

**The monetary and fiscal nexus of neo-chartalism: A friendly critical look**

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## The monetary and fiscal nexus of neo-chartalism: A friendly critical look<sup>1</sup>

The global financial crisis has exposed the weaknesses of mainstream economics and it has given a boost to heterodox theories, in particular Keynesian theories. The mainstream view about the irrelevance of fiscal activism has been strongly criticized and questioned by the active use of fiscal policy in the midst to the global financial crisis, although this was followed by a quick turnabout of the representative economist as soon as a deeper-than-expected recession provoked large government deficits and rising sovereign debt ratios. The crisis and the generalization of social media, most notably the multiplication of blogs on hyperspace, has provided more room to enthusiastic exponents of alternative economic theories. This is the case in particular of neo-chartalism, often called *modern monetary theory*, or MMT, on numerous blogs.

The development of a strong neo-chartalist identity, by economists who were formerly associated with post-Keynesian economics, has led some observers to wonder about the links between neo-chartalism and post-Keynesian economics. Heterodox economists, not to speak of mainstream economists, have also found some of the claims of neo-chartalism hard to swallow. The purpose of this paper is to deal with these two issues, most of the analysis however being focused around the questions related to the clearing and settlement system and its relationship with the activities of the central government.<sup>2</sup> In other words, neo-chartalists have put forward propositions that go beyond the strict limits of monetary policy, such as propositions to solve the unemployment problem while safeguarding price stability, but these other propositions will not be discussed here.

The outline of the paper is thus the following. In the next section, I make a brief introduction to neo-chartalism, and I discuss its relationship with post-Keynesian economics. In the second section, I discuss what I believe to be some of the more controversial statements of neo-chartalism, in relation essentially to the clearing and settlement system. In the third section, I show how some of these views have been modified over time. In the fourth section, I discuss the eurozone setup in light of neo-chartalism. I conclude by claiming that neo-chartalism is truly part of post-Keynesian economics.

### Neo-chartalism and its links with post-Keynesianism

To their credit, proponents of neo-chartalism have managed to have a substantial impact on the blogosphere, with several non-academic bloggers (such as *Naked Capitalism*) now endorsing fully and enthusiastically the ideas and claims of academic neo-chartalists, thus succeeding in

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<sup>1</sup> This paper was first presented at the Third International School on Keynesian Macroeconomics that was held in Berlin, July 31-August 6, 2011. I wish to thank for their comments Gary Dymski, Eckhard Hein, Keith Newman, Tom Palley, Ramanan, Louis-Philippe Rochon and Mario Seccareccia, without implicating them for the statements made here.

<sup>2</sup> In a sense, this paper is an extension of the few pages that I devoted to modern monetary theory in my recent survey of post-Keynesian monetary economics (Lavoie 2011), which also arose from a presentation at a previous Berlin Keynesian summer school.

the task of taking on board several non-academic scribblers, despite monetary matters being a rather arcane subject, a result that had evaded post-Keynesians so far. Even Paul Krugman, on his blog, has made occasional references and comments about MMT. This has been the consequence of unrelenting efforts to be highly active on blogs by a few individuals, in particular Bill Mitchell, Warren Mosler, as well as Randy Wray and his colleagues at the University of Missouri in Kansas City (UMKC).<sup>3</sup>

But who are those neo-chartalist authors and why the reference to chartalism? All post-Keynesians would reject the idea that money got introduced into the economy as a way to improve upon barter. Neo-chartalists, or modern chartalists, argue, following Adam Smith, Georg Friedrich Knapp and John Maynard Keynes, that the State determines what can serve as money, and it enforces this decision by its power to tax people and to require payment in the currency of its choice. Thus what we have here is a state theory of money, or more precisely a taxes-drive-money theory (Wray 1998, p. 18). This theory is called chartalism because the definition of money is proclaimed by the State, and the ability of banks to produce money is granted by charters. We will say no more on the origins, and leave this controversial issue to specialists and historians.

Who are the modern chartalists – the neo-chartalists? The head office of the group may be said to be at UMKC, with authors such as Randall Wray, Mat Forstater and Stephanie Bell-Kelton, as well as former students of UMKC such as Pavlina Tcherneva, Éric Tymoigne and Felipe de Rezende. Another important location is the Center of Full Employment and Equity (CoffEE) located at the University of Newcastle in Australia, with its prolific director Bill Mitchell, and acolytes such as Martin Watts and James Juniper. There are also important figures, which we may consider as fellow travellers, such as Jan Kregel, Edward Nell and Scott Fullwiler, with the latter intervening quite often on blogs despite having none of his own. Besides the obvious authors who have inspired modern chartalists, Smith, Knapp and Keynes, it may be said that the originators of modern monetary theory are Warren Mosler, Hyman Minsky, Abba Lerner and Wynne Godley, as their writings are often invoked by neo-chartalists. Despite being written by a non-academic, Mosler's (1994) paper plays a crucial role in the story being told here, because Mosler was certainly the first to put so much emphasis on the analysis of the clearing and settlement system, providing support to the post-Keynesian view of endogenous money in so doing. Finally, as written by Wray in a draft of his new book, "Others—some of whom were initially critical of certain aspects of the approach—have also contributed to development of the theory: Charles Goodhart, Marc Lavoie, Mario Seccareccia, Michael Hudson, Alain Parguez, Rob

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<sup>3</sup> See Bill Mitchell, or his Billy Blog : <http://bilbo.economicoutlook.net/blog/> ; Warren Mosler and his Center of the Universe: <http://moslereconomics.com/> ; the UMKC academic staff and their New Economic Perspectives blog: <http://neweconomicperspectives.blogspot.com/> . Several students or former students at UMKC are also participating in this effort at influencing the blogosphere. Randy Wray is even writing a *Modern Money Primer* (MMP) on line, delivering a chapter a week and asking his readers to comment so as to improve the book, in an attempt to explain MMT in simple terms: <http://neweconomicperspectives.blogspot.com/p/modern-money-primer.html>.

Parenteau, Marshall Auerback, and Jamie Galbraith” (Wray 2011A). It should thus be obvious, since I am being identified with the development of some aspects of modern monetary theory, that I have much sympathy with modern monetary theory, although, as pointed out by Wray, I might have reservations on some aspects.

What are the main concerns or features of modern monetary theory as presented by neo-chartalist authors? We may say that they are four main topics. The first topic, already alluded to, is the question of the origins of money and the claim that money is a creature of the State. A second major topic is the proposition that the State ought to act as an employer of last resort (ELR), providing employment to anyone willing to work but unable to find work in the private sector. This issue is also related to the question of how to achieve full or very high employment without generating inflation, as neo-chartalists argue that the public sector can provide a buffer of employable workers when the private sector decides to hire more workers. There is thus an important distinction to be made between standard expansionary Keynesian fiscal policies and employment of last resort policies which would be more geographically located to the areas with low economic activity. A third topic is fiscal policy. Neo-chartalists wish to reassert the importance of fiscal policy relative to monetary policy, in contrast to the neglected role that it plays in mainstream macroeconomics. As part of this, they have resurrected the role of *functional* finance, in contrast to *sound* finance, very much putting forth the work of Abba Lerner (1943). They also make an extensive use of the three-balance identity put forward most notably by Wynne Godley (1999A) and the New Cambridge school, in an attempt to show that the domestic private sector can only accumulate financial assets if the domestic public sector accepts to go into debt (or if the country has a positive current account balance, in an open economy), thus showing that public debt is not necessarily an evil. A possible fifth topic of neo-chartalism, because of its links with the work of Hyman Minsky, could be the issue of financial instability, as well as its causes and remedies.

While all these themes are certainly worth investigating, the focus of the present paper will be on the fourth broad topic addressed by neo-chartalists – the study of the mechanics of the clearing and settlement system.<sup>4</sup> These mechanics are examined in light of the relationship between the transactions of the government sector and the monetary system, and thus naturally there is also a link with the legitimacy of functional finance. Tied to the mechanisms of the payment system, and how the government is integrated into it, is the question of the definition of a *sovereign* currency. Neo-chartalists argue that their most controversial propositions only apply to countries with a sovereign currency, and hence the definition of what a sovereign currency is takes some importance. Another related neo-chartalist theme is the determination of interest rates, in particular the target overnight interest rate, since some neo-

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<sup>4</sup> A topic that will need to be tackled in the future is the implication of government deficit spending over the long run, when the economy is back to full employment, in an appropriate stock-flow consistent framework. A first effort at this can be found in Godley and Lavoie (2007A), Martin (2008), and Pucci and Tinel (2010).

chartalists argue that this rate, in nominal terms, ought to be zero (Forstater and Mosler 2005). But I won't discuss this either.

