

# The French Wicksellian Connection: Rueff and Le Bourva revisited

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## *Abstract*

The '*Wicksellian heritage*' is often claimed when central banks target low inflation rates by acting upon short-term real rates of interest. This type of policymaking is not the best way to describe the Bank of France's monetary policy during the interwar years and afterwards. However, some French economists worked in the Wicksellian footsteps when proposing a monetary policy framework under an unconvertible paper money system which aims at stability of prices by way of a two interest rates gap dynamics.

The present paper proposes a reconstruction of a hitherto unknown French Wicksellian connection by way of the contributions of Jacques Rueff (1953) and Jacques Le Bourva (1958 and 1962). Such a Wicksellian connection is interesting in two ways: *first*, it demonstrates to what extent a unorthodox analysis existed in France; and *second*, it helps to understand the French monetary policymaking and the practical changes that happened after WWII.

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## 1. Introduction

*'The objection that a further reduction in rates of interest cannot be to the advantage of the banks may possibly in itself be perfectly correct. A fall in rates of interest may diminish the banks' margin of profit more than it is likely to increase the extent of their business. I should like then in all humility to call attention to the fact that the banks' prime duty is not to earn a great deal of money but to provide the public with a medium of exchange—and to provide this medium in adequate measure, to aim at stability of prices. In any case, their obligations to society are enormously more important than their private obligations, and if they are ultimately unable to fulfil their obligations to society along the lines of private enterprise—which I very much doubt—then they would provide a worthy activity for the State.'*

The above lines deal with a topical monetary issue for central bankers: the efficiency of policy rates in hard times of the economic cycle. However, the figure of speech is misleading. Any central bankers could have written the above quotation in the aftermath of the *great financial crisis* when debating the usefulness of unconventional monetary policy and the zero lower bound. However, it is not the case. Swedish economist Knut Wicksell wrote the above lines in 1898 at the end of his seminal book (Wicksell, 1936:190 [1898]). As suggested by Leijonhufvud: *'The intellectual independence and originality of this author [Wicksell] is still palpable. Rereading the book [Interest and Prices] reinforces the impression: modern monetary and macroeconomic theory starts here.[...] There are good reasons to try to reassess the Wicksellian heritage'* (Leijonhufvud 1997, p.1).

Leijonhufvud (1981) stresses the influence of Wicksell's analytical ideas in the macro family tree. However, in the last decade, there had been an increasing number of publications that reasserts the Wicksellian heritage especially following Woodford masterpiece (Trautwein, 2009; Clinton, 2006; Tamborini, 2006; Woodford 2003). In his *'pure credit economy'* imaginary case Wicksell discussed the possibility that there might be no endogenous equilibrating mechanism capable of bringing the monetary rate – charged by the banks – in line with the *natural* rate – that which would coordinate saving and investment decisions – so that price disequilibrium occurs. Price changes occur cumulatively as long as the interest rates' disequilibrium is not repaired. In this respect, the Wicksellian contribution lay in the formulation of a practical *monetary rule* that would allow an international cooperation between central banks' discount rates so as to fill in the gap in interest rates and stabilization of domestic price levels. If the monetary authorities succeed in aligning their monetary rate with the natural one, then the mismatch disappears and equilibrium is restored. In other

words, the demand for consumption goods and the economy's capacity to supply them would match.

The ideas developed by Wicksell were not popular in France as his monetary theory contrasted with the French monetary policymaking of the interwar period. Bank of France was a conservative central bank more inclined to favour the Classical orthodoxy policy – meaning a gold exchange rate anchoring. By contrast, Wicksell supported a *de*-goldenization of the monetary system owing to the inherent '*illusion*' and '*contradiction*' that such system embodied.<sup>2</sup> He favoured a credit-based system that targets a stable price level under interest rate management with no regards to gold constraint.

Wicksell had been prescient, the actual monetary systems converged to his monetary ideas during the interwar period and particularly after the second world war (*hereafter* WWII). One of the key elements of this change is the increasing use of open market operations within the central banks' toolkit in the thirties. The French were worried about this new monetary policy instrument due to the emerging risk of debt monetization. The French opinion saw in open-market an '*ersatz*' of the French official advances' system that allow Bank of France to provide liquidity for free to the French Treasury. While the endogenous money theory became very relevant in that context, exogenous money theory – such as the quantity theory – was questioned. The French case is enlightening in this respect. For different kinds of reasons, the French economists were strongly critical of the quantity theory. However, the orthodox Bank of France practices matched it.

We find in the work of Jacques Rueff and Jacques Le Bourva a fruitful source of material to illustrate the theoretical turning point after WWII in France. Surprisingly, the works of the two *Jacques* converge with the core elements of Wicksell's monetary policy stance. While being not generally well known, the work of Le Bourva has always had a Wicksell connection (Lavoie, 1992). However, the most surprising connection is the one of Jacques Rueff to Wicksell. In fact, in their search for mechanisms that could explain the wide vagaries of the money supply during interwar, Rueff and Le Bourva perfectly agree with Wicksell's monetary thesis when discussing on the endogeneity of the money supply and the way to implement monetary policy in the after WWII context. This new Wicksellian connection is interesting to the extent Rueff and Le Bourva were making Wicksellian arguments in the

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<sup>2</sup> Wicksell (1935, p. 126) '*The excellence of our present monetary system is therefore largely an illusion, and the danger of basing the whole of our economic system on something so capricious as the occurrence of a certain precious metal must sooner or later come to light. Indeed our monetary system is afflicted by an imperfection, an inherent contradiction. The development of credit aims at rendering the holding of cash reserves unnecessary, and yet these cash reserves are a necessary, though far from sufficient, guarantee of the stability of money values.*'

1950s and 1960s at a time when Wicksell was half-forgotten or completely ignored, particularly in France<sup>3</sup>. Both theoretical and practical contexts explain why Wicksell was entirely purged from the economist's mind. *First*, the Bretton Woods era was not free from reserve drain issues (*i.e* exchange rate targets), and, *second*, both IS-LM Keynesianism and Monetarism proceeded from concepts of an exogenous money supply.

