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From Wicksell to Le Bourva to Modern Monetary Theory: a Wicksell connection *

Dirk Ehnts and Nicolas Barbaroux

Abstract: In the aftermath of the Great Financial Crisis (GFC), and within the context of significant macroeconomic imbalances in the world economy, economists have shown renewed interest in the way central banks and financial systems work. The rise of Modern Monetary Theory (MMT) has relied on the examination of balance sheets, which has led to advancements in the understanding of the nuts and bolts of the financial system and the fundamental role of taxes, reserves, and deposits. While the school is associated with Post-Keynesian economics, we make the case that it could just as well be called Post-Wicksellian. The aim is not to argue for or against some label, but to make explicit the Wicksellian connection. In doing this, we bring forward old discussions and insights, which can be integrated into recent debates. MMT authors emphasize the importance of endogenous money and the examination of assets and liabilities in balance sheets. In our inquiry, we demonstrate that a *horizontalist* approach – adopted by MMT scholars – was already present in Wicksell (1898) and in the writings of French economist Jacques Le Bourva (1959, 1962). We examine the essential publications of the two authors and compare their views with the insights of MMT. By doing this, we hope to show continuity in monetary thought. MMT should not be seen as an intruder from the outside of monetary theory, but rather as a continuation and expansion of certain ideas that have long been part of the discipline. Identifying areas of disagreement between the three views should help bring clarity to the issues that are still disputed.

Keywords: central banking, monetary policy, discretionary practices, Wicksell, Modern Monetary Theory, MMT.

JEL classification: E4, E51, E58

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1. Introduction

The authors that write under the label of Modern Monetary Theory (MMT) are known for being different from other schools, as they focus on balance sheets and what they call “reserve accounting”. The focus on these issues, however, is not exclusive to MMT. Post-Keynesian scholars in particular demonstrate a remarkable similarity in their analysis, to the extent that MMT can appropriately be considered a spin-off of Post-Keynesian theory. Lavoie (2003), for example, provides a very similar introduction to endogenous money, with only minor differences. What makes the MMT methodology unique is that it relies almost exclusively on double entry book-keeping and identities from the national income and product accounts. The behavioral assumptions are minimized and the economy is predominantly analyzed through hindsight. Equilibrium exists with respect to the “balance of the balances”, and not based on the neoclassical idea of bringing together supply and demand. This divergence between theoretical approaches is particularly relevant with regards to the clearing of the money market. Wray (2012) – a prominent MMT scholar – stresses that, given collateral, central banks lend as much reserves as banks desire, and that, if the interbank market interest rate is not in the target zone, they also actively intervene in the market in order to return the interest rate to the proper level. Under MMT, at the level of banks, the endogeneity of credit money or deposits is stressed. Banks lend against collateral and the deposits are created when the loan contract is signed. No deposits are subtracted from any other balance sheet in the banking system. The theory also holds that fiscal spending is not inflationary *per se*.

The purpose of this analysis is to explore some of the connections between the MMT theory – as described above – and earlier works. In order to do this, we will examine Le Bourva’s articles from 1959 and 1962, which have been translated into English and published in 1992, as well as Wicksell’s *Interest and Prices* from 1936 (1898). We have chosen to include Le Bourva because his work proves that the Wicksellian connection was not lost over the 20th century. He thus presents an interesting stepping stone between the 19th and 21st century monetary thought.

Lavoie (1992) pointed to Le Bourva as one of the grandfathers of the ‘compensation thesis’, which led to a renewed interest in this formerly unknown scholar. As portrayed in Lavoie (1992), the

‘compensation thesis’ claims that inflows of foreign reserves do not translate directly into increased domestic reserves; either banks compensate their increase in assets in different ways – for instance, by reducing outstanding loans from the central bank – or the central bank engages in non-discretionary operations that compensate the rise in reserves. It is an alternative to the ‘sterilization thesis’ that is put forward in most modern textbooks. The latter thesis stresses that central banks sell illiquid assets to market participants that have excess reserves as a result of exchanging foreign currency acquired in net exporting into domestic currency and thus threaten to push the interest rate down. Le Bourva (1959, 1962) bases his monetary theory on the endogenous creation of money, which lately has received wider attention.¹ With quantitative easing (QE) and lending of last resort being applied around the world, interest in the balance sheet operations of central banks and Treasuries has increased significantly. One might even proclaim a new consensus monetary theory that focuses on the difference between the central bank’s monetary circuit and the private (and public) banks depository circuit, the way the central bank uses its instruments to fix the short-term lending rate on the money market, and the non-existence of a hard budget constraint on the government, among other things.²

