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History and origin of money in MMT and Austrian Economics: The difference methodology makes?

Phil Armstrong[1] [Gower Initiative for Modern Money Studies]

1. Introduction

This article was prompted by Per Bylund's recent critique of Randall Wray's article, "Taxes are for Redemption not Spending" (see Bylund 2022; Wray 2016). It is, however, of general interest insofar as it provides an opportunity to address some of the typical misunderstandings of Modern Monetary Theory (MMT) and to do so based on a contrast with an Austrian School approach. The majority of "informed critique" has tended to originate from post-Keynesians and, to a lesser extent, Marxism (for discussion see Armstrong 2023). Bylund's critique encompasses the state theory of money which underpins MMT's approach to the origin of money (its "money story" rooted in Chartalism). Importantly, much of the difference between Bylund's Austrian approach and MMT begins with a contrasting methodology. Austrian economics is deductivist and focuses on the implications of the agency of the individual. Focusing on deductivism places less emphasis on history and more on building an axiomatic case. In combination with a focus on individual agency in market exchange it speaks to an origin of money in barter (so money is a spontaneous solution to the problem of barter and arises as a medium of exchange in market contexts). MMT follows the state theory of money and Chartalism and begins from what history, anthropology and archaeology tell us about the origin of money. As such, its focus is the emergence of debt, of a unit of account and of the role of the state in creating the conditions in which social relations of money can emerge, not least the role of state issuance of money as a means to appropriate resources, which in turn encourages market activity in order to acquire money tokens to pay taxes (so money presupposes the development of a unit of account, takes the form of a credit-debt, and becomes a general means of payment within market exchange in response to the activity of its originators). Arguably this latter approach makes MMT a form of retroduction within an open systems ontology. This is quite a different starting point to that presupposed by Bylund.

I begin in section 2 with a brief summary of the methodological commitments of the Austrian school contrasted with my reading of MMT (which to be clear has not been explicitly acknowledged or discussed by all proponents of MMT). In section 3 I turn to the Austrian approach to the origin of money and in section 4 to that of state theory and MMT. Against the backdrop of the cumulative argument I turn in section 5 to Bylund's specific case and in section 6 I conclude with a brief reprise of key points.

[1] Phil Armstrong has been an economics teacher for more than forty years. He is an Associate at the Gower Initiative for Modern Money Studies. PArmstrong@yorkcollege.ac.uk

2. The methodology of the Austrian School contrasted with that employed by Modern Monetary Theorists

Over the course of several years I interviewed many of the best known and influential heterodox economists, published as *Can Heterodox Economics make a Difference: Conversations with Key Thinkers* (Armstrong 2020a).[2] Conducting these interviews confirmed that methodological perspective has a profound impact on an economist's work.[3] According to Murray Rothbard at the Mises Institute, praxeology is the "distinctive methodology of Austrian economics" and it:

> rests on the fundamental axiom that individual human beings act, that is, on the primordial fact that individuals engage in conscious actions toward chosen goals. The praxeological method spins out by verbal deduction the logical implications of that primordial fact. In short, praxeological economics is the structure of logical implications of the *fact* that individuals act. This structure is built on the fundamental axiom of action (Rothbard 2019 [and 1976/2011] emphasis in the original).

Not only is an Austrian approach deductivist:

> since praxeology begins with a true axiom, A, all the propositions that can be deduced from this axiom must also be true. For if A implies B, and A is true, then B must also be true… [Furthermore] all action in the real world, furthermore, must take place through time; all action takes place in some present and is directed toward the future (immediate or remote) attainment of an end. (Rothbard 2019 [and 1976/2011]).

As Rothbard makes clear deduction has important implications for the role of history in economic theory:

> We arrived at [the implications of the axiom of action] by deducing the logical implications of the existing fact of human action, and hence deduced true conclusions from a true axiom. Apart from the fact that these conclusions cannot be 'tested' by historical or statistical means, there is no need to test them since their truth has already been established. Historical fact enters into these conclusions only by determining which branch of the theory is applicable in any particular case… Mises indeed held not only that economic theory does not need to be 'tested' by historical fact but also that it *cannot* be so tested… [So economic theory is] not a statement of what usually happens, but of what necessarily *must* happen. (Rothbard 2019 [and 1976/2011] emphasis added).

Readers are no doubt aware that not all Austrian economists agree on first principles and there is a notable strand who are critical of mainstream economics understanding of equilibrium, use of mathematics, and pursuit of regularity which presupposes closed systems. Catallexy can, for example, be construed as an open systems concept and the coordination function of markets as a continual

[2] See also Armstrong (2018, 2020b).