The present paper proposes a reconstruction of a hitherto unknown French Wicksellian connection by way of the contributions of Jacques Rueff (1953) and Jacques Le Bourva (1958 and 1962). Such a Wicksellian connection is interesting in two ways: *first*, it demonstrates to what extent a unorthodox analysis existed in France; and *second*, it helps to understand the French monetary policymaking and the practical changes that happened after WWII.

After surveying the two opposite monetary theories in the first half of the 20th century (section two), the article will carve out a Wicksellian connection by way of the contributions of Jacques Rueff and Jacques Le Bourva (section three). The last section will conclude.

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<sup>3</sup> Wicksell's first publications were written in German and from 1936 his seminal book '*Interest and prices*' had been translated into English under the influence of Keynes and Kahn.

## **2. The theoretical turning point in monetary policymaking in the first half of the 20th century**

After WWI, France was certainly a winner but the state of the country was closer to that of a loser. France had to face a high public debt burden owing to the unexpected weight of war debt. The choice of a "new" (gold) value for the French franc had been polemical among French economists after WWI. Most of the monetary debate that occurred at that time concerned the possibility (for the most optimistic) or the necessity (for the most pessimistic) to devalue the French monetary unit in order to peg the French franc to gold. As the former French Governor Emile Moreau had written in his daily impressions, the gold standard reconnection was a priority not only for French reconstruction but also for society as a whole. In fact, as long as the French franc was isolated from gold (until 1926) mistrust and political instability prevailed which did not help economic recovery. This French devotion to gold, not to say schizophrenia, gave a legitimate place to the monetary theory of Charles Rist. He was influential within French academia but also in the Bank of France corridors. Rist's classical orthodox ideas contrasted with the new emerging views, as the one developed by Knut Wicksell, that were critical of the gold standard monetary order and the efficiency of gold anchoring at large. The theoretical turning point in monetary policymaking is, thus, to be found in the interwar period when classical orthodoxy with gold money stood up to Knut Wicksell's *'pure credit economy'*.

### *2.1. The legacy of Charles Rist*

In the New Palgrave entry on Bank of France, Dehem (1988, p. 206) wrote *'Rist provides the key to understanding the French position in monetary matters as opposed to the typical Anglo-American stance in the past 60 years'*. It is correct that Charles Rist (1874-1955) was the most representative economist of French monetary theory at the beginning of the 20<sup>th</sup> century. He had a very large agenda owing to his wide sphere of influence. He was strongly politically involved in the left-wing coalition government in the 1920s and afterwards in Raymond Poincaré's government of the third French Republic. He was also a policymaker who had been second and first deputy governor, respectively, in 1926 and in 1929 in the Bank of France. He worked as a monetary expert in several foreign countries such as Portugal or Romania while being member of the Board of Experts that worked on the stabilization of the franc in 1928. Thus, he was a perfect candidate for understanding how monetary policy should be implemented.

In academic terms, Rist can be described by his metallist ideas and particularly by the fundamental distinction between *credit* and *money*. In fact, Rist was representative in France of the *metallist* dogma that had already prevailed in the previous century<sup>4</sup>. The quotation from Dehem was an explicit allusion to the prevalence of metallism in France through Rist as opposed to the British tradition, which had been mainly the Ricardian tradition. The basic idea that Rist shared with the metallist tradition was that money does not exist in itself, but it is the metal – gold, silver or copper – that gave value to money (Rist 2002). By taking position in favour of Thomas Tooke's and his '*pragmatic*' metallism, Rist distinguished himself from the traditional metallism embodied in the Ricardian theory<sup>5</sup>. For this reason he was labelled as a '*dissident metallist*' (Blanc 2000). Rist considered paper money (*i. e.* banknotes or bank cheques) as *credit* – meaning a means of payment that accelerates monetary circulation – and not as money – meaning *gold* money – per se. Thus, Rist defined *money* by its store of value function, which is seen as '*the most important function, and the one which is probably at the origin of all the others*' (*ibid.*: 347-348). By emphasizing the store of value function, Rist was opposed to authors who held non-metallic views of currency, such as Knut Wicksell, Adam Smith, John Law or John Maynard Keynes.

Following Rist's theoretical ideas it is thus not surprising to read that monetary policy should be based on discount rate management with one policy eye on gold reserves and the other one on the quantity of money. A central banker should monitor gold accumulation so as to ensure the convertibility of notes into gold. Rist was opposed to whatever forms of '*managed money*', such as open-market management, when most central banks started to open the debate of that type of instrument<sup>6</sup>. When the discussion of open market operations started in France in 1926 Rist was second deputy governor of the Bank of France (1926-29). As he claimed, it would be prejudicial to use open market procedures because it would imply that '*the bank behaves not only as an anvil but as a hammer*' (Rist 2002, p. 442). In other words, Rist questioned the counter-cycle policy that central bank could manage with the help of open-market operations. Moreover, he saw in open-market operations a risk to loose the '*operational autonomy*' at the Bank of France and its profit emerging from the discounting

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<sup>4</sup> It is interesting to note that Schumpeter (1954, pp. 403-404) made another distinction between two forms of metallism: a *theoretical* metallism and a *practical* one.

<sup>5</sup> In the controversy over paper money by way of the Bank Charter Act in 1844 in England, Thomas Tooke was opposed to the provisions of the act. He thought that only some changes in the management of the Bank of England, coupled with the compulsory maintenance of a much larger reserve of bullion, would be more satisfactory.