Before we tackle the neo-chartalist propositions on the clearing and settlement system and their implications for government finance, I believe it is worth exploring the relationship between post-Keynesians at large and neo-chartalists. As pointed out in the introduction, most of the main neo-chartalist authors or fellow-travellers were well-known post-Keynesian authors, but on blogs they seem to have taken an identity of their own, sometimes even hinting that post-Keynesians don't understand or even perhaps disagree with them. Furthermore, there is an element of distrust with regards to neo-chartalism among a number of post-Keynesians, as some of them regard several neo-chartalist propositions as being overly extreme, while simultaneously being taken aback by the militant behaviour of some of its adherents or advocates. We will come back to this double cause of mistrust. Even outside observers seem to be aware of some tension existing between neo-chartalists and (other) post-Keynesians as the following question, found on a blog illustrates: "There seems to still be a debate within the post-Keynesian world about whether chartalism (of which I am still very sceptical) is in competition with or in conjunction with circuitism (of which I believe)" (Brazelton 2010).

The response of Scott Fullwiler (2010), certainly one of the most articulate proponents of MMT, was quite straightforward, but also revealing: "Where? There is no debate, at least among actual chartalists and actual circuitistes, that I can see, on whether bank money is endogenous/horizontal. We all agree on the monetary circuit or endogenous money. In fact, there's very little difference between the entire paradigm put forth by chartalists and circuitistes/horizontalists like Marc Lavoie and Mario Seccareccia". Fullwiler here denies that there is any major disagreement between neo-chartalists and post-Keynesians, but he is careful to point out that those he has in mind are post-Keynesians of the horizontalist variety or else French or Italian circuitists of the French-Italian school, such as Alain Parguez presumably. Without revisiting the whole post-Keynesian Horizontalist vs Structuralist debate on money, it is worth remembering that the more transparent procedures put in place by central banks over the last two decades have vindicated the Horizontalist position (Lavoie 2005), and so have the studies by neo-chartalists on the clearing and settlement system (Wray 2006). The uneasiness of some post-Keynesians to accept some of the neo-chartalist arguments may thus be attributed in part to their unwillingness to entertain the mechanics of the clearing and settlement system and the Horizontalist position.

In response to a further question on the compatibility between neo-chartalism and post-Keynesianism, in particular the scepticism with regards to neo-chartalism expressed by some post-Keynesian such as Steve Keen, himself a Minskyan, Fullwiler (2010) reasserts that there is no significant difference between the endogenous money view of neo-chartalists and that of Horizontalist post-Keynesians: "A number of people, Keen included used to think there was some inconsistency between MMT/Chartalism and endogenous money. I think I've explained it enough to Keen that he gets that there is no inconsistency, but I'm not sure, since many on his site still say that sort of thing. As I said, though, horizontalists like Marc Lavoie will

tell you we are using basically the same model as he is for both government money and bank money". From this, it should be obvious by now that if I have objections to the neo-chartalist views on money creation and the mechanics of the payment system, they don't arise from questions of content but rather from questions of form.

Indeed, we can certainly say that neo-chartalists share many common elements of monetary theory with other post-Keynesians, more precisely with the Horizontalist post-Keynesians and the circuitists. We can simply list, without commenting much further, all the elements that they share with the post-Keynesians. First, the money supply is endogenous. Second, loans make deposits, and deposits make reserves (Wray 2002, p. 25). Of course, as events during the subprime financial crisis have demonstrated, this last statement is only true in normal times, as long as the target rate of interest of the central bank is not set at the bottom of the interest rate corridor, delineated by the rates of interest on credit and deposit facilities at the central bank. Third, central bank operations are essentially defensive, as the central bank normally attempts to set the supply of reserves equal to the demand for them. Fourth, the operating target of the central bank is thus the overnight rate target, not the supply of the money stock. All these points were made quite explicitly by Warren Mosler (1994, p. 3) when he claimed that "monetary policy sets the price of money, which only indirectly determines the quantity. It will be shown that the overnight rate of interest is the primary tool of monetary policy.... The money multiplier is backwards. Changes in the money supply cause changes in bank reserves and the monetary base, not vice versa". Fifth, bank credits depend on the credit-worthiness of their customers, it does not depend on the availability of excess reserves.<sup>5</sup> Sixth, compulsory reserves are means to smooth the demand for reserves and reduce fluctuations in overnight interest rates; their role is not to control monetary aggregates. Seventh, in a corridor system, the target overnight interest rate can be modified and the target rate achieved without any change in the quantity of reserves (Fullwiler 2008). And finally, the ability of the central bank to set interest rates is tied to the fact that banks must settle on the books of the central bank, a feature which is usually presented under the less enlightening claim that the central bank has a monopoly over the creation of high powered money.

Modern monetary theory however also shares some additional elements with French and Italian circuit theory, and this may explain why a circuitist such as Alain Parguez became so keen in endorsing neo-chartalism at an early stage. In circuit theory, there is a sequential order in which various agents are brought into the monetary circuit. Firms borrow from banks and spend first, paying out wages (and dividends on the previous stock of shares); then, in a second stage, they obtain the means to proceed to the final finance of their expenditures, through product sales and the sale of financial assets. In the neo-chartalist theory, the story is very similar. The (federal) government borrows from the central bank and spends first, and then, in a second stage, it secures its final finance, through taxation and the sale of financial assets to the

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<sup>5</sup> Krugman (2011) in one of his critique of MMT certainly did not get this when he wrote that, if banks have access to more reserves, "there are lending opportunities out there, so the banks won't leave their newly acquired reserves sitting idle; they'll convert them into currency, which they lend to individuals".

private sector. As Pavlina Tcherneva (2006, p. 70) says, “logically, and in practice, government spending comes *prior* to taxation”, a statement which can also be found in the writings of other neo-chartalists such as Forstater and Mosler (2005, p. 537) and also in Parguez (2002, p. 88) and Bougrine and Seccareccia (2002, p. 71). Thus, there is some symmetry to circuit theory and neo-chartalism. In circuit theory, consumers cannot buy goods until they get paid. In neo-chartalism, households cannot pay their taxes until they get the central bank money; and financial institutions cannot purchase government securities until they obtain the reserves to buy them. There is a degree of interdependence between circuitists and neo-chartalists, and indeed, on occasion, neo-chartalists cite circuitist writings to support their claims, as in Bell (2003).

Notwithstanding these tight links between neo-chartalists and other post-Keynesians, it needs to be pointed out that there is a second reason why a number of post-Keynesians may show some easiness with neo-chartalism or modern monetary theory. Just like the horizontalist version of post-Keynesian monetary theory in the 1980s generated a response from those who thought that its positions were overly extreme, the same thing has happened with neo-chartalism in the 2000s. I have counted nearly a dozen scholarly critiques of neo-chartalism over the years, the more general one being that of Perry Mehrling (2000). Half of these critiques have focused on the idea of the State as the employer of last resort, with papers by Lopez-Gallardo (2000), Aspromourgos (2000), Kadmos and O’Hara (2000), King (2001), Sawyer (2003), and Seccareccia (2004). The other half of the critiques focused on their monetary views, with articles by Parguez and Seccareccia (2000), Gnos and Rochon (2002), Rochon and Vernengo (2003), Van Lear (2002-03), and Febrero (2009).