[3] This reasoning is in line with Smithin's (2010) approach. He highlights the importance of the deeply held political views of economists to their mode of theorising and that the idea of taking an ethical stance based upon individualism (which characterises the Austrian School) as a starting point for analysis has great appeal, especially for those who consider social classes as an illegitimate starting point for analysis, having no independent existence apart from their constituent parts.

evolution. However, there is an obvious tension between praxeology and the role history plays in informing economic theory.[4]

MMT, in contrast, begins from observation of how a money system works (in order to make claims regarding how it could work if properly understood – an obvious point of contention) and with due attention to history. Though not all MMT advocates would necessarily endorse this, it can be interpreted as a form of realist social science.[5] For example, critical realism argues that all theory implies an ontology and this may be explicit or implicit and the world itself cannot be reduced to and so should not be confused with the theories we hold of it (this is an "epistemic fallacy"). The most influential version of this in economics is Tony Lawson's work, and while Lawson has his differences with MMT over theory of money, the basic points about ontology still apply.[6] Reality is stratified (so some parts build upon and presuppose others – physical, chemical, biological, social etc.), emergent (the organisation of parts produces new entities with new powers), and is continually developing through time.[7] Social reality is a combination of relative stability (since as conscious beings we plan, organise and determine our conditions of social existence for the purposes of reproduction, stability and security) and change (we organise to do things differently, we invent and innovate and evolution and unintended consequences apply to action). As such what we observe around us is the interplay of agency and structure and is only ever "demi-regular" and history matters in open system processes. To make sense of this the main tool of enquiry is retroduction rather than deduction or induction (though neither of these is irrelevant). Retroduction theorises and seeks evidence for possible underlying causal mechanisms that can account for relative degrees of regularity of outcomes and employs different ways to test out the role of such causal mechanisms (it is in various ways similar to abduction).

While some of the argument is specific to critical realism, a commitment to open systems is common to heterodoxy and in any case, critical realism merely offers an under-labouring service. It is philosophy of social science or social theory with methodological implications. It is not economic theory and there are no exclusively critical realist methods. I would argue MMT retroduces real social mechanisms. MMT contains an explicit recognition of how institutional change impacts on the real mechanisms present in an economy. For example, MMT stresses that the social structures and institutions extant under the Gold Standard determined the actual behaviour of the authorities observed by economists as policy outcomes or "events". MMT highlights the contrast between these Gold Standard institutions and the nature of contemporary institutions and mechanisms at work in monetary systems when a nation issues its own non-convertible currency where state and central bank must work hand-in-hand on a daily basis.[8]

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[4] See also Caldwell (1984).

[5] See Armstrong and Morgan (2023).

[6] See Lawson (1997, 2003, 2022); Mingers (2014).

[7] See Bhaskar (2008 [1975], 2015 [1978]; Collier (1994).

[8] For example, 'Advocates of MMT contend that, under the gold standard, governments were constrained in their spending by their ability to tax and borrow. If a fiscal deficit existed there would be untaxed spending in the system which could be converted into gold at a fixed rate. In this case the state would need to offer 'market-determined' rates to induce holders to buy non-convertible government debt rather than convert into gold (Mosler, 2012, p. 22) From an MMT perspective, social realities fundamentally changed in 1971 (when Nixon closed the gold window) and new structures, mechanisms and rules now apply for nations with their own sovereign currencies operating under floating exchange rates' (Armstrong, 2018, p. 21).

There are then, clear differences in terms of underlying perspective between an Austrian approach and MMT and this has consequences for the relative significance of history and thus of origin stories of money.

3. The Austrian Theory of Money

There is no role for the state in the genesis of money in the orthodox – and Austrian – money narrative. Ingham (2004, p. 19, emphasis added) considers that "all orthodox economic accounts of money are commodity exchange theories. Both money's historical origins and logical conditions of existence are explained as the outcome of *economic exchange in the market that evolves as a result of individual utility maximisation*".

When Carl Menger (1892) articulated a story of money, his ontology was deeply rooted in the presupposition "that the individual enters the world equipped with rights to the free disposal of his property and the pursuit of his economic self-interest, and that these rights are anterior to, and independent of, any service that he may render" (Tawney, 1920, p.23). Menger's theorising was based on "the subjective goal-directed actions of individual agents- a view that continues to characterise the Austrian approach to economic theory" (Hands, 2001, p. 39) and "antiempiricist deductivism" (ibid, p. 39). The story stands purely on the "a priori truth" of his presuppositions and his logical deductive reasoning.

Indeed, Menger's seminal article (1892) set out the Austrian perspective, "Men have been led, with increasing knowledge of their individual interests, each by his own economic interests, without convention, without legal compulsion, nay, even without any regard to the common interest, to exchange goods destined for exchange (their 'wares') for other goods equally destined for exchange, but more saleable" (Menger, p. 244). He develops his argument further with, "Putting aside assumptions which are historically unsound, we can only come fully to understand the origin of money by learning to view the establishment of the social procedure, with which we are dealing, as the spontaneous outcome, the unpremeditated resultant, of particular, individual efforts of the members of a society, who have little by little worked their way to a discrimination of the different degrees of saleableness in commodities"[9] (Menger, p. 245).

It is important to stress that Menger's article does not include any real-world evidence, indeed given his advocacy of logical deductive reasoning, empirical testing would have been superfluous. Kevin Dowd's phrase "conjectural history"[10] (Dowd, 2000, p. 139) is pertinent here. He points out that, ''A conjectural history provides a benchmark to assess the world we live in, but it is important to appreciate that it is

[9] Likewise, Rothbard sees the development of money as the result of individual purposeful action within a market, "In the purely free market, no one person or group can have control over money. Money arises, on the free market, when one or more commodities, in particularly intense demand and possessing such other qualities as durability, portability, and divisibility, are chosen by individuals to serve as media of exchange. Once a commodity begins to be used as a medium, the process accelerates as this makes the good all the more valuable, until it finally comes to be used as a general medium for exchanges—as a money" (Rothbard, 2011, p.709).

