanable funds. The supply of loanable funds originates from private savings and bank credit, and is positively related to an increase in the rate of interest.

The loanable funds theory was first expounded by Wicksell and can be formalized (Blaug 1980: 652-3) as  $S + \Delta M$  being the total supply of loanable funds with  $S$  as the supply out of private savings and  $\Delta M$  as the supply of loanable funds (newly created money) through the credit creation (or destruction) by banks. The demand for loanable funds is  $H + I$  where  $I$  is the demand for investment and  $H$  the demand for loanable funds for the purpose of hoarding. Thus, the loanable funds theory prescribes price stability when the rate of interest creates the condition:

$$I = S + \Delta M - H$$

As described above, if the rate of interest is set at a level lower than the natural rate of interest general prices will tend to rise and vice versa. However, such cumulative disequilibrium condition, according to Wicksell, would only maintain itself in the short run. In the long run the money rate of interest would naturally have to converge with the natural rate based on real economic forces, thus becoming a phenomenon guided by real factors (Blaug 1980: 570). A point which, as we shall see later, is also made in modern times by mainstream monetary theoreticians and leading central banks.

The acceptance of leading central banks of the loanable funds theory and its natural partner, the natural rate of interest, which is determined by the rate of profits, thus constitutes the neoclassical idea that the rate of interest must ultimately be determined by real forces. This choice forms a fundamental break with Keynes' notion of interest as purely a monetary phenomenon as well as with his *General Theory*. A book which had as one of its prime objectives to refute the loanable funds theory of interest and reject the supposed existence of a natural rate which, in equilibrium, somehow would be capable of creating full employment (Moore 1991).

To conduct a fruitful investigation showing how the rate of interest could ultimately be interpreted as a monetary phenomenon, we need first do away with a fundamental misunderstanding which to some extent still prevails in mainstream economic textbooks. Namely the notion that the amount of money in the economy is somehow exogenously controlled by the monetary authorities. Only then a reasonable study can take place.

### **3. APPLYING THE ENDOGENEOUS THEORY OF MONEY**

#### **3.1 The Theory of Endogenous Money**

The notion of banks as creators of the money supply in the shape of credit and the significance of this fact had been mostly ignored by the classical and neoclassical economists. For Knut Wicksell though, it had been made a prime target of analysis in his *Interest and Prices* where he analyzed the dynamics which, according to him, would prevail in a pure credit economy where bank-money, in the form of bank created deposits, would rule supreme as a means of payment (Seccareccia 1993: 88-9). His work should however, be treated as an unusual curiosity of its time. The far majority of economists writing in the beginning of the 20<sup>th</sup> century had the impression of banks as intermediating already existing money from savers to borrowers when issuing loans instead of actually manufacturing new credit money when they did so. This impression which dominated at the time was described by Schumpeter (2006: 1079-80) in the following fashion including a quote from the economist Edwin Cannan:

*As the depositors remain lenders, so bankers remain middlemen who collect 'liquid capital' from innumerable small pools in order to make it available to trade. They add nothing to the existing mass of liquid means, though they make it do more work. As Professor Cannan put it in an article in *Economica* ('The Meaning of Bank Deposits') which appeared as late as January 1921: "If cloak-room attendants managed to lend out exactly three-quarters of the bags entrusted to them...we should certainly not accuse the cloak-room attendants of having 'created' the number of bags indicated by the excess of bags on deposit over bags in the cloak rooms." Such were the views of 99 out of 100 economists.*

Later, however, when the significance of banks as creators of the money supply was incorporated more widely by economists they tended to see the supply of money and bank issued credit as somehow restricted, either by a finite supply of gold, as under the gold standard, or later, simply through the policy of the monetary authorities. The dispute between these economists and the post-Keynesian horizontalists,<sup>6</sup> who emerged during the 1980's, concerned which factors would limit the volume of credit extended to borrowers by banks.

Just before the emergence of Horizontalism the factor limiting money creation by banks would often be seen as the amount of central bank reserves, or monetary base, supplied by the central bank. According to the base money multiplier model (see for example Friedman & Schwartz 1963) the reserve requirements set by the monetary authorities would constitute this limit described by Schumpeter (2006: 1086) as, “the limits set to their lending by their reserves”. As formalized by the practitioner Charles Goodhart (2009), if we take Money,  $M$ , to be the sum of deposits,  $D$ , and cash,  $C$ , then we have,  $M = D + C$ . If at the same time, we take high powered money, understood as reserves of the banking system and outstanding currency, to be  $H$ , and central bank reserves to be  $R$ , then we have,  $H = R + C$ . A formalization of the base money multiplier with the ratios,  $C/D$  indicating the confidence in the banking system, and  $R/D$  as the policy of the central bank can then be represented as follows:

$$M = H \frac{1 + C/D}{R/D + C/D}$$

According to the base money multiplier model the central bank would be able to control the money stock ( $M$ ) by adjusting the monetary base ( $H$ ) but as history would show, especially in the early 1980's, causality would run in the opposite direction so that in reality the amount of high powered money ( $H$ ) and reserves ( $R$ ) would be ruled by the amount of bank-money created by the private banking system and not by the monetary authorities (Goodhart 1989, 2009, 2010; McLeay, Radia and Thomas 2014). This was a misunderstanding which according to Goodhart (2009: 825), “has caused numerous policy errors.” Already in 1989, he had attacked the theoretical foundation of the model writing that, “the banking system has virtually *never* worked in that manner.” (Goodhart 1989: 6699).

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<sup>6</sup> Horizontalism was a term first used by the post-Keynesian economist, Basil Moore (1988: xii-xiii) who stated that, “The supply of credit money responds endogenously to changes in the demand for bank credit. The supply of credit money is governed by the amount of credit granted (financial assets purchased) by banking institutions. Modern commercial banks are price setters and quantity takers in both their retail deposit and loan markets. As a result at every moment of time the money supply function should be viewed as *horizontal*. It follows that the total quantity of money is both credit-driven and demand-determined.”

