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Palley, Thomas I.

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The evolution of money debate: Functionalism versus chartalism, Schumpeterian dynamics, Gresham's fallacy, and how history constrains public finance

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FMM WORKING PAPER

No. 34 ·October, 2018 · Hans-Böckler-Stiftung

THE EVOLUTION OF MONEY DEBATE: FUNCTIONALISM VERSUS CHARTALISM, SCHUMPETERIAN DYNAMICS, GRESHAM'S FALLACY, AND HOW HISTORY CONSTRAINS PUBLIC FINANCE

Thomas Palley*

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This paper discusses the evolution of money and the monetary system. The origins of money debate is framed in terms of functionalism versus chartalism. Endogenous Schumpeterian dynamics apply to the evolution of money and monetary systems, and those dynamics are supportive of the functionalist perspective. A functionalist Schumpeterian lens shows "Gresham's law" should be relabeled "Gresham's fallacy" because good money drives out bad. The Gresham dynamic is also supportive of the functionalist perspective. Lastly, the paper shows monetary history over the past millennium does not support chartalist public finance claims as represented by modern money theory (MMT).

* Email: mail@thomaspalley.com; Washington, DC; FMM Fellow.

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The evolution of money debate: functionalism versus chartalism, Schumpeterian dynamics, Gresham's fallacy, and how history constrains public finance[1]

Abstract

This paper discusses the evolution of money and the monetary system. The origins of money debate is framed in terms of functionalism versus chartalism. Endogenous Schumpeterian dynamics apply to the evolution of money and monetary systems, and those dynamics are supportive of the functionalist perspective. A functionalist Schumpeterian lens shows "Gresham's law" should be relabeled "Gresham's fallacy" because good money drives out bad. The Gresham dynamic is also supportive of the functionalist perspective. Lastly, the paper shows monetary history over the past millennium does not support chartalist public finance claims as represented by modern money theory (MMT).

Keywords: Money, functionalism, chartalism, Gresham's law, Schumpeterian dynamics, modern monetary theory
JEL ref.: E4, E44.

Thomas I. Palley
Washington DC 20009
E-mail:mail@thomaspalley.com

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1. Introduction.

This paper presents some lessons from monetary history for monetary theory. The origins of money debate is framed in terms of functionalism versus chartalism, and it is argued a functionalist perspective provides a superior account that is consistent with why precious metals came to dominate as early money.

The evolution of money can be understood through a Schumpeterian lens whereby market forces promote persistent innovation and change. The state also plays a critical role, both via exogenous interventions and via responses to market developments. A Schumpeterian lens is supportive of a functionalist perspective on money since it is the possibility of delivering better on the functions of money that drives the market to generate

[1] My thanks to Matias Vernengo for his very helpful comments. The standard disclaimers apply and all opinions and errors in this paper are those of the author.

new monies and new monetary technologies. A functionalist perspective is also consistent with the market's adoption of state money in private transactions because state money can possess functional advantages over private money. State and private money can co-exist, perennially in competition with each other.

A functionalist Schumpeterian lens also shows Gresham's law should be relabeled Gresham's fallacy because good money drives out bad. The Gresham dynamic is consistent with a functionalist perspective as the reason why good money drives out bad is that it delivers better on the functions of money. Additionally, Gresham's dynamic can produce outcomes that are non-chartalist.

The paper then applies the history of money to the debate over neo-chartalism (also referred to as modern money theory or MMT). MMT proponents (Wray, 1998) claim that the history of money is supportive of their views about public finance. In particular, they argue money's origins are chartalist, with money originating via the state as a means of paying taxes. That view has been criticized by Rochon and Vernengo (2003) who argue that even though modern money ends up being chartalist, its origins are not. The current paper augments the Rochon-Vernengo critique, and argues the historical path of monetary evolution imposes restrictions on public finance even once money becomes chartal.

2. The origins of money debate: functionalism vs. chartalism

Modern economic theory adopts a functionalist approach to money, whereby the existence of money is explained by reference to the three functions of money: medium of exchange, store of value, and unit of account. According to functionalist logic, money comes into being because it helps deliver on these three useful functions.

Post Keynesian economics emphasizes fundamental uncertainty (Davidson, 1978).