[10] A typical conjectural history would proceed along these lines, in "primitive" economies exchange was based on barter but as societies developed, efficiency was improved by the introduction of one commodity as a means of exchange and a unit of value. A wide range of different commodities have been used in different societies at different times, but in the end precious metals emerged as the most efficient variant and a fixed quantity of a metal (typically gold or silver) of known purity became a standard. Eventually credit was introduced as a substitute for gold, requiring less direct use of metal and improving efficiency (Armstrong and Siddiqui 2019, p. 99).

not meant to provide an accurate description of how the world actually evolved [emphasis in original]. The conjectural history is a useful myth, and it is no criticism of a conjectural history to say that the world failed to evolve in the way it postulates".

4. Heterodox Approaches: Credit and State Theories of Money

Austrian economics' place in heterodoxy is a matter of some controversy. Putting that aside, many heterodox economists, including Modern Monetary Theorists (Armstrong, 2015) support some version of credit theory (Innes 1913, 1914) and state theory of money (Knapp, 1924).[11] It is argued here that a consideration of the ontology of money – or what money *is* – should be the starting point. Modern Monetary Theory is entirely consistent with the view that money is credit and nothing but credit (Innes, 1913, 1914; Wray, 1998, 2004)[12]. Throughout history, commodities have been used as money "things" (Keynes (1930, Vol. 1, p. 14) or money "signifiers" but commodities (i.e., credit tokens to the holder and symbols of indebtedness to the issuer) have never been money *itself* and the conflation of money "things" with money itself, in this way constitutes an ontological or category error (Armstrong and Siddiqui, 2019).

Modern Monetary Theorists reject the conjectural history favoured by the Austrian School – or the attempt to deduce a history of money without the state - and stress the role of money as providing a unit of account, an approach which tends to be compatible with a focus on the importance of the role of a central authority in the genesis of money, as opposed to market forces. Ingham (2004, p. 181) contends that discrete truck and barter would lead to the production of a vast array of bilateral exchange ratios, rather than the enduring unit of account required for the measurement of relative prices critical to the operation of the market. Rather than arising from a spontaneous process, a stable unit of account is required *before* a market can function; for Ingham, "money is logically anterior and historically prior to the market".

Armstrong and Siddiqui (2019, p. 101) point out that the use of quantities of grain as a unit of account is well documented (Wray, 1998, pp. 47-8) but from a heterodox perspective, drawing directly from Keynes's work, this use is *founded on state action rather than being a market outcome*. The units of

[11] Armstrong and Siddiqui (2019, p. 108) suggest a relationship between the credit theory of Innes and the state theory developed by Knapp. This follows from Smithin (2018, pp. 194-95) who argues that "the study of money and monetary issues should follow a four stage 'schema' beginning with a realist social ontology, followed by economic sociology, monetary macroeconomics and, finally, political economy". By utilising this structure, credit theory is foundational and explains the ontology of money. The economic sociology of money, described by the state theory in the second stratum, explains how the particular form of credit we use as money was introduced and became embedded in society.

[12] Anthropological studies of pre-modern societies have revealed the widespread existence of gift exchange, inter-community barter and the use of specific commodities to settle obligations under particular circumstances within societies (Polanyi, 1968; Neale, 1976). In the latter case the commodities (at least partially) possess the function of a "medium of exchange" and for this reason might reasonably described as "monies" by anthropologists (see Neale, 1976, pp. 31-45). However, from the standpoint of credit theory, the presence of commodities functioning in such a way would not be sufficient for a society to be regarded as "monetized". I agree with Keynes' distinction between a "commodity which is disconnected from a unit of account and merely used in a way to improve spot transactions and a money 'thing' which by virtue of its relationship to a standard or money of account becomes 'money proper'". Keynes adds, "something which is merely used as a convenient medium of exchange on the spot may approach to being Money, since it may represent a means of holding General Purchasing Power. But if this is all that is involved, we have scarcely emerged from the stage of Barter. Money-Proper in the full sense of the term can only exist in relation to a 'Money-of-Account'" (Keynes, 1930 Vol. 1, p. 3).

account used in early empires were almost without exception based on grain quantities and led to the establishment of precious metal standards (Keynes, 1982, pp. 236-7). If we refer to "a mina, shekel or pound, all the early money units were weight units based on either wheat or barley grains, with the nominal value of gold usually measured in wheat units, and the nominal value of silver measured in barley units" (Wray, 1998, p. 48). Wray notes that a ruler would be able establish a monetary unit by setting it equal to a particular quantity of grains of gold, but the relative value of gold represented by its market price could change without the need to change the standard (ibid, emphasis added). Thus, the value of, for example, a shekel weight of gold could rise or (less frequently) fall against the abstract standard of the shekel.

Modern Monetary Theorists consider a study of the *historical* development of money and the monetisation of economies to be very significant[13], for example, an examination of the use of cowry is enlightening and runs counter to idea that the use of "primitive money" springs from a spontaneous process. "Cowry was used as money in Dahomey despite the fact it was not produced domestically. It needed to be imported and was then issued by the monarch. Without this state-directed process it could not have been used as currency" (Polanyi, 1968, pp. 280-305). Rather than being an aspect of a market-based evolutionary process it was an aspect of state activity. "Cowrie …gained the status of a currency by virtue of state policy, which regulated its use and guarded against its proliferation by preventing shiploads from being freely imported" (ibid, p. 299)".

