

Keynes and Hayek: some common elements in business cycle theory

*Keynes e Hayek: alguns elementos comuns na
teoria do ciclo de negócios*

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RESUMO: Keynes e Hayek são geralmente vistos na história do pensamento econômico como rivais intelectuais. Embora seja verdade que, em termos de recomendações de políticas, elas nem sempre concordam, há vários elementos teóricos que os dois economistas tendem a compartilhar. Isso é especialmente verdadeiro se seguirmos Axel Leijonhufvud (1976) ao considerar que o trabalho teórico fundamental de Keynes é o *Tratado* e não a *Teoria Geral*. No início dos anos 1930, seguindo os trabalhos de Wicksell (1989), ambos explicaram os ciclos de negócios como causados por uma discrepância entre poupança e investimento. Eles consideraram que na economia moderna a taxa de juros não pode ajustar rapidamente essas duas magnitudes. Até certo ponto, Keynes e Hayek chegaram a concordar com a sequência dinâmica de preços em uma depressão “normal”. Quando a *Teoria Geral* foi publicada, a preferência pela liquidez obscureceu a maioria das semelhanças entre os dois economistas. Embora Hayek tenha introduzido a preferência pela liquidez como um atrito de curto prazo em sua *Teoria Pura do Capital* de 1941, ele não podia aceitá-la como um determinante fundamental da taxa de juros. No entanto, na década de 1970, Hayek começou a acreditar que as crises “normais” de Hayek poderiam degenerar ainda mais em depressões keynesianas. Ao focar no desenvolvimento teórico de Keynes antes da elaboração da *Teoria Geral* em paralelo com a evolução de Hayek ao longo de sua vida, argumentamos que uma leitura seletiva de suas obras poderia levar a um modelo teórico em que os cenários keynesiano e hayekiano são casos específicos de uma teoria geral.

PALAVRAS-CHAVE: J. M. Keynes; F. A. Hayek; a conexão Wicksell; taxa de juros de mercado; expectativas; teoria do ciclo econômico; preferência pela liquidez; teoria do desequilíbrio.

ABSTRACT: Keynes and Hayek are usually perceived in the history of economic thought as intellectual rivals. Although it is true that in terms of policy recommendations, they have not always seen eye to eye, there are numerous theoretical elements that the two economists tend to share. This is especially true if one follows Axel Leijonhufvud (1976) in considering

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that Keynes's fundamental theoretical work is the *Treatise* and not the *General Theory*. In the early 1930s, following the works of Wicksell (1989), both explained business cycles as caused by a discrepancy between savings and investment. They considered that in the modern economy the interest rate cannot speedily adjust these two magnitudes. To a certain extent, Keynes and Hayek even agreed on the dynamic sequence of prices in a "normal" depression. By the time the *General Theory* came out, liquidity preference obscured most of the commonalities between the two economists. Although Hayek introduced liquidity preference as a short run friction in his 1941 *Pure Theory of Capital*, he could not accept it as a fundamental determinant of the interest rate. However, in the 1970s Hayek began to believe that "normal" Hayekian crises could further degenerate into Keynesian depressions. By focusing on Keynes's theoretical development prior to the elaboration of the *General Theory* in parallel with Hayek's evolution throughout his life, we argue that a selective reading of their works could lead to a theoretical model in which Keynesian and Hayekian scenarios are specific cases of a more general theory.

KEYWORDS: J. M. Keynes; F. A. Hayek; the Wicksell connection; market interest rate; expectations; economic cycle theory; liquidity preference; disequilibrium theory.

JEL Classification: B13; B22; E12; E20; E32; E43.

INTRODUCTION

In recent years the debate between Keynes and Hayek has resurfaced in light of the economic crisis. The academic attention is indeed well deserved, because, as Robert Skidelsky (2010) said in his speech, "*these traditions are the only ones who have anything really interesting to say about the causes of the recent recession*". However, it may be the case that the two schools of thought were antagonized more than it was necessary in certain respects¹. The reasons for this *status quo* are many and somewhat ambiguous. First, the dialogues between Keynes and Hayek themselves could hardly be considered constructive (Backhouse, 2002; Caldwell, 2011)². Secondly, it is of course trivial to point out that the two economists were completely at odds when it came to public policy suggestions. But this does not explain why their subsequent economic theories, which are more or less pieces of abstract thought, should also be considered completely antithetical. In the realm of business cycle explanations, there are surprising similarities in their line of argumentation.

It is also true that the Keynesian revolution shortly ended with the development of the IS-LM Hicks-Hansen approach and that, as Laidler (1999, p. 49) points out "It would be difficult, in the whole history of economic thought, to find coexisting two bodies of doctrine which so grossly contradict each other". But there are nu-

¹ I have also possibly myself contributed to this antagonization in some of my works such as Pătruț (2018).

² Backhouse (2002, p. 224) for example claims that Keynes and Hayek "completely failed to understand each other in what was a heated dispute".

merous critics who argue that the IS-LM is an economic textbook abstraction which may have little to do with Keynes himself (Leijonhufvud, 1979; Backhouse, 2002; Skidelsky, 2009).³ Usually we are cautiously advised not to push any parallel between Keynes and the Austrians too hard in the realm of cycle theory (Laidler, 1999, p. 329). Neither school of thought appears to wish any such association.

However, we argue that an unorthodox interpretation of Keynes such as that followed by Leijonhufvud (1976, 1979) offers us just such an occasion⁴. The aim of the present paper is to highlight the common theoretical elements used by the two economists in the field of business cycle theory. In order to accomplish this task, we will particularly focus on the economic thought of Keynes prior to the development of the *General Theory* and consider the *Treatise on Money* to be his fundamental theoretical book.