In a world of fundamental uncertainty there is need for a "liquid" store of value, by which is meant a store of value that is not subject to price fluctuation and is immediately realizable. Money performs that function, and provision of liquidity services should be added as a fourth function of money – one that has not been recognized by mainstream economics or textbooks.

That argument augments conventional monetary theory, adding a liquidity function to the medium of exchange, store of value, and unit of account functions. It also carries important implications for monetary theory. Fundamental uncertainty explains why some form of money endures, and why money finds a place in agents' portfolios (i.e. there is demand for money) despite money being dominated in rate of return by other financial assets.

The above functionalist approach provides a rationale for money, and it is also consistent with the dominant account of the emergence of money developed by Carl Menger (1892), who emphasized the notion of "saleableness". According to Menger, the emergence of money as the medium of exchange reflects a socio-economic process in which society gradually converges on a commodity, or commodities, with high saleableness.

Saleableness is itself an umbrella characteristic that is defined by a basket of sub-characteristics. These sub-characteristics include durability, divisibility, portability, verifiability, and scarcity. A good money must possess this range of characteristics which enable it to deliver on the functions of money. Precious metals tend to have these characteristics, which explains why precious metals emerge as an early form of money.

Scarcity is particularly important as the ability to produce money must be restricted

if it is to retain value. That scarcity may derive from natural limits on supply, as with precious metals. Alternatively, it may be imposed via legal artifice, as with fiat money where the state imposes a legal monopoly on production of money and counterfeiting is illegal.

A second explanation of the origins of money, emphasized by contemporary historians of money, concerns the role of credit. The argument is that money emerges out of credit instruments which gradually acquire generally acceptability as means of payment. This linkage to credit is fully consistent with Menger's (1892) theoretical logic in that credit instruments can have superior "saleableness".

The importance of private credit is emphasized by Goetzmann (2016) in his analysis of the emergence of money in the ancient Near East. For Goetzmann, money is an extraordinary innovation whereby tokens are created to record private debt contracts, and those tokens then become money because they can perform the functions of money. In Mengerian terms, they have "saleableness". Even more than that, Goetzmann links the tokens with the beginning of writing since the tokens needed to be marked to demarcate the nature of the debt.

A third explanation is that money is the creation of the state, and that story can also be told as a credit story by arguing that the state creates money to provide a means of paying tax debt owed to the state. That is the chartalist story of money associated with Knapp (1924), which has been emphasized by Wray (1998). The chartalist "public finance" story is fundamentally different from the Mengerian account. First, chartalism identifies the emergence of money with the exogenous intervention of the state rather than with an endogenous societal selection process. Second, in the Mengerian account the

emergence of money is driven by society's desire for arrangements that deliver on the functions of money. In the chartalist story those functions are initially irrelevant though, after the state has introduced money, state money can start to also deliver on them.

A major source of confusion in the economic debate over money's origin is when to begin the story. Hudson has focused on explaining the earliest record of money in Mesopotamian civilization, and has recently hypothesized (Hudson, 2018) it started as palatial credit. The palace issued credit tokens in return for goods, and those tokens could be used to pay taxes. If true, that would be a chartalist story which complements Goetzmann's (2016) more general credit story. However, it would still be irrelevant for understanding the evolution of modern monetary arrangements, which emerged out of the Western European experience. That is because precious metals came to dominate as money in Western Europe at an early stage, and precious metals are fundamentally at odds with chartalist theory because the state cannot produce them out of thin air.

As far as monetary economics is concerned, the relevant history of modern money can begin with the precious metals system, which evolved into the current system. In a sense, one could say there are two beginnings of money. For antiquarian numismatists, the beginnings of money are to be found in Mesopotamia. However, for modern monetary economics, the logical beginning is 15th century Western Europe's precious metals system, which marked the starting point of today's monetary system. Nothing is added to the economic explanation of the evolution of today's system by starting earlier.

Even if Hudson's (2018) Mesopotamian palatial credit explanation were true, the chartalist narrative of the history of money is still trumped by the fact that precious metals subsequently came to dominate. A Mengerian perspective would argue that happened

because precious metals have superior "saleableness" characteristics. They have all the qualities already discussed. Additionally, precious metals are superior for international commerce, which was very important in Medieval Europe and conducted via the great fairs, such as those of Champagne. Precious metals would also be preferred by itinerant merchants who crossed local baronial political jurisdictions within countries. Furthermore, precious metals were less risky and did not forfeit their value if a ruling dynasty was overthrown. In other words, Menger's (1892) functionalist framing still wins out when it comes to explaining the early evolution of modern money.