While criticisms and counter-criticisms are healthy in a scientific setting, neo-chartalists occasionally seem to over-react to criticisms, blasting away even people that are essentially on their side. For instance, I thought that the remarks made by Eladio Febrero on modern monetary theory were worth discussing and well documented, but despite Febrero (2009, p. 524) concluding that “the policy implications that can be drawn from neo-chartalism are essentially correct”, Fullwiler rejected the paper as uninteresting and poorly researched.<sup>6</sup> Malcolm Sawyer’s (2003) paper was also subjected to a strong counter-attack by Mitchell and Wray (2005) and Forstater (2005), both responses claiming that Sawyer’s critiques were superficial and overly relied on second-hand views. Even eight years later, some of the ELR proponents had still not gotten over this yet. Following criticisms of MMT by Paul Krugman, where Krugman was accused of misrepresenting neo-chartalism because he had over-relied on expositions of neo-chartalism by its critics instead of relying on the original MMT works, Sawyer was once more accused of the same methodological mistake in a neo-chartalist blog.<sup>7</sup>

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<sup>6</sup> “The Febrero paper is absolutely horrible. No chartalist takes it seriously because it is a complete misinterpretation of chartalism.... If he’d read the chartalism literature instead of the literature critiquing chartalism, he might have noticed that.” (Fullwiler 2010).

<sup>7</sup> “This sort of poor scholarship was demonstrated in a 2004 article by Professor Malcolm Sawyer in the *Journal of Economic Issues* which attacked the concept of a Job Guarantee. He chose to represent the views of Professor Randy Wray and myself by quoting secondary sources from authors who were not only

Over the years, I have had the occasion to listen to many of Malcolm Sawyer's talks, and I can testify that his views on fiscal policy are very close to those of the neo-chartalists. Indeed he is one of the few economists, or even heterodox economists, who kept endorsing the active use of fiscal policy and who gave explicit support to functional finance, as the neo-chartalists do (Sawyer 2010). His views, just like mine or those of neo-chartalists, may have evolved over the last few years, and so he may have changed his mind over some of the things that he might have said back in 2003, especially on monetary matters, but there is no point in rehearsing past disagreements when current views are so close.<sup>8</sup> Debates of this sort, plus the aggressive reaction of some non-academic supporters of neo-chartalism whenever slightly different points from their cherished views are being made, push many post-Keynesian economists to become wary or even fearful of neo-chartalism. As a consequence of all this, readers will not be surprised to notice that in what follows, I will only rely on primary sources of neo-chartalism, and mostly abstain from citing any secondary source! Indeed, interested readers should check the main presentations of the monetary views of neo-chartalism for themselves, such as Mosler (1994, 1997-98), Wray (1998, 2002), Fullwiler (2003, 2008), Tcherneva (2006), as well as the numerous informative blog posts of Bill Mitchell.

### **The paradoxical claims of neo-chartalism**

Neo-chartalists and the UMKC school are known for their support of a State acting as an employer of last resort (ELR) for unemployed workers. This policy stance is also known as a job guarantee program or as a buffer stock employment program – the names used at the University of Newcastle, where such ideas were being developed independently. It is my understanding that the emphasis on the analysis of the way in which central governments could finance their expenditures, thus on the analysis of the mechanics of clearing and settlement systems, arose because of the desire to demonstrate that ELR programs could always be financed. Neo-chartalists wished to demonstrate that the idea of functional finance could be taken very seriously, even if it led to huge deficits, because financing large deficits did not pose a problem for central governments, at least under certain conditions.<sup>9</sup>

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critical of our work (which influenced the way they constructed their representation of that work) but also failed to understand our work (which was demonstrated by several erroneous claims about monetary economics)" (Mitchell 2011A). If this was not clear enough, Bill Mitchell had another go at Sawyer a fortnight or so later: "Randy Wray and I became entangled in an academic dispute with a so-called progressive English economist Malcolm Sawyer who had written a negative piece on the Job Guarantee .... Sawyer presented an exposition of the "Job Guarantee" based on the way it had been represented by our critics rather than relying on the primary sources – our written (and well published) work". (Mitchell 2011B).

<sup>8</sup> Sawyer's views on the relationship between government deficits and money are much clearer in the response to his critics (Sawyer 2005), where his position turns out to be quite close to that of neo-chartalists, whereas, in my opinion, his views on the same topic were rather muddled in his initial paper (Sawyer 2003).

<sup>9</sup> I realized *a posteriori* that this was already my opinion when I reviewed Wray's (1998) book, claiming then that the objective of his account of the creation of money was "to alleviate the fears associated with



Viewed from this angle, the main line of neo-chartalism can be seen as a response to the standard crowding-out arguments, according to which government deficits will either lead to uncontrolled inflation or to rising interest rates. A key claim of neo-chartalism is that government deficits tend instead to reduce interest rates, or more precisely tend to reduce overnight interest rates. Thus neo-chartalists argue that, again under certain conditions, there cannot be any financial constraint to central government expenditures. If there are constraints, they are to be found in artificial self-imposed political constraints, or in supply-side constraints, for instance when some event has destroyed the physical capacity to produce goods, or if full employment has been reached, in which case, the ELR programs can be phased out any way.

It is important to point that neo-chartalists don't claim that their proposals are valid everywhere at all times. Their claim is that it applies for nations with a "sovereign currency" (USA, Canada, Japan, Australia) (Wray 2002, p. 24). There are degrees of currency sovereignty, the highest being a country where the domestic currency is the unit of account, where taxes and government expenditures are paid in this domestic currency, where the central bank is unhindered by regulations, where the public debt is issued in the domestic currency, and where there is a pure floating exchange rate regime.<sup>10</sup> In particular, it should be pointed out that neo-chartalist authors were very critical of the setup of the eurozone and the euro monetary system, and had predicted the financial problems that some of the eurozone countries were likely to encounter, precisely because these countries did not have a sovereign currency as defined above (because the European central bank was prevented from directly purchasing sovereign debt). Thus one cannot use the current situation in countries such as Greece, Ireland and Portugal, or even Spain and Italy, as counter-examples to the theories advanced by neo-chartalists.

As mentioned earlier by Fullwiler, I am supportive of most of the neo-chartalist arguments that deal with the monetary and fiscal nexus. My worry however is that neo-chartalists are so keen to demonstrate that there are no financial barriers to running ELR or other government expenditure programs that their efforts eventually become counter-productive. My experience with my own students, left on their own to read articles such as that of Stephanie Bell (2000), who denies that taxes and bonds finance government expenditures, is

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government deficits, and to show that deficits play a positive role within capitalist monetized economies. Thus the possibility that an ELR program might generate large government deficits cannot constitute an objection to the program" (Lavoie 1999, p. 370).

<sup>10</sup> Thus neo-chartalists are in favour of flexible exchange rates, whereas several other post-Keynesians, but certainly not all, favour instead fixed exchange rate regimes – another motive of controversy! "In a very real sense, a country that adopts fixed exchange rates surrenders a great deal of its sovereignty....Those heterodox economists who simultaneously adopt an 'endogenous money' approach while advocating fixed exchange rate systems do not appear to recognize that the central bank will not be able to exogenously administer overnight rates in such a system' (Wray 2002, p. 36). Interest rates become endogenous in the sense that the target rate of the central bank is likely to react to a balance of payment deficit (Wray 2006). However, when countries are running external surpluses, there is no such pressure, as the Chinese case clearly demonstrates, and hence, in my opinion, interest rates are just as "exogenous".

that even open-minded readers are left puzzled. While some apparent paradoxical neo-chartalist statements seem worthwhile making, for instance the claim that the government does not face a budget constraint similar to that of households, that running budget surpluses will not ease off pressure on interest rates or provide the private sector with more loanable funds, or that running budget surpluses now will not help to deal with the demands of an ageing population in the future, other claims may not be necessary, once these first three statements are accepted. For instance, is it necessary to claim, as Wray (2011B, p. 158-9) does, that the role of taxes is not to finance government spending, that the federal government does not borrow funds from the private sector to finance its deficit, or that persistent budget deficits will not burden future generations with higher taxes? Although there is some internal logic to these statements, as we shall see later, such paradoxical claims run the risk of overkill in trying to convince fellow economists that a central government with a sovereign currency does not face a financial constraint. There is also a problem of terminology, with words sometimes taking a slightly different meaning from their usual accepted use.<sup>11</sup>