Given the fact that both authors had significant shifts in opinion during their lifespan, we choose to split the discussion in two periods. The first reading will include the initial version of the theories, as they were presented in the early 1930s. The second reading will contain Keynes's innovations brought by the *General Theory* and an attempted reconstruction of Hayek's opinions from later periods of his life.

Although liquidity preference as the fundamental determinant of the interest rate would probably obscure any similarity between the two, there are enough common elements to suggest a unified theory in which both the Keynesian and the Hayekian scenarios are special cases of the same theory.

1. COMMON THEORETICAL ELEMENTS BETWEEN KEYNES AND HAYEK IN THE EARLY 1930S

The similarities of the theoretical development between Keynes and Hayek in the 1920s were remarkable. Both economists were attracted by monetary theory. Both were dissatisfied with the current state of the quantity theory of money, which they perceived to be static (Nentjes, 1988). It correctly explained the differences between the two points of equilibrium, but it gave absolutely no information on how exactly the market would get there. They wanted to create a disequilibrium theory which would explain the sequence of modifications in relative prices, which were most of the times obscured by general trends in the price level. Their studies in monetary disequilibrium would turn into business cycle theories in the 1930s.

One could say that the 1930s was “the most exciting period in the development

³ Axel Leijonhufvud's (1976) book *On Keynesian Economics and the Economics of Keynes* is one of the most elaborate works in this sense.

⁴ We are aware of the fact that Leijonhufvud's interpretation is considered controversial by other historians. Blaug (1985, pp. 668-671) for example claims that Leijonhufvud is not justified in reading these ideas in Keynes. For him, the *General Theory* is just an “untidy book” with a central message and a lot of “noise”.

of economic theory” (Caldwell 1995, p. 49). In 1931 Hayek found a job at the LSE with the help of Lionel Robbins and moved to London. At that point Keynes already published his economics book *A Treatise on Money* and was already a celebrity in England and most of Western Europe. Hayek naturally clashed with the British economist on issues concerning the business cycle. They entered into a scientific dialog which was generally considered to be of a not so constructive character (Caldwell, 2011). There is some consensus in the history of economic thought that the two economists did not understand each other and that their quarrel did not bring any essential contributions to the general body of economic principles (Backhouse, 2002).

However, the similarities between the two in the early 1930s were fairly obvious. They both used a Wicksellian approach to explain fluctuations as a consequence of discrepancy between savings and investment. They both lacked automatic equilibrating mechanisms in their models to speedily adjust the two magnitudes. Finally, they both agreed that relative prices are relevant, and that they follow a specific transition in a typical crisis.⁵ In the following sections I will briefly analyze each of these claims.

1.1 The Wicksell Connection: A Disequilibrium between Savings and Investment

As mentioned before, the early 1930s found the two economists trying to figure out a solution to the same problem. They agreed that equilibrium in the real economy required equilibrium in the financial market as well. However, the imperfect workings of the interest rate in a monetary economy could frustrate this otherwise efficient self-regulating mechanism. As Nentjes (1988, p. 141) points out “the theories of Hayek and Keynes both contained an analysis of market failure – prices in financial markets disseminate the wrong information about true capital scarcity”.

The idea that saving and investment could diverge, leading to (real) fluctuations in industrial output was a common theme in the 1930s. Basically all the major economic schools of economic thought in the inter-war period, be them Austrian, Keynesian or Swedish (Stockholm School), drew on this common Wicksellian heritage (Leijonhufvud, 1979).

The Swedish economist Knut Wicksell (1989) was the originator of the idea that if the market rate of interest diverges from its “natural” level, saving and investment could temporarily be out of balance leading to a cumulative process of adjustment. In his 1931 *Prices and Production* Hayek presents the case when investment expands

⁵ We have deliberately left out another relatively well-known similarity between the two authors, which is their position regarding the economic method (Carabelli & De Vecchi, 2001; Skidelsky, 2006). Both believed that the positivist approach which dominated the 20th century was untenable and that economics needed to employ its own methods, which should be considerably different from the ones used by the physical sciences. Although this is indeed an extremely interesting discussion, it is carried out in terms of philosophical arguments and our main goal is to show that the Keynes and Hayek also agree on numerous elements of economic theory.

beyond (real) savings due to the influence of the banking system. In *A Treatise on Money* (1930) Keynes focuses on a case where investment decreases below savings because bearish speculators resist the interest rate adjustment. They are both variations of the same Wicksellian theme (Leijonhufvud, 1979).

It is even more interesting that they were also (partially) aware of this, which made them leave short comments on the issue. Keynes (1930, p. 178), for example, added the following passage in *A Treatise on Money*:

More recently a school of thought has been developing in Germany and Austria under the influence of these ideas, which one might call the neo-Wicksell school, whose theory of bank rate in relation to the equilibrium of savings and investment, and the importance of the latter to the credit cycle, is fairly close to the theory of this treatise. I would mention particularly Ludwig Mises's *Geldwertstabilisierung und Konjunkturpolitik* (1928), Hans Neisser, *Der Tauschwert des Geldes* (1928), and Friedrich Hayek, *Geldtheorie und Konjunkturtheorie* (1929).

Hayek also acknowledged that there were similarities between Keynes's theory and his own. In spite of numerous disagreements raised in his critique on the *Treatise*, Hayek (2008, p. 445) explicitly stated that: "It is even possible that in the end it will turn out that there exists less difference between Mr. Keynes's views and my own than I am at present inclined to assume". However, none of the authors made further steps in order to pinpoint the exact similarities. While Keynes made a short comment on the fact that he cannot read (well) in German⁶, Hayek left the reader in suspense regarding where exactly would their theories converge.