3. The evolution of money: a functionalist Schumpeterian perspective

Money clearly exists, so why spend time thinking about its origins and history? One reason is thinking about money's origins and history compels recognition that it must be analyzed in terms of systems and institutions. Money is intrinsically a social and institutional phenomenon. It is social because money can have no intrinsic value yet still be valued. That is because others accept it as a means of payment, making it intrinsically social. It is institutional because it is constituted by a set of arrangements and structures. One cannot understand money in the contemporary world without reference to its institutional context.

A second reason for thinking about money's origins and history is it reveals the evolutionary nature of money, which can be viewed as partaking of an on-going Schumpeterian dynamic. Money and the monetary system are subject to competitive evolutionary pressures within the market, and they are also subject to state interventions that impact the system.

In sum, thinking about the origins and history money is revealing of how to conceptualize money, and the history of money offers enduring insights into the dynamics

of monetary systems. Concrete monetary arrangements may change, but the abstract phenomenon and evolutionary process driving monetary change remain intact.

Figure 1 illustrates the evolutionary dynamic governing money and the monetary system. It shows a loop whereby financial markets generate outcomes and innovations that feedback and impact financial markets. Additionally, there is a state – financial markets loop whereby financial market outcomes and innovations impact the state, triggering state actions that impact financial markets. The state can also take independent exogenous actions that impact financial markets. Figure 1 therefore suggests how both the private functions and public finance explanations of money's origins matter.

Figure 1. The financial market – state dynamic governing the evolution of money and the monetary system.

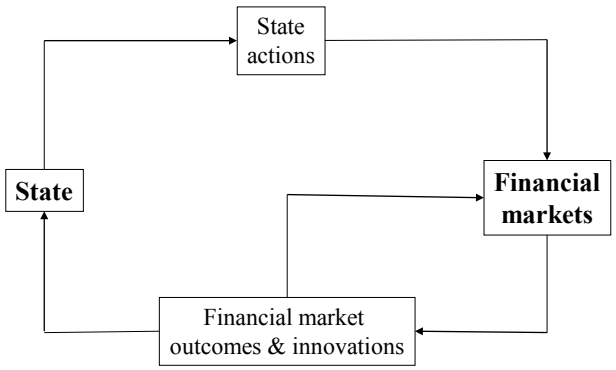

Figure 1 is also suggestive of how the monetary system is continuously evolving, which challenges the construct of equilibrium. The monetary system's evolutions change the set of possible transactions and allocations, which inevitably dislodges the larger economic system. Viewed in that evolutionary light, equilibrium is at best an imperfect but

useful tool: a form of *ceteris paribus* thought experiment in which structure is held constant, even though it is known there exist forces destined to change the structure in ways which cannot yet be discerned.

Combining the dynamics embedded in Figure 1 with Menger's (1892) functions and characteristics approach to money generates a functionalist Schumpeterian dynamic that helps understand and explain the evolution of money and the monetary system. At any moment there exists an array of financial instruments, each of which contains a specific bundle of characteristics that deliver on the functions of money in differing degrees. Each instrument contains its own degree of "moneyness" (e.g. cash, bank deposits, credit cards, money market funds, short-term bonds, etc.). Those instruments are part of the financial system and created within it.

As suggested by Goetzmann (2016), money and the monetary system can be viewed as forms of financial technology. In Figure 1, the loop within the system incorporates technological innovation that partakes of Schumpetarian "creative – destruction" dynamics. New financial products possessing different bundles of characteristics are introduced; the characteristics of existing products maybe improved, including improvement via process innovations; other existing products may be extinguished; and the state may take actions that impact the "moneyness" of products. Consequently, money changes over time with financial technological innovation and policy action, and that changes money's form, manner of creation, and economic impact.

Selgin and White (1987) provide a thumbnail history of money focused on the importance of competitive market innovations. Three examples of innovation stand out. The first is the history of the Goldsmith bankers who recognized that they could lend out

gold deposits because such deposits are fungible. That process was at the core of early banking. It also makes clear some enduring features of banking: the need to hold or have access to reserves to meet withdrawals of deposits; the need for depositor confidence in the system: and the danger of bank runs.