We start with the terminology problem which is easiest to settle. Neo-chartalists have come to speak of a vertical and a horizontal component of money, adding that the horizontal component was some leveraged amount of the vertical component. There are many instances of this: “One can conceive of a vertical component of the money supply process that consists of the government supply of fiat money; money drops vertically to the private sector from government.... On the other hand, the bank-money-supply process is horizontal; it can be thought of as a type of ‘leveraging’ of the hoarded vertical fiat money” (Wray 1998, p. 111); “Horizontal activity represents leveraged activity of a vertical component .... The creation of bank loans and their corresponding deposits is a leveraging of the currency....” (Mosler and Forstater 1999, p. 168). A figure, illustrating this leveraging of a vertical component is also presented by Wray (1998, p. 112) and by Mitchell and Muysken (2008, p. 214). The use of this terminology has certainly created some confusion in the minds of heterodox authors, for instance Keen, as is evident from Fullwiler’s comment quoted earlier, as well as Parguez and Seccareccia (2000, p. 120) and Febrero (2009). Indeed, heterodox authors, relying on the book of Basil Moore (1988), usually associate a verticalist component with an exogenous money supply, while leveraging is associated with the money multiplier story that Mosler had himself previously discarded. For those who have spent enough time reading the works of neo-chartalist authors, it is clear that these authors don’t endorse anything close to exogenous high powered money or a money multiplier mechanism. Personally, I don’t see how anything can be gained by making references to vertical components or to leveraged horizontal components, but these expressions keep being used. They ought to be left aside.<sup>12</sup>

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<sup>11</sup> Again, I have realized *a posteriori* that I expressed a similar concern in Lavoie (1999, p. 371), arguing that “such statements are logical; yet they are misleading because definitions do not correspond to common usage”.

<sup>12</sup> Once again, in Lavoie (1999, p. 371), I said that “if bank reserves are endogenous to their required level, then the expression ‘leverage’ does not seem appropriate”. Why not use standard expressions such as outside and inside money?

Another problematic statement is that the government has to run deficits, at least over the long run, for the public to get access to larger cash balances (high powered money). As Wray (1998, p. 123) puts it, “persistent deficits are the expected norm”, that is, “normally, taxes in the aggregate will have to be less than total government spending due to preferences of the public to hold some reserves of fiat money” (Wray 1998, p. 81). If the government was running persistent surpluses, the public would “run out of net money hoards” (Wray 1998, p. 79). While I would certainly agree that government deficits in a growing environment are appropriate, as it provides the private sector with safe assets, which can grow in line with private, presumably less safe, assets, it is an entirely different matter that government deficits are needed because there is a need for cash. Even if the government keeps running balanced budgets, central bank money can be provided whenever the central bank makes advances to the private sector. Wray (1998, p. 79-80) himself recognizes this, as he later adds that “a surplus on the Treasury’s account is possible as long as the central bank injects reserves through purchases of assets or through loans of reserves”. Presumably, what he has in mind, as we will see soon, is that total government expenditures include “spending” by the central bank, when the central bank purchases private assets or claims on the private sector and adds them to the asset side of its balance sheet. But this is an odd way to define government spending.

While this terminology problem is easy to solve, things may not be so simple with the oft-made statement that “government spends first”, a statement that, of course, has some relationship with the causal sequence mentioned when discussing the links of neo-chartalism with circuit theory. This expression comes back like a leitmotiv on many of the blogs devoted to modern monetary theory, but it can also be found in academic writings: “Government spends simply by crediting a private sector bank account at the central bank. Operationally, this process is independent of any prior revenue, including taxing or borrowing” (Mitchell and Muysken 2008, p. 209); “The government spends simply by writing Treasury cheques or by crediting private bank accounts” (Tcherneva 2006, p. 78). These statements are at best misleading. They skip one fundamental step that makes incomprehensible the leitmotiv sentence that “government spends first”. Any agent must have funds in a banking account. Before being able to spend, the Treasury must somehow replenish its deposit account at the central bank (or at private banks).

This step is often skipped because neo-chartalists prefer to consolidate the central bank and the federal government into one entity, the State. Now, in itself, such a consolidation is not illogical. Other authors, such as Godley (1999B), have on occasion consolidated the central bank with the government. But such an integration may not be appropriate for the purpose at hand, as it adds to confusion to a reader who is already having a hard time understanding the mechanics of the clearing and settlement system, and who has been accustomed to distinguish the government and its central bank. Wray has been a leading advocate of consolidation, believing that it makes things simpler: “The only logic that is necessary to grasp is that the state ‘spends’ by emitting its own liability ... by crediting reserves to the banking system” (Wray 2002, p. 32). But he has himself recognized that this is leaving many of his colleagues confused: “A

central bank might buy treasury debt and credit the treasury's deposit at the central bank, but this has no impact on banking system reserves until the treasury uses its deposits.... Hence, strictly internal actions involving only the central bank and treasury should be ignored, which is the main justification for consolidating their accounts .... Many economists find all this very confusing.... "(Wray 2003, p. 92).<sup>13</sup> So, with the Treasury and the central bank consolidated, the first step, the sales of government securities to the central bank, is being skipped, since this is an internal transaction.

If we accept to consolidate the central bank and the government into one entity, then some other highly controversial claims make more sense. As already pointed out earlier in this section, neo-chartalists make the rather surprising claim that neither taxes nor borrowing finance government expenditures. This claim is made again and again: "The Treasury does not 'need' to borrow in order to deficit-spend" (Wray 1998, p. 117); "Taxes do not finance spending" (Forstater and Mosler 2005, p. 538); "... Neither taxes nor bonds really finance government spending, on any reasonable definition of the term 'finance'" (Bell and Wray 2002-03, p. 269); "It certainly *looks* as though the purpose of taxing and selling bonds is to fund expenditures.... Thus, taxes can be viewed as a means of creating and maintaining a demand for the government's money, while bonds ... are a tool that allows positive overnight lending rates to be maintained" (Bell 2000, p. 613-4); "In other words, government spends simply by crediting a private sector bank account at the central bank. Operationally, this process is independent of any prior revenue, including taxing and borrowing" (Mitchell and Muysken 2008, p. 209). Again, I would argue that such claims are based on the assumption of consolidation, plus the assumption that governments sell their securities to their central bank.

Table 1 illustrates the neo-chartalist view of how central governments can finance their expenditures when they are being endowed with a sovereign currency. The first step, on the first row of the table, only involves the government and the central bank, as the Treasury issues and sells securities, which are purchased by the central bank. This is the step which is often skipped by neo-chartalists since they consolidate the government and the central bank.<sup>14</sup> Here it is assumed that 100 monetary units (dollars, pounds sterling) are being newly issued and sold. The second step involves the private banking sector, when the government spends the 100 monetary units, say by paying its civil servants, as the government deposits at the central bank are now being transferred to the deposits of the civil servant households at commercial banks. As these payments go through the clearing and settlement process, commercial banks acquire settlement balances at the clearing house, which will then need to be deposited as balances on their account at the central bank at the end of the day, thus constituting bank reserves of 100 monetary units. Unless the central bank conducts some compensating operation, there is

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<sup>13</sup> Indeed many economists find this confusing, and many others think it is a mistake to proceed to this consolidation, such as Gnos and Rochon (2002, p. 54).

<sup>14</sup> It is interesting to note that when Mosler (1994, p. 13) proceeds to a similar T-account analysis, his first step assumes, and rightly so, that the government deposits at the central bank get depleted by 100 units. But there is no discussion of how the government feeds or replenishes its account at the central bank. By contrast, Bell (1999) includes the first step in her Figure 1 which very much resembles Table 1.

nothing that the commercial banks in aggregate can do to get rid of these extra reserves. The third step shown in Table 1 is the result of such a compensating operation. We assume here that households wish to keep an additional 10 monetary units in the form of banknotes, while keeping 90 units in the form of deposits. We also assume that there is a 10% compulsory reserve requirement on deposits at commercial banks. Once households have taken out 10 units in the automatic teller machines, with the central bank providing the cash needed to be replaced, commercial banks are still left with 90 units of reserves and hence 81 units of excess reserves, which will be wiped out by in the present case by open market operations, the commercial banks deciding to acquire 81 units of treasury bills which provide them with an interest return, rather than holding reserves that provide no return or a return which presumably would be lower than that on treasury bills.<sup>15</sup>

Table 1: The neo-chartalist view of government deficit-spending

Central bank		Commercial banks	
Asset	Liability	Asset	Liability
Treasury bills +100	Government deposits +100		
Treasury bills +100	Deposits of banks +100	Reserves +100	Household deposits +100
Treasury bills +19	Deposits of banks +9 Banknotes +10	Reserves +9 Treasury bills +81	Household deposits +90