Following a period of both high inflation and high unemployment during the 1970's the Federal Reserve followed by the Bank of England and many others, engaged themselves in a monetarist experiment (the FED from 1979 to 1982) designed to limit inflation by restricting the supply of high powered base money available to banks. According to Hyman Minsky (1991) these experiments would ultimately solve the discussion of whether the supply of money should be seen as exogenous or endogenous by delivering clear evidence showing the latter to be true. First, the attempt by central banks to limit credit money creation of money by banks through limiting the supply of base money would frequently put the monetary authorities in a dilemma of having to choose between accommodating the demand of banks for base money, or witness a financial debt deflationary disaster, as described by Irving Fisher (1933) in his later work. Here, the monetary authority frequently saw itself forced to open its discount window and increase the issue of base money. Second, the monetarist experiment also showed that financial innovation of banks could change established norms of what passes for an economy's money supply, creating new portfolios capable of undermining the potency of the reserve requirements enforced by the central bank.

After having been recognized as a, "total failure" (Lavoie 2014: 218) by the central banks, the monetarist experiments were abandoned in the first half of the 1980's. From then on, central banks would regulate the price of money through altering their policy rates, and leave the supply of money to be determined by the amount of credit money issued by banks relative to demand at the given price. The fall of monetarism as a durable track for monetary policy equipped the pioneering post-Keynesians, such as Minsky, Nicholas Kaldor, and Basil Moore, arguing the endogenous nature of the money supply, with the kind of ammunition they needed to argue their case of money endogeneity.

Later, in connection to the Great Financial Crisis in 2007-8, again, when banks lacked reserves to ensure a continued functioning of the interbank markets, according to Goodhart (2009: 825), "they were automatically given it by all central banks." Further, in 2014, in the Bank of England's Quarterly Bulletin in "Money creation in the modern economy", McLeay, Radia and Thomas (2014: 2) noted that the base money multiplier model, "is not an accurate description of how money is created in reality", writing that:

*In reality, neither are reserves a binding constraint on lending, nor does the central bank fix the amount of reserves that are available. As with the relationship between deposits and loans, the relationship between reserves and loans typically operates in the reverse way to that described in some economics textbooks.*

Their paper paid reference to the work of the post-Keynesian economist, Moore (1988), and became one of the first public statements from a central bank in the 21<sup>st</sup> century to officially, and explicitly, accept the endogeneity of money and provide this much needed clarity.

### 3.2 Keynes' Liquidity Preference

As we have seen, Keynes saw interest as resulting from the supply and demand for liquidity in the face of uncertainty, and not as the supply and demand for loanable funds as with Knut Wicksell. Keynes revolutionized the theory of interest by seeing it as a monetary phenomenon like Gesell and by rejecting any causality running from the rate of profitability of the means of production to the rate of interest. There was, however, a clear shortcoming in his *General Theory*, namely that he saw the amount of money in the economy as fixed exogenously by the central bank. This led his theory of liquidity preference to become an indeterminate theory of interest (Moore 1991). As he saw the demand for money, and so the rate of interest, as determined by the level of income, the following change in the rate of interest would naturally influence the level of investment. This circular reasoning regarding changes in the rate of interest persisted because Keynes maintained the money supply as exogenously fixed by the monetary authorities. The problem becomes clear when considering his words in chapter 17 of his *General Theory*, "The Essential Properties of Interest and Money":

*The money-rate of interest, by setting the pace for all other commodity-rates of interest, holds back investment in the production of these other commodities without being capable of stimulating investment for the production of money, which by hypothesis cannot be produced. (Keynes 1970: 235)*

Had he instead incorporated the endogenous nature of money in his analysis, Keynes would be able to interpret the rate of interest as a monetary phenomenon clearly disconnected from real forces.

Interestingly enough, in his *Treatise on Money*, Keynes had in fact accepted the endogeneity of money and its logical companion, the exogenous nature of the policy rate of interest (Moore 1991). Had he instead held on to the insights presented in *Treatise*, his theory of interest presented in *General Theory* would have been capable of upholding its logical consistency. Nevertheless, as Keynes applies such impressive effort in *General Theory* and after, to establish interest as a monetary phenomenon, the logical inconsistency should not be taken as a surrender to the loanable funds approach as has indirectly been suggested by Tsiang (1980).

In sum, the spirit of Keynes' writing regarding the nature of the rate of interest leaves no doubt that, had he been forced to make a choice, he would have discarded his assumption of the exogenous supply of money to defend the notion of the marginal efficiency of capital as guided by the money rate of interest and not vice versa. Such a proposition can be argued on the basis of a memoranda to the Public Debt Committee, written by Keynes (1980: 390-2) just one year before his death, in which he stated:

*The monetary authorities can have any rate of interest they like ... Historically the authorities have always determined the rate at their own sweet will, and have been influenced almost entirely by balance of trade reasons and their own counter-liquidity preference.*

As it has been noted by Rochon (2001) this does not imply that the role of liquidity preference in the determination of the rate of interest has lost all its relevance. In fact, it can potentially play a significant role for macroeconomic development. For example, if households attain higher levels of liquidity preference in relation to a higher level of uncertainty, this means that they will tend to hold their assets in a more liquid form as money savings, instead of holding them in less liquid assets such as bonds or securities. This can influence the rate on these assets thereby influencing economic growth and employment. The point however remains that the level of liquidity preference is not the essential determinant of the rate of interest. The rate of interest is instead primarily determined exogenously by the central bank and the mark-up applied by banks when they endogenously create new money in response to creditworthy demand.

