

8. Conclusion: The Credit Money and State Money Approaches

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DOES A. Mitchell Innes offer any insights for modern monetary theorists on the nature of money? It should be obvious from the preceding chapters that we believe he does. There are two remarkable things about his two articles. First, there is the clarity of his analysis, much of it based on little more than hunches about the history of money - a history that largely remained to be discovered, developed and written over the century that followed publication of his articles. We certainly would not wish to defend all of these hunches, but the general interpretation is sound.

Second, it is amazing that the path laid down by Innes was ignored by almost all subsequent monetary theory. Of course, Innes was anything but a well-known monetary theorist and his articles were published in a banking law journal. However, as the journal's editor remarked in 1914, 'the article attracted world-wide attention, and evoked much comment and criticism, from economists, college professors and bankers, as well as from the daily and financial press, because he differed so widely from the doctrine of Adam Smith and the present theories of political economy.' Still, it is true that Innes was rarely (if ever) cited, thus, the editor may well have exaggerated the extent of the debate around his article. On the other hand, one would have thought that if a Counsellor of the British Embassy in Washington could have produced such an analysis, surely some well-trained economist might have reproduced the analysis independently. To be sure, elements of the analysis of Innes can be found in the works of Keynes (especially in the *Treatise* as well as his drafts on ancient monies) and Schumpeter (see below), as well as contemporaneously in Knapp (apparently unknown to Innes). Yet, I believe the 1913 and 1914 articles by Innes stand as the best pair of articles on the nature of money written in the twentieth century.

What is perhaps under-emphasised in these articles by Innes is the relation between what he called his 'credit theory of money' and what

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Knapp called the 'state theory of money'. Clearly, Innes did not ignore 'state money'. Much of the first portion of the 1913 article is devoted to a discussion of coinage, and, particularly, to dispelling the notion that money's value is or was determined by precious metal content - in other words, to a criticism of the 'metallist' view. Here, Innes sounds like Knapp (and, as will be discussed below, like Schumpeter; and also like the more recent article by Goodhart 1998). This is further expanded in the 1914 article, although it is perhaps more obscure. Most of the rest of the 1913 article, as well as some of the 1914 contribution, is devoted to exposition of what we might call the creditary approach to money (or what Schumpeter called the credit theory of money). Hence, the emphasis on credit theory could lead the casual reader to a 'pure credit' approach with no room for 'state money'. The primary purpose of my chapter will be to explicitly draw out the link between the state money and creditary approaches, after first discussing Innes's views

on the nature of money via historical and sociological analysis.

THE IMPORTANCE OF THE HISTORICAL RECORD

In the 1913 article, Innes began with an accurate and concise summary of the typical orthodox approach to money. If there is any doubt about this characterisation, one need only look at the pseudo-history summarised by Samuelson a half-century later, which lays out a remarkably similar view nearly point by point (Samuelson 1973). And one should not limit criticism to economists on this score. Many historians are just as blinded by gold and other shiny metals as are orthodox economists. While historians might get more of the 'facts' right, the general framework adopted is frequently not much different from that of Samuelson, with a story told about barter being replaced by commodity money and later by paper money, albeit with less reliance on efficiency-enhancing and transactions-costs-reducing innovations as the motive force for evolution. Indeed, historians just as frequently focus on coin, with only the relatively rare analysis (like that of McIntosh 1988) focussing on credit. By this I do not mean to imply that historians (or economists) ignore credit, but rather that they adopt what Schumpeter called a 'monetary theory of credit' approach rather than 'a credit theory of money'. The approach of Innes is much closer to the latter, although, as I'll argue below, Schumpeter's distinction is not sufficient (identifying Chartalism with a legal tender approach). In any case, because of their preoccupation with coined currency, historians are not much closer to discovering 'the nature of money' than are orthodox economists.