It is actually surprising exactly how close the two came to the same solution. The *intermediary* cause, so to put it, was identical in both models. The only problem was that the two economists had different views on what actually generated the disequilibrium.

Keynes (1930, p. 271) argued that there could be a multitude of factors, both *monetary* and *nonmonetary*:

Something happens—of a non-monetary character—to increase the attractions of investment. It may be a new invention, or the development of a new country, or a war, or a return of 'business confidence' as the result of many small influences tending the same way. Or the thing may start—which is more likely if it is a monetary cause which is playing

⁶ The passage is so highly cited and well known, that it seems almost trivial to mention it again (Keynes, 1930, p. 178): I should have made more references to the work of these writers if their books, which have only come into my hands as these pages are being passed through the press, had appeared when my own thought was at an earlier stage of development, and if my knowledge of the German language was not so poor (in German I can only clearly understand what I know already!—so that new ideas are apt to be veiled from me by the difficulties of language).

the chief part—with a stock exchange boom, beginning with speculation in natural resources or de facto monopolies, but eventually affecting by sympathy the price of new capital goods.

While he mentions the most diverse causes, among which one can count *speculation*, *new inventions*, newly discovered *resources* or *techniques* or even *wars*, Keynes considered an artificial increase in credit a possible but extremely unlikely origin for an economic boom. This appears somewhat strange to the reader, because the British economist admits that if banks were to equilibrate savings and investment, no cycle would ever occur. However, he considered that the banks are unwilling or otherwise incapable of fulfilling such a purpose (Keynes, 1930, pp. 261-262):

All this presumes of course that the banking system has been behaving according to the principles which have in fact governed it hitherto, and that it lies either outside its purpose or outside its power so to fix and maintain the effective bank rate as to keep saving and investment at an approximate equality throughout. *For if it were to manage the currency successfully according to the latter criterion, the credit cycle would not occur at all.*

For Hayek, the fact that monetary institutions can generate a sustained credit expansion is the most essential characteristic of the modern banking system. He seems to look at Keynes with bewilderment because of his insistence on placing the cause of credit cycles elsewhere (Hayek, 2008, p. 457):

The most characteristic trait of Mr. Keynes's explanation of a deviation of the actual short-term rate of interest from the "natural" or equilibrium rate is his insistence on the fact that this may happen independently of whether the effective quantity of money does, or does not, change.

Moreover, he correctly accuses the British economist for implicitly working with this assumption, although explicitly rejecting it (Hayek, 2008, p. 457): "Indeed, at all the critical points, the assumption seems to creep in that this divergence is made possible by the necessary change in the supply of money".

But Keynes indeed maintained the claim that society could be temporarily stuck in a position of partial equilibrium, where the market would "clear" at "false" prices, given the fact that bearish speculators would not permit the interest rate to fully adjust (Leijonhufvud, 1979, pp. 34-38).

One would be tempted, knowing his insistence on the possibility of cycles to be created by technological innovations (and other real factors), to link Keynesian with the real business cycle theory of the 1980s. But this would not be the case. While real business cycle theory considers that the market is always in a state of Walrasian general equilibrium (Mankiw, 1989), meaning that prices simultaneously equate supply and demand in all markets, both for Hayek and Keynes the

market is always in a state of continuous disequilibrium along the evolution of an economic fluctuation. For a short period of time Keynes and Hayek were in complete agreement regarding the fact that imbalances between savings and investment generate economic cycles⁷.

1.2 The Impossibility of Cycle Anticipation: A Lack of Endogenous Automatic Equilibrating Mechanisms

The second important resemblance between the two schools of thought is closely tied up with the Wicksell Connection, but not quite identical with it. It lies in the fact that both economists consider that cycles are impossible to anticipate given normal entrepreneurial foresight. There must be some sort of rigidities or maladjustments in the workings of the price mechanism, otherwise the markets would just speedily equilibrate and no cycles would ever occur⁸. Why would the interest rate fail to correlate saving with investment, both on the real and the financial market? The answer is that both the Keynesian and the Austrian models lack any automatic (direct) mechanism to restore equilibrium once it had been disturbed (Laidler, 1999, p. 328).

This strange similarity between the two schools of thought was perceived, but not followed through. D. Laidler (1999, pp. 328-329) for example arrives at the same conclusion, but quickly adds that: “[...] we must not push any parallel [of Keynes] with Mises’s reading of Wicksell too hard”. His reason would be that Keynes’s marginal efficiency of capital (MEC) was driven by “animal spirits”, while Austrian agents act by maximization utility in a rational way. Although this is technically true, it implies in my opinion an “unfair” reading of Keynes. If we would interpret his investors not as irrational, but as rational in the face of systemic (irreducible) uncertainty, does this cautious approach towards linking the two economists not lose most of its bite? I believe it does.

Keynes (1930, p. 250) argues in the *Treatise* that:

It is not surprising that saving and investment should often fail to keep step. In the first place—as we have mentioned already—the decisions which determine saving and investment respectively are taken by two different sets of people influenced by different sets of motives, each not paying very much attention to the other.

⁷ The statement holds true until the publication of the *General Theory* in 1936 when Keynes, at least declaratively, discarded the Wicksell connection. His tendency to separate himself from Wicksell was even more pronounced afterwards. For instance, in a journal article from 1937, Keynes (1937b, p. 669) explicitly writes: “The investment market [...] can never become congested through shortage of saving”.

⁸ We are attempting here to discuss the model without such unnecessary facile assumptions as rigid wages. As Leijonhufvud (1976, p. 37) points out “it is sufficient just to give up the equally strong assumption of instantaneous price adjustments”.