The differentiation of credit (money) and (central bank) money goes all the way back to Wicksell (1898), if not further to the Banking School and its predecessors. Wicksell’s research programme consisted of an examination of a ‘pure cash system’ and a ‘pure giro system’, as he called it, and the interconnections between the two. Given the long tradition in the macro family tree of the Wicksellian heritage (Leijonhufvud, 1981), the article by Le Bourva focuses on central bank behaviour in the context of an open economy. This is a topic that Wicksell (1898) did not cover. Our intention is to shed light on the theoretical background in selected writings of Wicksell and Le Bourva in order to prove a Wicksellian connection to MMT. Such exegesis can be enlightening for contemporary discussions of monetary theory in the context of the GFC, QE, and the euro zone. While the mainstream theory, including the New Neoclassical Synthesis, often claims to follow the work of Wicksell, it is evident that this conception is quite misleading. In particular, in

¹ McLeay et al. (2014) from the Bank of England created an introduction to endogenous money, which triggered a lot of discussions in economics faculties. Bundesbank (2017) did the same for Germany.

² This new consensus monetary theory encompasses Post-Keynesians, including Modern Monetary Theory (MMT), the paper by McLeay et al. (2014) of the Bank of England, Gavin and Kydland (1995) of the Fed St. Louis, Stracca (2007) of the ECB, and many if not most central bankers, and authors such as Koo (2009), Mehrling (2010), as well as Sheard (2011) for Nomura and Sheard (2013) for Standard&Poor’s and other financial market participants.

Woodford's *Interest and Payments* (2003), which forms the basis of the New Neoclassical Synthesis, he suggests that this mainstream theory is rooted in Wicksell's analysis. As pointed out by Boianovsky and Trautwein (2006) as well as Tamborini (2006), however, this claim is rather weak.³

In this article, we review the book published by Wicksell (1898), compare his ideas with those of the articles by Le Bourva (1959, 1962), and finally with those of MMT, as exemplified by the Primer published by Wray (2012).⁴ We will demonstrate how major ideas, including the *horizontalist* approach, the theoretical ability of banks to create unlimited credit money, or the importance of demand for money, have played a central role in monetary theory before the rise of MMT. While the work of Wicksell and Le Bourva has largely been forgotten, at least outside France, we think that bringing forward these old discussions and insights, and integrating them into the newer debates, would be a fruitful endeavor.⁵ In this context, we respectively consider the following topics, which serve as points of reference from which all three works can be compared: methodology and the research project; origin and value of money; banks and banking; central banks and the money market; the monetary circuit; and deficit spending by the government. While this choice of topics is not exhaustive, it should cover enough of the approaches to form a judgment regarding their relationship. We conclude by pointing out what exactly the Wicksellian connection to MMT consists of and what gains can be expected from making it explicit.

2. Methodology and the research project

Knut Wicksell originally published his 'Geldzins und Güterpreise' in 1898 in German, with an English translation under the title 'Interest and Prices' on the market since 1936. We will quote from the English edition.⁶ Given that Wicksell has been lost to the current generation of

³ A contrasting view is expressed by Clinton (2006).

⁴ The Primer by Wray seems to be the most recent compendium of MMT. Other compendia are Mosler (2010) and Ehnts (2014), who focuses on the eurozone. The work of Minsky, which is also part of MMT, is omitted in this article because it touches some finer points that Wicksell and Le Bourva did not write about. See Wray (2011) for a Minskian view of the GFC.

⁵ Le Bourva was quite well-known in France, according to private correspondence with Marc Lavoie. A book of essays in his honor was published as Gaffard and Glais (2000).