Armstrong and Siddiqui (2019) point out that anthropological study (Humphrey and Hugh-Jones, 1992; Graeber, 2011) supports the contention that barter had no role in the development of money. Indeed, despite extensive study, and barter's widespread existence, no society founded on the use of barter has yet been found[14], let alone a barter economy which spontaneously turned into a monetary one through individual action. "No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing" (Humphrey, 1992, quoted in Graeber, 2011, p. 29).

> The nature and history of barter are separate from the nature and history of money; barter trades and monetary transactions apply in different situations. The key element that distinguishes the nature of barter from that of money is that barter involves only two parties in the exchange whereas a monetary transaction, in contrast, involves three. When a purchase is made the buyer provides the seller with a credit on a third party. This credit is money. There is no money in direct exchange; barter cannot provide the origins of money although it seems that barter exists alongside money (Armstrong and Siddiqui, 2019, p.111).

Credit Theory of Money

Innes (1913) defines money as credit, "Credit is the purchasing power so often mentioned in economic works as being one of the principal attributes of money, and… credit and credit alone is money". He explains the relationship between credit and debt and in so doing describes the nature of money, "Whether…the word credit or debt is used, the thing spoken of is precisely the same in both cases, the

[13] See Wray (2004); Henry (2004); Hudson (2004).

[14] "Whether we turn to the evidence from history or to the evidence in accounts by anthropologists, we do not find economic systems in which people depend upon bartering their labour or produce for the produce of others in order to get the necessities of daily life" (Neale, 1976, p. 23).

one or the other word being used according as the situation is being looked at from the point of view of the creditor or of the debtor". "Money, then, is credit and nothing but credit. A's money is B's debt to him, and when B pays his debt, A's money disappears. This is the whole theory of money" (ibid, 1913).

Innes defined state money as a form of credit, "Every time a coin or certificate is issued… A credit on the public treasury is opened, a public debt incurred" (Innes, 1914). Innes recognised that a debt to the state or tax liability can be paid by the return of the government's own debt instrument; in other words, there exists "the right of the holder of the credit (the creditor) to hand back to the issuer of the debt (the debtor) the latter's acknowledgement or obligation, when the former becomes debtor and the latter creditor" (Innes, 1914). Innes's work is significant since it provides a powerful critique of orthodox theory concerning the ontology of money. It highlights the weaknesses in the latter approach and provides a persuasive alternative perspective, namely *money is credit in its essential nature.*

If we accept that money is credit[15] and the monetary system is best characterised as simply a ledger of credits and debits, we are faced with a second question, namely how should we understand the history and sociology of money? Simply put, how did economies become monetised?

State theory of Money

Ingham (2004, p. 47), considers the *Methodenstreit* and the division of opinion between the German Historical School and the Austrian School, noting that the former group saw money as a means of accounting for and settling debts and regarded an approach to analysing money without a foundational role for the state as absurd. Consistent with this view, in the State Theory of Money (1924), Knapp argues that it is the state that decides on the unit of account and the "money things" that are to be used in settlement of debts denominated in this unit. Initially, the unit of account may be a weight of precious metal of given fineness. However, the state may choose to change the unit to a different metal by decree. Thus, the choice of unit is in the hands of the state rather than springing from a process involving individuals searching for the most efficient way of reducing the costs of barter. The state has the power to choose the "money things" i.e., what may be used to settle debts in the designated unit of account (Knapp, 1924, p. 15). "In modern monetary systems proclamation is always supreme" (ibid, p. 31). The role of the state is dominant in both the development of a unit account and in the monetisation of a society, rather than it being generated spontaneously by individuals maximising expected utility.

MMT follows a Chartalist perspective arguing that, logically and practically, the emission of state money is anterior to its collection. From this perspective, following the logic of Knapp's approach, taxation serves, not to fund spending but to allow the state to provision itself by the transfer of resources from the private sector to itself. The importance of sequence is stressed in the MMT money story. It begins with a powerful stakeholder, more commonly the state, desiring to provision itself by transferring resources from the private sector to itself (Mosler, 2020). The government first levies a tax liability on its population and determines the means by which that liability can be satisfied, for example in a modern context, US dollars or UK pounds. The existence of the tax obligation creates willing private sector sellers of goods and services who require the state currency to pay their tax bill. The state can spend its currency to buy the goods and services available for sale. The state always spends by the issue of new money and is conceptualised as a currency-issuer. Once the non-government sector has acquired state money it can pay its taxes and, in addition, it may well be the case that the private sector wishes

[15] Ingham (2004) points out that not all credit is money, but all money is credit.

to save state currency and so will offer sufficient goods and services for sale to the state in order to satisfy this demand.

From this perspective, government deficit spending, or spending in excess of tax obligations, simply provides the state money which the non-government sector wishes to save (see below) Consistent with the credit theory of money, MMT conceptualises the state money held as saving by the non-government as a tax credit (Mosler, 2020). It will remain as saving until used to pay taxes. Alternatively, the state may offer the non-government sector the opportunity to buy interest-bearing state debt (ibid).

5. Responding to Bylund's Critique

Per Bylund's (2022) critique is a relatively unusual engagement with MMT and my response will, I hope, give credit if credit is due, as well as providing clarification and articulating counterarguments as appropriate.