<sup>6</sup> In the 1930s, several European central banks had already experimented with open-market operations. Among them were the Bank of England, the Federal Reserve Bank of New York, the German Reichsbank and the Netherlands Central Bank.

operations<sup>7</sup>. During the monetary reconstruction debate in the mid-1920s – via the Board of Experts in 1926 – Rist, with Charles Gide, was one of the first to accept the idea of stabilization with devaluation. Dieterlen (1959) underlined the technical work carried out by Rist during those stabilization debates when he was a member of the Board of Experts in 1926. He convinced many of the most hermetic members of the Bank of France and Parliament. Following the war, Rist reasoned that the French franc – meaning gold francs – was not undervalued. Actually, it was the paper money (via the issue of public liabilities) value that was affected. At first, he considered that the French franc devaluation was exclusively the result of ‘*bad money*’ creation emerging from the huge advances in liquidity that Bank of France provided the French Treasury with for reconstruction purposes. Thus, reducing the debt burden should be the only issue to consider. Any idea of a stabilization-devaluation policy was strongly rejected, not only by Rist, but also by the French people. It took time to see things more clearly. It was only from 1924 onwards that France started its monetary mourning, admitting that the return to pre-war monetary conditions was an illusion and that devaluation would be an inescapable fact. As mentioned by Rist himself when justifying the French position: ‘*the idea of devaluation appeared as a heresy because it reminded us of the worst practices of the old regime.*’ (Rist 1952, p. 59).

Rist has been strongly criticized by Schumpeter for his misunderstanding of the credit mechanism that was increasingly developing in the thirties. Rist’s *paleo* theory clearly contrasted with the emerging development of credit tools and the dematerialized form of money. By contrast, the Swedish school, with its leader and spokesman Knut Wicksell, was a forerunner by elaborating a modern theory that tried to ‘*restate a Quantity theory in a credit-theoretical terms*’ (Boianovsky and Trautwein 2001, p. 500)<sup>8</sup>. Rist knew about Wicksell’s monetary theory. However, he did not see a mismatch between the *natural* rate of interest, emerging from Wicksell’s work, and the effective rate of interest as a valuable explanation. The difficulty to define and verify this hypothetical *natural* rate of interest leads Rist to reject Wicksell’s monetary theory. Meanwhile, some dissenting voices emerged in that time among the new generation of French economists, namely Bertrand Nogaro, Albert Aftalion, François Simiand and Jacques Le Bourva. They had in common two beliefs: *first*, the idea that the quantity theory was not fully relevant, particularly when applied to the French case and its monetary base, and, *second*, they contributed to demonstrate in theory that *credit* can be seen as *money*. The interwar period is a turning point in monetary policymaking as it calls for a

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<sup>7</sup> The concept of “*operational autonomy*” has been defined by Blancheton (2001).

<sup>8</sup> The label *Swedish School* was not given to Wicksell but to his followers such as Erik Lindahl; Gunnar Myrdal, and Bertil Ohlin to name but a few.

new monetary policy design under an emerging new monetary regime as Knut Wicksell proposed in his *'Interest and Prices'* seminal book.

## 2.2. Knut Wicksell's forerunning contribution in monetary policymaking

Knut Wicksell published his *'Geldzins und Güterpreise'* originally in 1898 in German, with an English translation under the title *'Interest and Prices'* being on the market since 1936. Wicksell has been lost to much of the current generation of economists but we assume that the reader is familiar with his theory<sup>9</sup>.

Wicksell starts out from the neoclassical position indeed, trying to bring dynamics into the quantity equation. He does so by splitting the problem in half. In order to understand the reality of the financial system and under full employment hypothesis, he examines the *money* and the *credit* system separately. While the *pure money economy* leads to the usual neoclassical view, the *pure credit economy* is more interesting. This is where Rueff and Le Bourva connect to Wicksell, as we will see in the next section.

It is in the field of monetary policymaking that Wicksell's name has seen a revival. Quite recently, he became the *father* of modern monetary policymaking if we consider the Woodford (2003) landmark macro textbook. This new popularity relies on the key distinction between two types of interest rates that will be guidelines for policymakers. The Wicksellian tradition can be seen as a theoretical explanation of the market coordination failures based on the interest rate mechanism. As mentioned by Leijonhufvud's 1981 article it is a theory of *'maladjustment of the interest rate'* (*ibid*: 135). In fact, the added value given by Wicksell to the emerging macroeconomic analysis stems from his distinction between two types of interest rate and particularly the existence of a *natural* rate of interest. Wicksell (1936, p. 102) emphasizes the theoretical distinction between the *monetary* – charged by banks – and the (exogenous) *'natural'* interest rate which is mainly defined as *'the rate of interest which would be determined by supply and demand if no use were made of money and all lending were effected in the form of real capital goods'*<sup>10</sup>.

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<sup>9</sup> Leijonhufvud (1981), Woodford (2003) and Lavoie and Seccareccia (2004) are noteworthy exceptions. We agree with Boianovsky and Trautwein (2006, p. 184) though that the models developed by Woodford (2003) are *'wider off the mark than the approaches of the old Wicksellians'*.

<sup>10</sup> It is well known that as long as books were published, both the name and the definition of this rate changed. In the manuscript of 1889 that pre-announced the *'Interest and prices'* book, the concept of a *natural* rate of interest refers to *'the surplus of production over the sum of advanced wages and rents of all kinds in terms of commodities and on annual average'* as quoted from Trautwein and Boianovsky (2001, p. 498). Yet, later on in *'Interest and prices'* and particularly in his *'Lecture II'* on money, both the term and its use changed. The natural rate became a *normal* rate defined as a price equilibrium rate: the rate at which *'the general level of prices had no tendency to move either upwards or downwards'* (Wicksell, 1936, p. 120) In short, we can consider the natural rate as an approximation of the marginal productivity on capital, that is to say the surplus of real goods bought by the production via the use of capital. It indicates the real yield of capital in production.



Connecting to this point, Wicksell thinks that the increasing use of credit instruments alters the level of prices. Consequently, the causality link between money and prices is changed as soon as banks, extending *credit*, enter into the economic framework. The banks have full responsibility for the level of prices such as in the Currency School tradition. In the case of an '*organized credit economy*', the central banks can compensate the fluctuation of the value of money as well as the level of prices via their discount rate policy. Hence, there is a necessity for central banks to adopt monetary *norm* or *rule* as follows: '*if prices rise, the rate of interest is to be raised; and the prices fall, the rate of interest is to be lowered; and the rate of interest is henceforth to be maintained at its new level until a further movement of prices calls for a further change in one direction or the other*' (Wicksell 1936, p. 189).