The fact that we have two distinct classes of people, respectively all income earners, on the one hand, and all entrepreneurs, on the other, which take two completely different sets of decisions at different points in time, leads Keynes (1930, p. 252) to the conclusion that “the development of disequilibria between the rates of saving and of investment under the existing economic system is nothing to wonder at”. From a Keynesian viewpoint, this is a particular characteristic of the capitalist system, which cannot be overcome by rational forecasting. The “dark forces of time and ignorance” are always at work, clouding entrepreneurial judgement. The total demand price of capital goods is equal to the total volume of shares (or securities as Keynes (1930) mentions in the *Treatise*). The price of shares, on the other hand is driven by investors’ expectations of future events. Given the fact that the future is uncertain, businessmen do not have any reliable information on which to base their decisions. They can only respond to systemic uncertainty by selling shares and increasing their cash balances. This is why aggregate investment is for Keynes an extremely volatile measure, subject to unforeseeable violent changes. The workings of financial markets resemble the workings of a grand casino (Nentjes, 1988).

In the case of Hayek, the reason for which entrepreneurs lack the power to foresee general economic fluctuations is even more interesting. In his initial theoretical framework, the market rate of interest is the *only systemic signal* which gives entrepreneurs the necessary information needed to correctly alter the structure of production (Hayek, 2008, p. 264)⁹. Thus, businessmen use the market rate of interest to inter-temporarily adjust the workings of the economy.

But in a fractional reserve banking system based on a central bank, as we have today, banks can lastingly deviate the market rate of interest from the natural/pure rate of interest and create an intertemporal disequilibrium. Businessmen are “mised” by the banks when they expand credit, giving birth to the aforementioned imbalance between saving and investment. In Hayek’s view, this is not the fault of the capitalist system. The market is the same efficient mechanism which liberals consider it to be, but in which false data are fed because of monetary interventions. If entrepreneurs would be able to anticipate monetary variations, no cycle would occur. But for Hayek, we have no reason to assume that they would.

Given these altogether different reasons, both economists would advise us not

⁹ It is interesting to point out that the importance which the interest rate plays in the intertemporal adjustment of the structure of production is not only typical for renowned authors such as Hayek (2008) and Mises (1949). It appears also in the works of more obscure economists from interwar Vienna like Richard von Strigl, which writes (Strigl, 1934, p. 59): “Consequently, we see the decisive function of capital interest: it alone offers the possibility to the entrepreneur of determining time limits for the roundabout method of production. Lowering the interest rate offers the possibility of investing capital in even more lengthy roundabout methods of production, i.e., in those in which the ‘marginal product’ of capital is lower, while a rise in the interest rate forces a shortening of the roundabout method of production”.

to expect businessmen to foresee economic cycles and to take measures to smooth them out.

1.3 The Sequence of Relative Prices throughout the Course of Economic Fluctuations

We have already pointed out that since the early 1920s both Keynes and Hayek were increasingly dissatisfied with the quantity theory of money and that they tried, each following his own path, to develop alternative disequilibrium theories to explain business fluctuations. In order to fulfil this task, they had to pay attention not only to the aggregated price level, but also to the movement in relative prices, which were obscured by the standard version of the quantity theory.

It is ironic that the further development of Keynesianism after the death of Keynes appears to have forgotten about the importance of relative price movements. Leijonhufvud (1976), for example, convincingly argues that the standard approach of the IS-LM income expenditure model only uses total output as a variable, while Keynes, both in the *Treatise* and the *General Theory* employed a model that distinguished consumer goods from capital goods.

What is indeed noteworthy was how close the two economists actually came with their study regarding the “normal” sequence of relative prices throughout an economic crisis¹⁰. The dynamic “passage” that the economy must follow is to a significant extent the same. George Selgin (1999) even points out in an article that throughout their lives, the two economists were extremely close to reach an agreement concerning optimal price movements.

In the subchapter entitled *The normal course of a credit cycle*, Keynes (1930, p. 304) writes:

The order of events is, therefore, as follows. First, a capital inflation leading to an increase of investment, leading to commodity inflation; second, still more capital inflation and commodity inflation for approximately one production period of consumption goods; third, a reaction in the degree of the commodity and capital inflations at the end of this period; fourth, a collapse of the capital inflation; and finally, a decrease of investment below normal, leading to a commodity deflation.

¹⁰ One could argue that describing fluctuations is just exposing empirical facts and it should be expected that all economists agree. Even if this would be the case (and we argued that it is not since both economists approach the problem rather from an a priori point of view), we can again make reference to the real business cycle theory which puts forward a theory which is contrary to facts. Real business cycle theory attempted to explain fluctuation with reference to new technology and labor to leisure substitution. Booms are created because of an alleged increase in the efficient application of technology which should give rise to a surge in the marginal productivity of labor and, hence, wages. In the case of economic busts, the decrease in the application of technology would lead to a reduction in marginal productivity and wages; hence leisure would appear suddenly more appealing to individuals. These explanations are, as numerous people claim, strikingly counterfactual (Mankiw, 1989).

Thus, he argues that the boom stage normally starts with the increase in the price of capital goods. This would in turn lead to a surge in investment, especially in higher order industries, which would also shortly determine an increase in the price of consumer goods. The general rise in prices in the last period leads entrepreneurs to start the second period of production with high hopes. The general tendency of prices to rise is sustained in this second period. Keynes's third phase leaves some room for interpretation. It brings about a reaction in both categories of prices, which would mean a slowdown in their absolute increase, but also a modification in their relative terms¹¹. The fourth stage represents the beginning of the crisis in which the price of capital goods plummets due to a decrease in the marginal efficiency of capital which can be caused either by real factors or the "faltering of financial sentiment" (i.e. pessimistic expectations). This will lead the economy in the final stage of the cycle, when investment will go below its equilibrium level. Savings would in this case be larger than investment.