In writing a reply, I will draw upon the text above when required. I argue here that the fundamental difference between MMT and the Austrian School lies at the level of *methodology* (as described above) and I hope to follow "Dow's heuristics" in this response. Dow points to the practical implications of accepting methodological pluralism for the behaviour of economists, describing them in the form of heuristics- both positive and negative. I focus here on the former which consist of the following instructions for methodological pluralists, "[r]espect the legitimacy of alternative approaches and have an understanding of them. Be prepared to justify your own approach relative to others, [b]e prepared to adapt your approach as events unfold and as a result of debate, [b]e open to drawing on other approaches for ideas, even if they turn into something else in your approach" (Dow, 2017, p. 10, parentheses added).

I begin with a comment on Bylund's half-mistaken contention (2022, p. 148), "In the scholarly literature, interest in MMT is limited, and what attention the approach has gotten so far has been primarily critical… One reason for this is likely that MMT focuses on policy prescriptions rather than explanations which makes it unsuitable for research".

Now while it is true that, "In the scholarly literature, interest in MMT is limited, and what attention the approach has gotten so far has been primarily critical", it is *certainly not the case* that MMT focuses on policy prescriptions. Modern Monetary Theorists have produced a well-established body of theoretical work and its policy prescriptions follow from that theory (Mosler 2012, 2020; Wray 1998; Armstrong, forthcoming). MMT seeks to provide explanations of observed events which should be the case with all economic theory (as I argue above)[16]. The mistaken suggestion that "MMT focuses on policy prescriptions" is commonly made and is the result of critics' failure to take the time to establish what MMT is really saying rather than accepting how it is reported in mainstream economic media and literature (Armstrong, 2023, forthcoming). Mainstream critiques, such as Mankiw (2019), fail to take the necessary time to engage in a scholarly manner. Indeed, Mankiw's short article was easily dismissed by Mitchell (2019a, 2019b).

Bylund (pp. 148-150, parentheses in the original) gives a fair description of Chartalism and MMT's consistency with it. He then suggests a potential weakness in the MMT argument, "If the currency is valued because (and only because) it is needed to pay the taxes owed to the government, then this

[16] Mainstream (New Keynesian) theory has clearly failed to provide powerful explanation of real-world events (Armstrong 2018, 2020b).

does not also explain why actors would value it much beyond their tax liabilities". In other words, why would the non-government sector want to net save government currency? Why not just acquire as much as they need, pay their tax bill, and carry on life as before? He also asks why non-government actors might need to acquire government money before it was necessary, lose flexibility and run the risk of it losing value over time?

Why net save state money? To understand and answer this question we must reflect upon the Austrian method and money story. As noted earlier, for the Austrian school, "money" is simply a medium of exchange which develops as a cost saving development of barter. It is a private sector invention flowing from "purposeful human action" as individuals maximise self-interest. As Mises (1998, p. 774, emphasis added) puts it, "A thing *becomes* money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange."

Importantly, from this perspective, private sector money *predates* state involvement; private individuals are already using money before the state attempts to "pirate the system". So, for the Austrian School, it makes sense to question the idea of net saving of state money. The introduction of coercive taxation is seen as an unwelcome and inefficient disruption to pre-existing private markets and thus, a rational self-interested individual might reasonably be expected to simply access the state money required to settle tax liabilities and then continue to trade using the more trustworthy and familiar private money. Bylund (2022, p. 153-56, parentheses in the original) returns to the same point regarding the logic behind net saving of state money when criticising Wray's cloakroom ticket analogy[17], which illustrates how a debt is redeemed by the return of the issuer's own liability, with the further question, "Why would a guest acquire more than one token? (And why would you acquire tokens before you are ready to leave?)"

However, as we noted above, this thinking is highly problematic and ably summed up by Neale (1976, pp. 8-9), "Despite the fact many a text on money says that money originated in the inconveniences of barter, that it was invented as a medium of exchange, or that a good commonly used in trade gradually evolved into a medium of exchange – despite such statements, neither historical evidence nor by argument by analogy from contemporary nonliterate societies lends support to this speculative history". Simply put, the anthropological and historical evidence suggests that money is not a private invention – the state is there at the start for good or ill (Armstrong, 2015).

From the perspective argued for here, state money's introduction *monetises a society,* rather than competing with a pre-existing private "money" (or medium of exchange). Still, the question remains as to why agents in a newly monetised society might have net saving desires for state money. Forstater and Mosler (1999) model the introduction of money into a society and note that taxpayers who do not wish (or don't qualify) to work for the state must seek other ways of obtaining state currency, "In the simplest case, individuals offer goods and services to those employed by the state in return for some of the currency originally earned from the State. *Non taxpayers, too, are apt to become monetized, as when they see goods and services for sale they, too, desire units of the State currency of denomination.*

[17] Wray (2016, p.3) first employs a "cloakroom ticket" analogy, "In discussing money, G.F. Knapp (one of the developers of the State Money Approach, adopted by Keynes and today by Modern Money Theory) made a useful analogy with the cloakroom token. When you drop off your coat at the cloakroom, the attendant offers you a token, usually with an identification number. The token is evidence of the debt of the cloakroom, which owes you a coat. Some hours later you return with the token. The attendant returns your coat. By accepting the token and meeting the obligation to return your coat, the attendant has "redeemed" herself or himself. The slate is wiped clean; the debt is destroyed". He then talks about tallies and paper money redemption as illustrations of the state theory (ibid).

They may, for example, sell their labor to those employed by the State, and then, with the currency units thus obtained, make purchases from taxpayers not employed by the State" (Forstater and Mosler 1999, emphasis added).