### 3.3 Wicksell's Natural Rate of Interest

Only few neoclassical economists fully understood the role of banks as manufacturers of money as opposed to just intermediators, and most of them also analyzed the economy within the assumption of exogenous money. For the continued investigation of a theory of interest in modern financialized capitalism, an overwhelming majority of these economists, therefore, can be wholly ignored. As a rare deviation from the norm, Wicksell explicitly analyzed the monetary economy assuming an endogenously determined money supply and was thereby capable of extending the notion of interest and profits as a real phenomenon into the world of modern money and banking. However, any debate concerned with Keynes and Wicksell's different understanding of the determination of the rate of interest must take an important paradox into account.

While Keynes sought to interpret interest and profits as a monetary phenomenon but had his logical consistency damaged by his acceptance of the exogenous determination of the amount of money, Wicksell interpreted, although somewhat indirectly, the rate of interest as determined by real factors while, unlike Keynes, incorporating the endogenous nature of money in his analysis. In his *Interest and Prices* published in 1898 Wicksell (1962: 110) made his position on the endogeneity of money remarkably clear writing that, "the supply of money is more and more inclined to accommodate itself to the level of demand." Additionally, he wrote:

*It is then no longer possible to refer to the supply of money as an independent magnitude, differing from the demand for money. ... No matter what amount of money may be demanded from the banks, that is the amount which they are in a position to lend (so long as the security of the borrower is adequate). The banks have merely to enter a figure in the borrower's account to represent a credit granted or a deposit created [so that] [t]he "supply of money" is thus furnished by the demand itself.*

The endogeneity of money was hardly discussed after the death of Keynes before the late 20<sup>th</sup> and beginning of the 21<sup>st</sup> century (Smithin 2016: 64). It is therefore safe to say that the writing of Wicksell was far

ahead of its time and his incorporation of the endogeneity of money makes his work highly relevant still up to this day. More importantly, however, his work made it apparent that the notion of endogenous money might well exist alongside the notion of interest and profits as real phenomena. So much so, that central banks can still work within his basic analytical framework while claiming to be fully aware of the implications of facilitating a monetary system with endogenous money.

As we have already seen, Wicksell's theory of interest had as an essential element the notion of a so-called natural rate of interest which can be understood as the average rate of profit on real capital assets. If the rate of bank lending diverged from the natural rate, this would set in motion a cumulative process of either inflation, if the rate of lending was too low, or deflation if the rate of lending was too high. The concept has been established as the theoretical foundation on which most influential western central banks conduct monetary policy (Woodford: 2003). These central banks consequently work within the theory that a natural rate of interest exists and that they should conduct their monetary policy in relation to this rate in order to maintain price stability (e.g. ECB 2004; D' Amato 2005; Barksy, Justiniano and Melosi 2014; Lubik & Matthes 2015; Constâncio 2016; Laubach & Williams 2016; Yellen 2015; 2016). As a result, the policy rate set by central banks tends to follow a set of estimations as to what the natural rate of interest might be. Independent central bank policy thus essentially consists of trying to manipulate commercial banks rates of lending to conform to the natural real rate of interest which monetary authorities today are, "obsessed with trying to estimate" (Lavoie & Seccarecia 2016: 201).

Seeing that Wicksell was one of the only neoclassical economists to fully endorse the endogeneity of money, his concept of a natural rate of interest stands out today as the only concept capable of bridging the gap between the neoclassical notion of interest as a real phenomenon and modern financialized capitalism submitted to money endogeneity. The bridge, however, is exceedingly fragile and vulnerable to attack from numerous directions.

It is important at this point to note that, according to Wicksell, there are no economic law as such capable of spontaneously aligning the money rate and the natural rate in any automatic sense. Therefore, the banking system, as a whole, can maintain any rate above or below the natural rate, for however long it wishes to do so, thereby, according to Wicksell (1962: 111), pushing the general level of prices up and down at its discretion. The gravitation process of the money rate of interest towards the natural real rate can only take place through active intervention of the monetary authorities. Therefore, the money rate of interest can only become an expression guided by real economic factors if the central bank allows it to become so. And even then, many difficulties need to be resolved.



The entire notion of a natural rate of interest is an elusive concept (Lavoie & Seccarecia 2016: 202) which cannot be directly observed (Mehrling 2011: 7) because it is nothing more than a “figment of the imagination” (Rochon & Rossi 2016: 146). Moreover, it does not allow any distinction between new real capital investment, speculative finance, and pure asset price inflation. A fundamental problem in the estimation of any type of natural rate is that credit can be used for many different purposes in a large selection of sectors yielding many different rates of return over a wide range of time horizons. This was noted by the former chairman of the British Financial Services Authority, Adair Turner (2016: 198) who noted that the return on investments is often based on expectations that, “are endogenous and self-reinforcing”. Considering the real estate sector, the source of the favorite asset of banks under financialized capitalism, Turner further wrote:

*In an advanced economy where existing real estate accounts for the majority of all assets and real estate lending the majority of all credit supply, there isn't one natural rate of interest, but instead several different and potentially unstable expected rates of return.*

The questions thus remain whether the notion of a natural rate of interest is at all a helpful tool for conducting monetary policy, if it is at all possible to estimate it in any meaningful sense, and whether the concept can actually be said to exist at all.

### **3.4 The ‘Gibson Paradox’ and the Direction of Causality**

In 1844, in his *Inquiry into the Currency Principle*, the Banking School economist, Thomas Tooke (1844), noted a peculiar positive correlation between the rate of interest and the general level of prices which ran counter to classical economic reasoning. To explain the correlation Tooke referred to pure logic arguing that rising interest rates would result in an increase of prices due to the resulting increase in financial costs. For instance, he stated that, “A low rate of interest is almost synonymous with a high price of securities; while, ... its necessary tendency is to reduce the prices of commodities by diminishing the cost of production.” (Tooke 1844: 86). The phenomenon continued to prevail into the 20<sup>th</sup> century and in 1930, in his *Treatise*, Keynes (1950) coined it the “Gibson Paradox” named after the British economist Alfred Herbert Gibson who called attention to the positive correlation in the 1920’s. In the *Treatise* Keynes noted the paradox to be “...one of the most completely established empirical facts within the whole field of quantitative economics, though theoretical economists have mostly ignored it.” (Keynes 1950: 198). To this day, the phenomenon persists and continues to puzzle economists.