The surprising result of such a process of government deficit-spending is that unless the central bank engages into compensating operations, the government deficit will drive down overnight rates of interest, or as Mosler (1994, p. 12) puts it, “deficit spending ... would cause the fed funds rate to fall”. I must admit that when I first read this back in 1995, when Pavlina Tcherneva, who was then Mosler’s assistant, sent me his 1994 paper, I thought that Mosler, despite his use of T-accounts, was another one of these monetary cranks that Keynes talked about in the *General Theory*. We are so much accustomed to the loanable funds approach and to the IS/LM framework, where an increase in government expenditures tends to drive up interest rates, that it is difficult to get away from this. However, a proper understanding of the payment system reveals that it cannot be otherwise. When the government pays for its expenditures *through its account at the central bank*, settlement balances (reserves) are added to the clearing system. This tends to reduce the overnight rate, as banks are left with excess

<sup>15</sup> The compensating operation may occur through a repo operation, or a transfer of government deposits from its accounts at commercial banks to its account at the central bank. The central bank may also decide to issue its own bonds to wipe out the excess reserves.

reserves that no other bank wishes to borrow. Keeping the rate at its target level requires a defensive intervention of the central bank.<sup>16</sup>

It is interesting to note that Joan Robinson made the same point many years ago, so that Robinson could be considered as an honorific developer of modern monetary theory.<sup>17</sup> She said: “A budget deficit financed by borrowing from the Central Bank has effects similar to those of gold-mining.... For the Central Bank, in lending to the government, increases the ‘cash’ of the banks, just as it does by buying securities or by buying gold.... The increase in the quantity of money, which takes place cumulatively as long as the deficit is running, will tend to produce a fall in the rate of interest” (Robinson 1937, p. 88). Similarly, Godley and Cripps (1983, p. 158) were very much aware of the relationship between the government, the central bank and reserves: “The central bank has to fund the government’s operations but this in itself presents no problems. Government cheques are universally accepted. When deposited into commercial banks the cheques become ‘reserve assets’ in the first instance; banks may immediately get rid of excess reserves by buying bonds” (Godley and Cripps 1983, p. 158).

Naturally, if the government levies taxes, these effects go in reverse gear. As the taxes are collected and the proceeds sent to the account of the government at the central bank, the aggregate amount of settlement balances held by banks are brought to a negative position and hence commercial banks lose reserves, driving up the overnight interest rate.<sup>18</sup> It thus becomes easier to understand Bell’s claim, already mentioned, that “taxes can be viewed as a means of creating and maintaining a demand for the government’s money, while bonds .... are a tool that allows positive overnight lending rates to be maintained” (Bell 2000, p. 613-4). As long as we accept the lessons of Table 1, we can agree that the government can initially finance its expenditures by selling securities to its central bank. Taxes are raised to restrain aggregate demand, while government securities are sold to the private sector to stop overnight rates from falling to the floor. But while we can certainly all agree on these consequences of such a setup within the clearing and settlement system, should we conclude that taxes and security issues do not finance government expenditures? Is such a claim helpful in understanding the financing process? In particular, it is clear that for the government to proceed with its expenditures, securities must be sold to someone, if only to the central bank. Also, can we still make the same claims if central banks cannot directly purchase government securities? This question will be tackled in the next section.

The more interesting lesson that arises from Table 1 is that the central government of a “sovereign” nation, meaning here a nation where the central government can sell its securities

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<sup>16</sup> This is why, as mentioned earlier, some neo-chartalists to argue that the ‘natural’ level of the overnight rate of interest ought to be zero, since, without defensive actions and with no interest payments on reserves, government deficits would drive down the overnight rate to zero.

<sup>17</sup> Ed Nell brought this fact to my attention during a conference in honour of Alain Parguez, which was held in Ottawa in May 2011.

<sup>18</sup> A list of such effects is provided by Bougrine and Seccareccia (2002, p. 69).

to its central bank, can always finance its expenditures or roll over its debt by borrowing from its central bank. If banks don't want to hold government securities, this means they prefer to hold zero-interest reserves instead of assets generating interest payments. In countries where reserves generate interest payments, usually close to the interest rate paid on short-term Treasury bills, then it is obvious that it makes little difference whether the debt is held in the form of bank reserves or in the form of Treasury bills (agents may not wish to hold long-term bonds, because of the higher risk of capital losses). Default is virtually impossible, and this explains why interest rates on government securities in the USA and Japan are so low, despite their huge public debt. Indeed, at the time of writing, soon after the downgrading by Standard and Poor's of US government debt on August 6, 2011, from AAA to AA+, yields on 10-year US government bonds actually fell to 2%, whereas these yields were around 3.3% a few months before the downgrade. In the case of Japan, which Standard and Poor's had downgraded to AA- on January 27, 2011, the yield on 10-year Japanese bonds was at 1% despite a public debt to GDP ratio exceeding 200%. Obviously, markets are confident that Japan has the capacity and the ability to make interest payments on whatever amount of public debt its government can accumulate.

This however is not the case for several eurozone countries. At the same time, in August 2011, notwithstanding the lower debt ratios in some of the European countries, yields on 10-year bonds in Greece, Portugal and Ireland, varied between 10 and 15%, and they were between 3.1 and 5.2% for Italy, Spain, Belgium and France. In the case of Canada, with admittedly a lower debt ratio, these same yields were at 2.4%. What difference is there between Canada, the United States and Japan on the one hand, and the European countries within the eurozone on the other? This is a question for the next section.

### Variations on the neo-chartalist main story

So far we have assumed that the central bank was free to purchase government securities on the primary market, or else was allowed to make direct advances to the central government. But what if this is not the case? In a previous paper (Lavoie 2003), I argued that one also ought to consider a "post-chartalist" alternative account, where the central government would start the spending process by issuing securities that would be auctioned to the private sector. Table 2 reproduces the same three steps that we observed in Table 1, but starting this time around with government security sales to the commercial banks.<sup>19</sup>

Table 2: The post-chartalist view of government deficit-spending

Central bank		Commercial banks	
Asset	Liability	Asset	Liability
		Treasury bills +100	Government deposits +100
		Treasury bills +100	Household deposits

<sup>19</sup> I have recently realized that Figure 2 of Bell (1999) very much resembles Table 2.

			+100
Treasury bills +19	Deposits of banks +9 Banknotes +10	Reserves +9 Treasury bills +81	Household deposits +90

While the first step only deals with the security sale, as was the case in Table 1, as a second step, I assume again that the government pays its civil servants. The government balances at commercial banks are then brought down to zero, while those of households rise by 100, as shown in the second row. We may further assume, as in Table 1, that households wish to transform 10 units of their deposits in the form of banknotes, and that banks are subjected to a 10% compulsory reserve ratio on deposits. To acquire the needed 19 units of high powered money, banks need to sell 19 units of treasury bills to the central bank. The latter needs to accommodate, because the central bank provides all cash on demand and must remove excess reserves to achieve its target overnight rate. The end result of this process, shown in the third row, is no different from the one observed in Table 1. The commercial banks hold 81 units of treasury bills and the central bank holds 19 units of treasury bills, which correspond to the increase in the demand for central bank money.

While the end result of these two processes illustrated by Tables 1 and 2 are identical, if all goes well (!), the processes as such are different. Which description is the most likely? Here is what I wrote nearly ten years ago.

Each view may correspond better to the existing institutional arrangements. In Europe, with the new European Central Bank, central governments just cannot sell any of their newly-issued securities to their national central bank or to the European Central Bank. They must sell their bonds or bills to the private banks. Similar rules apply in the United States. "The Federal Reserve is prohibited by law from adding to its net position by direct purchases of securities from the Treasury – that is, the Federal Reserve has no authority for direct lending to the Treasury. As a consequence, at most the Desk's acquisition at Treasury auctions can equal maturing holdings" (Akhtar 1997, p. 37). Thus, at least in Europe or in the United States, the post-chartalist view may seem to apply best on this issue (Lavoie 2003, p. 528) .