While being mostly forgotten after WWII, it seems that Wicksell's forerunning monetary theory has touched ground somewhere in France. The work of Jacques Rueff and Jacques Le Bourva contain Wicksellian arguments. Was France on the road to establish a Wicksellian connection?

### 3. The French Wicksellian Connection reconstructed

The vagaries of the gold *standard* and *bullion* systems during interwar period and hereafter let the doors wide open to a more elaborated criticism of the quantity theory in France. There already existed a critical group of French economists that opposed to the quantity theory, owing to its lack of practicability and the impossibility for a central bank to control or ‘*manage*’ the money issue (Barbaroux 2013, p. 99-100). They share a strong opposition to Rist’s metallist vision of the monetary phenomenon or to any Keynesian theory of *exogenous* money. However, the most surprising point is to be found in Jacques Rueff’s article in the *Revue d’Economie Politique* in 1953. Until that article, Rueff was more inclined to favour Rist’s ‘metallist’ dogma. His position changed in the late 1950s when he had no influence on monetary issues in the French political system. Hitherto, no French Wicksellian connection has been established. The later will be based on three features: *first*, the link between the disequilibrium of prices and the increasing use of credit, *second*, the reference to the dynamics of a two interest rates gap in line with the price disequilibrium process; and, *third*, the emergence of a monetary rule concept in line with price stability goal. Following the path opened by Rueff *on the road to* Wicksell, we found in the work of Jacques Le Bourva a perfect legitimization of this connection.

#### 3.1. Jacques Rueff on the road to Wicksell

Jacques Rueff was a well-known French academic opposed to Keynesian theory and with an impressive experience within the Bank of France and the French Treasury. He was Finance Minister in 1926, Director of the French Treasury (1936-1939) under the left-wing coalition government (called ‘*Front Populaire*’) while being a member of the General Council that led the Bank of France during that period. He became deputy governor of the Bank of France between 1939 and 1940. In the 1930s, he was one of the most active and influential economists in France. He was also President of the war reparations conference in Paris in 1945. Rueff was also a member of the Polytechnic school’s circle of economists called ‘*X-Crisis*’ that had been created in 1931 as a consequence of the 1929 financial crisis. In modern words, we should name the X-crisis group a think-tank. Rueff took advantage of his own experience at the Bank of France to develop a more *practical* vision of the monetary phenomena at the expense of the theoretical ones. When Rueff published his 1953 article, he was involved at the European level, notably at the European Court of Justice and at the

European Coal and Steel Community. This period away from monetary institutions allowed him to stand back from theoretical issues.

*Rueff on 'La régulation monétaire et le problème institutionnel de la monnaie'*

In 1953 Rueff published an article in *Revue d'Economie Politique* titled '*La régulation monétaire et le problème institutionnel de la monnaie*'. The '*institutional*' stance of money is connected to the monetary system that states set up, particularly at the international level. To Rueff, there is two extreme types of monetary system: (1) the *realist* one, in which every monetary unit has a counterpart in the central bank's balance sheet; (2) the *nominalist* one, in which money is a '*sign without substance*' (Rueff 1953, p.36). Most of the existing and forthcoming monetary systems would be found between those two extreme cases. At the beginning of the paper, he motivates his article by the necessity to explain '*the divergences of insights regarding the causes that determined the quantity of money in circulation*' (Rueff 1953, p.5). The article is divided in eight distinctive paragraphs, both theoretical and practical. The fluctuations of the price level, caused by supply differing from demand, are to be found in the discrepancy between the variation of the actual quantity in circulation and the variation of the *desired* demand of money. By '*desired*' demand of money, Rueff means '*every amount of cash in hand that the owner does not want to substitute by a non monetary wealth*' (Rueff 1953, p.7). In other words, *desired* money demand embodies the amount of money that is used to pay the expenditures and the amount of money that is saved.

As in Wicksell's monetary theory, Rueff discusses the disequilibrium process when the '*credit miracle*' is concerned (Rueff 1953, p.13). Rueff used '*supply without demand*' and '*demand without supply*' as key concepts. He explicitly presents those two concepts as a rejection of Say's eponymous law. In fact, '*when transaction happened (i. e. sale on credit), the supplier received the bank debt but no cash in hand*' (Rueff 1953, p.11). He supplies without getting the possibility to demand any goods. Conversely, when the sale on credit is paid, the reverse mechanism occurs, meaning a '*demand without supply*'. These two mechanisms did not imply any disequilibrium process *unless* the bank debt is discounted at the bank or central bank. As written by Rueff, '*the discounting at the bank brings about a perturbation which features a supply without demand when the transaction is made and a demand without supply at the settlement date*' (Rueff 1953, p.13). Consequently, '*the discounting operation leads to an extension of exchanges – or increase of prices – by way of increasing necessary cash in hand until the absorption of the undesired money*' (Rueff 1953, p. 15). From that, Rueff concluded that '*the central issue for monetary policy appeared as one*

*of constantly maintaining the quantity of money in circulation at par with the global amount of desired cash in hand' (ibid).*