The answer to the paradox provided by Tooke based on an appeal to simple logic was called out as primitive by Blaug (1980: 649) pointing to the response provided by Wicksell who was well aware of the threat which the apparent paradox posed to his theory of the natural rate of interest. According to him the paradox was

easily explained by the banks rate of lending trailing behind the increase in the rate of profits under a process of swift technological development within the process of production (Wicksell 1978: 202-8; Gootzeit 1991). Thus, in the Wicksellian sense an increase in the general prices should never be explained as a result of active choices made by banks trying to maximize interest income but rather by the passivity of banks in the process of realigning their rates of lending with rising rates of profit. According to Wicksell it is therefore, as we have seen, the job of the monetary authorities to force the market rate of lending up in order for the cumulative process to stop.

As noted by Pivetti (2001) this kind of reasoning denies any substantial power of the central bank in ruling the economic turn of events. The logical implication of this Wicksellian kind of reasoning is that the central bank can become little more than a spectator to financial development. A general rise of prices caused by the discrepancy between the two rates simply forces the monetary authority to adjust its policy rate “in sympathy with the rate of profit” (Pivetti 2001: 109; 1985: 75). Instead of being a master of the economy the central bank is turned into a servant.

The rather modest amount of quantitative research done to investigate the Gibson Paradox in further detail has been conducted in the second part of the 20<sup>th</sup> century and in the 21<sup>st</sup>. Results are not pointing in any one direction. This made some scholars argue that the paradox is still, “more puzzling than ever” (Chen & Lee 1990: 106), and that, “there is no clear agreement among researchers in regard to the phenomenon” (Ram 1987: 219). Others (Sargent 1973) have indicated that regression analysis seems incapable of providing any one-way influence between prices and the rate of interest. However, still some research has been conducted which seeks to provide some answers. Some of this research indicates that prices are governed by rates of interest (Milne & Tourous 1984), some indicates the reverse order of causation (Shiller & Siegel 1977), and some research even indicates that causation runs in different directions from case to case (Ram 1987).

In the face of this highly indeterminate situation ensuing from looking at the empirical evidence derived from quantitative analysis it becomes somewhat apparent that any assessment of the causal relationship between the rate of profits and the rate of interest must be found by looking elsewhere. As noted by Pivetti (1985: 77-8):

*It would of course be most desirable for us to be able directly to verify by experience which of the two rates should be regarded as ‘setting the pace’ in the causal relationship connecting them. Unfortunately, it is extremely difficult to establish precise causation in complicated economic phenomena like the one we are dealing with. ... We must try, then, some indirect appeal to concrete reality, and content ourselves with a judgement less ‘quantitative’ and clear-cut in character.*

By referring to the analytical work done by the strand of post-Keynesians seeking to explain interest as a monetary phenomenon, we will do exactly that in the next section, presenting the argument that interest paid to banks, “is in no way related to the productivity of the means of production”. (Graziani 2003: 150). It should

become clear that there exists a good case for describing the central bank as more than a mere servant to the economic trajectory when taking concrete experience into account. It should also become clear that the spirit of Gesell, and Keynes regarding interest as a monetary phenomenon is still relevant today when connected with the modern theoretical insight supplied by post-Keynesianism.

## **4. INTEREST AND PROFITS AS A MONETARY PHENOMENON: APPLYING A POST-KEYNESIAN PERSPECTIVE**

### **4.1 The Reef of Error: Abstinence, Scarcity and Money Exogeneity**

Before we go on to present the modern case of interpreting interest as a monetary phenomenon it is suitable for us to discuss what we can already establish as fact when the endogeneity of money is taken into consideration. As we have seen, Wicksell showed us how endogenous money did not necessarily pose any challenge to the notion of the rate of interest as guided by real phenomena. However, what the endogeneity of money *can* effectively challenge is the notion of interest as somehow related to a reward for waiting, abstinence or postponement of gratification.

Both historically and today developed financial economies, operates almost entirely on credit. In the modern economy money exists predominantly as credit money issued by banks as interest bearing debt. Money simply comes into existence through a swap of IOU's where a bank registers the IOU of a borrower as an asset and subsequently issues an IOU of the bank registered as its liability which the borrower can then spend as universally acceptable means of payment, i.e. money. It then naturally follows by the endogeneity of money that the creation of new credit money by banks in no way is associated with any kind of abstinence, waiting or postponed gratification. Such reasoning can only be validated in an economy with an exogenously determined supply of money and must generally be rejected as relevant on a systemic level when considering real world economics. That is not to say that abstinence and postponement of gratification does not exist for instance when the general public deploys liquid savings into less liquid assets. It only goes to prove that concepts such as abstinence and waiting has no relevance for an explanation of interest in the modern economy when considered on a macroeconomic level where banks function as creators of money rather than intermediaries.

Without having incorporated the endogeneity of money in their analysis Gesell and Keynes would object to the apparent scarcity of money resulting from its inelastic supply in face of increasing demand. In the case of Gesell, this was due to the gold standard which, according to him, maintained the non-depreciating scarcity value of money making it capable of extracting a premium which he called 'basic interest'. His analysis was based

on the workings of a cash economy paying less attention to the role of credit, making it further incompatible with the workings of a modern economy. In the case of Keynes, the scarcity value of money arose due to uncertainty leading to liquidity preference, in turn leading to 'pure interest' which created a positive marginal efficiency of capital. Thus, we have to consider the fact that not only the majority of the neoclassical economists suffered from a wrong understanding of money but also Gesell and Keynes who, within the framework of exogenous money, tried to interpret interest as a monetary phenomenon. How precisely their analysis would look, had they incorporated the endogeneity of money, we can only speculate. However, as will be argued below, the case of explaining interest as a monetary phenomenon is hardly weakened when considered in relation to modern money and banking.