Let us now turn to the way in which Hayek (2008, p. 266) attempted to provide a "rough sketch" and to show what happens in the interval before a new equilibrium is attained. Putting away the subtle complications that the Austrian economist introduces, he points out that the cycle starts with an increase in the price of capital goods¹². Because of the decrease in the rate of interest due to credit expansion, there is an increase in the demand for higher order goods. This automatically leads to a rise in the price of capital goods relative to that of consumer goods (ibidem). Entrepreneurs use the newly acquired funds from the banks to bid up the prices of original factors of production and nonspecific capital goods, in order to move them upstream, in the higher order stages of the production process. But when consumers find out that their incomes have increased, they will spend their money in the old consumer to savings ratio, which will generate a tendency to increase the price of consumer goods relative to those of capital goods. As Hayek points out (2008, pp. 267-268):

When the reduced output from the stages of production, from which producers' goods have been withdrawn for use in higher stages, has matured into consumers' goods, a scarcity of consumers' goods will make itself felt, and the prices of those goods will rise. [...] There can be little doubt that in the face of rising prices of consumers' goods these increases will be spent on such goods and so contribute to drive up their prices even faster. [...] But—and this is the fundamental point—it will mean a new and reversed change of the proportion between the demand for

¹¹ It remains ambiguous if he refers to a relative increase or decrease of the prices of consumer goods as compared to intermediary goods. It seems reasonable to suspect he refers to the former case.

¹² It is generally considered that Hayek's treatment of relative prices is more complex than Keynes' (Nentjes, 1988; Selgin, 1999; Leijonhufvud, 1976). Among the intricacies discussed by Hayek one would include the fact that he does not refer to capital goods as such, but to relatively higher order capital goods. He also splits factors of production into specific and nonspecific, which allows him to make a better analysis in terms of their subsequent effects on the price structure (Hayek, 2008).

consumers' goods and the demand for producers' goods in favor of the former. The prices of consumers' goods will therefore rise relatively to the prices of producers' goods.

The sequence in the movement of prices is basically the same as in the case of Keynes¹³. Hayek did not believe that it would be mandatory to have an absolute decrease in the price of consumer goods, but of course admitted the possibility.

If the models employed by the two economists are so similar regarding the transition between equilibrium points, where do they fundamentally disagree? The answer lies in the final step in Keynes's transitional passage. The British economist considered that the descending stage of the cycle would end with a situation of underinvestment, because the interest rate would not fall to the appropriate level (Keynes, 1930, p. 304) and would consequently remain for a considerable period above its equilibrium level. As opposed to Hayek, Keynes introduced the stock-exchange as an active actor in his model. Once the marginal efficiency of capital would decrease, there would be an excess supply of goods coupled with an excess demand for securities. While the prices of securities would increase, the market would turn "bearish" and speculators would sell stocks in order to increase their cash deposits. This would lead to a hoarding of money out of "active circulation" and would not permit the interest rate to decrease to its equilibrium level. In a nutshell, in the Keynesian model speculators do not permit full interest rate adjustments and the market "clears" at false prices (Leijonhufvud, 1979).

Are the two models to a certain degree compatible? At the level that they were developed in the early 1930s (i.e., before Keynes added liquidity preference into the mix) I would argue that they are. Both lacked direct automatic adjustment mechanisms, but both are compatible with indirect mechanisms which would sooner or later stimulate the culprits to change their behavior (Leijonhufvud, 1979). For Hayek the banks cannot continue to increase lending indefinitely without cumulating serious inflationary pressures. For Keynes speculators could not continue to sell securities at a relative loss in exchange for cash without incurring costs.

Modern Austrian economists are usually extremely reluctant regarding any possible association with Keynes's work. They generally claim that Hayek's capital theory is fundamentally different because of the importance that he associates to the composition of a country's capital stock, or how Austrians refer to it, *the structure of production*. This is to a certain extent true¹⁴. As I indicated earlier, it is

¹³ In the case of Hayek, it is much easier to trace his sources of inspiration. He drew his analysis made in *Prices and Production* on the works of Knut Wicksell and Ludwig von Mises. The latter represents an extremely interesting case study on the issue. If one would comparatively analyze Mises' 1912 *Theory on Money and Credit* (1953, pp. 362-364) with his 1949 *Human Action* (p. 553), one could argue to some extent that regarding relative price movements the renowned Austrian economist incorporated both Hayekian and Keynesian elements.

¹⁴ I have myself written myself a whole book on the subject, which unfortunately was not translated yet in the English language. See Patruti (2016).

commonly accepted that Hayek's approach to relative prices is more complex in this regard (see footnote 12). Keynes used a higher level of aggregation and paid little respect in general to capital specificity. However, if we would accuse Keynes of following F. Knight (1934) in employing a conception of capital as a homogenous mass, I fear we would be in falling into the other extreme. As previously argued, relative prices do play a relevant role in his *Treatise* and (albeit more obscured) in the *General Theory*. There are some economic phenomena which are by their very nature macroeconomic, business cycles being the most relevant member of this category, and a certain level of aggregation is, I believe, legitimate for operational purposes. In this sense, the disequilibrium between savings and investment, the lack of endogenous equilibrating tendencies and the sequence of relative prices are uniting theoretical elements, especially if we focus on Keynes's thought before the elaboration of his *General Theory*.

