

MMT: the wrong answer to the wrong question¹

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Where's the money?

In speaking notes from 1994 Hy Minsky (Minsky, 1994, p. 1) argued “Keynesian theory is not just a theory that validates ‘demand management’ by fiscal policy.” His view was based on the observation that “Keynesian” economics had been reduced to justification of the role of government fiscal policy to manage aggregate demand. Paradoxically, Minsky noted that

“Keynes’s novelty and relatively quick acceptance as a guide to policy were not due to his advocacy of debt financed public expenditures and easy money as apt policies... during a depression. ... In the United States, economists such as Professor Paul Douglas, Henry Simon, and even Jacob Viner, all of whom were at the University of Chicago, advocated what would now be called expansionary fiscal policies well before the *General Theory* appeared” (Minsky, in Barrere, 1989, p. 97).

This popular emphasis on “Keynesian” fine-tuning demand management has led to the eclipse of the analytical foundations of Keynes’s monetary theory that Minsky, Davidson and other post Keynesian economists have sought to resurrect. Against this background the greatest challenge facing what has come to be called Modern Monetary Theory is the tendency to present it, even amongst its own practitioners, as a more sound analytical foundation for government deficit spending. Indeed, MMT has been presented as a “Magic Money Tree” (BBC Business Daily, 2019), the equivalent to Laffer curve “voodoo” economics suggesting that tax cuts will pay for themselves. Instead of tax and spend, it has come to be known as a profligate populist policy of “print and spend”, that would inevitably lead to excessive deficits and rampant inflation.

Keynes had already attempted to counter this view in a 1942 BBC radio broadcast. Critics of ambitious plans for the post-war reconstruction of London had challenged “how is it to be paid for?... Where’s the money to come from?” To which Keynes replied “we build houses with bricks and mortar, not with money. ... As a technician in these matters I can only affirm that the technical problem of where the money for reconstruction is to come from can be solved” (Keynes, CW, XXVII, pp. 264-6). He summarized this position by noting that if

“after meeting our daily needs by production and export, we shall find ourselves with a certain surplus of resources and of labour available for capital works of improvement. If there is insufficient outlet for this surplus, we have unemployment. If, on the other hand, there is an excess of demand, we have inflation” (ibid., p. 267).

The problem was one of the mobilization of resources, not the mobilization of finance.

¹ Mario Tonveronachi and Andrea Terzi have offered useful comments at short notice without adhering to the position explicated here.

Keynes could make these statements confident in the belief that his analysis in the *General Theory* had provided the answer to the “technical” problem of financing the required expenditure. In this context the response that MMT is the appropriate answer to the currently fashionable question of how to pay for government expenditures to combat environmental risks or more expansive availability of health care is the wrong answer to the wrong question. The real question is still the availability of appropriate resources, and if there are none, the policy process of shifting resources to these uses. As many have noted, in times of war the “technical” problem of finance is easily solved, the real difficulties are in the mobilization and shifting of resources.²

Banks produce it!

In point of fact, the *General Theory* was not even needed to resolve the “technical” problem of finance; it had already been dealt with in the works of Schumpeter, Bendixen, L. Albert Hahn, Hawtrey as well as von Mises and Hayek, all of whom recognized that the banking system was capable of providing an unlimited amount of finance for expenditure, public or private, by creating liabilities that serve as means of payment. In Schumpeter’s words, the banker plays the role of the “ephor of capitalism. ... the creation of new purchasing power out of nothing – out of nothing” (Schumpeter, 1912, pp. 72-3). Keynes had already made the point in his *Treatise on Money*: “In a closed banking system... it is evident that there is no limit to the amount of bank money which the banks can safely create...” because

“all deposits are ‘created’ by the bank holding them. It is certainly not the case that the banks are limited to that kind of deposit, for the creation of which it is necessary that depositors should come on their own initiative, bringing cash or cheques.” (Keynes, CW: V, 23, 26)

The implication of this for the “technical” financing argument is that voluntary saving cannot constrain expenditure, whether public or private. In the *General Theory* Keynes used the multiplier to further support this conclusion demonstrating that increased expenditures, public or private, would provide increased incomes that would produce the savings required to balance it. The “technical” problem was to insure that the increased savings out of income would be held in liabilities issued to undertake expenditure on productive investments.