A second innovation is the emergence of fiat money. 15th century Italian bankers would endorse bills of exchange that would then circulate as means of payment, and this practice was adopted by Dutch and British traders. The next stage was the issue of bearer bills of exchange, which essentially became private fiat money. Money is a promise to pay and bearer bills of exchange are the same, only they also pay interest. The important point is that this history of bearer bills places private credit at the center of the evolution of the modern fiat money system.[2]

A third example is the development of bank clearing houses in 17th century London when bank runners, who carried funds between banks, started meeting in tea houses to settle up in a centralized location. This informal process became the basis for clearing houses, whereby inter-bank balances are settled centrally on a system-wide net basis rather than bilaterally.

These three examples illustrate how market forces have generated important innovations shaping money and the monetary system. Those forces continue to operate. For instance, the credit card company Visa has tried to get restaurants to refuse cash and only accept credit cards, thereby diminishing the "moneyness" of cash. Another instance is blockchain technology which is introducing new electronic money that might one day

[2] Bank of England notes still say "I promise to pay the bearer on demand the sum of X pounds." That promise is a hangover from the days when fiat money was convertible into gold at a fixed exchange rate. Now, it is an historical curiosity and an empty symbolic promise since the Bank of England just gives a new note in exchange for an old one.

displace cash and other means of payment.

The above examples also illustrate the hybrid nature of money. Early on, it becomes an inseparable mix of both commodity and institutional process. Money's capacity to deliver on its functions depends on the process (i.e. the institutional structure) in which it is embedded. Furthermore, over time, money increasingly abandons its commodity form as it becomes an intangible book-keeping entry governed by rules, facilitated by technology, and embedded in institutional process.

There are multiple lessons from the above framework and examples from monetary history. First, a Schumpeterian perspective on the evolution of money and monetary technologies is supportive of the functionalist approach regarding the origins of money. It is the possibility of making profits by delivering better on the functions of money, either by delivering on them at lower cost or at a higher quality level, that drives the market to generate new monies and new monetary arrangements.

Second, Figure 1 illustrates the "dynamically" endogenous nature of money, with innovation leading to the introduction of new types of financial instrument with different degrees of "moneyness". This dynamic endogeneity goes hand-in-hand with "static" endogenous money theory, whereby the quantity of money at any moment in time is endogenously determined by the lending activities of the banking sector (Moore, 1988; Palley, 2017).

Third, the monetary innovation loop in Figure 1 is consistent with the ideas of Hyman Minsky (Minsky, 1992; Palley, 2011), whereby the system contains the seeds of its own change. However, Minsky applied such a loop to the broad financial system, and not just money. Additionally, he emphasized the tendency of innovation to promote financial

instability, rather than viewing it as a stable evolutionary process.

Fourth, as shown by the emergence of fiat money from private bills of exchange, credit instruments play an important and central role in the evolution of fiat money. That is because credit instruments have many of the Mengerian characteristics needed to perform the functions of money, which makes them a good money.

Fifth, the history of money shows multiple monies may circulate simultaneously (e.g. cash, debit cards, and bank deposits). Consequently, monies are always in competition with each other. Private monies compete against each other, and private money competes with state money.

Sixth, the monetary system contains multiple different financial products, each possessing different degrees of "moneyness" in the form of different characteristic bundles. That challenges both the classical notion of money as a veil and the associated monetarist notion of a tight link between money and nominal GDP. Which money is the veil, and which money has the tight nominal GDP link?

Seventh, a "moneyness" characteristics perspective is consistent with Keynesian liquidity preference theory and the Hicks (1935) – Tobin (1961) portfolio approach to money. Agents' portfolios include assets with bundles of characteristics such that the overall portfolio has a degree of liquidity consistent with agents' preferences and thinking about a fundamentally uncertain world.[3]

[3] Tobin (1958) represented this portfolio selection in terms of mean-variance return analysis. Such analysis can be thought of as a simplifying metaphor for what is going on. Viewed in that light, the use of subjective probability is just a linguistic practice to enable representation (via mathematical models) and discussion of choice under fundamental uncertainty. Such representation does not mean the world can objectively be described by probability theory, which only applies to situations of "risk" and not "fundamental uncertainty". Instead, it is just a linguistic convention for talking about uncertainty. However, the linguistic convention is dangerous if it promotes a mistaken impression the world is governed by objective probability distributions. Furthermore, the linguistic convention is non-neutral if it shapes agents understandings in ways that change their understanding and perceptions, thereby changing their behaviors, including their portfolio choices.