⁶ Available online at <https://archive.org/details/interestandprice033322mbp>.

economists,⁷ we find it worthwhile to distill the insights from his 1898 book for readers who are unfamiliar with his work. Wicksell, if he is known, is often portrayed as the founding father of the loanable funds theory. While the loanable funds theory is included in his book, it would be misleading to categorize Wicksell as just another neoclassical economist. Wicksell indeed starts out from the neoclassical position, trying to bring dynamics into the quantity equation. He does so by splitting the problem in half: one that deals with cash and one which deals with bank deposits. It is worthwhile to present a quote by Wicksell (1936, p. 70) on his research method:

“We intend therefore, as a basis for the following discussion, to imagine a state of affairs in which money does not actually circulate at all, neither in the form of coin (except perhaps as small change) nor in the form of notes, but where all domestic payments are effected by means of the Giro system and bookkeeping transfers. A thorough analysis of this purely imaginary case seems to me to be worthwhile, for it provides a precise antithesis to the equally imaginary case of a pure cash system, in which credit plays no part whatsoever. The monetary systems actually employed in various countries can then be regarded as combinations of these two extreme types.”

Wicksell’s methodology consists of a discussion of an idealized theoretical system, which he calls “pure”. He describes reality and builds his theory around his observations. His approach is positive and not very abstract. Even though one might think that “pure” theory is disconnected from the real world, it is not. While Wicksell discusses real examples regarding certain transactions, he uses simple stories to explain these complex issues and somewhat simplify reality. This is where abstraction comes in. Wicksell’s approach is empirical in the sense that observations in the real world form the basis of his theory. His theory should thus answer questions that arise from problems rooted in reality opposed to the abstract.

About 60 years after Wicksell published his book, Jacques Le Bourva wrote two articles in *Revue*

⁷ Leijonhufvud (1981), Graziani (1989), Woodford (2003) and Lavoie and Seccareccia (2004) are noteworthy exceptions. We agree with Boianovsky and Trautwein (2006, 184) though that the models developed by Woodford (2003) are ‘wider off the mark than the approaches of the old Wicksellians’.

Economique in 1959 and 1962, which were published in English in 1992 in the *Review of Political Economy* under the title ‘Money creation and credit multipliers’.⁸ Given that most readers will find it easier to familiarize themselves with the English version, we discuss the translation rather than the original.⁹ Le Bourva builds on Wicksell’s ideas in terms of research project and methodology. “To sketch properly the formation of credit, it would seem logical to proceed from the simplest case to the most complex and realistic one”, Le Bourva (1992, p. 453) states. He reminds his readers of Wicksell and his ‘pure credit money’ and starts with the same setup as Wicksell – one single bank and one single form of money, consisting of deposits that are transmitted via cheque. Similar to Wicksell, Le Bourva develops an alternative monetary theory. In contrast, however, Le Bourva does not set out to build on the quantity theory, as he views it as “no longer tenable”. According to Le Bourva, in the France of his day “the Banking School and Wicksell prevail” (pp. 447-8).¹⁰ While Wicksell’s main objective is to explain changes in the price level, Le Bourva would prefer to see his theory prevail and not amend the quantity theory of money. The aim of Le Bourva’s paper(s) is to shift the main point of attack towards the quantity theory of money from ‘instability of the velocity of money’ to ‘credit is not limited by money’.¹¹ Le Bourva, by contrast, had a tendency to rely on the use of balance sheets in his analysis. His approach follows Wicksell’s, as he does not build on abstract models with equilibrium, but rather focuses on (reserve) accounting, with a practical problem in his mind.

Practical problems also seem to be at the core of MMT. Wray (2012, p. ix) writes in his introduction: “To put it simply, we have uncovered how money ‘works’ in the modern economy.”¹² This statement is followed by a presentation of balance sheets and transactions. Wray and most other MMT scholars use balance sheets more explicitly than both Wicksell and Le Bourva. Apart from the essential ideas, however, their work is rather an improvement in style than a difference in method. What was argued by Wicksell and Le Bourva essentially paved the way for “balance sheet economics” put forward by MMT. In this context, there is remarkable similarity

⁸ The translation was done by a graduate student of Marc Lavoie with some help from Mario Seccareccia. Only part I is from the 1959 paper.