If there is to be a meaningful discussion of the contribution of MMT, following Minsky, it has to provide more than another validation of Keynesian demand management. MMT should be considered on the merits of its contribution to monetary theory capable of providing an alternative approach to monetary policy. This would be particularly relevant considering the recent calls by Central Bankers in the aftermath of the response to the Great Financial Crisis for a new policy approach. For as Bernanke (Bernanke: 2002) has pointed out, central bank policy was, and still is, based on Friedman’s reconsideration of the quantity theory.

² Here Keynes’s pamphlet “How to Pay for the War” is apropos. In line with this approach see the recent Levy Economics Institute Working Paper no. 931 by Wray and Nersisyan “How to Pay for the Green New Deal” May 2019).

It's the quantity theory, stupid!

In this regard it is important to note that all the authors cited above were writing in opposition to the then predominant ideas of the quantity theory of money; Keynes made clear that his theory was based on his “long struggle to escape ... from the confusions of the Quantity Theory, which once entangled me” (Keynes, VII, p. xxxiv). Indeed, the common element that links Keynes to the Schumpeterian tradition in money and finance is the rejection of the validity of the quantity theory of money. Minsky amplified this connection by noting that

“bankers (using the term generically for all intermediaries in finance), whether they be brokers or dealers, are merchants of debt who strive to innovate in the assets they acquire and the liabilities they market. This innovative characteristic of banking and finance invalidates the fundamental presupposition of the orthodox Quantity Theory of money to the effect that there is an unchanging ‘money’ item whose velocity of circulation is sufficiently close to being constant: hence, changes in this money's supply have a linear proportional relation to a well-defined price level” (Minsky, 1992, p. 6).

In his *Treatise* Keynes suggests alternative approaches to the classical conception of “money” defined by its physical characteristics, as in the “metallism” of the quantity theory or its functions. Keynes notes that the primary concept of monetary theory should be the money of account in which debts and prices are expressed. The suggested alternative, “chartalism”, he defined as a system of spot-forward debt contract denominated in money of account in which the State determines what is acceptable to extinguish the debt contract. Keynes provides a panoply of possible candidates that he calls “money proper”. While there is a single unit of account, the “moneys proper” which the State may determine to extinguish debt may be multiple. Einaudi (1936) provides an example of such a system, exhibiting the rates at which a wide range of metal coins circulating in Milan in 1762 could effectuate a payment denominated in the unit of account. Note that while the rates could be changed periodically by the Sovereign, this did not involve debasing the coinage, nor provide the possibility of financing expenditure. This is thus a chartalist system in which government deficit financing is absent.³

The role of the State is limited to validating the unit of account, and selecting the moneys proper, which need not be produced by the State. Although Keynes does refer to the role of the State in changing the unit of account, he spends little time discussing the far more debated question of the historical origin of the unit, and only in passing refers to the necessity that the selection of the moneys proper implies imposing an equivalence between the units of account and units of the money proper in either tale or weight, of certain quality. He also notes that in addition to money proper

“for many purposes the acknowledgements of debt are themselves a serviceable substitute for money proper in the settlement of transactions ... we may call them bank money ... simply an acknowledgement of a private debt, expressed in money of account, which is used by passing from one hand to another, ... to settle a transaction” (Keynes, CW, V, p. 5).

³ I have used Einaudi's table, which derives from Beccaria, in Kregel, 2019a, 2019b.

They are not money proper, and although in origin they precede the appearance of State money as defined below, they may become subject to State control, as in the imposition of bank reserve requirements in State money.⁴

Chartalism is not state money?

Keynes goes on to recognize a third role for the State under chartalism represented by the “further evolution of State money itself” noting that the State may “use its chartalist prerogative to declare that the debt (owing by the State) itself is an acceptable discharge of a liability”(ibid., p. 5) Now State debt becomes money proper. However, he warns that when this occurs the debt owing by the state “should no longer be reckoned as a debt, since it is of the essence of a debt to be enforceable in terms of something other than itself”⁵ (ibid., p. 6).