#### **4.2 A Post-Keynesian Challenge to the Natural Rate of Interest**

The monetary system is a tremendously hierarchical structure with many types of financial assets, each of them with varying degrees of liquidity. In the top of the hierarchy is the central bank which has the power to issue base money, the most liquid asset of all. Commercial banks need access to the high powered base money (M0) issued by the central bank in order to enjoy secure clearing relations with other banks, and are forced to pay (whether positive or negative) the rate demanded by the central bank on this most liquid type of financial asset. This sets a floor rate of reference for all other types of financial assets in relation to their declining degrees of liquidity. If the theory of the natural rate of interest is true, central banks would have little or no influence, at least in the long run, over the level and term structure of interest rates (Smithin 2003: 108; Lavoie 2014: 190). If the policy rate of the central bank generates a money rate below (above) the natural rate, general prices would rise (fall) and this cumulative process would continue and eventually force the monetary authorities to realign the two rates by readjusting its policy rate. As already mentioned this means that the central bank keeps no substantial power over economic development and is forced to adjust its rate in sympathy with the average rate of profits. However, actual experience shows us that independent central banks seems to do have powers making them capable of exogenously setting the rate of interest independently from the average rate of profit.<sup>7</sup>

Making this argument, Pivetti (1991: 10-15) points to the Radcliffe Report published in 1959 as a thorough manual on the workings on the UK monetary system and the Bank of England. Here it was argued that the size of government debt had become so great, in relation to the financial assets of the private sector, that it was impossible for the monetary authorities to allow the rate of interest on the government debt to become

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<sup>7</sup> The power of a single central bank to set the rate of interest at its desired level is often restricted by some upper and lower bounds that will be briefly discussed later, however, at this point the argument to consider is that it is not any natural rate that sets these bounds.

determined by market forces. From 1932 to 1951 Great Britain applied a 'cheap-money policy' with the aim of reducing the interest burden on the national budget and later with the aim of lowering the cost of the Labour governments nationalization program, and coming as near as possible, "to a state of 'euthanasia of the rentier'" (Pivetti 1991: 13). For the first time in history a government and its central bank explicitly followed a policy of low interest rates (Tily 2007: 34). No notion of any natural rate ever played any role in conducting these policies and growth and employment performances were outstanding (Tily 2007: 34).

Pivetti (1991: 16-17) also notes that the neoclassical view, that monetary policy cannot persistently affect real interest rates, was far from the dominant academic view several years after the end of the second world war. Instead, it was generally in wide agreement that the monetary authorities could bring interest rates to their desired level and keep them there. Although external constraints on this ability might appear, this constraint was only very rarely seen as some natural rate of interest showing itself through cumulatively diverging price levels.

With regards to the autonomy of the central bank in setting its desired rate of interest the Radcliffe Report was also seen by Colin Rogers as interesting source material. In particular, Rogers (1991: 253) notes the lack of any relevance (or even mention) given to the notion of the natural rate of interest in the report. Accordingly, he notes that the report sees, "the structure of interest rates ... to be a matter of convention subject to the objectives of monetary policy."

Another economist presenting evidence for the power of the central bank to exogenously determine the direction of interest rate policy without taking into account any natural rate, was Basil Moore. Among other things, Moore (1988: 278-9) noted that, "central banks invariably maintain low interest rates during wartime" and that, "in many developing countries *ex post* real interest rates have been maintained at negative levels for decades." Moreover, looking at the historical data Moore (1988: 281) argues that:

*The Federal Reserve is directly responsible for all variations in short-term nominal rates experienced since 1914. The negative real rates in the 1910s, 1940s, and 1970s, as well as the sharply higher real rates ruling in the United States (and in many other countries) in the 1980s, are all directly due to Federal Reserve policy.*

For Moore (1988: 286) the evidence leaves no doubt: "The nominal market rate of interest 'rules the roost' and sets the standard to which the nominal marginal efficiencies of all other assets must adjust." To him the nominal long-term rates is simply dependent on the expectations of the financial markets to what the central banks future short-term rate is set to be.

Another fundamental problem with the Wicksellian notion of a natural rate of interest is that it is understood as the rate of interest which would arise, "if real capital goods were lent in kind without the intervention of money." (Wicksell 1962: xxv). As such, it can simply be described as, "the rate of interest that

would exist if there were no money.” (Lavoie 2014: 189). As noted by Blaug (1980: 650) such a concept is confusing because there would be no single rate of interest based on any common denominator. In such an economy, there would simply be as many own-rates of interest in existence as types of goods.

According to Smithin (2003: 109) the concept of a natural rate ignores, “the actual historical evolution of capitalism and the market system, or of the internal logic of that system”. He points to the impossibility of some imagined barter-rate such as Wicksell’s natural rate as having any practical relevance in a highly complex financial environment. He argues that in such an economy causality is much more likely to run from the complex of interest rates to real economic activity and not vice versa. Hence, his claim is also, “that the institution or agency that controls the supply of the ‘most acceptable’ monetary asset also controls the basic structure of interest rates.” (Smithin 2003: 127).