⁹ One of the authors is a native French speaker and has read the originals as well.

¹⁰ This means that economists prefer endogenous money creation to the money multiplier and understand that banks’ demand for reserves should be accommodated.

¹¹ Neither central bank deposits nor savings or cash limit credit.

¹² Tymoigne (2006) presents an alternative MMT framework to the functional approach to analyze money.

between the research project and the work of Wicksell and Le Bourva. Wray (2012) in his chapter 3 explains banking and central banking in a similar manner to Wicksell and Le Bourva. He goes to some length in pointing out what reserves and deposits are, how they are created and destroyed, who uses and creates them, and what their function in the economy is.

3. The origin and the value of money

Wicksell (1936, p. 49) writes that “[s]trictly speaking, we can assert that *all* money – including metallic money – is *credit money*.” For Wicksell, the only reason credit money has value is because those who are in possession of it are confident in their ability to use it to acquire commodities. When reviewing Knapp’s (1905) ‘State Theory of Money’, Wicksell (1999 [1907], p. 32) writes that “Knapp seems to me to be absolutely correct [...] that as soon as an external form and marking of this kind have become essential to the legal force of the means of payment, then by this very development the substance itself has been displaced, has become a peripheral, a secondary matter ...”. Keynes (1930, p. 4) also reflects on this notion, noting that “it is a peculiar characteristic of money contracts that it is the State or Community not only which enforces delivery, but also which decides what it is that must be delivered as a lawful or customary discharge of a contract which has been concluded in terms of the money-of-account. The State, therefore, comes in first of all as the authority of law which enforces the payment of the thing which corresponds to the name of description in the contract. But it comes in doubly when, in addition, it claims the right to determine and declare *what thing* corresponds to the name, and to vary its declaration from time to time – when, that is to say, it claims the right to re-edit the dictionary”. In this context, while Le Bourva (1992, p. 454) is not writing explicitly about the value of money, he notes that “a bank’s main task is to *monetize debts*”. It seems that this view is compatible only with the chartalist view of money, as expressed by Knapp and Keynes, and not compatible with the metallist view of intrinsic value of metals. In the latter view, banks monetize gold and silver, but not debts.

The Chartalist view of money – evident in both Le Bourva and Wicksell – is also adopted by MMT. In particular, Lavoie (2013) describes MMT as being associated with ‘Neo-Chartalism’. While all three approaches rely – in some form – on the Chartalist view of money, MMT, compared

to Wicksell and Le Bourva, is in general more precise when it comes to questions of origin and value of money.¹³ In Wray (2012), he stresses that taxes drive money and explains that government needs to spend before it can tax. Money is described as an IOU (I owe you) issued by the state or banks. The state issues money via the central bank and government bonds via the Treasury. Taxes ensure a steady demand for money. Traditional commercial banks make loans against collateral (i.e. Wray [2013]). In this context, apart from detail, we do not find large differences in the three viewpoints discussed.

4. Banks and banking

In his classic, *Interest and Prices* (1898, [1936]), Wicksell clearly understands that banks create money. He writes that “no matter what amount of money may be demanded from the banks, that is the amount which they are in a position to lend (so long as the security of the borrower is adequate). The banks have merely to enter a figure in the borrower’s account to represent a credit granted or a deposit created” (p. 110).¹⁴ The process through which banks determine their threshold for lending is further characterized by Wicksell (1898, p. 85) as follows: “[i]f a bank provides credit on too liberal a scale it is in direct danger of its notes or cheques becoming concentrated in the hands of the other banks and being presented by them for *redemption*; or, at best, it might have to pay a higher rate of interest on its current account with the other banks than the rate that it receives”. Le Bourva has a similar view to Wicksell in this regard, arguing that the demand for credit is what determines the quantity of credit (p. 448). Le Bourva also agrees with Wicksell that banks set a price - the rate of interest - and not a quantity, as well as on the idea that, as Le Bourva puts it, “bankers can, if they so desire, respond without limit to demands for credit” (p. 449).