For Keynes and Schumpeter there is an important distinction between these two roles of the State, and Keynes notes that conflating the two may lead to “false analogies” (ibid., p. 6). It is the first role: the “right claimed by all modern states” “to write the dictionary” that “has been so claimed for some four thousand years at least” (ibid., p. 4) while historically the examples in which the issue of State debt should answer to the description of money and discharge debt “are descended from some kind of bank money, which by being adopted by the State has subsequently passed over from one category to another.” (ibid., p. 6) It would thus appear that Keynes considered the possibility of a chartal or State money system as independent of the direct issue of State representative money. While Keynes does not elaborate on the “false analogies,” it would appear that Knapp’s (Knapp, 1924) representation of the importance of the imposition of tax liabilities payable in State money in determining the acceptance of the State’s own debts as means of payment would qualify. Indeed, as Keynes notes the use of the State’s own liabilities to discharge debt was “adapted and taken over by the State from the far more ancient contrivance of private finance – namely bank money”⁶ (op. cit., p. 13). It would seem clear that the MMT version of chartalism is limited to what Keynes would call Representative State money, that is the designation of State debt as money proper.

It is here that the use of the descriptor “chartalism” as the alternative to “metallism” is unhelpful for it still implies a comparison between a physical definition of money with an intrinsic or market value (commodity, gold) with chartalism based on a notional money of

⁴ Here Keynes is referring to the innovations in banking operations that had created problems for quantity theorists from the beginning of the 19th century. See Ricardo’s observation (Ricardo (1816 [1951], p. 75) that instead of gold being used in exchange “money is merely written off one account and added to another” (Ibid., p. 58) and payments “effected without the intervention of either bank notes or money.”(Ibid., p. 76)

⁵ Rather than the issue by the State of its own liabilities Keynes here seems to be indicating a debt of the State to a private bank for he speaks of “a debt owing by the State” as “A particular kind of bank money is then transformed into money proper – a species of money proper which we may call representative money.” He thus considers fiat money and managed money as Representative money when the State determines them as capable of discharge of a debt denominated in terms of money of account.

⁶ He goes on to note that “The earliest beginnings of bank money, like those of chartalist money, are lost in antiquity.” Which would suggest that Keynes excluded the issue of State liabilities as money proper from his definition of chartalism. He even notes that “it is by no means essential to chartalism, that is to say the designation of the standard by the State, that the State should mint the standard; the essential characteristics of chartalism are already present, even when money passes by weight and not by tale, provided that it is the State which designates the commodity and the standard of weight” (op. cit., p. 10). As examples he notes that silver in China was not coined and served to discharge contracts by units of weight (tael).

account⁷ with no value except that imposed by the State. This leads directly to the false equivalence to the problem created by valueless paper money or bank transfers (which Keynes notes are not money proper) as representations of “real” (commodity, metal) money and the obvious, but irrelevant, question of why agents would hold State money without intrinsic, market value. Clearly, the money of account has no physical value, while the Representative State money proper need not, it may be simply a balance sheet credit entry.

It is the response to this false equivalence between the pair “unit of account and money proper” and “fiat or bank money and metal or commodity money” which leads to the necessity to explain the source of the “value” of State money, or of why people will hold State money when it has no market value. While this makes sense within the framework of the quantity theory (or the Classic bullionist and banking v. currency school monetary debates of the 19th century) it has no meaning within the alternative approach starting from the money of account. As Keynes notes,

“Money itself, namely that by delivery of which debt contracts and price contracts are discharged, and in the shape of which a store of general purchasing power is held, derives its character from its relationship to the money of account, since the debts and prices must first have been expressed in terms of the latter” (ibid., p. 3).

The unit of account clearly has value, but only in respect to the purchasing power of the prices and contracts that it represents. The money proper has value that is derivative of the value of the unit, and its designation by the State in discharge of purchase and debt repayment – it thus needs no further explanation of its “value”.

But the perceived need to explain the determinant of the “value” of Representative State money provides the link between chartalism and fiscal policy by conflating the role of the State in imposing taxes to provide value to State liabilities with the issue of State liabilities to finance government expenditure. On Keynes’s definition

“The age of chartalist or State money was reached when the State claimed the right to declare what thing should answer as money to the current money of account – when it claimed the right not only to enforce the dictionary, but also to write the dictionary” (ibid., p. 4).

However, this did not necessarily mean inclusion of debts owing by the State! The entire discussion of why people will hold chartal money with no physical value belongs to the discussion of why agents will hold worthless pieces of paper as substitute for commodity money and has no place in the discussion of State money. By producing taxation to answer this false question, leads directly to the conflation of monetary theory with fiscal policy. And the wrong answer to the wrong question noted above.

⁷ While neither the word “chartal” nor chartalism appear in my Dictionary, chart is rendered as papyrus, or a written document – which is perhaps the source of Keynes’s use of Dictionary?