In the third paragraph, Rueff opens the debate on the common opinion that central banks *influence* the quantity of money. This idea follows from both the quantity theory and from Keynes' *General Theory* that he explicitly quoted. More precisely, he aims at explaining the link between *individual* demand for money and the *aggregate* quantity in circulation. In case of unconvertible currency, money demand is not predictable, so a study of monetary policy should pay attention to the mechanism behind the supply of money. Thanks to his experience as policymaker, Rueff put the focus on central bank practices regarding inflows and outflows of foreign reserves such as France experienced during the early 1930s<sup>11</sup>. For this reason he analysed the efficiency of open market practices increasingly used in his time, notably at the Bank of France (Barbaroux 2014). In this study he focused on open market policy and its effects on the monetary base in line with the *desired* endogenous demand of money. We find one of the major criticisms that Rueff voices regarding central banking theory: the ideology of central banks' ability to regulate the quantity of money. He recognized that it is doubtful to consider that any central bank could have the power to influence the quantity of money in the desired sense. He expressed his doubts in the following way: *'according to the existing monetary systems in Europe and in USA, money users exert a wide influence on the global quantity in circulation by deciding individually their respective amount of their cash [...] [B]y admitting that the quantity of money depends entirely on the monetary authorities, we commit a mistake that is full of consequences for the economic theory as well as for the mechanisms that enable to assess the stability of prices'* (Rueff 1953, pp. 16-17)<sup>12</sup>. This weakness corresponds to the Post-Keynesian argument that it is always the economic agents who decide the desired level of money (cash or saving) demand. In Rueff's own words: *'It is, thus, each of us that affect the quantity of money in circulation when we set the amount of supply and demand on the market'* (*ibid*: 17). This criticism to the quantity theory opens the door to a new monetary thinking that Rueff aims at contributing.

#### *The elements of a Wicksellian connection in Rueff's 1953 article*

The most interesting part in Rueff's monetary analysis is to be found in the third paragraph where he developed a framework close to Wicksell's *pure credit economy* (1936, p.59). He

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<sup>11</sup> We have to note that Bank of France was strongly criticized by the international monetary institutions -notably from BoE and the Fed- and policymakers at large for its monetary policy between 1926 and 1932. The latter contributed to a huge amount of gold reserve at the expense of the other central bank's reserves: see Barbaroux (2013), Blancheton (2001) and Mouré (1998).

<sup>12</sup> The translation is ours.

considers a *closed* economy at a stationary state which functions under an *unconvertible paper money* circulating exclusively by way of a money market which he defined as a '*market outside the bank*' (Rueff 1953, p.18). As in Wicksell – or even in Woodford *Neo-Wicksellian* framework – the economy is financed by way of the *credit* under the form of short-term assets on the money market. More precisely, the money issue took the form of the discounting of the bills of exchange and Treasury bonds or whatever short-term liabilities on the money market or at the central bank by way of the private banks. Two types of interest rate drive the economy: a *money market* rate – which is determined by the supply and demand of short-term assets on the money market-, and the *discount* rate which is the upper bound set by the central bank. The framework adopts a circuitist approach in which the firms produce the goods financed by the issue of short-term assets. Thus, when the end of the month period approaches, entrepreneurs start selling their production so as to acquire the deposits that enable them to pay off their debts. As a consequence, the supply *exceeds* the demand, which decreases the price level. Rueff makes the explanation more complex by distinguishing *forward* purchases (sales) and *cash* purchases (sales) due to the discrepancy between the (decreasing) current price level and the (increasing) money market rate<sup>13</sup>. However, it did not change reasoning or mechanism in action. As every loan is renewed for the same amount (*stationary state hypothesis*), the interest rate on the money market increases due to the increasing demand in the renewal of the credit facilities. The two proceeding opposite fluctuations – the one on prices and the one on interest rates – enable satisfaction of the demand for money from private agents during the month. Due to the 'supply *without* demand' and the resulting drop in prices, there exists a surplus of (*undesired*) money, which can be transferred to the increasing demand for credit. This episode lasts as long as the money market interest rate is *lower* than the discount rate. However, when the two rates are *equal*, the money interest rate stops increasing and prices stop falling. Every demand for credit is satisfied by monetary creation (under the discounting of bills or Treasury bonds) from the central bank. The earlier the money rate will move closer to the discount rate, the quicker the monetization process will begin and the shorter the deflationary period will last. After the settlement date of the credit, when a new period begins, the money demand decreased and the reverse process occurs even if it implied more complex mechanisms as Rueff explained in a lengthy way in his article<sup>14</sup>. Rueff also considers the case in which the central bank set the

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<sup>13</sup> When the supply exceeds the demand, as the money interest rate increases and the price level decreases, it becomes profitable to sell the goods for cash so as to buy them later on (*forward* purchases) while investing the sales proceeds in the money market. It results a drop in the (*cash*) price level and an increase in the money interest rate.

<sup>14</sup> Rueff described more complex mechanism that occurred in this imaginary case. A '*demand without supply*'

discount rate at a *too low* level. In this case, the money market rate is *above* the discount rate. Most of the short-term assets are discounted to the banks which brings about an increasing money creation by the central bank. This excess of (*undesired*) money bids up prices.

Summing up those two purely imaginary cases, Rueff concludes that the quantity of money in circulation should be regulated in line with the *desired* demand of money by following a practical policy instrument.: ‘*When considering the monthly variation of the quantity into circulation, the variation of desired cash in hand money is, generally, the causal dominant factor. [...] The discount rate is the threshold according to which the increase of the desired money demand is fed by new monetary creation rather than by the fall of prices (...) the more the discount rate moves closer to the (money market) interest rate, the more the general price level is likely to be stable.*’ (*ibid*: 23)<sup>15</sup>.

This monetary policy recommendation is close to Wicksell's (1936, p.189) one in his chapter eight of his ‘*Interest and Prices*’ book: ‘*So long as prices remain unaltered the banks’ rate of interest is to remain unaltered. If prices rise, the rate of interest is to be raised; and if prices fall, the rate of interest is to be lowered; and the rate of interest is henceforth to be maintained at its new level until a further movement of prices calls for a further change in one direction or another.*’

It is correct that Rueff did not mention Wicksell’s ‘*natural*’ or ‘*normal*’ rate concept in his 1953 article. Wicksell's mechanism pertains to the ‘*natural*’ or ‘*normal*’ rate, *i. e.* a rate determined *outside* the banking sector. The later finds its equivalence in Rueff’s framework when he spoke of ‘*the money market rate of interest*’ which is determined *outside* the banking sector according to the supply and demand of short-term assets. By contrast, the discount rate is determined *within the banking sector* by way of the central bank. As we saw beforehand, it provides the ‘*threshold rate according to which the increase of the desired money demand is fed by new monetary creation rather than by the fall of prices (...) the more the discount rate moves closer to the (money market) interest rate, the more the general price level is likely to*

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phenomenon occurred due to the excess of (*undesired*) money that agents hold (end of the credit payment). The commodity prices increase and the same can be said concerning the prices of short-term assets on the money market. But, as time goes by, a few bill for discount should be settled so that the demand for credit renewal increased and should be discounted by central bank. As long as the demand for (*desired*) credit increase, the credit renewal (*i.e.* bill of exchange or Treasury bonds) can be discounted -or monetized- by the central bank. As a consequence, less and less money market’s assets are available. In the end, the quantity into circulation decrease due to the discounting of the money market’s assets by banks.