4. The state and the evolution of money within a functionalist perspective.

Figure 1 also shows the state playing a critical role in the history of money and the monetary system. That holds from early times through to today. As is shown below, that role of the state is fully consistent with a functionalist perspective. Furthermore, the historical role of the state, about which there is widespread agreement, is also fundamentally different from the MMT claim that money's origins are chartal. Acknowledging the former does not imply the latter.

Money is a powerful political symbol so that, early on, kings and emperors imprinted their image on coins as a political statement. Controlling the mint also gave the state the ability to collect seignorage – the difference between the purchasing power of money and its cost of production. Later, once fiat money is adopted, the value of seignorage increases massively as issuing fiat money involves minimal resource cost.[4] Both of these reasons, political prestige and seignorage, gave the state an incentive to establish a monopoly over the production of money and to ensure citizens use state issued money.

A third reason for state involvement is to increase the state's financial flexibility. In feudal systems, taxes were paid in-kind. That gave the state an incentive to substitute money payments for in-kind feudal dues. Money gives flexibility as it can be spent on goods of choice, at a time and place of choice.[5] Note, this is close to the chartalist story (Knapp, 1924; Wray, 1998), but it is not the same. In the chartalist story the state originates money in order to pay taxes. However, the above argument has taxes coming first in the

[4] With paper money, seignorage is especially large with high denomination notes. With electronic money, created via keyboard entries by the central bank, the cost of creating money falls even more.

[5] The aristocracy also received feudal dues in-kind and can be thought of as providing quasi-local government. They too had an incentive to have dues payments transformed into monetary payments.

form of in-kind dues, and the state subsequently encourages a switch to payment using a pre-existing money as a way of increasing financial flexibility.

A fourth reason for state involvement in money is the need to finance the state. That need promoted the development of a "government banker", which eventually evolved into a state controlled central bank. That history is exemplified by the Bank of England, which was initially privately-owned and operated on conventional private banking principles. The bank's role was to arrange financing of current government spending, especially during times of war. To enable this role, the state granted the Bank of England (i.e. the government banker) a privileged position in doing business with the state. That privileged standing in turn encouraged deposits of coin and bullion with the Bank of England, thereby facilitating its ability to finance the state at low interest rates.

The Bank's privileged business position also privileged its own loan notes, thereby encouraging the dominance of its notes according to the principle of "good money driving out bad". First, its loans to the state were secured against future tax revenues, giving its own notes greater credit worthiness in the eyes of the public. Second, it was the largest bank because it had monopoly dealings with the government, which was the largest borrower. Consequently, its notes were the most visible and gained broadest acceptance as a medium of exchange, which contributed to natural monopoly network and reputation effects that reinforced the government banker's dominant position as a note issuer. Third, in 1833 Bank of England notes (of five pounds and higher) were granted legal tender status, further privileging them in dealings within the private sector and with government.

A fifth reason for state involvement is the state's incentive to ensure the integrity and stability of the monetary system, which drives an impulse to regulation and oversight.

From early times there were prohibitions on clipping and debasement of the coinage, which was a monopoly the state retained for itself. These prohibitions can be viewed as constituting an early form of regulation aimed at ensuring monetary integrity. Later, in the 18th and 19th centuries, private banking systems revealed themselves prone to bank runs and instability stemming from sudden losses of confidence in banks. Such instability is generic to any convertible fiat money system, including convertible government fiat as under the gold standard.

Eventually, that prompted measures to stabilize the banking system. These measures included establishment of state-owned central banks that could backstop the private system with state issued money; creation of state sponsored deposit insurance arrangements; balance sheet regulation and oversight aimed at maintaining confidence by ensuring financial soundness of banks; and abandonment of the gold standard and the right of convertibility into gold.[6]

An early example of a state intervention to stabilize the monetary system is provided by Quinn and Roberds (2007) who argue central bank money has its origins in the early 17th century Bank of Amsterdam. The bank was established by the city of Amsterdam to address the problem of clipped coins. Rather than coins being transferred, with the risk of creditors being short-changed with clipped coins, the bank set-up its own internal book-keeping system of settlement. The Bank of Amsterdam arrangement sought to ensure the integrity of the financial system; can be viewed as the beginning of central banking; and its book-keeping settlement system can be thought of as the beginning of central bank

[6] With regard to the US, private citizens lost the right of gold convertibility in 1933 when the US left the gold standard. Foreign governments' right of convertibility was suspended in August 1971 by President Nixon, and that suspension signaled the end of the post-war Bretton Woods system.

money.