While MMT seeks to build its representation of the financial system on monetary sovereignty in the issue of its own liability Keynes (as well as Schumpeter amongst others) suggested that this may not be the best representation of the required “technical” foundation: ⁸

“Thus, in Great Britain and the United States – and also increasingly elsewhere – the use of bank money is now so dominant that much less confusion will be caused by treating this as typical and the use of other kinds of currency as secondary, than by treating State money as typical and bringing in bank money as a subsequent complication. The latter practice, which has outstayed the facts, leads to insufficient emphasis being placed on some of the most typical features of modern money, and to its essential characteristics being treated as anomalous or exceptional” (Keynes, CW, V, p. 29).

Schumpeter held a similar position:

“But logically, it is by no means clear that the most useful method is to start from the coin – even if, making a concession to realism, we add inconvertible government paper – in order to proceed to the credit transactions of reality. It may be more useful to start from them in the first place, to look upon capitalist finance as a clearing system that cancels claims and debt and carries forward the differences – so that ‘money’ payments come in only as a special case without any particularly fundamental importance. In other words: practically and analytically, a credit theory of money is possibly preferable to a monetary theory of credit.” (Schumpeter, 1954, p. 717).

In the discussions in his *Treatise*, Keynes indicates that he assumes managed money, and notes that at the time he is writing there was “representative money managed so as to conform to an objective standard” (op. cit., p. 18).⁹ He calls this a middle ground between “automatic” (or commodity) money such as the gold standard and “managed” money via the operation of bank rate. He notes that State and bank money co-exist under such a system, but they are managed to correspond to the behavior of a pure commodity standard. This is nearly the same as operating under the principles of the quantity theory, but without gold responding to the dictionary definition of the unit of account.

MMT vs. Quantity theory – where is liquidity preference?

Thus, rather than placing emphasis on a State money to finance government expenditure, more relevant would be a discussion of how MMT might contribute to the arguments necessary to “invalidate the fundamental presupposition” of an “unchanging money item” noted by Minsky. This is the path that Keynes followed in his *General Theory* where while “it is found that money enters into the economic scheme in an essential and peculiar manner, technical monetary detail falls into the background” (Keynes, CW, VII, p.xxii) This means that

⁸ Robert Hemphill in “Foreword by a Banker” to Fisher (1936): “Currency and coin issued by the government, play a minor port in the transaction of our business.” (xxi) “If all bank loans were paid, no one would have a bank deposit, and there would not be a dollar of currency or coin in circulation.” (xxii)

⁹ Note that State money may be Commodity or Representative money, while Commodity money may be managed, and that Bank money may be Representative money managed or Fiat as well as pure bank money.

there is no “linear, proportional relation” between some physical definition of money in direct determination of prices. Rather its role is in reflecting the importance of the “changing ideas of the future” as determinants of prices and the scale of activity. Keynes alternative explanation shifts price determination from static supply and demand functions to the relation between present, or spot prices and future prices. The ideas of the future are reflected in anticipated rates of return represented by the difference between spot and forward prices per cent. Since expected rates of return, which determine investment decisions are influenced by spot relative to expected forward prices, rates of return, will be reflected in prices, indeed they are one and the same thing.¹⁰ Keynes then goes on to argue that if liquidity preference determines the rate of interest on money, and all other investment returns have to compete with the return on money then, it also determines the relation between spot and forward prices.¹¹

As Townshend recognized in relation to Keynes’s theory (1937, p.161)

“it would seem that it is essential to take liquidity into account in order to discuss any money prices. For even if certain assets have so little liquidity-premium that changes in it do not affect their money-prices, variations in the (large) liquidity-premium of money will do so-operating of course on the conditions of new production of the assets.”

Or as Minsky would eventually propose,

“the *General Theory* should have been titled the *General Theory of Employment, Asset Prices and Money*. ... the liquidity preference theory of interest is really a theory of the determination of asset prices in a capitalist economy. Money is not neutral because money affects absolute and relative asset prices and the pace of investment, whereas wages and profits (which are determined by investment) yield absolute and relative output prices” (Minsky in Barrere, 1989, p. 51).