Neo-chartalists usually give the USA, or Japan, as the standard example of a nation with a sovereign currency. However, even the USA may not be a perfect example of a nation endowed with a sovereign currency. The USA has two self-imposed limits. First, the Fed can only "buy directly and hold an additional 3 billion dollars of obligations of the Government for each agreed period..."<sup>20</sup> This means, as pointed out by Akhtar in the quote found above, that the Fed can mainly purchase federal debt on secondary markets, and not on the primary market. Thus it

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<sup>20</sup> See the U.S. Code, Chapter 31 Money and Finance, # 5301. Buying obligations of the United States Government at [http://www.law.cornell.edu/uscode/usc\\_sec\\_31\\_00005301----000-.html](http://www.law.cornell.edu/uscode/usc_sec_31_00005301----000-.html)



would seem that Table 2, the post-chartalist view, is a better representation of the American case. Second, as most people are now aware since the debt ceiling crisis of July 2011, there is a limit, set by Congress, on the total amount of debt that can be taken on by the US government. This ceiling must be raised periodically, and it will most likely generate another crisis in 2013 or so. These limitations are recognized by Bell and Wray (2002-03, p. 270), who say that “most nations have opted for self-imposed constraints. These include both ‘no overdraft’ provisions for the Treasury as well as ‘debt ceiling’ legislation”.

Despite this, Bell and Wray (2002-03, p. 266) held on to the idea that Table 1 is the best representation of the American case, and criticized those who brought up the issue of these self-imposed constraints, putting forth the view that consolidation of the Fed and the government allows to abstract from these restrictions: “Post Keynesians like Lavoie (2002) and Van Lear (2002-03) are misled by formal prohibitions on the Treasury. Yes, the Treasury is prohibited from physically ‘printing money’ and from selling bonds directly to the Fed.... We prefer to consolidate the Fed and the Treasury, and leave the minutiae of coordination between them to the side”.<sup>21</sup>

Neo-chartalists have however put some water in their wine, as the French say, now admitting that things are not as clear-cut as they originally had it, as can be ascertained by the two recent blog comments from neo-chartalist leaders that are shown below. The first comment recognizes that there is no logical necessity in arguing that government spending must occur before taxes are levied: “I have always bucked the tendency of many on the MMT side to argue that the Treasury sells bonds ex post, in order to drain excess reserves.... My position has always been more nuanced. The Treasury coordinates its operations (spending, taxing and bond sales) in order to minimize disruption in the private banking system. In absence of coordination, banks would constantly see large swings in their reserve holdings, and this would be disruptive. In essence, it would force the Fed to intervene on a much larger scale” (Kelton 2010). The second comment recognizes that the US government may need to borrow from the private sector before it can spend. So it is not clear anymore that taxes and bond issues do not finance government expenditures! “The easiest thing to do would be to sell them [bonds] directly to the Fed, which would credit the Treasury’s demand deposits at the Fed....But current procedures prohibit the Fed from buying treasuries from the Treasury...; instead it must buy treasuries from anyone except the Treasury. That is a strange prohibition to put on a sovereign issuer of the currency.... It is believed that this prevents the Fed from simply ‘printing money’ to ‘finance’ budget deficits so large as to cause high inflation» [Wray 2011C).

What seems to truly happen in the USA is thus illustrated by Table 3 below, which reproduces in T-accounts the sequence most recently described by Wray in the same blog: “So, instead, the Treasury sells the treasuries to the private banks, which create deposits for the Treasury that it can then move over to its deposits at the Fed. And then ‘Helicopter Ben’ buys treasuries from the private banks.... The Fed ends up with the treasuries, and the Treasury ends

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<sup>21</sup> The reference to Lavoie (2002) is in fact the draft version of the published Lavoie (2003) version.

up with the demand deposits in its account at the Fed – which is what it wanted all along, but is prohibited from doing directly” (Wray 2011C). In the first step, as in Table 2, the government sells its securities to the commercial banks. In the second step, the government deposits are shifted from the commercial banks to the central bank, thus creating a negative reserve position for banks. The central bank then takes defensive compensatory measures, purchasing back the Treasury bills on the secondary markets, and thus eliminating the deficiency in bank reserves at the Fed.

Table 3: The modified neo-chartalist view of government deficit-spending

Central bank		Commercial banks	
Asset	Liability	Asset	Liability
		Treasury bills +100	Government deposits +100
	Government deposits +100 Bank deposits -100	Treasury bills +100 Reserves -100	Government deposits 0
Treasury bills +100	Government deposits +100	Treasury bills 0 Reserves 0	Government deposits 0
Treasury bills +100	Deposits of banks +100	Reserves +100	Household deposits +100
Treasury bills +19	Deposits of banks +9 Banknotes +10	Reserves +9 Treasury bills +81	Household deposits +90

But things don't stop there. The government issued securities because it was expecting to deficit-spend. There are thus a fourth and a fifth steps, which are indeed identical to the second and third steps described in Table 1. As Wray (2011C) continues, “the Treasury then cuts the checks and makes its payments. Deposits are credited to accounts at private banks, which simultaneously are credited with reserves by the Fed.... This tends to push the Fed funds rate below the Fed's target, triggering an open market sale of treasuries to drain the excess reserves. The treasuries go back off the Fed's balance sheet and into the banking sector”. This is shown in the fourth and fifth rows of Table 3. The Fed will keep some of the treasury bills if there is an additional demand for reserves or banknotes, as was previously assumed.

The purpose of this whole exercise is to show that there is no point in making the counter-intuitive claim that securities and taxes do not finance the expenditures of central governments with a sovereign currency. Even in the case of the US federal government, securities need to be issued when the government deficit-spends, and these securities initially need to be purchased by the private financial sector. It seems to me that the consolidation argument – the consolidation of the central bank with the government – cannot counter the fact that the US government needs to borrow from the private sector under existing rules. Thus, if

even the USA does not really fit the bill, one may wonder whether there is any other nation that corresponds to the strictures of neo-chartalism.<sup>22</sup>

Ironically, there is another country which more closely resembles the neo-chartalist depiction of Table 1. Canada looks pretty close to the definition of a country with a sovereign currency, but “Canada is unique among the sovereigns investigated in that the Central Bank can participate at auction without restriction and not as an add-on. ...The Bank of Canada participated up to 15 per cent in nominal bond auctions and up to 25 per cent for treasury bill auctions. During the evaluation period, the Bank of Canada participated at a constant 10 per cent of all 2-year auctions and 15 per cent of all 5-year auctions. The minimum purchase by the Bank of Canada changed in the 10-year and 30-year sectors from 10 to 15 per cent in January 2008” (Department of Finance Canada 2011). Furthermore, to keep their status, Canadian primary dealers *must* purchase *all* that is being issued on the primary market, at least at a price barely lower from that of secondary markets.<sup>23</sup> One could thus argue that Canada has the highest degree of currency sovereignty, since its central bank is unhindered by regulations, its public debt is issued in Canadian dollars, and its exchange rate regime is of the pure float sort (the central bank has not intervened on foreign exchange markets since the late 1990s).<sup>24</sup>

Anyway, regardless of the precise institutional rules that exist in countries such as Canada or the United States, it seems clear that in these countries it is possible for the central bank to set interest rates and even long-term rates on government securities. This can be done by announcing the target long-term rate of interest and announcing the potential purchase of unlimited amounts, ‘that is, if the Fed desired a decline in treasury rates, it could only be sure to achieve this by announcing the desired new rate and standing ready to buy all treasuries offered at the corresponding price’ (Fullwiler and Wray 2010, p. 9). To those who object that this would raise the amount of bank reserves and produce inflation, the answer is that in a corridor system where the target interest rate is the floor rate (the rate paid on deposits at the central bank), the size of bank reserves can be any number, as has now been demonstrated during the subprime financial crisis (Lavoie 2010).<sup>25</sup>

### **Neo-chartalism and the eurozone**

By contrast the eurozone countries with their European Central Bank (ECB) and their sets of national central banks (the Eurosystem) have a rather low degree of currency sovereignty, if at

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<sup>22</sup> In particular, very few nations are allowed to borrow in their own currency on international financial markets, so this restricts the number of eligible sovereign currencies.

<sup>23</sup> I am grateful to Mathieu Frigon, from the Canadian Parliamentary Library, for having brought to my attention this peculiar feature of the Canadian debt issuing process.

<sup>24</sup> The government of Canada issues some bonds in euros or in US dollars, but this is not by necessity; the purpose is to cover its open position in foreign exchange reserves.