Today, the reasoning for state involvement has shifted and is constructed on the basis of neoclassical economics and market failure. Interventions are justified when neoclassical economics diagnoses a market failure and intervention can help remedy that failure and move the economy closer to its first-best competitive general equilibrium outcome.

One lesson from these examples illustrating the state's role in the history money is that the motivation and justification for state involvement changes over time. In the early history of money, budget financing at low interest rates was a critical motivation. Today, the justification for intervention in the monetary system is constructed in terms of neoclassical market failure theory and macroeconomic stabilization theory. Other justifications can also be constructed in terms of optimal taxation and seignorage collection, or natural monopoly aspects of monetary systems arising from network and economy of scale effects (e.g. credit card payment systems may have these natural monopoly aspects).

A second lesson is that the rise of state money is also consistent with a functionalist perspective. As illustrated by the history of the Bank of England, state money can possess advantages over private money which enable it to deliver better on the functions of money. The power of the state to require payment of taxes in state money was clearly important in explaining why state money became so dominant, but so too was the superior functionality of state money.

5. Gresham's fallacy.

Gresham's law, which claims "bad money drives out good", is widely viewed as describing

the dynamic market forces shaping money. The law is named after Sir Thomas Gresham (1519 – 1579) who was a financier in 16th century Tudor England. At that time, both the public and the issuing body would shave the coinage which was made of precious metals. Gresham observed that the public also tended to hoard unshaved coins (good money) and spend shaved coins (bad money), so that bad money circulated while good money disappeared into hoards. Hence, his law that bad money drives out good.

In fact, when considered from the standpoint of Menger's "functional" economics of money, Gresham's law is a fallacy that gets it backward. Good money actually drives out bad. 16th century England effectively developed parallel monies. Unshaved coins dominated as stores of value, while shaved coins served as the medium of exchange. Market forces implicitly separated the functions of money, with one money (unshaved "good" coins) delivering on the store of value function, while another (shaved "bad" coins) delivered on the medium of exchange function. Shaved coins were fully capable of serving as medium of exchange, so they continued doing so. Unshaved coins delivered better as a store of value, so they took over that function. In that sense, good money drove out bad.

Dollarization provides another even clearer example of Gresham's fallacy. Dollarization tends to occur in instances of high inflation and in countries with histories of high inflation, such as many Latin American countries. The logic of dollarization is loose monetary policy leads to over-issue of the local national money which causes high inflation. As a result, the national money ceases to be a good store of value, unit of account, and medium of exchange. Economic agents respond by switching to using dollars, which provides a better store of value, better unit of account, and better medium of exchange. In effect, the dollar (or some other outside currency) starts to perform the functions of money

better than the local national money, and the good money drives out the bad.

There are several important implications of dollarization. First, it confirms Gresham's fallacy since good money (the dollar) drives out bad money (the local national currency). Second, it is supportive of the Mengerian functionalist approach to money as the dollar replaces the local national money because it delivers better on the functions of money (store of value, unit of account, and medium of exchange). Third, dollarization is fundamentally contrary to chartalist claims about money since the dollar is a foreign currency that cannot be used to pay local tax obligations.

Lastly, if Gresham's law is a fallacy and good money drives out bad, that has significant implications for fiscal policy and MMT. The implication is Gresham's dynamic can severely undermine government's ability to finance itself despite modern money being chartal. Though government can always insist on taxes being paid in money it has issued, financially loose policy may trigger reduced demand for state issued money, thereby undermining government's capacity to collect seignorage that finances spending.