Now, as Keynes notes, in the *General Theory* the technical details of the classification of money of the *Treatise* is left behind and he builds on his 1933 conception of a Monetary Production Economy. Instead of focusing on money of account and money proper, the focus is on the impact of money on the behaviour of the economy. Keynes gives the formal definition of a monetary economy as one in which expectations of the future determine present decisions, such that there is an asset whose rate of return declines more slowly than all others in the presence of an increase in demand (and thus the definition of a nonmonetary economy as one in which there is no asset whose liquidity premium is greater than its carrying costs). In this formulation, rather than the money rate of interest setting

“a limit to the rate of output, ... it is that asset’s rate of interest which declines most slowly as the stock of assets in general increases... As output

¹⁰ See Townshend, (193, pp. 158, 161) “it would seem that it is essential to take liquidity into account in order to discuss any money prices. For even if certain assets have so little liquidity-premium that changes in it do not affect their money-prices, variations in the (large) liquidity-premium of money will do so-operating of course on the conditions of new production of the assets. Strictly, liquidity-premiums, like exchange-value itself, is a purely relative conception. What varies absolutely is the net balance in the minds of wealth-owners between the conflicting desires to retain purchasing-power (in any form) and to exercise it.”

¹¹ It is unnecessary to spell out this entire argument as I have written extensively on it elsewhere. For example, (Kregel, 1988; 2013)

increases, own-rates of interest decline to levels at which one asset after another falls below the standard of profitable production; — until, finally, one or more own-rates of interest remain at a level which is above that of the marginal efficiency of any asset whatever” (Keynes, CW, VII, p. 229).

Although Keynes posits that the slowly declining rate of return asset may be “money” it could be any non-reproducible asset. Here instead of State money providing unlimited finance for government expenditure, money is defined by its ability to constrain the expansion of the economy because of its impact on prices. Thus, it is not what is classified as money that is important, it is the liquidity characteristics of asset whose rate of interest “rules the roost” that is relevant. There is no need to specify any additional factor to give “value” to money other than its liquidity premium.¹² Simply recall the definition of the return to an asset in Chapter 17 as $\{a + (q-c) + l\}$ as an alternative specification of the difference between the spot and forward prices relative to the spot price where q is the own rate of own return of the asset, c the carrying costs and l the liquidity premium. Money is defined as that asset with $l > c$, negligible or no q , and its return, l , falling less rapidly than the $q-c$ on other assets which will have negligible l . Keynes notes that it is not necessary for this to be Representative State money or bank money, although he suggests that both will have similar behaviour. Indeed, in the entire book fiscal policy is rarely mentioned.

It is however, interesting to note that when Keynes makes his argument in support of the behaviour of liquidity, he notes that to compare these diversely dimensioned rates of return requires reducing them to a common factor— a purely notional “unit of account” – and that it could have been any asset to serve this role without impacting the relative rankings of returns. In addition, Keynes notes that the comparison of the behavior of rates as demand increases also requires that one set of prices (or one rate of return) has to be given exogenously.¹³

This point had already been made by Fisher and Townshend stresses the same point when he notes

“the need for one set of spot forward prices to be given or at least stable. Indeed, it is obvious that, since the quantity of money does not determine ‘the’ – or rather, any – price-level, no prices would be determinate at all, unless at least one money-value the price of something-were determined by habit or convention. But it is also obvious that there is nothing of which the price is absolutely determined by convention, even in the shortest period. ... And, on the other hand, since (so long as wage-earners are not owned as slaves by their employers) labour carries no liquidity-premium at all, its money value is not liable to be directly disturbed by psychological changes in liquidity premiums. This is what determines the acceptability of the unit of account and its inherent liquidity” (Townshend, op. cit. pp. 162, 166).

¹² It is paradoxical that after the “horizontalist” endogenous money approach attempted to argue that it made liquidity preference redundant, MMT should provide a similar argument.

¹³ This is represented in the formula for the rates of return of the various assets by setting the “ a ”= 0 for money, and variations in a for the other assets the responses to changes in the other elements of their returns.

Taxation or government job guarantee?

Although Keynes gives a series of reasons for the existence of the liquidity premium, imposing taxes is not one of them. Rather he cites the link to the money of account as the standard for money contracts, and the stability of wages in terms of unit of account as an integral part of the liquidity that attaches to money. In Keynes's terminology this factor is important to ensure the expectation that money will always have a liquidity premium greater than its carrying costs.

“Such an expectation requires, not only that the costs of the commodity in question are expected to be relatively constant in terms of the wage-unit for a greater or smaller scale of output both in the short and in the long period, but also that any surplus over the current demand at cost-price can be taken into stock without cost, i.e. that its liquidity-premium exceeds its carrying-costs (for, otherwise, since there is no hope of profit from a higher price, the carrying of a stock must necessarily involve a loss)” (Keynes, CW,VII, pp. 237-238).