<sup>15</sup> The translation is ours

*be stable*'<sup>16</sup> (Rueff 1953, p.23). Moreover, by focusing on the discount rate and the money market rate, Rueff escapes from one of the major criticisms the Wicksellian theory faced. Most of the Stockholm school members rejected the '*natural*' rate of interest concept due to its ambiguity and its exogenous origin. Except Lindahl, most of them thought the natural rate concept not to be useful for implementing monetary policy. Even Wicksell himself had never been able to reject the criticisms that his core concept attracted. If all the financing of the firms is fully satisfied by the money market and the issue of short-term assets (*unconvertible paper money system*), as in Rueff's framework, we do not need any natural rate of interest concept. By contrast, the discount rate and the money market rate concepts are more essential if we consider the way monetary policy was conducted in that time. Central bankers managed monetary policy by way of setting the discount rate while increasingly using open-market operations. In this respect, Rueff is fully relevant when he defined his monetary system by those two rates. We consider that three features are essential for connecting Rueff's framework with Wicksell's. *Firstly*, it is the increasing use of credit tools, by way of discounting operations that forces central bankers to think and speak differently about monetary policy. As in Wicksell's ideal type, *i. e. the pure credit economy*, the disequilibrium of prices in Rueff is theoretically analysed under an *unconvertible* paper money system with a focus set on credit. *Secondly*, both share the reference to the *two interest rates dynamics* as compared to the price level goal. The discrepancy between the discount rate and the money market rate is responsible for inflationary process. *Thirdly*, both theories feature a *monetary policy rule* that proposes targeting price level stability under the discount rate setting. The latter's features are present in Rueff 1953 article.

This connection is particularly interesting as Rueff used Wicksellian arguments in the 1950s and 1960s at a time when Wicksell was half-forgotten or completely ignored in France and abroad. Jacoud (2005) confirms that. When dealing with Swedish economists, Jacoud (2005, p.258) writes "[Cassel was] *the only Swedish economist read in France*". Only one reference published in French referred to Wicksell's monetary corpus at that time. It was the article by André Marchal in the *Revue d'Economie Politique* from 1947 even if it covered the Swedish economists at large not especially Wicksell. Jacques Lecaillon and Jean Marchal published a book on '*The Theories of Monetary Flows*' (*Théories des Flux Monétaires*) in 1967. Those two references demonstrate to what extent Wicksell's theory, as in many countries, had been recovered only lately. The only one exception we could mention was a manuscript from Rist

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<sup>16</sup> The translation is ours

in the archive of the Bank of France<sup>17</sup>. It was Rist's lectures notes on economic crisis that he gave at the doctoral school in Paris in the 1930s. Rist mentioned two references from Wicksell: the German version of the '*Lectures on Political Economy*' (*Vorlesungen über Nationalökonomie auf Grundlage des Marginalprinzipes*) dated from 1922 (especially the theoretical part of the book) and the original German version of '*Interest and Prices*' (*Geldzins und Güterpreise*) from 1898. Not surprisingly, Rist was strongly critical of Wicksell's monetary works. While presenting cautiously Wicksell's genuine monetary thesis, Rist developed a critical analysis of the natural rate of interest key concept plus the full employment hypothesis in Wicksell's framework. The French Wicksellian connection is particularly revolutionary if we consider the way Bank of France implemented its monetary policy up to the 1950s. For a considerable time, Bank of France considered only the gold anchoring as the *unique* monetary policy goal with absolutely no regard to open-market practices.

As Jacques Rueff opens the way in direction to Wicksell, another *Jacques* followed the same path a few years later when dealing with his '*compensation thesis*' in the late 1950s.

### 3.2. Jacques Le Bourva's contributions

Even if he did not mention him, Jacques Le Bourva follows the path opened by Rueff. Le Bourva wrote two articles in *Revue Economique* in 1959 and 1962 respectively that have been published as a comprehensive English version in the *Review of Political Economy* in 1992 under the title '*Money creation and credit multipliers*'.<sup>18</sup> The aim of his paper is to shift the main point of attack on the quantity theory of money from '*instability of the velocity of money*' to '*credit is not limited by money*'. The author self-consciously provides '*a vision of monetary theory that is different from that usually taught*'. One might plausibly assume that what was usually taught can be approximated through the Mundell-Fleming model, with its key publications by Fleming (1962) and Mundell (1963) coming shortly after Le Bourva published his two articles in 1958 and 1962. As it stands, Le Bourva's *compensation* theory is still '*different*' today, perhaps even more so since the schools which held the view of endogenous credit (Schumpeterian, Post-Keynesian, Austrian, etc.) have since been quite completely removed from faculties of economics.

Le Bourva starts his paper with the statement that the quantity theory implies a quantity of

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<sup>17</sup> Bank of France Archive : Reference 1037200603-12.