Le Bourva – in his discussion of clearing in section IV – also recognizes that one possible solution to interbank market clearing “is that the [=all] four banks increase their loans equally at the start” (p. 460). This would close the circuit automatically. The monetary circuit was also a topic in Wicksell, with the word “circulation” appearing 46 times within 196 pages! Nell (1967, p. 386)

¹³ See Wray (1999) for historical treatment of money.

¹⁴ All quotes are taken from the English translation of 1936.

finds that “Wicksell presents a theory of circulation”, complete with what Le Bourva calls “total prefinancing of operations”. Credit is created at the beginning of the cycle and notes circulate until “[t]he entrepreneurs in their turn present these cheques at the bank and so liquidate their liability to the bank” (p. 105).

Furthermore, Le Bourva follows Wicksell and examines ‘pure credit money’, by which he means bank deposits. It is assumed that a single bank issues deposits, which are subsequently transferred among the actors, just as in Wicksell (1898). Le Bourva finds that “there is no limit to the volume of loans that the bank can grant” (p. 453). At the going interest rate, the demand for loans 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, which is why the discounting of bills with the creation of deposits would arise. Le Bourva did not embrace Chartalist positions like Tcherneva (2007), who belongs to the MMT school.

While the ‘pure money’ economy leads to the usual neoclassical view, the ‘pure credit’ economy is more interesting. With respect to the ‘pure credit’ economy, Le Bourva and Wicksell provide a similar analysis. Le Bourva builds on the work of Wicksell, with a particular focus on the failures associated with the neoclassical view on money. Quoting Wicksell and the Banking School, he sides with those arguing that money is – or should be – elastic. In this context, Le Bourva models the relationship between the quantity of credit and the interest rate, with a horizontal credit supply curve and a downward sloping credit demand curve.

Le Bourva defines desired and undesired money: desired money is money that is held by the public, while undesired money is money that flows back to the issuer when loans are repaid (or other liabilities extinguished). Although his analysis would be equally true for reserves, it seems to us that Le Bourva writes about money as deposits. Since this type of money is created through loans, the process of repaying loans would decrease the amount of undesired money. Moreover, if all loans were to be repaid, then all that would be left is desired money. Within this context, demand is the main driver of the loan market. While monetary policy can try to reduce the amount of loans, 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, will the amount of money

increase. Le Bourva proceeds with a discussion of transactions financed by dishoarding, which is somewhat unclear. Nevertheless, the conclusion on page 452 is that “the theory of credit elasticity [...] seems basically sound, while the opposite theory seems indefensible.”

The second part is on the automatic closure of circuits between loans and deposits. Regarding microeconomics, 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 as the size of the loan increases. By contrast, with respect to macroeconomics, there would be no problem with increasing the amount of loans. If banks expand their loan book in lockstep, the circuit of deposits in the clearing system would automatically close as inflows and outflows net out over time. Le Bourva sees “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” (p. 461).

For MMT, Wray (2012, p. 93) affirms that “the bank is not lending anything it has, it just creates money things – bank deposits – at will” which, in the 21st century, is done “by entering a number [...] in a computer” (ibid). When it comes to the “success of the banking operation”, Wray stresses the role of creditworthiness and the bank’s capacity to acquire reserves at low costs. While the former corresponds to the existence of collateral in Wicksell and Le Bourva, and seems to confirm that given collateral banks can create unlimited amounts of deposits, the latter is a variation of the discussion of the interbank market. During the period that Wicksell wrote, Sweden – his native land – was part of the Scandinavian Monetary Union, which was on the gold standard. It was clear that final settlement meant gold. With Le Bourva, settlement was a transfer of central bank money, and Wray (2012, pp. 94 f.) agrees with this view. He also shares the ‘horizontalist’ approach (p. 97) that views the interest rate as exogenous with demand for credit determining the quantity of credit.