Here we see a pervasive logic behind the desire to net save state money. The whole population will observe goods and services being made available for sale in the state's currency. If no member of society desires the goods and services available to buy using state money, we might reasonably expect net saving desires of state money by non-state agents to be zero. Net savings desire above zero reflects a positive preference to acquire such goods and services and will require both taxpayers and non-taxpayers alike to acquire more state currency than that required to pay their taxes.

Bylund (2022, p. 150) further argues, "… selling resources to the government in exchange for currency needed to pay taxes … months or even a year later would limit the economic flexibility of the actor as resources were bound up in tax-paying tokens. This is a cost on actors accepting government currency before taxes are due. Further, if and to the extent the currency is (or is expected to be) inflationary, meaning it loses purchasing power over time, anyone acquiring currency earlier than necessary would suffer losses. Actors would be better off accepting the government currency at a later date".

Again, this point deserves attention. The desire to acquire state currency ahead of the need to pay taxes reflects an aversion to risk. The possibility of being unable to acquire sufficient state currency to pay taxes – and indeed, buy goods and services available for sale in state currency – in the future will manifest in a positive net savings desire in the present. Once a society is monetised and uses state money to settle debts to the state and non-state agents[18], it also likely that holding state money will *add to flexibility* rather than reduce it. Additionally, although all commodities and currencies can suffer unpredictable shifts in value in the future, it would be unreasonable to assume that agents would generally be less confident in (most) state money than commodity alternatives. Of course, lack of confidence in the state's ability (or willingness) to maintain the value of its currency will reduce desire to hold it but, importantly, it will not eliminate it. Indeed, MMT accepts that inflation reduces net savings desires and very high inflation can reduce it significantly (Wray, 1998, p. 85).

We now turn to a case study which examines the significance of the conflicting cultures and attitudes to money of the Bantu and the so-called "Pioneers", or conquering British settlers, in southern Africa in the nineteenth century (Neale, 1976, pp. 77-81; see also Wray, 1998, pp. 57-61)[19]. Neale describes a situation where a society unaccustomed to the use of money was conquered by an outside monetised society and was then faced with offers of work, paid in money, by the conquerors (from Great Britain).

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[18] MMT recognises that banks are agents of the central bank (Mosler and Armstrong, 2019), granted the privilege of creating money in the form of bank deposits, denominated in the state unit of account, subject to strict regulatory requirements. Such "bank money" can be used to settle debts between non-government sector agents but cannot *directly* settle tax debts to the state. A taxpayer might use a credit on a bank (a deposit) as a payment to the bank (its agent), but the final settlement of a tax debt requires a reserve drain from a bank's reserve account to the Treasury account at the central bank (Armstrong, 2015).

[19] Wray (1998, p.59) argues that this experience of monetization was a "nearly universal experience throughout Africa", nevertheless, I do not suggest that because it happened that way it *must* happen that way everywhere. Rather I employ analytic generalisation. Having put forward my hypothesis based upon Forstater and Mosler's (1999) model, this case study takes the form of an "experiment". Robert Yin (2003, p.15, parentheses in the original) notes, "case studies, like experiments, are generalizable to theoretical propositions and not to populations or universes. In this sense, the case study, like the experiment, does not represent a 'sample' and, in doing a case study, your goal will be to expand and generalize theories (analytic generalization) and not to enumerate frequencies (statistical generalization)."

"In the Pioneers' view an offer of a money wage would naturally call forth a supply of willing workers, eager for the money which they could use to buy daily necessities and the other goods that make life more pleasant" (Neale, 1976, p. 78). However, the Bantu's attitude to working for money was not the same as that expected by the Pioneers (ibid. pp-78-9) and the "Bantu did not come forth to work the land". They were not a monetised society at that point.

A solution of sorts, although far from perfect (ibid, p.79), was designed. The Bantu were required to pay a head tax, paid in money but, "ran off if they dared; they left as soon as they earned the money to pay the tax". From the Pioneers' perspective the Bantu were, "shiftless, lazy, dishonest, incompetent, and irresponsible- 'childlike' in the Pioneers' phrase". The Bantu thought the Pioneers, "threatening, brutal and at least somewhat crazy" (ibid, p. 80). At this point the Bantu were resisting monetisation, they desired money only to pay tax and had *no net savings desires in Pioneers' British state money*.

However, Neale (ibid) notes that "both cultures changed". Land became scarce and the Bantu were forced to seek employment to access money in order to buy food. As tribal society's institutions were eroded, "Increasingly, the Bantu came to need, and then want, money and the things money could buy. But at the same time, they found themselves excluded from all but the lowest positions in the monetized economy" (ibid). In other words, the Bantu *developed net savings desires in Pioneers' money* (as explained in Forstater and Mosler's model). Over time, with less and less access to land, the Bantu became less able to feed themselves and more reliant on money to buy food.

> To "blame it all on the money" would be wrong. Ideas of property, of irrevocable contracts of sale, of the distribution of the products of the economy in accord with individual property rights and the wage bargain – all these were basic to the conflict of perceptions of what was and what ought to be, also were ideas of race and duty… But… money was an integral, operating part of the European system of ideas… And, for the Bantu, what money must buy (and then as time passed what money could buy) became both a necessity and a temptation in conflict with the other parts of the Bantu system of economic and social organization (ibid, p. 81).