<sup>18</sup> We are indebted to the work of Marc Lavoie and Mario Secareccia who were the first and unique ones that popularized Le Bourva monetary works by way of a publication in the '*Review of Political Economy*' in 1992. More precisely, a graduate student of Marc Lavoie did the translation with some help from Mario Seccareccia.



money that has been fixed by bankers ‘*from the heights of their own secret Olympus*’ (1992, p. 447). It is independent from national income and current economic situation. The quantity theory of money would not rule in France, according to Le Bourva, instead, the Banking School and Wicksell prevail. All practitioners would emphasize the ‘*demand for money*’. Le Bourva outlines an *alternative* explanation for an economy in which bankers can respond to demands for credit *without limit*. He admits that the elements ‘*are neither new nor original*’ (p. 449), but would nevertheless lead to a new ‘*version*’ of thinking. Monetary elasticity is the first topic to be discussed. By money he seems to mean *cash*, which might have been the standard definition of money in those times. Le Bourva’s theory contrasts the quantity theorists and Keynes (of the *General Theory*) with the Banking School and Wicksell. The former would believe that a rise in demand for money leads to a rise in the rate of interest, the latter would not. Instead of setting a quantity, (central) banks would set a price for the money market – the interest rate – and then lend what borrowers ask for, provided they have collateral. Le Bourva develops the same graphs that Moore (1988) uses in his book on *horizontalist* and *verticalist* views. Moore, by the way, does stress his Wicksellian Connection by starting his first chapter with a lengthy quote from Wicksell.

Le Bourva distinguished *desired* and *undesired* money as Jacques Rueff did in his time<sup>19</sup>. Since (*desired*) money is created by loans, repaying loans would destroy *undesired* money. Hence all existing money must be desired. The initiative in the loan market lies with the demand side, and monetary policy can try to reduce the amount of loans, even though it remains doubtful that such policies will succeed. Loans are a last resort for borrowers since they are costly. Only if mobilizing idle balances and using overdrafts fail then the amount of money will increase. As initiated by Rist, Le Bourva enters in the debate on whether deficits of the public sector can cause inflationary processes. He states that the general price level is an independent variable on which the quantity of money would depend. This turns the quantity theory on its head. The price level does not depend on the quantity of money, but the quantity of money on the general price level!

More interestingly, Le Bourva follows Wicksell and also examines pure ‘*credit money*’, by which he means bank deposits. A single bank issuing deposits is imagined, in which deposits are subsequently moved around just as in Wicksell (1898). Le Bourva finds that ‘*there is no limit to the volume of loans that the bank can grant*’ (1992, p. 453). At the going interest rates, loan demand is positive and the bank engages in what Le Bourva terms monetizing debts. The reputation of the bank is better than that of the business, so this is why this scheme

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<sup>19</sup> Although it would be equally true for reserves, it seems to us that Le Bourva writes about money as deposits.

would arise.<sup>20</sup> According to Le Bourva, the bank, *'like all other businesses, [...] must balance its accounts; that is, the inflow of funds must compensate for the outflow'* (*ibid*, p. 454).<sup>21</sup> Le Bourva later repeats the dictum that *'loans create deposits'* (*ibid*, p. 454), which means that assets and liabilities increase at the same time. The idea that inflows of funds must compensate the outflows is something that does not happen very often if at all in modern banking. Banks mostly have outflows higher than inflows when it comes to cash money. Le Bourva understands that money created by the bank is destroyed when loans are repaid (*ibid* : 454). In today's world we would talk about reserves that are created by banks borrowing from the central bank and destroyed when banks repay their loans from the central bank.<sup>22</sup> Le Bourva affirms that *'loans create deposits'* and that banks hence are not intermediaries. He also points out that *'money is not just a stock, it is also a flow'* (*ibid*, p. 455).

Le Bourva continues by imagining a system of total prefinancing of operations, which would provide a link between the creation and destruction of money and income.<sup>23</sup> In a passage that is worthy of highlighting he writes (*ibid*, p. 455):

*'Of course, incomes are not spent in their entirety on consumption, if net investment is positive in the aggregate, and if entrepreneurs have some cash balances at the outset and do not completely prefinance their activity, this creates complications that have achieved notoriety in the history of economic thought and that must be considered.'*

In the third section of the paper Le Bourva describes the actual French monetary system. He notes that there are two types of money, which are the liabilities of the central bank (*reserves* in today's language) and the banks (*deposits*). The central bank sets the interest rate and accommodates demand. Banks need reserves to pay off clearing house deficits, to give cash to customers and to procure foreign currency.<sup>24</sup> Changes in the interest rate by the central bank would have an effect that *'is very indirect and uncertain'* (*ibid*, p. 457). On the microeconomic dimension, Le Bourva agrees with Kalecki's (1939) principle of increasing risk. Credit extended to one client is not infinitely elastic, both the bank and the debtor face increasing risk with increasing size of the loan. Macroeconomically, there would no problem with increasing the amount of loans. If banks would expand their loan book in lockstep, the

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<sup>20</sup> Le Bourva does not embrace Chartalist positions (see Tcherneva, 2007) in his articles.

<sup>21</sup> Torfason (2014) finds that banks do not actually look at cash flow accounting to inform themselves. Operational cash flow of a bank is usually negative.

<sup>22</sup> See Ehnts (2016) for a balance sheet view of a modern monetary economy.

<sup>23</sup> For an overview of the income theory of money see Mensik (2015).

<sup>24</sup> Deposits held at the central bank can be withdrawn in the form of cash.

circuit of deposits in the clearing system would automatically close as inflows and outflows should net out over time. There is thus ‘*no theoretical limit to the capacity of the banking system as a whole to create the money it needs to meet the demands on it*’ (*ibid*, p. 461) as it is commonly defended in the modern banking system with unconvertible money.