2. LATTER AMENDMENTS MADE BY KEYNES AND HAYEK TO THEIR CYCLE THEORIES

It is a well-known fact that ideas were in the 1930s in a constant state of flux among renowned economists. Keynes's views probably best reflect this principle. By the time Hayek finished his review of the second part of the *Treatise*, i.e., *The Applied Theory on Money*, Keynes replied a disarming: "Oh never mind, I no longer believe all that" (Hayek, 1994, p. 90). Hayek himself had second thoughts about his theory. Although he was much more consistent than Keynes regarding the explanations of business cycles¹⁵, there were some notable changes in his position after the 1930s. The following section will comparatively analyze these changes.

2.1 Subsequent Evolutions in Keynes's Business Cycle Theory

As noted earlier, Keynes's theory was between 1930 and 1936 a continuous work in progress. This is somewhat understandable, because his *Treatise*, which appeared in 1930, was widely read and equally widely criticized. Not only F. A. Hayek, D. Robinson and A.C. Pigou raised different concerns regarding it, but also another group of economists known as the *Cambridge Circus*, namely Richard Kahn, Joan Robinson, Austin Robinson, and Piero Sraffa (Moggridge, 1973, p. 75; Backhouse, 2002). This latter group of intellectuals had close connections with Keynes and considered that the current state of his work could be vastly improved. The British economist became increasingly dissatisfied with his theoretical apparatus used in

¹⁵ There is even a well-known joke about Keynes's inconsistency, respectively "Where five economists are gathered together there will be six conflicting opinions, and two of them will be held by Keynes" (Jones 1954 cited from Caldwell, 2011, p. 19).

the *Treatise* and decided to modify it accordingly, beginning a slow and cumbersome process which ended up with *The General Theory*.

The General Theory, although one of the most cited economic books of all times, could hardly be said to have been well received by the intellectual community of its age¹⁶. Did he renounce to his previous explanation of the business cycle? Unfortunately, the answer is yes and no, as we shall further attempt to show.

There are two fundamental differences in Keynes's thinking between the *Treatise* and the *General Theory*: *liquidity preference* and the capacity of the system to respond to decreases in MEC through *output and employment* (Leijonhufvud, 1976; Blaug, 1985; Laidler, 1999)¹⁷. Let us first discuss the latter (as if it was the only relevant change).

Keynes began to refer to the theory of output as a whole as the theory of employment and considered that the only relevant problems for society were those when *unused resources* were present. This was probably his most fundamental analytical advance (Nentjes, 1988). If in the *Treatise* he mainly used a supposition of fixed output, leaving the price levels of investment, finished goods and factors of production to vary, he totally abandoned this way of thinking in the *General Theory* (1936). Output as a whole became the independent variable which must be explained during economic fluctuations.

But if this would be the only relevant change, it would still be a Wicksellian variation of the saving-investment model, one which Leijonhufvud (1979, pp. 39-43) called the "Z-theory". In short, if the system responds to the decrease in MEC through a reduction in output and employment this would lead to a decrease in (real) income which would equate savings and investment at a market rate of interest well above the full employment equilibrium rate. Moreover, this is now a stable position since there is no more pressure on the systems' agents to modify their behavior, like in the *Treatise* version of the theory. The Keynesian "bear" speculators have no incentive to modify their behavior.

However, the main problem in Keynes's cycle explanation in the *General Theory* is his *liquidity preference*. By using a pure stock analysis, Keynes based his new interest theory on the fact that ex post savings and investment are identical. In that case, the banking system is assumed out of the picture and interest is left without a determinant. As Leijonhufvud (1976, p. 45) points out: "The loanable funds interest mechanism is gutted [...] Loanable Funds are out; Liquidity preference is in". If savings and investment do not determine the interest rate, what does? The answer

¹⁶ For a detailed account regarding the intellectual reception of the *General Theory* and the most important counterarguments raised against it see Laidler (1999, pp. 277-303).

¹⁷ There are of course some other honorable mentions here. For instance, the non-neutrality of money became much more important to Keynes. He resented all the major macroeconomic books of his time which used a barter model to explain major economic phenomena and afterwards concluded that nothing significant would change with the introduction of money. We have already seen that the non-neutrality played an important part in his research program since the 1920s, but he only developed it extensively around 1932 (Moggridge, 1973).

for Keynes in the *General Theory* is the supply and demand for money (liquidity preference). But in this case, there is nothing linking the interest rate to real productivity. The rate of interest is whatever speculators “agree” it should be.

This is why Keynes (1936) attempted to abandon the Wicksellian concept of the natural rate of interest. Consequently, there would be no equilibrium rate of interest, but *a set* of money interest rates determined by the desire of people to hold liquid assets. But even though he explicitly claimed this in the *General Theory*, it is debatable whether he successfully exorcised the influence of the natural rate of interest from his thinking. Leijonhufvud (1976, pp. 345-349) for example argues that he only banished the natural rate “terminologically”. Keynes continued to consider investment to be interest-elastic in the long run. Moreover, he never denied the possibility that a “neutral rate of interest” which would equate saving and investment at full employment could exist, although he chose not to elaborate on the subject (Keynes, 1936, p. 121).

In spite of all these new theoretical elements, *The General Theory* employs “the (essentially) same paradigm of the financial market” (Nentjes, 1988, p. 144) as the one used in the *Treatise*. Axel Leijonhufvud (1976) actually claims, with convincing arguments, that between the *General Theory* and the *Treatise*, the latter is Keynes’s essential book. The *General Theory* was meant to be more or less a condensed version of the *Treatise* with few modifications¹⁸.