6. Monetary history as critique of chartalist public finance theory

The history of money also casts doubt on chartlist claims about public finance, as represented by modern money theory (MMT).[7] MMT (Wray, 1998) claims government spending is a pre-requisite for taxes so that there is no financial constraint on spending. The argument is that government first needs to create and spend money to enable people to pay taxes that must be paid in money. According to MMT tax payments do not finance

[7] MMT consists of three components: (i) claims that money is chartalist in nature and origins; (ii) claims about the macroeconomic implications of chartalist money; and (iii) advocacy of an employer of last resort (ELR) program to deliver full employment. Elsewhere, I and others (Aspromourgos, 2011; Palley, 2015a, 2015b) have criticized the macroeconomics of MMT, while the ELR program has also been criticized as potentially financially unviable, undermining public sector unions, and bordering on workfare (Aspromourgos, 2000; Palley, 2001; Sawyer, 2003). This section criticizes MMT's attempt to enlist the history of money to support its macroeconomic claims about public finance.

spending: “The implication is tax payments do not ‘finance’ government spending but they create the demand for currency and impact reserves (Wray, 1998, p.78).” Furthermore, MMT claims “Government spending is never constrained by the quantity of bonds that markets are willing to purchase (Wray, 1998, p.87).”

As part of making the argument for these public finance propositions, MMT seeks to coopt the history of money in support of its claims via a collection of historical anecdotes. Thus, Wray asserts the history of money shows money has its origins in tax debt: “In this chapter we briefly examined the origins of money, finding them in debt contracts and more specifically in tax debt that is levied in money form (Wray, 1998, p.69).” The claim is monetary history shows government issues debt (money) to acquire resources, and then accepts that debt as tax payments which closes the circle by liquidating the debt (Wray, 1998, p.46).

However, rather than supporting MMT’s public finance claims, the history of monetary systems over the past millennium actually challenges them. The issue is not whether the state has affected the evolution of money. All perspectives agree the state has been heavily involved in money’s evolution, but MMT goes further to claim the state originates money via its spending activities.

The MMT claim is immediately challenged by the fact money long took the form of precious metals, which are scarce and which the state cannot produce out of thin air. That scarcity necessarily limited the state’s capacity to spend in advance of taxing, thereby contradicting the logic of MMT’s historical narrative of money.

In precious metals monetary systems, which have dominated monetary history, government needs coin to spend. It can acquire coin in two ways. First, government can do

so by taxation. Second, government can acquire bullion that it then mints and spends. It does so by borrowing, with loan notes being secured on future taxes. Both methods of financing contradict the economic claims of MMT and confound chartalist reasoning. In the first, taxation explicitly precedes spending. In the second, there exist potential bond market financing constraints as bond markets may be unwilling to lend, and there must also already exist a system of taxation that generates revenues on which bonds can be secured.

Furthermore, the history of money shows that these constraints remain operative even after the emergence of fiat money, which emerges out of the process of endorsement of private bills of exchange. Private fiat money emerged before public fiat money since state owned central banks did not even come into being until the 20th century. Additionally, governments first granted legal tender status to private fiat money, and only later got into the money production business on their own account. Consequently, throughout the period of private fiat money, governments were finance-constrained and needed to tax or borrow in advance of spending. That is because they needed to obtain private fiat money to spend and they did not produce that money.

It is with the creation of state owned central banks ***and*** the abandonment of convertibility of state issued money into gold, that chartalism takes center stage. For the U.S. that condition was only fully realized in August 1971 when President Nixon abandoned the Bretton Woods system by suspending the right of foreign governments to convert dollars into gold at the official gold exchange rate of $35 per ounce.[8]

At this stage, the monetary system becomes chartalist as regards the government component of money. That means current tax revenues are no longer technically needed to

[8] The right of private citizens to convert dollars into gold was suspended by President Roosevelt in 1933. For private citizens in the US, money became chartal in 1933.

finance nominal spending as government can "print" money to cover spending.[9] However, though the ability to issue non-convertible fiat money enormously increases government's financial space, it does not imply the degree of financial freedom claimed by MMT. That is because monetary history imposes financial constraints on government.

First, prior to the introduction of a non-convertible state fiat money system, the state has already developed a large budgetary appetite. The move to non-convertible state issued fiat money (so-called "modern money") can facilitate financing government spending on the margin, but that is very different from claiming no need for current tax revenues. Absent tax revenues, the money financing need would be so large it would likely provoke severe financial disruption, which points to the necessity of current taxation. By way of a thought experiment, imagine what would have happened had the US government eliminated taxation in August 1971 when it suspended convertibility of the dollar.