5. Central banks and the money market

Wicksell’s (1898) analysis did not explicitly incorporate a central bank. He had only one bank extending credit to the whole economy, with deposits being transferred on its books from one

account to another. Without a second bank, the question of interbank deposit transfers is naturally not relevant, and there is no role for a central bank or clearing-house.¹⁵ The institutions that once fulfilled the role of today's money markets are not considered. Wicksell does discuss international transfers between banks. As he was writing during the gold standard, he assumes that notes (reserves) are backed by gold. In Section III of Le Bourva (1992), *The similarities between real monetary systems and systems of pure credit money: the central bank*, Le Bourva recognizes that reserves are not backed by gold (anymore) and that “[t]he central bank is very similar to the single bank of the ideal model” (p. 456), an insight which escaped Wicksell. In an historical section, Wray (2012, p. 77) also describes a monetary system in which the currency is backed by gold, just as in Wicksell's time. Modern monetary systems are compared to a pyramid, where government IOUs are located at the top. Bank IOUs and non-bank IOUs follow further down. Using the same concept of IOU for each layer means that MMT recognizes the similarity of money (IOU) creation for central bank and bank(s).

According to Le Bourva, 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.¹⁶ Changes in the interest rate by the central bank would result in “very indirect and uncertain” effects (p. 457). Apart from profitability, Le Bourva notes that banks main objectives are to maintain their liquidity and avoid long-term clearing house deficits. Only if reserves are automatically created in unison with deposits, would banks be able to create money without limitations. Le Bourva contrasts the quantity theorists and Keynes (of the General Theory) with the Banking School and Wicksell. While the former would believe that a rise in demand for money leads to a rise in the rate of interest, the latter would not.

In Le Bourva's analysis, he argues that instead of setting a quantity, (central) banks set a price for the money market - the interest rate - and lend what borrowers ask for, provided they have sufficient collateral. In this context, Le Bourva effectively models what Moore (1988) termed horizontalist and verticalist views. Le Bourva supports the horizontalist position. Moore (1988)

¹⁵ Jevons (1876, ch. XX) describes a system of two banks with a clearing house some time before Wicksell published his book.

¹⁶ Deposits held at the central bank can be withdrawn in the form of cash.

was working in the Post-Keynesian tradition, out of which – as noted above – MMT evolved. The Post-Keynesian notion of a horizontal credit (money) supply curve has been adopted by MMT. It is often stressed by mainstream scholars that central banks have the power to set the short-term money market interest rate at any level they want, and that central banks have full control over the interest rates they charge borrowers. MMT, as well as the work of Wicksell and Le Bourva, denies that central banks control a monetary aggregate. This, however, is not to say that the central bank is unable to change the amount of reserves in the banking system. It can easily do so with open market operations, buying t-bonds or other assets into the market by crediting the seller's account or selling t-bonds or other assets and thus reducing the buyer's account.

Le Bourva's discussion of the money market being "in the bank" is somewhat confusing. The expression of the money market being "in the bank" simply means that there is not enough 'high-powered' money in the financial system, such that banks must borrow from the central bank at the discount rate in order to get the banknotes or reserves that they need.¹⁷ This notion is also stressed in MMT. In MMT, banks do not settle after each transaction, but only at the end of the day. Furthermore, banks only borrow reserves from the central bank when they need to, as this operation is costly. Fullwiler (2008, p. 7) notes that "an individual bank desiring more reserve balances can borrow in the interbank or other money markets, while such borrowing between banks again can only shift balances between banks and does not alter the aggregate quantity".

Le Bourva (1992) denies the validity of the credit multiplier theory. He points out that an alternative view is possible. While it is normally assumed that banks lend out excess deposits from the central bank (reserves) to the private sector, one might alternatively argue that – at a given interest rate and accepted level of collateral – the central bank provides loans to meet whatever level of reserves are demanded. From this perspective, it is credit determining money and not the other way around! Furthermore, Le Bourva writes that credit is often based on debt obligations, which "are all alike in being mobilizable at the central bank provided that the maturity date falls within the time limit set for each category" (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

¹⁷ This was thankfully pointed out to us by Marc Lavoie.

bank would be willing to lend reserves.¹⁸ 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” (p. 462). To the extent that Le Bourva is referring to the relationship between deposits and cash/reserves, where more lending would lead to higher demand for liquidity and thus the eradication of excess liquidity, this statement seems accurate.¹⁹

As an important principle, Fullwiler (2009, p. 2) notes that “[r]eserve balances do not ‘fund’ loans or otherwise aid the creation of outside money”. If reserves are acquired outside of the interbank market, then collateral becomes the main determinant of loans from the central bank. The notion of excess liquidity is ruled out by Fullwiler because it conflicts with the goal of controlling the short-term interest rate on the money market. A central bank usually targets the interest rate and absorbs excess liquidity through open market operations. This description of the central bank, where it engages in automatic operations to achieve given targets, is also found in Le Bourva. He assumes that banks face a given demand for reserves, which they can meet via different approaches. Borrowing from other banks or the central bank is one obvious option. Alternatively, banks could exchange foreign reserves into domestic reserves at the central bank.