The concept of a natural rate is problematic, not just because there are no examples of a barter economy to have ever existed in the first 5000 years of known human civilization (see Graeber 2014), but also, because it implies neutrality of money. It thereby assumes that the vast hierarchical superstructure of monopoly accesses to diverse markets for liquidity that constitutes the financial system, has no influence on relative monetary price relations evolving over time. In a highly financialized economy with such a hierarchical setup it should be seen as untenable to view money as neutral and interpret the rate of interest as governed by some statistical average of the rate of return on all the goods and assets in the real economy. As noted by Minsky (2008: 159-60):

*we cannot understand how our economy works by first solving allocation problems and then adding financing relations; in a capitalist economy resource allocation and price determination are integrated with the financing of outputs, positions in capital assets, and the validating liabilities. This means that nominal values (money prices) matter: money is not neutral.*

Our only modern statistically quantifiable experience of setting prices naturally comes from making transactions within the confines of markets where the interest-bearing credit money provided by a banking system is the dominant means of payment. What the theory of neutral money, which is a carrying pillar for the entire notion of a natural rate, tells us to do, is to forget this experience and, furthermore, ignore any significance that the privileged position of the monetary authorities and the banking system might enjoy in the process of setting the price of credit. According to Rogers (1991: 253) the idea that anything but a *laissez-faire* interest policy would produce inflationary or deflationary pressures is unjustifiable:

*From the perspective of Monetary Analysis, ... there is no such thing as the natural rate of interest and its associated pure market forces. Markets are man-made, as are the institutions and rules under which they operate. The structure of interest rates which results in a particular economy is then not something that can be given a purely theoretical explanation in terms of classical or neoclassical theory - rather the interest rate reflects psychological, institutional and other historical factors which cannot be specified a priori.*

When taking the above considerations into account a much more logical explanation of the Gibson Paradox appears. An explanation allowing us to fully comprehend Piero Sraffa's famous sentence arguing that the rate of profit is, "susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest." (Sraffa 1963: 39).

As we have seen Wicksell would explain the Gibson Paradox, not as resulting from rising costs of finance, but resulting from a process in which the average rate of profit rose faster than the money rate. This is the kind of reasoning anyone adhering to a real theory of interest and profits must accept in order to maintain logical consistency in their argument faced with the Gibson Paradox. However, as noted by Pivetti (1991: 101-2) this leaves no room for the aspect accepted even by classical economists, that, "[t]he rate of interest, though ultimately and permanently governed by the rate of profit, is however subject to temporary variations from other causes." (Ricardo 1982: 297). When these causes other than the rate of profit would set in, one would expect that the inverse relationship between prices and the money rate of interest would show itself. However, history shows that such inverse relationship between prices and the money rate of interest almost never occur. After all, this is exactly why the Gibson Paradox is called a paradox in the first place; the tendency of increasing rates of interest and prices at the *same* time, runs counter to classical and neoclassical intuition regarding the nature of interest.

It seems, then, that the believer in a natural rate of interest is forced to deny any ability of the monetary authority to set a policy rate which creates a divergence from the natural rate. However, given what we have already learnt about the power of central banks this must be seen as an unsustainable proposition. Not least when considering the many deviating estimates and methodologies at play in the determination of this highly allusive concept.

From our enquiry, it should become clear that a more likely explanation of the Gibson Paradox is the "primitive" one suggested more than 1½ centuries ago by Tooke. Rising (falling) prices are much more likely to result from a lasting rise (fall) in the money rate of interest due to increased financial costs of production, than from the passivity of banks and the monetary authority in the process of aligning rates with the natural rate. The rate of interest "rules the roost".

If the arguments making up the foundation of the theory of a natural rate of interest breaks down the floodgates allowing us to interpret the rate of interest and profits as purely a monetary phenomenon are opened. Based on the insights from concrete reality and actual experience as presented above, in what follows, we will assume this opening to have taken place.

### 4.3 A Monetary Theory of Interest

In the following we will state a simple theory of interest capable of explaining the phenomenon without the support of a natural rate, and discuss some implications of this theory. Making our point of departure clear from the outset we shall agree with the post-Keynesians that interest rates, “cannot be defined in neoclassical Wicksellian terms by the gravitation of the effective rate around its real, natural value.” (Parguez 2001: 88). Instead of recognizing the neutrality of money we will point to the political agenda of the central bank and the profit motive of the banking system in our explanation.

Before presenting this new perspective, we will quickly present the two components making up the money rate of interest in order to explain its fundamental structure. The first component is the policy rate determined exogenously by the monetary authorities either through adjusting its rate paid on banks reserves held on accounts at the central bank, or by anchoring the rate of interest paid on government bonds at its desired level. The second component is the mark-up applied by banks on the basis of the policy rate. This rate will have to include salaries, interest income paid to depositors of liquid assets, the rate of desired profits determined by the will of investors in relation to market conditions, and finally, a premium for risk and an inflation offset. Thus, we can determine the loan rate of interest offered to businesses and the general public,  $i_l$ , as:

$$i_l = [1 + m_k(\varepsilon)] \text{costs} + \pi_e$$

Where *costs* represents salaries and deposit and reserve expenditures<sup>8</sup> and,  $m_k$  the desired level of profits reflecting the Kaleckian degree of monopoly.<sup>9</sup>  $\varepsilon$  is the risk premium which varies to a great extent according to the economic activity financed,<sup>10</sup> and  $\pi_e$  denotes an inflation offset reflecting the expected rate of inflation over the duration of the loan. The rate of interest is thus exogenously determined by the policy rate set by the monetary authorities on top of which banks add their mark-up.

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<sup>8</sup> It should be noted that the central banks of Japan, Switzerland, Denmark, Sweden and the Eurozone are running negative rates on reserve deposits held by banks. This means that the banking systems in these countries, as a whole, is forced to pay a negative rate of interest on some amount of the high powered base money held on accounts with the central banks.