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Why do economists feel a need to turn to history? Samuelson begins his analysis of money with his pseudo-history. Austrian economists create an imaginary history of money, and of banking, to justify their calls for less government intervention. Most of the 1913 article by Innes relies on historical analysis for presentation of the creditary approach. All of the chapters of this volume devote considerable space to historical analysis, even though I did not request this of the authors. And I have previously used history to advance my case for an endogenous money approach (Wray 1990) and for understanding modern fiscal and monetary policy (Wray 1998). I suppose that economists use these histories primarily as a means to shed light on the nature of money. Just as peoples have stories about their origins in order to explain (and shape and reproduce and justify) their character, economists tell stories about the origins of money to focus attention on those characteristics of money that they believe to be essential. The barter story is used to draw attention to the medium of exchange and store of value functions of money. A natural propensity to truck and barter is taken for granted. Attention is diverted away from social behaviour and towards individual utility calculation that is believed to precede barter. Social power and economic classes are purged from the mind, or at least become secondary. 'The market' is exalted; 'the government' is derided as interventionist. Fundamental change (evolution), if it exists at all, is transactions-cost reducing except where government interferes to promote inefficiencies.

By contrast, the story told by those who emphasise a creditary approach locates

the origin of money in credit and debt relations. Markets are secondary or even nonexistent. Power relations could be present - especially in the form of a powerful creditor and weak debtor -and so could classes. The analysis is social - at the very least it requires a bilateral (social) relation between debtor and creditor. The unit of account function of money comes front and forward as the numeraire in which credits and debts are measured. The store of value function could also be important, for one could store wealth in the form of debts on others. On the other hand, the medium of exchange function is de-emphasised; indeed, one could imagine credits and debts without a functioning market and medium of exchange.

Note, however, that adopting a credit approach to money does not necessarily lead one to a fundamentally social approach that deviates greatly from the individual approach of the barter paradigm. One could envision a scenario in which maximizing individuals lent and borrowed items, and one could tell some sort of story about how transactions-costs-reducing forces gradually led to use of a universal unit of account in which debts were denominated. Eventually, markets could develop for

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the purpose of obtaining items (with values denominated in the same unit of account) to be used in debt settlement. Finally, a medium of exchange could emerge, to be used in markets and also in settling accounts. While such a story would deviate somewhat from (and improve somewhat upon) that told by Samuelson and criticised by Innes, it would represent a social approach to money only in the sense that the debtor-creditor relation is necessarily more social than is the barter relation between Crusoe and Friday. But the role for social processes and decision-making would remain stunted.

All of the authors assembled here would want to push this much farther. While Innes is perhaps less transparent than Gardiner, Henry, Hudson or Ingham, I believe that he would endorse their overtly social analyses. To see why, we need to go beyond the two articles by Innes reproduced here. In 1932, Innes published a remarkable book, *Martyrdom in our Times* (1932), which attacked the United Kingdom's criminal justice system. Much of the book is devoted to an expose of the harsh treatment of prisoners, which Innes had observed first-hand and used in his efforts to reform the system. More relevantly to our purposes, Innes provided a brief examination of the evolution of the notion and practice of justice in Western society from the time of tribal society through to the twentieth century. As in the case of his 1913 and 1914 articles, Innes's analysis relied on hunches often later validated by historians of the Western penal tradition. According to Innes, early 'justice' meant payment of compensation by perpetrators to their victims (and/or their families). Over time, however, a criminal justice system was created in which 'fines' were paid to authorities that gradually squeezed out victims. The justice of tribal society was purposely undermined and transformed into a revenue-generating system to support the ruling class. Uncompensated, victims clamoured for ever harsher punishment until 'justice' came to mean execution, or, later, long-term imprisonment for rising numbers of 'criminals'. (Interestingly, the penal system was originally set up to generate net revenues but by the post-war period had become a huge net drain on state revenues - a topic beyond the scope of this chapter.) It is not widely recognised that the 'prison system' is actually a very recent development, really only dating back to the nineteenth century. Previously, prisons had been used mostly for

confining the accused until trial, and the guilty only until fines were assessed and paid. Hence, according to Innes (and verified by modern research), the 'modern' criminal justice system deviates substantially from Western tradition in a particularly illuminating way.

To our knowledge, Innes did not return to a revision of his earlier work on the credit approach to money in order to take account of his analysis of

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justice. However, I think that such a revision would take us very close to the analyses provided in this volume, especially those of Henry and Hudson. (See also Goodhart 1998; Wray 1998.) As Innes suggested, tribal society developed an elaborate system of wergild designed to prevent the development of blood feuds. And as he argued, fines were paid directly to victims and their families. The fines, in turn, were established and levied by public assemblies. We know that a long list of transgressions and fines for each transgression was developed. A designated 'rememberer' would be responsible for memorizing this list and for passing it down to the next generation. There was no need for a universal unit of account in which transgressions and fines would be measured, because a specific fine could be assigned to each wrong afflicted on a victim. Note that the fines were usually levied in terms of a particular good that was both useful to the victim and more or less easily obtainable by the perpetrator and his family.