Le Bourva further argues against the idea that a net exporting country will see its monetary supply and hence its price level rise. The Mundell-Fleming model is considered to be flawed, as additional reserves created through net exports can be used by banks to reduce their debt vis-a-vis the central bank. The foreign reserves that pile up at the central bank would not lead to any expansionary and/or inflationary effect that could be easily forecast. Wray (2012, pp. 165-6) mentions the case of China and predicts that “eventually [the country] will probably run current account deficits that will drain foreign currency reserves”. It is not clear to what extent this is a prediction based on theory or empirical observation, but it would be interesting to pursue this issue further.

¹⁸ It seems that Le Bourva describes the short-term here. In the long-term, the central bank can decide the standards regarding suitable debt obligations (collateral).

¹⁹ Another possible cause for excess liquidity would be a disintermediation of the interbank market.

6. The monetary circuit

Wicksell (1936, pp. 102-5) describes a monetary circuit that starts with production. Entrepreneurs without any capital of their own approach a bank and “all that happens is that the banks extend to the entrepreneurs credits against which they draw cheques.” These cheques are used to pay workers (and rents), which – after production has occurred – are used in turn to purchase goods and services. The entrepreneurs “present these cheques at the bank and so liquidate their liability to the bank”. This is the law of reflux: unwanted money returns to the issuer.²⁰

Le Bourva understands that money created by the bank no longer exists once loans have been repaid (p. 454). He compares this notion to the inflow of notes at the central bank, where he finds that the same concept applies. In today’s world, we talk of reserves that are created by banks borrowing from the central bank, which are destroyed when banks repay their loans. Le Bourva affirms that “loans create deposits” and that banks are not intermediaries. He also points out that “money is not just a stock, it is also a flow” (p. 455). This flow is very important, much more so than liquidity preference, as stressed by Keynes (1936). Le Bourva continues by envisioning a system with total prefinancing of operations, which would provide a link between the creation and destruction of money and income.²¹ In a passage that is worthy of highlighting, he writes (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 Wray (2012), and MMT in general, the monetary circuit does not appear explicitly, as in Le Bourva and Wicksell. There is no discussion of why there is a demand for credit and why it depends on the interest rate. Hence the connection between profits and interest is not stressed as much. It seems that, to some extent, the idea of the monetary circuit underlies the discussion of the

²⁰ See chapter 3 in Fullarton (1845).

²¹ For an overview of the income theory of money see Mensik (2015).

basics of macroeconomic accounting, in which the three sectors – private, public, and external – are stressed. In particular, the point that government needs to spend before the private sector can pay its taxes is very prominent in his book and is based on a ‘circuitist approach’. Wray (2012, p. 6) writes that “[w]e want to make sure that all spending and saving comes from somewhere and goes somewhere”. He also discusses the causal relationship between the sector balances. Wray (2012, pp. 8 ff.) stresses that while economics is a social science, some statements can nevertheless be made about causality: individual spending is determined by income, deficits create financial wealth, aggregate spending creates aggregate income, and deficits in one sector create surpluses in another. This is a description of a monetary circuit in all but name.

7. Deficit spending by the government and (no) inflation

Wicksell, writing under the gold standard and in an era that embraced small government, does not mention government spending explicitly. Government back then did not engage in counter-cyclical fiscal policy. Nevertheless, Wicksell (1936, p. 190) wrote towards the end of his book about a situation in which the monetary circuit would be weak and policy intervention necessary:

“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.”