He goes on to conjecture that

“If a commodity can be found to satisfy these conditions, then, assuredly, it might be set up as a rival to money. Thus, it is not logically impossible that there should be a commodity in terms of which the value of output is expected to be more stable than in terms of money. But it does not seem probable that any such commodity exists” (ibid. p. 238).

Again, we note two points, the possibility of the multiplicity of moneys proper, and the clear departure from the direct relation between money and prices.

Thus rather than imposing a tax liability to ensure the demand for its liabilities, the role of the State as a major employer could act to provide the equivalent of the convention required in order for its liabilities to be the most liquid. One might then understand the role that a decision by government to set the reserve price of labour, through an employment guarantee scheme of the sort that Minsky proposed, as providing the support for the role of State money as the system unit of account. But, this specification of the operation of a monetary economy leaves open the definition of money — and Keynes points out that it could be any nonreproducible durable good, but in modern economies it comes closest to what he defined as “representative” money in the *Treatise* (Keynes, op. cit., pp. 9-11).

What are the policy questions?

Central banks have largely given up the targeting of money aggregates for the reason given by Minsky – the difficulty in identifying what money aggregate causes inflation in the presence of rampant financial innovation in the creation of liquidity. Chartalism provides an alternative explanation and definition of money. The resulting shift to Taylor-rule inflation targeting interest rate management by central banks in the Great Moderation preserved the belief that changes in the quantity of money induced by interest rates adjustments has an impact on prices. In the aftermath of the recent financial crisis central banks adopted both interest rate management (ZIRP) and supply targeting (QE) with little success in generating the expected

impact on prices or rapid recovery in activity. The response to this minimal impact was negative interest rates in the Euro zone, with little effect, and perhaps the experiment will soon be repeated in the US. What should replace these policies?

For Keynes

“given that the rate of interest is never negative, why should anyone prefer to hold his wealth in a form which yields little or no interest to holding it in a form which yields interest (assuming, of course, at this stage, that the risk of default is the same in respect of a bank balance as of a bond)? ...There is, however, a necessary condition failing which the existence of a liquidity-preference for money as a means of holding wealth could not exist. This necessary condition is the existence of uncertainty as to the future of the rate of interest, i.e. as to the complex of rates of interest for varying maturities which will rule at future dates. For if the rates of interest ruling at all future times could be foreseen with certainty, all future rates of interest could be inferred from the present rates of interest for debts of different maturities, which would be adjusted to the knowledge of the future rates” (CW, VII, p. 168).

MMT has a clear position on interest rates, but again couched in the framework of deficit spending. It points out correctly that if there is no savings or financing constraint the government need not borrow to fund its expenditures, which breaks any monetarist linkages between the deficit and interest rates. But, the argument is based on the impact of government spending on the interest rate on federal funds, deficit spending driving them to zero creating the need to issue government debt to drive rates to the desired policy level. The argument is used to reinforce the idea that government expenditure does not have to be financed by the prior sale of bonds. In addition it is argued that the normal rate for government debt should be zero only applies to State money credits in the central bank, and only has indirect impact on the system through and impact on private bank money creation. Indeed, this result depends on the institutional structure linking bank money to State money through the holding by the private financial system of reserve balances in State money. It is not clear that this would no longer hold in a pure State money system since there would be no fed funds market and interest rates could be set at any level dictated by policy.¹⁴ The extreme form of such policy would be to propose the elimination of bank money and the nationalization of the payments system.¹⁵

It is interesting that there is already a monetarist MMT like analysis which deals with the interface of fiscal and monetary issues. See Cochrane (2018).

¹⁴ “Perhaps a complex offer by the central bank to buy and sell at stated prices gilt-edged bonds of all maturities, in place of the single bank rate for short-term bills, is the most important practical improvement which can be made in the technique of monetary management” (CW, VII, p. 206).

¹⁵ Kregel 2019b makes some suggestions along these lines, building on the role of the clearing house in discussions of the development of private banking. Unfortunately most of the discussion of chartalism overlooks the essential nature of the clearing house in the development of bank money and which Keynes believed provided the pattern for the introduction of State money.

Another alternative which has been little discussed is cooperative banking which became a major source of financing at the beginning of the 20th century – the same time that Schumpeter and others were developing their theories of development. See Wolff (1910).

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