Without any doubt, the most interesting part in Le Bourva’s work relies in his concept of *compensation thesis*<sup>25</sup>. Under the heading of ‘*The conversion of deposits into notes*’ (today’s reserves) the discussion focuses on the relationship between the two.<sup>26</sup> Le Bourva denies that the credit multiplier theory is valid. He points out that a reverse view is possible. Whereas it is normally assumed that banks lend out excess deposits at the central bank (reserves) to the private sector, one might alternatively argue that given the central bank lends at some interest rate against collateral whatever level of reserves that are demanded, it is credit determining money and not the other way around! Le Bourva writes that credit is often based on debt obligations, and that these debt obligations ‘*are all alike in being mobilizable at the central bank provided that the maturity date falls within the time limit set for each category*’ (*ibid*, p. 462). Hence the access to reserves is determined not by the central bank but by the availability of suitable debt obligations upon which the central bank would be willing to lend reserves. In a footnote Le Bourva writes: ‘*The existence of excess liquidity must not be interpreted as a sign of imminent creation of credit, but as that of an insufficient demand for credit on the part of the borrowers*’ (*ibid*, p. 462). This statement would be correct if Le Bourva had in mind a certain relation between deposits and cash.<sup>27</sup> When dealing with the compensation thesis, Le Bourva asks whether an increase in reserves as a result of an inflow of foreign currencies will automatically lead to more deposits, with the proportion set by the credit multiplier<sup>28</sup>. His answer is that banks exchange foreign currency for reserves at the central bank *without* any further actions being necessary. In a footnote, Le Bourva mentions that: ‘*it is well-known that compensations operate among the various means which the banks can resort to in order to obtain notes*’ (*ibid*, p. 463). Le Bourva assumes that banks have a certain demand for reserves, which they could acquire via different routes. Borrowing from other banks or the central bank is one obvious route, getting them through exchange of foreign reserves into domestic reserves would be another. Reserves can be created through different mechanisms and Le Bourva does not see why reserves created through foreign

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<sup>25</sup> Section V on the effect of quantitative credit restrictions is omitted from discussion since it is not directly relevant to the compensation thesis.

<sup>26</sup> Since the distinction of deposits and reserves is crucial for the compensation thesis, this justifies the somewhat lengthy discussion of the prior parts of Le Bourva’s paper(s).

<sup>27</sup> Another possible cause for excess liquidity would be a disintermediation of the interbank market.

<sup>28</sup> Page 462, last paragraph onwards.

exchange operations between banks and central bank would hold any ‘magical power’ (*ibid*, p. 463). Whereas neoclassical economics sees the money stock as independent from real activity, Le Bourva sees the money stock as determined by the activity of national businesses. Inflows of (financial) capital would be a source of serious instability at large, but that would have nothing to do with the monetary supply, as Minsky also demonstrated later on with his ‘financial instability hypothesis’ (1986). The same holds for government spending: ‘When the Treasury has to obtain advances from the Bank of France in order to settle state debts, this money then flows into the accounts that banks have at the Bank of France’ (p. 463-4)<sup>29</sup>. It would be cheaper for banks to obtain reserves through this mechanism than through borrowing from the Bank de France. Banks would compensate the increased reserves created through fiscal expansion by diminished demand for rediscounting at the Bank de France. Another way to compensate additional reserves would be for banks to buy government securities held by the central bank.

The compensation thesis thus holds that central banks intervene much less than is commonly assumed due to balance sheets movements initiated by the banks. There is no automatic mechanism that leads from exports to increases in either reserves or reserves and deposits, and hence the central bank will not need to sterilize in each and every case. It can if it wants to, but money market conditions might not be affected much by exports if banks chose to not let their holdings of reserves increase. Le Bourva does not see any automatic mechanism at work that would lead to a balanced current account by either nominal exchange rate adjustment or changes in the domestic price level.<sup>30</sup>

#### 4. Conclusion

Summing up, there seems to be a French Wicksellian connection after WWII that extends all the way to Rueff and Le Bourva. The Wicksellian connection was established when Rueff published his 1953 article in the footsteps of Wicksell’s core model from his ‘*Interest and Prices*’ masterpiece. Rueff’s theoretical corpus is an example of the *art* in monetary policymaking located somewhere between policymakers and academics. In this respect, the implicit reference to Wicksell enables Rueff to improve our understanding on the way monetary policy should be implemented in the context of the 1950s as Wicksell did in his

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<sup>29</sup> This connects to Innes (1914), who wrote that ‘*there is apparently no special depreciation of the government money, but a gradual rise of prices, a rise which, if it implies the depreciation of any money, implies evidently the depreciation of all money, by whomsoever issued; and there is nothing in the credit theory, if considered by itself, which would lead the student to think that a general fall in the value of bank money or merchants’ money would follow an excessive indebtedness on the part of the government.*’

<sup>30</sup> Some recent research on China seems to prove that this view is essentially correct. See Lavoie and Wang (2012), Ehnts and Körner (2013) and Angrick (2015).

time.

Rueff's two-interest-rate mechanism is not identical with Wicksell's, but deals only with an internal hierarchy in the banking system in setting the market rate of interest. However, the "natural" or "normal rate" of interest come into the picture in Rueff's work when he introduced the 'money market rate' that he saw as being determined *outside* the banking sector as we demonstrated in section 3. As a consequence, all the required elements for a Wicksellian connection are already present in Rueff 1953 framework: *first*, the dynamics of credit as a disturbing element in the price level; *second*, the mechanics between the two rates – money market interest rate and the discount rate – in line with the price disequilibrium; and *third*, the proposed monetary rule that targets price level stability relying on setting the central bank's discount rate. As far as monetary policymaking is concerned, we can easily conclude that a central bank should track the fluctuation of the price level so as to decide whether to change or maintain its discount rate. This monetary message perfectly connects Rueff with Wicksell seminal monetary policy lesson from his 'Interest and prices'.

Le Bourva, like Wicksell, realized that credit is created without theoretical limit, determined by demand, financing production and starting a monetary circuit, destroyed by repayment of loans; that banks have an incentive to move in lockstep, that the central bank sets the interest rate and that the way to understand a financial system would be to imagine a pure credit and a pure monetary system and then merge the two. Le Bourva extends our knowledge by making the central bank's role more explicit. He discusses balance sheets and access to liquidity as well as international money flows, creating the compensation thesis. With him, the Wicksellian connection is not so strong as with Rueff, but it is nevertheless there.

All of that gave us new insights on the French monetary policy that followed WWII. The increasing use of open market procedures by the Bank of France after WWII can be seen as a major change in the way French central bankers think and speak about monetary policy. Thanks to Wicksell's forerunning work, we consider that the two *jacques* - both Rueff and Le Bourva - had been influential in this change.

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