But if we take liquidity preference seriously, Keynes’s cycle theory is retrogressive as compared to the *Treatise* version. It is not a Wicksellian variation any more, since the interest rate is taken out of the picture. All that remains can be easily extracted from his chapter 22 entitled “notes on the trade cycle”, were Keynes (1936, p. 155) shortly points out that the underlining causes of cyclical fluctuations are vagaries in the marginal efficiency of capital. He does not use the concept “productivity of capital” in a physical sense, as for example earlier generation Austrian economists like Böhm-Bawerk would have¹⁹, but as an eclectic concept which is highly dependent on businessmen’s *expectations regarding the prospective yield of capital goods* (especially those of a durable character)²⁰. Social conventions and expectations become endogenous causes of business fluctuations.

¹⁸ Leijonhufvud (1976, p. 183) notes: “Two things distinguish the *General Theory* from the *Treatise*: the analysis of the nature of income-constrained processes and resource unemployment, and the doubts, which the Great Depression had amplified in his mind, that conventional monetary operations could budge the long rate rapidly enough to avoid prolonged periods of unemployment”.

¹⁹ For a detailed analysis of capital and its role in production at the end of the 19th century Europe see Böhm-Bawerk (1930).

²⁰ Keynes (1936, p. 156) writes on the issue of the marginal efficiency of capital that: “We have seen above that the marginal efficiency of capital depends, not only on the existing abundance or scarcity of capital-goods and the current cost of production of capital-goods, but also on current expectations as to the future yield of capital-goods. In the case of durable assets it is, therefore, natural and reasonable that expectations of the future should play a dominant part in determining the scale on which new investment is deemed advisable”.

The *General Theory* becomes a sophisticated way of saying that anticipations are actually the main determinant of business cycles, because the *psychology* of the business world is as such²¹. Keynes made throughout his lifetime numerous references to the expectation problem although, as mentioned by Meltzer (1989, p. 56), “*Anticipations, or expectations, are a deus ex machina that enter or leave at convenient places*”. It can be argued that this approach did leave Keynes (1936, p. 156) with the somewhat facile conclusion that the state would do a better job at coping with fluctuations than private investors. And this was indeed his goal all along. He began to be more and more skeptical towards the end of his life about the ability of private investors to effectively manage investment. His idea was to “save” liberalism by giving government control of output as a whole. If the state could influence the direction of aggregated production (and particularly aggregate investment), the other decisions could be safely left in private hands (Skidelsky, 2006)²². Capitalism’s excesses would be tempered by state intervention.

If anything, after the publication of the *General Theory* in 1936, the efforts of Keynes to differentiate himself from the loanable funds doctrine actually increased. In his articles from 1937 he explicitly argued that saving plays no role in the determination of the interest rate and, consequently, in the explanation of business cycles (Keynes, 1937b). Moreover, he went to great pains to contradict other economists who attempted to claim that his theory was in no sense revolutionary and was just another variant of the application of the savings/investment equation²³. Whether he managed to succeed in his theoretical endeavor remains, as we have previously mentioned, debatable.

2.2 Subsequent Evolutions in Hayek’s Business Cycle Theory

By the time *The Pure Theory of Capital* (1941) was completed, Hayek already incorporated some Keynesian elements in his analysis and was still contemplating about others. He started to stress the importance of money as a store of value and

²¹ The approach of considering investors almost irrational in their actions (and speculators in particular as not being interested in the long run yield, but in the way in which people will react to news in the short run) was not new in 1936. One of the worst parts of the Keynesian revolution was undoubtedly that it was a “revolution” and that later Keynesians tended to forget the fact that the *General Theory* was a book that did originate from the literature of its time (Laidler, 1999; Backhouse, 2002). This literature was created by numerous economists of different origins and schools of thought, be them British, American, Swedish or Austrian, and they all made numerous contributions on the expectations debate and their role in economic theory.

²² Of course, one could hardly take such a proposal seriously (either from a theoretical or from a policy point of view). How could the state manage total output but leave its structure to private investors? The only coherent way in which one can interpret Keynes’s bombastic claim is that it was more or less a momentary whim.

²³ See for instance Keynes (1937a, p. 241): “Some of the writers [...] believe that my theory is on the whole the same as theirs and mainly amounts to expressing it in a somewhat different way. Nevertheless, the theories are, I believe, radically opposed to one another”.

assimilated a part of Keynes's portfolio selection theory. When talking about investment he used the concept of "assets" which is an aggregate of real capital, securities and money balances (Hayek, 2009, p. 358). The inclusion of money in the individual stock of capital was atypical not only for previous Austrians, but also for Hayek's earlier works (Nentjes, 1988, p. 145). He also started to take "liquidity preference" seriously. The last part of *The Pure Theory* is suggestive in this respect. Hayek explicitly splits his analysis on the influences which affect the rate of interest into short and long run factors. He claimed that in the former case liquidity preference is not the only short run factor, but that it can nevertheless have a significant impact (2009, pp. 353-368)²⁴. The book ends with Hayek's relatively well-known discourse on the fact that real underlining factors are more important than monetary ones, but the reader is left with the impression that he conceded much more than suspected to Keynes's short run analysis.

Another interesting modification in Hayek's thought occurred in the 1970s, when he began to agree with Keynes on the fact that a "normal" Hayekian crisis of over/malinvestment can be further aggravated by a process of secondary deflation²⁵. These views were expressed after Hayek received the Nobel Memorial Prize in 1974. The distinction came to him as a surprise, Hayek being already in his 70s and having largely abandoned the field of economics to explore philosophy and political theory. The new attention focused on him, after Keynes's death, left the Austrian economist as the leading figure in economics of his time. He began to review his business cycle theory in order to further apply it.