<sup>9</sup> In the price fixing of a given firm Kalecki (1969: 12-15) assumed supply elasticity and prime costs as stable over the relevant range of output. He would then define prices,  $p$ , as,  $p = mu + n\bar{p}$ , where  $u$  are the unit prime cost and,  $\bar{p}$  represents a weighted average price of all firms and both  $m$  and  $n$  are positive coefficients reflecting the price-fixing policy of the firm and what Kalecki calls the degree of monopoly of the firm's position. Thus, the higher  $\frac{m}{1-n}$  the higher the Kaleckian degree of monopoly.

<sup>10</sup> When speaking of *the* loan rate of interest we are referring to the theoretical average rate which would be offered to the most creditworthy firms using the generally accessible and dominating types of means of production. In a normal economy,  $\varepsilon$  will vary aggressively according to the activity financed. While the rate of interest paid on mortgages and bonds of international companies normally tends to be quite low, the rate paid by, for instance, small and medium sized businesses or the agricultural sector normally tends to be significantly higher.



In capitalism, any private enterprise wishing to grow or simply stay in business needs to make a profit. This is especially the case for large stock companies with investors always pushing the yielding capacity of their investment in accordance to some pre-determined time horizon and is not least the case for the group of private corporations, called banks, granted the privilege to issue free debts on themselves by extending their balance sheets in response to the demand for money. In some simplified notion, interest to banks can therefore be said to be paid because of banks obligation to generate profits and this must become a central aspect in any theory seeking to define any general term for a monetary theory of interest. Thus, we shall come to a theory of interest that first views access to credit and money as a key factor and secondly acknowledges the privileged position of banks as creators of credit and money allowing them to take hold of a share of total product (Graziani 2003: 150).

We may now spell out the monetary theory of interest as follows: With respect to its policy objectives and possible constraints, the central bank exogenously sets the rate of interest at its desired level. By controlling both the policy rate and the rate on its issued bonds the central bank controls the whole structure of interest rates in a perfectly exogenous fashion. Given the desired rate of profits and the expenditures of the private banking system, constituting the mark-up, the monetary authorities thus guide the general level of the rate of interest.

It is important to note that a monetary theory of interest does not imply total freedom of the monetary authorities in any one country in choosing its desired rate of interest. Such a possibility is rarely an option for any single, or group of, central banks, due to a long list of potential constraints, any thorough presentation of which is beyond the scope of this paper. Such constraints are most likely issue to the concrete historical features and unique financial characteristics in a given country. However, as obvious examples, are countries submitted to currency unions or countries running a fixed exchange rate policy. Concerning the latter example the ability to exogenously determine the rate of interest is only true in a control sense while untrue in a theoretical sense. Moreover, as noted by Pivetti (1991: 14), the level of the money rate of interest in any one country will always be under influence from the rest of the world, “[l]ow rates of interest, for example, simply cannot be a long-term phenomenon in a relatively small and internationally integrated economy unless low interest rates prevail and continue to prevail in the rest of the world.”

The existence of constraints in the ability of the monetary authorities in any one country to set its policy rate at its exact desired level, of course, does not pose any threat to the monetary theory of interest. As long as these constraints have a variety of causes distinct from any real causes such as the average rate of profits, it may only strengthen the proposition that interest exists as a purely monetary phenomenon. Furthermore, knowing that the nature of the constraints of any one country associated with running a cheap money policy most often have to do with issues of international synchronization, we are simultaneously bound to acknowledge the

potential power of global monetary coordination. If by some means the global monetary powers should come to the agreement of aiming at a policy of cheap money the monetary theory of interest tells us that nothing within the confines of economic theory, including the notion of a natural rate of interest, is stopping these powers in achieving their aim.<sup>11</sup>

#### 4.4 A “New” Perspective

If we accept interest as purely a monetary phenomenon decoupled from any concept implying the existence of some natural rate, we also have to accept the view of profits as a monetary phenomenon. With a monetary theory of interest the positive yielding quality of real capital becomes a quality forced upon it by the policy of the monetary authorities and the fact that rational banks, acting within the confines of financialized capitalism, only permits credit to enter circulation at a certain premium called interest.

However, the somewhat contra intuitive task of coming to terms with the notion of interest as a monetary phenomenon quickly fades compared to task of coming to terms with profits as a monetary phenomenon as well.

While this way of looking at profits, or the marginal efficiency of capital, must be considered a central aspect of the so-called Keynesian revolution, for some reason, the serious implications for the neoclassical theory of interest hidden in *The General Theory* was ignored as nothing but an insignificant curiosity. Maybe Keynes did not make the case clear enough or maybe his omission of the endogeneity of money moved the focus of the theoretical debate to other parts of his work. Nonetheless, clarity in explaining the theoretical implications of interpreting the positive yielding quality of real capital as a monetary phenomenon was no issue for the heretic who must have inspired Keynes in his view on interest. As opposed to Keynes’ writing, Silvio Gesell’s otherwise scientifically written book, *The Natural Economic Order*, contained, “a more passionate, a more emotional devotion to social justice than some think decent in a scientist” (Keynes 1970: 355). Accordingly, he made the proposition of profits as a monetary phenomenon remarkably clear:

*“The statement sounds monstrous, and one must be very sure of one’s reasoning to make it, that the houses, factories, ships, railways, theatres and power-stations, in short, the whole dark and mighty ocean that one can overlook, say, from Kreuzberg in Berlin, is capital, and must necessarily be capital, only because money is capital. Is it possible that this mighty ocean of capital, at least 100 times as great as money-capital, yields interest only because money yields interest? The statement sounds improbable.”* (Gesell 1958: 391).

Though sounding improbable it was exactly the statement made by Gesell and Keynes. Although writing within a flawed financial frame of reference they understood that to fully comprehend surplus value, unearned income,

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<sup>11</sup> See Rochon and Setterfield (2008) for a review of three post-Keynesian policy rate proposals which can all, more or less, be described as cheap money proposals.

and “the objectionable features of capitalism” one must comprehend money and that to change these things, one must change money. The modern post-Keynesian critique of mainstream economics shows us that their view on profits can still be considered relevant in the 21<sup>st</sup> century.