This can be interpreted as a paleo-Keynesian prescription, with a government-owned bank that

would extend credit to entrepreneurs in times of crisis to keep the monetary circuit going. Keeping in mind that Wicksell understands that additional bank deposits create additional incomes, it is evident that his description of deficit spending by the government is compatible with later Keynesian ideas, like Lerner's (1943) "functional finance".²²

Le Bourva writes about government spending in the context of monetarist ideas of inflation and fails to find a link between the former and the latter. He notes that "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" (pp. 463-4).²³ It would be cheaper for banks to obtain reserves through this mechanism than through borrowing from the Bank of France. One way banks could compensate the increase in reserves is through fiscal expansion by diminished demand for rediscounting at the Bank of France. So, banks need to borrow less from the central bank. Alternatively, banks could buy government securities held by the central bank. In a subsequent section on whether public sector deficits can cause inflationary processes, Le Bourva states that the general price level is an independent variable on which the quantity of money depends. This turns the quantity theory on its head; the price level does not depend on the quantity of money, but rather the quantity of money depends on the general price level.

"A government using fiat money has pricing power that it may not understand", writes Mosler (1995, p. 18). MMT scholars are well aware that the government needs to spend first before it taxes, and that its spending will have an influence on the inflation rate. Wray (2012, p. 194) recognizes in the context of functional finance that "runaway spending would be inflationary" and has a chapter named "Policy for Full Employment and Price Stability". This is in line with both Wicksell and Le Bourva, since it is not the increase in reserves that raises the price level, but rather the rise in aggregate demand, probably via increased wages in the labour market. Wray (2012, p. 221 ff.) proposes that the government gives citizens a job guarantee (or acts as employer of last

²² Obviously Wicksell (1898) argues for an intervention of a public bank. During the gold standard a fiscal option was not available under current arrangements, namely using gold for the purpose of clearing.

²³ 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."

resort) at a fixed wage and supports the promotion of additional non-wage benefits like health care or social security. This would stabilize the economy by maintaining full employment, as workers shift in and out of the government's employment programme over time.²⁴

8. Conclusion

Comparing the limited work of Wicksell, Le Bourva, and MMT, we find that they share many similarities.²⁵ Obviously, the institutions and issues being discussed have changed during the decades these scholars were writing, yet all three views agree on some fundamental issues. The methodology is quite similar, with a strong focus on balance sheets opposed to theoretical models based on assumptions that are necessary for the mathematics to work. There is also a strong consensus that monetary theory is positive, not normative. Further relevant areas of agreement are found with respect to: the idea of Chartalism when it comes to the origin and value of money; the endogeneity of money regarding bank creation of deposits; the role of the money market in the economy and the missing link to inflation; the monetary circuit and the link from debt to income; and the effects of deficit spending.

Some minor differences occur when it comes to the question of why banks do not expand unlimited credit if they can. While Wicksell believes that the interbank-market debt of banks expanding their loan books relatively faster than other banks should stop further bank loan creation, Le Bourva agrees with Kalecki and sees rising risk as the major factor. In Wray (2012, pp. 93-4), it is creditworthiness and access to reserves at low costs that limit the extension of loans.

A second issue that we find interesting is the monetary circuit. While Wicksell and Le Bourva quite explicitly embrace this concept, Wray (2012), and MMT in general, do not seem eager to discuss it.²⁶ Furthermore, amongst MMT scholars, there is not much discussion of why entrepreneurs borrow and under which conditions, nor is there consideration of the link between

²⁴ The role of monetary policy is not discussed in that chapter.

²⁵ We have not looked into the concept of the natural rate of interest, which is ignored by MMT authors. The followers of Le Bourva were not able to stop the mainstream from adapting 'the monetarist fad', as Lavoie and Seccareccia (2004, 2) write.

²⁶ The index in Wray (2012) contains no entry "monetary circuit".

debt and income or debt and capital.²⁷ That is not to say that we think that MMT authors would disagree with these ideas, but it might be interesting to find out why the monetary circuit is not featured more prominently in their work. These issues might be interesting points to discuss further in the future.

²⁷ Perhaps MMT is a demand-side theory by default and it never occurred to anyone to describe what, and how much, would be produced in a world of fiat money and full employment?

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