As Hudson reports, the words for debt in all languages are synonymous with sin or guilt, reflecting these early reparations for personal injury. We still think of a traffic fine as an 'obligation' to pay, or a 'liability'. Originally, as Innes's 1932 book argues, these obligations were to the victim - until one paid the fine, one was 'liable', or 'indebted' to the victim. Hudson also makes it clear that the words for money, fines, tribute, tithes, debts, man-price, sin, and, finally, taxes are so often linked as to eliminate the possibility of coincidence. It is almost certain that wergild fines were gradually converted to payments made to an authority, as argued by Innes. This could not occur in an egalitarian, democratic, tribal society, but had to await the rise of some sort of ruling class. As Henry argues for the case of Egypt, the earliest ruling classes were probably religious officials, who demanded tithes (ostensibly, to keep the gods happy). Alternatively, conquerors might subject a population and require payments of tribute. Tithes and tribute thus came to replace wergild fines. Of course, tithes could be related to 'original sin' from which no person could be exempt. Tribute would be imposed by the strong on the weak, no doubt with various justifications given for the 'rightful' hierarchical arrangements, as necessary to retain authority. Fines for 'transgressions against society', paid to the rightful ruler, could be levied for almost any conceivable activity.

Eventually, taxes would replace most fees, fines and tribute as the revenue source. These could be self-imposed as democracy swept away the divine right of kings to receive such payments. 'Voluntarily-imposed' taxes proved superior to payments based on naked power or religious fraud because of the social nature of the decision to impose them 'for the public good'. The notion that such taxes 'pay for' government provision

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of 'public goods' like defence or infrastructure added another layer of justification, as did the occasionally successful attempt to convert taxes from a 'liability' to a 'responsibility'. If only the government could hold its spending to the level 'afforded' by tax revenue, all would be right and just. In any case, with the development of 'civil' society and reliance mostly on payment of taxes rather than fines, tithes or tribute, the origins of such payments in the wergild tradition have been wiped clean from the collective consciousness.

The key innovation, then, lay in the transformation of what had been the transgressor's 'debt' to the victim to a universal 'debt' or tax obligation imposed by and payable to the authority - whether that imposition followed from democratic practices or otherwise. The next step was the recognition that the obligations could be standardised in terms of a handy unit of account. As Hudson convincingly argues, no standardisation was desired in the old wergild system. But a tribute, tithe or tax needed to be standardised. At first, the authority might have levied a variety of fines (or tributes, tithes and taxes), in terms of a variety of goods or services to be delivered, one for each sort of transgression. When all payments are made to the single authority, however, this wergild sort of system becomes cumbersome. Unless well-developed markets exist, those with liabilities denominated in specific types of goods or services to which they do not have immediate access would find it difficult to make such payments. Or, the authority could find itself blessed with an overabundance of one type of good while short of others.

Denominating payments in a unit of account would simplify matters -but would require some sort of central authority. As Grierson has remarked, development of a unit of account in which debts could be denominated would be difficult. (See also Henry above.) Measures of weight or length are much easier to come by - the length of some anatomical feature of the ruler (from which, of course, comes our term for the device used to measure short lengths), or the weight of a quantity of grain. By contrast, development of a money of account used to value items with no obvious similarities required more effort. Orthodoxy has never been able to explain how individual utility maximisers settled on a single numeraire. (See Gardiner and Ingham above for logical difficulties with orthodoxy.) While it is fairly obvious that use of a single unit of account results in efficiencies, it is not clear what evolutionary processes would have generated the single unit. Further, the higgling and haggling of the market is supposed to produce the equilibrium vector of relative prices, all of which can be denominated in the single numeraire. However, such a market seems to presuppose a fairly high degree of specialisation of labour and/or resource ownership - but this pre-market specialisation,

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itself, would be hard to explain. Once markets are reasonably well developed, specialisation would increase welfare; however, in the absence of well-developed markets, specialisation would be exceedingly risky. In the absence of markets, diversification of skills and resources would be prudent. It seems exceedingly unlikely that either markets or a money of account could have evolved out of individual utility-maximizing behaviour.