<sup>25</sup> Or else one can pursue an ‘operation twist’, with the central bank buying long-term securities and simultaneously selling short-term ones.

all. Various rules, found in the guidelines and procedures of the European Central Bank (ECB 2011), and which go as far back as the 1992 Maastrich Treaty, encumber the behaviour of the ECB and of the national central banks. They cannot make advances to national governments and they cannot purchase government securities on primary markets.<sup>26</sup> The main refinancing (liquidity creating) operations of the ECB and the national central banks occur in the form of reverse transactions (repos), or more simply as collateralised loans. Outright transactions on secondary markets (which would be called open market operations by anglo-saxon economists) are deemed to be irregular and exceptional.<sup>27</sup> It was further understood that the ECB and the national central banks would not conduct open market operations, and hence would not purchase government securities on secondary markets, to assist eurozone countries that would have difficulties in servicing their debts or financing their deficits. Finally, although the European monetary authorities are allowed to take government securities as collateral when providing liquidity to banks, it can only be done if that debt is highly rated. With these self-imposed restrictions and customs, the ECB and the Eurosystem is a pure *overdraft* system -- a system where the central bank only provides advances to the commercial banks, holding no government securities whatsoever. Indeed, for the first ten years following the creation of the eurozone, outright holdings of government debt by the central banks of the Eurosystem were equal to nought.

To their credit, it must be said that various neo-chartalists and their allies have from the start announced that the eurozone, as set up and described above, was a very dubious institutional experiment (Wray 1998, p. 92). This is because sovereign debt from the eurozone countries was no longer default risk-free, transforming national countries into the equivalent of local governments. Godley (1992) lamented early on about the absence of a powerful fiscal federal authority, but also argued that the inability of countries to take advances from their central bank within the one-currency European Union was tantamount to reverting to the status of a local government, with no national independence.<sup>28</sup> Bell (2003) explained this in great detail, adding that the monetary arrangements of the eurozone were totally inconsistent with functional finance and that they would put member countries at the mercy of financial markets, forcing them to adopt austerity measures whenever their fiscal position did not fit the desires of financial operators, a point also made previously by Parguez (1999). More recently, Kelton and Wray (2009) argued that the rising cost of credit default swaps on the sovereign debt of eurozone countries was justified, as these countries had no monetary means to avoid defaulting if self-reinforcing fears led to rising bond yields, since the ECB would not intervene and purchase government securities. The title of their paper – can Euroland survive? – was quite on the dot, at

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<sup>26</sup> This is article 123 of the Treaty of Lisbon, also called the Treaty on the Functioning of the European Union. The same rule can be found again in article 21(1) of the Statute of the European System of Central Banks and of the European Central Bank (protocol 4). See European Union (2010).

<sup>27</sup> See ECB (2011, chapter 3). This is despite the fact that article 18 of the Statute (European Union 2010) sets no restrictions on operations in secondary markets.

<sup>28</sup> Indeed, this can be related to Godley's previous claim that an unhindered central bank "can sell or buy back bonds without any limit", giving it the potential power "to fix bond prices and yields unilaterally an any level" (Godley and Cripps 1983, p. 158).

a time when markets were somewhat worried but still calm, as the paper was written before the explosion in Greek and Irish bond yields that occurred at the beginning of 2010.

I must admit that for a long time I was rather sceptical of all these arguments, believing that the European politicians and central bankers would abandon their dogma and change their rules when events would force them to realize their mistakes, a bit like what happened on a world-wide scale at the end of 2008 and beginning of 2009, when, faced with negative growth rates, all governments decided to embark on a Keynesian stimulus program despite having sworn their attachment to sound fiscal policies. In the subsequent crisis, European central bankers eventually changed their tune as well, somewhat, but always too late, when bond yields had already reached catastrophic levels. Indeed, the ECB was forced to override its own directives, when it announced on the 10<sup>th</sup> of May 2010 that it would proceed to purchase Greek bonds on secondary markets to stop bond yields from rising. It was then claimed by the ECB that exceptional circumstances in financial markets were hampering the monetary policy transmission mechanism, jeopardized the policy of price stability (!), and hence required a temporary securities markets programme that would involve outright interventions on secondary securities markets. Similar measures then had to be taken for Portuguese and Irish bonds. The inanity of the ECB rules were exposed again when on the 8<sup>th</sup> of August 2011 the ECB announced that it would also proceed to purchase Spanish and Italian bonds, again to avoid rising yields. Furthermore, the ECB had to modify its eligibility criteria. The required rating for repos or collateralized credit was originally A-. This was reduced to BBB- in October 2008, with the advent of the subprime financial crisis. Credit rating requirements were then entirely suspended for securities issued by the Greek government in May 2010. The same change was then done in March and July 2011 for securities issued by the Irish and the Portuguese governments respectively, again on the ground that “exceptional circumstances” were prevailing in the financial markets. The rating requirements had to be dropped, otherwise the banks of the concerned countries would have become illiquid, and would have had either to proceed to fire asset sales or to default at settlement time, thus jeopardizing the entire eurozone payment system. The current events have certainly vindicated the fears of neo-chartalists and their allies.

What is the eurozone setup? This can be illustrated with Table 4, assuming again that the government wishes to deficit spend 100 monetary units, with households keeping 10 of their additional money balances in the form of banknotes, and with banks being subjected to a 10% reserve requirement ratio. Assuming that each national central bank is the fiscal agent of the government, the first two rows of Table 4 are identical to those of Table 3, as the funds obtained from the sale of the securities are brought back on the account of the government at the central bank.<sup>29</sup> In the third row, the government deficit spends, households acquire banknotes, and the central bank accommodates the demand for reserves and banknotes. The third row shows that there is a systemic need for commercial banks to borrow from their

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<sup>29</sup> Article 21(2) of the Statute (ECB 2011) specifies that national central banks can act as the fiscal agent of governments.

national central bank since central banks don't normally purchase government securities in either the primary or the secondary market.<sup>30</sup> The last row of Table 4 shows that commercial banks need to borrow the reserves that they hold at the central bank and the banknotes demanded by their customers. This means, in contrast to the neo-chartalist depiction illustrated by Table 1, that government deficit-spending will tend to raise overnight interest rates, *unless* the central banks proceed to liquidity-providing operations. Once again, it needs to be pointed out that this feature of the eurozone system is in no way detrimental to neo-chartalist theory since neo-chartalists have always made clear that the eurozone did not abide by the conditions of a sovereign currency.

Table 4: The eurozone case of government deficit-spending

National central bank		Commercial banks	
Asset	Liability	Asset	Liability
		Treasury bills +100	Government deposits +100
	Government deposits +100 Bank deposits -100	Treasury bills +100 Reserves -100	Household deposits 0
Advances to domestic banks +19	Deposits of banks +9 Banknotes +10	Reserves +9 Treasury bills +100	Household deposits +90 Advances from central bank +19

In general, we know that the European central bank and its national central bank will provide central bank money on demand. The problem in the eurozone is not that money is exogenous. Money there is clearly endogenous.<sup>31</sup> The problem is entirely linked to the rules that forbid or that strongly discourage the ECB and the national central banks of the eurozone to purchase government securities on primary or secondary markets. As shown with the help of simulations in Godley and Lavoie (2007B), interest yields of the securities issued by the various governments of the eurozone are likely to diverge unless the ECB accepts to depart itself from the securities for which there is a high net demand on private markets and accepts to purchase the securities for which there is a relative lack of demand on private markets. In other words, the ECB has to act as a residual buyer or seller of eurozone government securities, otherwise the eurozone governments are at the mercy of the whims of the financial markets. The problem does not arise from the operations of the clearing and settlement system – the TARGET2 system put in place. That system was well conceived.

<sup>30</sup> Credit balances in central bank money held by commercial banks “are primarily provided by the Eurosystem’s monetary policy refinancing operations” (Bundesbank 2011, p. 34).

<sup>31</sup> Unless credit rating exigencies on the collateral provided for overdrafts at the central bank, for instance the A- rating mentioned in a previous footnote, is truly enforced, which was not the case as soon as one sovereign debt rating dropped below A-.