Hayek continued to stick to the same explanations employed in *Prices and Production* regarding fluctuations, but he reconsidered the fact that an uninterrupted process of deflation was always the cure (Haberler, 1975). A normal crisis caused by the central banks' ability to create artificial credit expansion, could now be further aggravated by a "Keynesian crisis of oversaving". Even if the first phase of deflation was normal and beneficial after a credit expansion, a second phase of deflation created by unusual grim expectations on behalf of the entrepreneurial class could generate a situation in which the savings of the population are not invested in their entirety (Magliulo, 2016). Shortly put, businessmen would be frightened to invest, in spite of relatively ample capital available, deflating prices under what would be the equilibrium level. It is easy for the accustomed reader to observe that this is nothing other than the situation of abundant unused resources where economic scarcity ceases to play the dominant role, i.e., the Keynesian income-constrained process. It is true

²⁴ Hayek uses a diagram took from professor Hicks to show that if there is a constant money supply, an increase in the physical output of society's productive capacities (say due to an invention) will raise the interest rate, but to a lesser degree due to the people's reluctance to part with cash – i.e., their liquidity preference. In his view the short run interest level will be jointly determined by the productivity of capital (a physical factor) and liquidity preference (a psychological factor).

²⁵ This thesis regarding secondary deflation was first exposed by Hayek's friend, professor W. Röpke in the 1930s (Magliulo, 2016).

that the Austrian economist discussed this case also in 1941 in *The Pure Theory*, but there he considered it more of a theoretical curiosity²⁶.

There were also changes in matters of policy. Hayek began to accept that there are cases, such as the former, where a reduction in aggregate demand could generate unemployment in the short run. In these situations, the Austrian economist would encourage a government stimulus package in order to stop the abnormal deflation (Haberler, 1975, p. 12):

The moment there is any sign that the total income stream may actually shrink, I should certainly not only try everything in my power to prevent it from dwindling, but I should announce beforehand that I would do so in the event the problem arose.

For him it was not mandatory for a normal crisis to always end with this sort of deflationary spiral. He did however change his mind regarding deflation and claimed that it is not politically feasible to expect it to break the rigidities of wages (Haberler, 1975). It appears that Hayek started to be more receptive to the idea that a normal (Hayekian) crisis could turn into a Keynesian depression because of a shift in the anticipations of businessmen (Magliulo, 2016).

CONCLUSIONS

Could one treat Austrian and Keynesian cycle theories as two sides of the same coin? To a certain extent I argue that the answer is yes. If we would discard liquidity preference as a fundamental determinant of the interest rate and focus on Keynes's economic thought before the publication of the *General Theory*²⁷, then both theories are Wicksellian variations focusing on complementary cases. Hayek focuses exclusively on a case in which the banking system lowers the market rate of interest below its equilibrium level. This would generate cumulative inflationary pressures and a relative shift of resources from consumer to capital goods industries. But the new structure of goods does not correspond to consumer demand. Readjustments will be necessary.

Keynes focuses on the case where the marginal efficiency of capital decreases (because of real or "psychological" causes). The market rate of interest does not drop quick enough, because speculators on the stock exchange will attempt to stop it above

²⁶ Hayek (2009, p. 373) writes: "Now such a situation, in which abundant unused reserves of all kinds of resources, including all intermediate products, exist, may occasionally prevail in the depths of a depression. But it is certainly not a normal position on which a theory claiming general applicability could be based".

²⁷ The reason behind this caveat would be that Keynes, as Axel Leijonhufvud (1979, p. 4) mentions, managed in his *General Theory* and later works from the 1937 to "obfuscated the interest rate mechanism that the later Keynesian literature almost entirely lost track of Wicksell's theme".

equilibrium level. If the entrepreneurs attempt to adjust production by lowering output and reducing the workforce, they will generate an income constrained process and be caught up in a “partial-equilibrium” with involuntary unemployment. Both economists disagree regarding the empirical relevance of each other’s case. But both have, throughout their life, agreed to their theoretical possibility²⁸.

In spite of the fact that Keynes and Hayek are usually presented as intellectual enemies, they have much in common on a theoretical level. Bits and pieces of their pure theories can be used to construct a larger cycle theory which focuses on imbalances between savings and investment and maladjustments of the interest rate. Such an attempt would surely prove beneficial.

The authors themselves did not make this job easy. Their dialogues were not carried out in a constructive manner. In the early 1930s, the similarities were quite clear in spite of this. Both explicitly accepted Wicksell’s works as their starting point and both constructed models in which the interest rate was incapable of equating savings and investments. They even agreed to a certain point on the sequence of the dynamic price adjustments.

By the time the *General Theory* was completed, Keynes’s liquidity preference almost completely obscured any similarities with Hayek’s work. If anything, his later articles from 1937 exacerbated this tendency. The development of the IS-LM Hicks-Hansen interpretation furthered destroyed any possible association between Keynesians and Austrians. It is however questionable whether Keynes himself would have chosen the same path.

Later in his life Hayek did change his mind about certain aspects. Portfolio selection and liquidity preference theory (as short run price rigidity) are just some examples in this direction. He also started to consider in the 1970s that Keynesian scenarios were more plausible than originally thought and that normal cycles (Hayekian) could degenerate into deeper depressions.

If this particular reading of the two models is correct, what stops us from interpreting both cycle theories as special (and complementary) cases in a general Wicksellian attempt at explaining fluctuations as types of disequilibrium between savings and investments? Such an attempt could only have, in the opinion of the present author, positive spillovers in the realm of economic theory.

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²⁸ Again, the similarity is based on the fact that liquidity preference is rejected as the fundamental determinant of the interest rate. Could it be integrated without destroying any trace of similarity between the two cycle theories? The only possibility that comes to mind would be something similar to Hayek’s attempt in the *Pure Theory*, where he tries to introduce liquidity preference as a short run friction in determining interest. However, spelling out the complications is beyond the goal of the present paper.

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