Heinsohn and Steiger (1983) offered a clever solution to this problem. Suppose a society consists mostly of subsistence farmers, each more or less self-sufficient. The

primary crop is barley grain. In any given year, some farmers do well while others do less well. Those who fare poorly borrow grain from those who do well, expecting to pay off the debt in the following year when normal production is restored. Interest would be charged on the loan to compensate the lender for the dual risks that the loan might not be repaid and that the lender might find himself short of grain before the loan is repaid. It would be easy to standardise the loan as well as the interest because the grain would be fairly uniform. Thus, a bushel of barley would be loaned, requiring payment a year later of, say, one and a third bushels. Loans of other items might eventually take place, reckoned in terms of bushels of barley. This story has several advantages over the barter story. It does not presuppose specialisation or markets. It has a plausible explanation for the selection of the unit of account. And, perhaps most importantly, it is consistent with what we know about all the early monies of account: these were always based on a unit of weight of grain. Even today, monetary units used (or recently used) in much of the world reflect the early origins in these grain units: the pound, the lira, the livre, the shekel and so on. The typical monetary unit throughout the West was the pound of wheat or barley grain (close to today's pound), divided into 12 'shillings' and further subdivided into 240 'pennies' (see Cipolla 1956).

The Heinsohn-Steiger thesis is not fully satisfactory, however, because it requires self-sufficient farmers. It is not clear how tribal society with its communal ownership and ties of reciprocity is transformed into a society of yeoman farmers, each individually responsible for his own welfare. Hudson provides an alternative. He notes that money evolved from three ancient traditions: wergild, common-meal guilds, and the internal accounting practices of the temples and palaces. Only the latter would have generated a general-purpose money of account in which prices could be denominated, although the other traditions might have led to development of special-purpose monies and the idea of measuring debts. Henry focusses on an earlier stage, specifically taking up the transition from tribal society to class society. Differentiation of labour was social,

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rather than individual, with a gens specializing in a particular function. Collective rights and obligations of the tribe began to break down, inequality rose, and eventually a ruling class emerged. Tribal obligations were converted into levies placed on the majority, in the interest of the ruling minority. In ancient society, these tax levies were placed on entire villages, not on individuals. Often, tax collection would be 'farmed out' to tax collectors. The growing administrative burden of keeping track of taxes and payments required development of the unit of account.

(Just as an aside, and in confirmation of Henry's thesis, according to Roman tradition, early specialisation of 'bridge engineers' led to the creation of a class of high priests. Perhaps this could be traced to a particular Roman gens.

Tradition has it that the construction of bridges ('pontes' in Latin) was entrusted to a college of pontifices' which later became the most important of the religious orders; thus Varro and Dionysius maintain that 'pontifex' (in Rome a high priest, now used for the Pope) originally meant builder of bridges. These builders, of whom there were five, were from the earliest beginnings of the city the guardians of a store of proven technical wisdom and experience in the construction of bridges (Dal Maso 1974, p. 94).

If Henry is right, specialisation begat wisdom, begat status, begat religion, begat fines, fees, tribute, tithes and taxes paid to the Papacy.)

While the analyses are somewhat different, Henry and Hudson offer approaches that emphasise the fundamentally social nature of the choice of a unit of account. Further, in their stories, the proto-function of money was as the unit of account in which debts were measured, with other functions deriving from this. Markets and prices came later, and they, too, required administration by an authority. Far from springing from the minds or natural propensities of atomistic globules of desire, markets were created and nurtured by a central authority. Finally, both Henry and Hudson emphasise the role played by taxes or similar payments (fees, fines, tithes, tribute) in the evolution of the money of account. This stands in stark contrast to the orthodox stories, which emphasise mutually beneficial exchange, or even the Heisohn-Steiger approach that emphasises mutually beneficial ('rational') loans.