The monetisation was destructive of tribal life and Wray (1998, p. 59) notes how taxation in the form of money in the colonies not only destroyed the traditional economies, but also drove the development of monetary economies. However, he adds, that "this is not meant to imply that taxation alone would be sufficient to induce market production for money. Colonists sometimes found it necessary to eliminate alternatives to markets, for example, by destroying crops that allowed self-sufficiency". The implication of Bylund's argument is that money arises through agents' "free choices" but, as Wray notes, monetization follows the introduction of coercive taxation and violence. "Far from a 'social consensus' to use money as an efficient alternative to barter, in reality development of a monetary economy required imposition of taxes and use of force". Importantly, "… the power to tax and define the form in which the tax would be paid set in motion the process of monetization of the economy. The important point is the 'monetization' did not spring forth from barter nor did it require 'trust'…" (ibid, p. 61).

Bylund (p. 151) asks, "why is government currency money?" and argues, following Mises (1998, 774), "A thing becomes money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange… actual money is accepted in exchange *because* it is money (cf. Menger 1892). Regardless of what form money may take… we would not expect economic actors to accept it in exchange for goods if it were not already money—that is, before they knew (or reasonably expected) that others would accept it in exchange for goods. As Mises (1998, 774) put it, "A thing becomes money only by virtue of the fact that those exchanging commodities and services commonly use it as a medium of exchange."' (Ibid, parentheses and emphasis in the original).

However, Bylund's use of the term "actual money" is misleading here as it infers that a commodity which has developed spontaneously, say, coined precious metal, is "actual money" precisely *because* it has arisen by virtue of this premeditated, voluntary process whereas other "money", such as state money is somehow different in nature and is, by implication, not "actual money" but something else. From a heterodox viewpoint, money did not arise in the way which Bylund suggests. As we have noted, from a historical and anthropological perspective (rather than axiomatic deductivism) money is introduced by the state and it is *the state which confers the characteristic of moneyness on its own debt by accepting it as a means of settling tax liabilities*.

Crucially, as Ingham (2004, p. 23) argues, the attempt to establish the "microfoundations of money" by showing that money reduces transaction costs, "cannot explain the existence of money and moreover, expresses the logical circularity of… methodological individualism". He points out that Hahn had already observed that "It is only advantageous for any given agent to mediate his transactions by money *provided that all other agents do likewise"* (Hahn, 1987, p. 26, emphasis in the original). Ingham stresses that the benefits of money to the individual require the *prior existence of the institution of money* rather than developing from the actions of individuals, "To state the sociologically obvious; the advantages of money for the individual presuppose the existence of money as an *institution* in which its 'moneyness' is established" (Ingham, 2004a, p. 23, emphasis in the original).

From a heterodox (and MMT) perspective, Bylund (2022, p. 157, emphasis in the original) makes a category error when he states that "…of course, IOUs *are not money*, the commonly used medium of exchange". As we have noted above, money is not a "creature of commodities" which arises as a "medium of exchange" but rather money is "a creature of the state" (Knapp, 1924; Armstrong, 2022). The idea that money is merely a medium of exchange is ontologically barren. Grierson (1977, p. 9) is right when he states, "For my part, I would insist on the test of money being a measure of value. Unless the commodities used for exchange bear some fixed relation to a standard we are still dealing with barter, or, where unilateral payments of a redistributive character are concerned, with payments in kind. The distinction seems to me to be fundamental one" (See, also, note 12). In any case, pre-modern societies' use of commodities to settle obligations should not be seen as resulting from individuals pursuing self-interest, rather it should be viewed as a feature of the traditions and institutions which developed in the society itself and characterise the interrelationships within it (Polanyi, 1968).

Bylund (2022, pp.155-56, parentheses added) adds another point of criticism, "But that argument [in favour of the Chartalist sequence of spending and taxation] is limited to whether and to the extent that the government destroys the currency. If the government reuses the currency, then the currency is no longer a token that is 'redeemed'". However, this argument reflects the same conflation of money (i.e., the government's debt or tax credit to the holder) and the signifier (or token) of the debt. Once the nature of money as credit is understood it becomes clear that the government never reuses revenue nor can it; tax revenue is merely the return if its own IOUs. Clearly the issuer of an IOU never needs to reuse it! It may reuse the *tokens of indebtedness*, but such action is of no consequence, for example, history shows us that a ruler using coin might choose to melt down all the returned coins and issue new coins, spend the coins again as signifiers of new debt (especially if they contain precious metal) or issue an entirely new token of debt for a range of reasons (Desan, 2014). It seems that, from a heterodox standpoint, the Austrian ontological error of confusing a money token, or signifier, with the money itself is again at the root of this misunderstanding.

Bylund (2022, p. 156) also criticises Wray's use of examples to support his argument (Wray, 2016, pp.3-10), "For one, that there are examples illustrating his point does not mean that all or even most historical examples support his argument". While this statement, taken in isolation, is clearly true, Bylund weakens his own case by failing to provide a single counterexample to illustrate the conjectural history of money arising from barter. This should come as no surprise, since at time of writing, despite extensive historical and anthropological study, no such example has yet been found.