If the monetary theory of interest tells us that profits must be deemed a monetary phenomenon this must also result in a new way of looking at income distribution. If it, contrary to the consensus view, is true that a rise in the level of the rate of interest results in higher prices simply through the resulting increase in financial costs, this will have a polarizing effect on the distribution of income. The increasing level of profits forced upon firms by their increasing interest expenditures to banks means that a greater share of total product will flow to the banks. Although this might not have any effect on nominal wages paid to workers, it is bound to have real wage effects. An increase in the rate of interest makes a larger part of total product pass towards salaries and dividends paid out by banks to its employees and investors. Thus, *ceteris paribus* any rate of inflation (or asset price inflation) caused in this process will lead to a decreasing real wage for anyone not working for, or investing in, the banking system. A new perspective on inequality provided by a monetary theory of distribution thus seems to have gained some potential.

## 5. CONCLUSION

Classical and neoclassical economists developed many theories to answer the question, why one pays interest, but one thing on which almost all of them agreed was that interest should be viewed as a real phenomenon.

However, in the history of economic thought there existed economists with dissenting views such as Proudhon, Gesell and Keynes who, opposed to the neoclassicals, interpreted interest as a monetary phenomenon. Following the logical path of the monetary view of interest this meant that these economists also came to see profits as a monetary phenomenon; a view which qualified these economists’ theory of interest to be viewed as a heretical break with the neoclassical consensus.

Although most neoclassical economists, including the heretics who worked within a partial neoclassical framework, had profound theories of interest and gave prime importance to their theoretical expositions of this economic phenomenon, they seemed less alert to the actual functions of money and banking. By viewing the amount of money in the economy as a variable exogenously determined by the monetary authorities, most of them ended up running full sail upon a reef of error leaving most historical theories of interest to achieve only partial relevance in a modern economic setup. Except for the theory of Wicksell and his concept of the natural rate of interest. In his analysis, in *Interest and Prices*, he was insightful enough to incorporate an endogenous theory of money and this made it possible, up till this day, for leading central banks to utilize what is essentially

Wicksell's theory of interest. The theory rests on what is basically a view of interest as a real phenomenon, and represents the last ditch of defense for anyone seeking to explain the rate of interest as guided by real factors.

In contemporary economic thought, it is mainly economists considering themselves as belonging to the post-Keynesian school of economics who argue that interest and profits should be viewed as a monetary phenomenon. A way in which they naturally do so is by fundamentally criticizing, or outright rejecting the existence of, any natural rate of interest. By referring to lessons from actual experience, and simple theoretical reasoning, Pivetti, Moore, Smithin, and Rogers, supported by other post-Keynesians, stages a significant challenge. It provides a theoretical outline, on the basis of which, we can reject the idea that an independent central bank is incapable of influencing long-run economic development; it allows us to disregard any Wicksellian notion of money neutrality as a realistic proposition in the vast hierarchical monetary superstructure that prevails in modern financialized capitalism; and finally, it provides a much more consistent and logical explanation of the so-called Gibson Paradox.

If such a post-Keynesian challenge is taken serious it logically leads the way for a monetary theory of interest. Such a theory must consider the ability of the monetary authorities to exogenously set its policy rate at its desired level without necessarily setting into motion any Wicksellian style cumulative process. It also must take into consideration the profit motive of the banking system, as an autonomous factor, when answering the question, why one pays interest.

If such a monetary theory of interest is correct, and interest thus in fact should be interpreted as purely a monetary phenomenon, this has some rather grave implications for economic theory. First, it asserts that if the global monetary authorities should come to an agreement of collectively aiming for a cheap-money policy, nothing in economic theory is keeping these global forces of achieving this aim. Second, it implies that not just interest, but also profits, must be understood as a phenomenon guided by monetary forces rather than real ones. Accordingly, even though the theoretical foundation in the view of Gesell and Keynes rested on the assumption of exogenous money, their "monstrous" theory of profits generally holds true to this day. Third, because interest rules profit, the monetary theory of interest (and profits) also affects inequality and income distribution in a fundamental manner by directly influencing the level of real wages. Hence, a monetary theory of distribution seems to have gained potential.

In this paper, we have shown how interest can be interpreted as a monetary phenomenon and how central banks can conduct monetary policy without taking into consideration the notion of any natural rate of interest. However, we have only touched upon parts of the thinking necessary to achieve the euthanasia of the rentier as defined by Keynes. As we know, post-crisis financialized capitalism already operates at ultra-low policy rates of interest, and this has not led to a lowering of the debt-service-ratios in developed countries (Bank for

International Settlements 2017: 276-279). As has been noted by other economists (Mehrling 2011: 110-1; Turner 2016: 175-178; Ryan-Collins, Greenham, Werner and Jackson 2015: 142; Ryan-Collins, Lloyd and Macfarlane 2017) central banks cannot simply secure stability and avoid speculative boom and busts just by adjusting its policy rate. It must take speculation in already existing assets into account, in particular, the land monopoly and the way in which rent naturally attracts rentier activity and speculation.

While a 3 to 4% deep negative policy rate of interest might very well be possible (see Nielsen 2016) and might constitute sound monetary policy in the long-run, capable of reducing the loan rate of interest to nearly 0%, such policy would, at best, be counterproductive if not followed by tax reforms specifically targeting rent from land value- and natural resources.

Although much can, and should, be done by monetary means, any policy seeking to overthrow rentier capitalism, instability, and speculation in rent and asset prices must include taxing reform as one of its measures, and maybe even a banking reform which breaks the link between the endogenous money creation by banks and the monopoly rent provided by land ownership. If such reforms could ever be achieved the monetary authorities might very well have gotten significantly closer to the instruments with which they are able to set the pace of capitalism.

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