This can be confirmed by the analysis of the capital flight out of the Southern countries towards the Northern countries of the eurozone which has been observed with the advent of the global financial crisis. This capital flight is generated by the fears of default on the sovereign debt of Southern countries, and hence by the fear that the commercial banks in these Southern states will be subjected to heavy capital losses and hence are likely to default in turn.<sup>32</sup> In addition, some deposit holders try to move their balances from Southern to Northern banks of the eurozone. It also turns out that several of the Southern countries currently under pressure from speculators experience a negative current account balance within the eurozone. Normally, such imbalances would be absorbed by Northern banks granting loans to Southern banks of the eurozone, and this would be done seamlessly as long as the borrowing banks remain creditworthy. Indeed, the short-term net external position of banks acted as the main offsetting factor in the balance of payments within the eurozone. What is now happening is that Northern banks are declining to provide loans to the Southern banks through the overnight market or other more long-term wholesale markets. Still, the clearing and settlement system continues to function. How can that happen?

Suppose that some Italian company imports goods from Germany and makes its payment through its Italian bank, say the Banca Nazionale de Lavoro (BNL). The payment goes through TARGET2, and ends up as a credit on the account of the German exporting firm at its German bank, say the Deutsche Bank (DB). At this stage, the Italian bank has a debit position at the Bank of Italy, while the German bank has a credit position at the Bundesbank. Furthermore the Bundesbank debits the account of the Bank of Italy. All this occurs smoothly as national central banks of the eurozone provide unlimited and uncollateralized lines of credit to each other. All these debit and credit accounts are recorded on the first row of Table 5.<sup>33</sup> However, by the end of the day, national central banks must also settle with each other. All the debits and credits are netted on the books of the ECB, where each national central bank then acquires a net position vis-à-vis the rest of the European System of central banks (ESCB). This is shown on the second row of Table 5. Furthermore, most likely, the Deutsche Bank will use its positive clearing balances (or reserves) to reduce its overdraft position vis-à-vis the Bundesbank.<sup>34</sup>

It should be noted that there is no limit to the debit position that a national central bank can incur on the books of the ECB, that is, its liabilities with respect to the rest of the Eurosystem are not limited. “These liabilities can be carried indefinitely as there is no time prescribed for the settlement of imbalances” (Garber 2010, p. 2). Furthermore, national central

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<sup>32</sup> In the case of Ireland, the fear of default has more to do with the fear that Irish banks may never recover from their bad loans, despite past bailouts from the Irish government.

<sup>33</sup> I am grateful to Ramanan, from Mumbai, for the many email discussions that we had regarding the TARGET2 mechanism as well as the information that he provided me with. A short paper by John Whittaker (2011) was also useful to understand the eurosystem payment framework. A paper by Bindseil and König (2011) was also later brought to my attention by Vincent Grossman.

<sup>34</sup> Indeed, this is what is actually happening. Advances from the Bundesbank to the German banks have fallen from €250 billion to €100 billion from the beginning of 2007 to the end of 2010 (Bundesbank 2011, p. 35).

banks in debit are charged the main official rate, which is also the rate gained by those with claims on the Eurosystem. Thus these imbalances can go on forever, as, if we come back to our example, the BNL would be taking advances from the Bank of Italy at 1.5% (if this is the main refinancing rate), while the Bank of Italy would be accumulating liabilities within the eurosystem at the same pace, also being charged a 1.5% interest rate. Thus, if there is some lack of confidence in the system, we should observe an increase in the size of the balance sheets of the central banks of the countries under suspicion, as well as an increase in the size of the balance sheet of the ECB.

Table 5: Eurozone clearing and settlement system without active overnight markets

Banca Nazionale del Lavoro (BNL)		Bank of Italy (BI)		Deutsche Bank (DB)		Bundesbank (BB)		ECB	
Asset	Liability	Asset	Liability	Asset	Liability	Asset	Liability	Asset	Liability
	Deposit importer -10 Advance from BS +10	Advance to BNL +10	Advance from BB +10	Reserves at BB +10	Deposit exporter +10	Advance to BS +10	Deposit of DB +10		
	Deposit importer -10 Advance from BS +10	Advance to BNL +10	Due to the eurosystem +10		Deposit exporter +10 Advance from BB -10	Claims on the Eurosystem +10 Advance to DB -10		Debit position of BI +10	Credit position of BB +10

Indeed, and here we can see one way of regaining some currency sovereignty without disrupting the ECB unwillingness to purchase sovereign debt, a government that is under pressure from international financial markets, having trouble in getting foreign financial institutions to rollover their securities, could direct its domestic publicly-owned commercial banks to acquire new bond issues at the price of its choice (or if none are left, it could nationalize some private banks and impose the same instructions). The proceeds of these sales, initially held as deposits at the domestic bank, could be used to redeem the securities that foreign banks decline to roll over. At the end of this process, assuming that Italy is the country under financial pressure, as it was during the summer of 2011, the T-accounts would look very much like those of the last line of Table 5. The Bank of Italy would provide an advance to the BNL with the government debt as collateral; and the Bank of Italy would increase its liabilities towards the Eurosystem. As long as the yield on securities is higher than the main official rate, this is a profitable operation for domestic banks (unless the government defaults). But of course, as the neo-chartalists would argue, it would be much simpler if the ECB and the national central banks could purchase sovereign debt on a regular basis or at least whenever their yields went out of line.<sup>35</sup>

<sup>35</sup> Another option would be to issue Eurobonds, as suggested by Yanis Varoufakis, from the University of Athens, and also by the financier George Soros.



## Conclusion

Neo-chartalism, or modern monetary theory, has gained prominence on the web, and it has attracted the attention of several non-economists who have a passion for monetary matters. But there is also a great deal of resistance to the ideas promoted by neo-chartalists, even among heterodox authors, as some of the claims of neo-chartalists appear rather counter-intuitive and as these claims have sometimes been defended with some unscholarly vigour. The resistance to the ideas of modern monetary theory is not entirely surprising, because, besides its novelty, modern monetary theory is compatible with the Horizontalist version of post-Keynesian monetary economics, which also encountered some resistance from other heterodox authors.

This article has focused on the nexus between the clearing and settlement system and the financial requirements of government expenditures. I have not tried to go beyond this. The main message that I wish to convey is that the neo-chartalist analysis is essentially correct. In particular, it can be argued that the framework of modern monetary theory has been validated by its analysis of the main flaws of the eurozone setup, much before these flaws became apparent to most of us as the eurozone entered into its home-made crisis in 2010. Once again, the main flaw of the euro system, as I see it, is that the Eurosystem is a pure overdraft system, with the ECB being prevented (mainly by custom, not so much by rules) from purchasing and selling government securities as it sees fit, in contrast to what occurs in the UK, the USA, Canada or Japan.<sup>36</sup>

However, in my opinion, neo-chartalism carries some excess baggage, which must be gotten rid of. In trying to convince economists and the public that there are no financial constraints to expansionary fiscal policies, besides artificial constraints erected by politicians or bureaucrats that believe in mainstream theories and in the principles of sound finance, neo-chartalists end up using arguments that become counter-productive. There is nothing or very little to be gained in arguing that government can spend by simply crediting a bank account; that government expenditures must precede tax collection; that the creation of high powered money requires government deficits in the long run; that central bank advances can be assimilated to a government expenditure; or that taxes and issues of securities do not finance government expenditures. All these counter-intuitive claims are mostly based on a logic that relies on the consolidation of the financial activities of the government with the operations of the central bank, thus modifying standard terminology. I believe that such a consolidation leads to the avoidance of crucial steps in the analysis of the nexus between the government activities and the clearing and settlement system to which the central bank partakes, and hence leads to confusion and misunderstandings. And so do references to a leveraged vertical component of the money supply.

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<sup>36</sup> In other words, as was pointed out by central banker Bini Smaghi (2011), the problem with the ECB is that it was set up under the assumptions that financial markets are always right and hence that it would never face a crisis.

The proponents of modern monetary theory have forced post-Keynesians to dwell into the details of the clearing and settlement system, and to take into consideration the role of government in the payment system, whereas before post-Keynesians had focused almost exclusively on the relationships between commercial banks and the central bank. Modern monetary theory is thus certainly an improvement, but it must get rid of its counter-productive statements and convoluted logic based on the fictitious consolidation of government and the central bank.

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