Moreover, printing money to cover just the budget deficit (i.e. spending in excess of current tax receipts) can be significantly disruptive if deficits are large. That points to the supplementary need for bond financing and the possibility of credit constraints. Such concerns with the bond market's reaction and psychology were central in Keynes's critique of Lerner's functional finance view, according to which money-financed spending could effortlessly solve the Keynesian macroeconomic problem (Aspromourgos, 2014).

Second, in the period of metallic and non-chartalist money before the emergence of chartalist money, government has already accumulated large debts that have to be serviced. As shown above, coin and private fiat money with legal tender status existed long before the transition to a non-convertible government fiat money system. During that period,

[9] In modern banking systems with electronic systems of payment, "printing" money is now done by keystroke entry. The central bank credits the government's account with a deposit, which the government can then spend.

governments issued large amounts of debt that are promises to pay money in the future out of future tax revenues. Those accumulated debts constrain government so that it is locked-in by past financial facts.

If government ceased collecting taxes to pay past debt obligations and simply monetized them, it would risk triggering a bond market collapse or even a Gresham dynamic. From a functionalist Schumpeterian perspective, state money is always in competition with non-state monies. Consequently, it could be displaced for all uses except those where use of state money is legally mandated, such as payment of taxes (Palley, 2001-02). To discourage such displacement, there is need for debt management conducted through orderly bond markets. Contrary to MMT's claims, bond markets can constrain government despite government's ability to issue non-convertible fiat money.

In sum, MMT gets monetary history back to front. The extensive and extended use of precious metals as money means that most of the modern history of money explicitly speaks against chartalism. Initially, the state helps deepen the monetization of the economy even though state money is not chartal. Later on, state money eventually comes to dominate, and the state's fiscal activities help propel state money to domination. That is the history of the Bank of England, whose privileged connections with the state made its notes the best money. That history is also consistent with a functionalist Schumpeterian perspective and the general principle that good money drives out bad.

Once state money dominates, chartalism takes center stage. Everyone agrees that government can never be short of money in a modern money system because it can always "print" more. However, being technically able to print more money does not mean pragmatic government has the financial freedom to do so, in which case current spending

can be constrained by lack of current tax revenue or lack of bond market access. That is because government is financially constrained by competition from alternative monies, the history of accumulated past issuance of money, the history of accumulated past issuance of debt, the structure of the economy, public confidence in the quality of policymaking, and the psychology of bond markets. The ability to issue non-convertible fiat money loosens those constraints, but it does not eliminate them as claimed by MMT.

In such a constrained situation, it is empty semantics to argue taxation acquires existing money balances that finance spending and debt obligations versus taxation extinguishes existing money balances to enable creation of new balances that finance spending. Either way, taxation is necessary for current spending.

7. Conclusion

This paper has used the history of money to shed light on some current issues in monetary theory. The paper began by contrasting the functionalist and chartalist views regarding the origins of money. It then argued that the evolution of money and the monetary system can be understood through the lens of a Schumpeterian dynamic, and that dynamic is consistent with a functionalist perspective. A functionalist perspective is also relevant for explaining why state money came to dominate, and it also explains why Gresham's law should be renamed Gresham's fallacy.

Lastly, as shown by the above critique of MMT's interpretation of monetary history (Wray, 1998), there is a perennial danger of seeing what one wants in history. MMT uses its chartalist story about the origins of money to support MMT's claims about governments no longer needing taxes to finance current spending and governments no longer being financially constrained by bond markets. However, monetary history does not support such

reasoning because the monetary system has been non-chartalist for most of history, and that history also imposes significant financial constraints on government.

Similar lessons hold for other schools. Libertarians (Selgin and White, 1987) tend to selectively read monetary history with an eye to showing the feasibility, stability, and desirability of competitive unregulated banking systems. Neoclassicals incline to reading monetary history through the lens of market failure theory, which is a construct and way of thinking that emerged long after historical developments. The effect is to impose an *ex-post* interpretation and rationalization on history.

All these different points of view contribute insights into understanding monetary history. However, each alone is misleading and likely to promote misunderstanding about the entirety of monetary history and current policy. The history of money speaks to the diversity of forces that have shaped money.

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