Bylund's (2022, p.162) continues with a further point, "Wray also overlooks the important fact that the government currency has a legacy of being real money. Paper notes, whether issued by private banks or the central bank, used to be accepted because they were redeemable in precious metal". Interestingly, Bylund again uses the term, "real money"- consistent with the category error of conflating money itself with its signifier but, putting that aside (see above), the idea that redeemability in precious metal was the key to acceptability is itself open to challenge. Desan (2014, p. 319) notes – with reference to the Bank of England's issue of notes redeemable in specie in its early years – that redeemability may well have appeared to be the lynchpin of the system but in reality, "… the image offered of gold or silver in the vault gave the sense that an anchor existed – even if the anchor was actually elsewhere, in the sound function of the fiscal system". Rather than convertibility into precious metals or other assets, acceptability of state money fundamentally depends on the robustness and effectiveness of the tax system. When the latter fails acceptability is necessarily adversely affected (Wray 1998, p. 85).

Importantly, while it is true that government currency (i.e., the tokens of its indebtedness) has a legacy of precious metals, especially with reference to the gold standard, this was a *choice made by states* themselves. Monetary systems have utilised tokens or "money things" such as coins, tallies or banknotes to symbolise the debt[20]. A seller receives a physical token to show that they hold credit on the debtor (the state or on a private individual or institution). Gold is not "money" because it arose as medium of exchange through private action. Rather, gold is monetised by the actions of the state under a gold standard. If the state stands by to purchase a given amount of gold for a fixed price in the unit of account the gold is thus interchangeable with the state's money.

[20] Armstrong and Siddiqui (2019, p. 114) note that, "From a modern standpoint it might seem wasteful to manufacture tokens or money things from precious metals with high intrinsic value and multiple uses instead of something with zero or close to zero intrinsic value. Why use precious metal? Minsky gives a clue when he notes, "anyone can create money, the trick is getting it accepted" (Minsky, 1986, p. 228). We suggest that in a world of uncertainty about the future, issuing debt by using precious metal tokens would have had several advantages. First, it would raise the prestige of the issuer. Any state that can access gold or silver and use it to manufacture money tokens should be worthy of at least some respect. Second, the scarcity of precious metals would give the tokens a "floor value". If the current monetary system broke down and the tokens were no longer acceptable in payment of taxes then at least they would have some residual value. Third, this scarcity would add to the acceptability of the tokens from those who might fear that the possibility of irresponsible issue of tokens by the state in the future was a real threat and might lead, in turn to a reduced value of their monetary wealth. Lack of availability of precious metal would constrain the state from such actions. Fourth, fraudsters would find it hard to find precious metal relative to, say, a common material which would reduce (although not eliminate) the chance of counterfeiting.

In principle, though, materials with little or no intrinsic value could have been (and indeed, were) chosen as money tokens, notably hazel wood tallies (Wray, 1998; Desan, 2014). However, the common choice of precious metal tokens has been the source of a great deal of confusion as category errors have proliferated in economics. Unfortunately, economists have committed an ontological error (or category error) when considering the actual nature of money and have confused 'money things' or 'signifiers' (more generally, tokens) which are producible commodities with the money itself, which is not a produced commodity (Ingham, 2001)."

6. Conclusion

It seems that a methodological approach founded on initial axioms and deductive logic has come to dominate the economics academy following the *Methodenstreit*. Advocates of alternative approaches are concentrated in heterodox economics and other social sciences. With specific reference to money, Ingham (2004, p. 197) points out that the insights of the Historical School have largely disappeared from orthodox economics, and it has become "generally accepted that that the ontology of money was adequately dealt with by the venerable theory in which money's functions were deduced from its status as a commodity". This article supports Ingham's view that this, "entailed a serious logical category error. Such functions cannot be established in this manner; rather they are institutional facts that can only be assigned in the construction of reality".

> Regardless of its form and substance money is always an abstract claim or credit whose 'moneyness' is conferred by a money of account… money is not merely socially produced… it is also socially *constituted* by the social relation of credit-debt. All money is debt in so far as issuers promise to accept their own money for *any* debt payment by *any* bearer of the money. The credibility of the promises forms a hierarchy of moneys that have degrees of acceptability. The state's sovereign issue of liabilities usually occupies the top place, as these are accepted in payment of taxes (Ingham 2004, p.198, emphasis in the original).

It is also apparent that MMT and the Austrian School face a barrier to communication which we might reasonably call "incommensurability of paradigms" (Kuhn 1962, Armstrong 2020a). This makes fruitful dialogue difficult as both schools conceptualise the world differently, the former through a realist social ontological lens, the latter via axiomatic deductivism (Armstrong, 2020c). Specifically, I argue here that that MMT and the Austrian School face "'*methodological incommensurability*', according to which there is no common measure between successive scientific theories, in the sense that theory comparison is sometimes a matter of weighing historically developing values, not following fixed, definitive rules (Sankey and Hoyningen-Huene 2001, vii-xv)".

Thus, we might legitimately ask if anything can be gained from interaction between the Austrian School and MMT? As both an optimist and a pluralist, I believe so (see Dowd, interviewed in Armstrong 2020a), provided 'Dow's heuristics' are followed. It is surely beneficial to be encouraged to think about legitimate scholarly criticism and to produce a meaningful response to it. In his critique, Bylund (2022) stays firmly "in paradigm", fails to appreciate "methodological pluralism" and finds the insights of MMT beyond his reach. In conclusion, it is important to stress that a full appreciation of this article's defence of Wray (2016) requires a scholar to look beyond the reach of praxeology to a consideration of an alternative realist methodology and also to recognise the importance, not only of logic and theory but, importantly, of history and anthropology.

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Author contact: parmstrong@yorkcollege.ac.uk

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