To be sure, we will never 'know' the origins of money. First, the origins are lost 'in the mists of time' - almost certainly in prehistoric time. (Ingham quoted Keynes to the effect that money's 'origins are lost in the mists of time when the ice was melting, and may well stretch back into the paradisaic intervals in human history, when the weather was delightful and the mind free to be fertile of new ideas - in the islands of the Hesperides or Atlantis or some Eden of Central Asia' (Keynes 1930,

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p. 13).) It has long been speculated that money predates writing because the earliest examples of writing appear to be records of monetary debts and transactions. Recent scholarship seems to indicate that the origins of writing are themselves exceedingly complex. It is not so simple to identify what is 'writing' and what is not. Similarly, it is not clear what we want to identify as money. Recall that all of the authors collected here insist that money is social in nature; it consists of a complex social practice that includes power and class relationships, socially constructed meaning, abstract representations of social value and so on. (More on this in the next section.) As Hudson rightly argues, ancient and even 'primitive' society was not any less complex than today's society. (And Gardiner argues that ancient language - the most social of all behaviour - was, if anything, more complex than modern language.) Economic relations in those societies were highly embedded within complex social structures that we little understand.

When we attempt to discover the origins of money, what we are in fact attempting to do is to identify complex social behaviours in ancient societies that appear similar to the complex social relations in our society today that we wish to identify as 'money'. Orthodox economists see exchange, markets and relative prices wherever they look. For the orthodox, the only difference between 'primitive' and modern society is that these early societies are presumed to be much simpler - relying on barter or commodity monies. Hence, economic relations in earlier society are simpler and more transparent; innate propensities are laid bare in the Robinson Crusoe economy for the observing economist. While heterodox economists try to avoid such 'economistic' blinders, tracing the origins of money necessarily requires selective attention to those social practices we associate with money - knowing full well that earlier societies had complex and embedded economies that differ remarkably from ours. Imagine a member of tribal

society trying to make sense of the trading floor on Wall Street through the lens of reciprocity!

This negative assessment does not mean that I believe we can learn nothing from a study of money's history. Far from it. Nonetheless, we must be modest in our claims. Further, we should always keep in mind the purpose of the historical analysis: to shed light on the nature of the social institution we call 'money'.

MONEY AS A SOCIAL RELATION

It may be worthwhile to explore briefly what we mean by 'money as a social relation' in some more detail, because it may not be obvious why

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this is important. While Institutionalists have long insisted on viewing money as an institution, indeed, perhaps the most important institution in a capitalist economy, most economists have not delved deeply into this (Dillard 1980). However, if we are to understand the nature of money, it is important to uncover the social relations that are obscured by this institution. Sociologists have provided some important insights.

As discussed above, the typical economic analysis starts with a potted history of money, beginning with barter and the innovative use of money as a medium of exchange. On the surface, this appears to be an 'evolutionary' approach that recognises human agency. However, as we shall see, the orthodox economists turn money into a 'natural' phenomenon free from social relationships. As Carruthers and Babb argue:

Although economists allow that money is a human invention assuming different forms in different times and places, they adopt an evolutionary perspective that de-emphasises money's contingency and its ultimate foundation in social convention. As capitalist economies became more complex, money 'naturally' assumed increasingly efficient forms, culminating in the highly abstract, intangible money of today (1996, p. 1558).

The innate propensity to 'truck and barter' is supposed to lead naturally to the development of markets with prices established through 'higgling and haggling'. The market, itself, is free of social relations - one, so to say, checks ideology, power, social hierarchies and so on, at the door when one enters the market place. It is then 'natural' to choose a convenient medium of exchange to facilitate such impersonal transactions. The ideal medium of exchange is itself a commodity whose value is 'natural', innate, intrinsic - free from any hierarchical relations or social symbolism. Obviously, precious metal is meant to fit the bill. The value of each marketed commodity can then be denominated in terms of the medium of exchange, again, through the impersonal and asocial market forces of supply and demand. Regrettably, nations have abandoned the use of intrinsically valuable money in favour of 'fiat' monies. Some economists (Jude Wanniski and Alan Greenspan before he headed the Fed) advocate return to a gold standard, but most have adopted the position that a return to gold is at least politically infeasible. Hence, it is necessary to remove as much discretion as possible from the hands of monetary and fiscal authorities, to try to ensure that our modern fiat money

operates along principles not too far removed from the operation of a commodity money. Monetary growth rules, prohibitions on money creation by the treasury, balanced budget requirements, and the like (not to mention currency boards and dollar standards for

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developing nations), are all attempts to remove discretion and thereby restore the 'natural', asocial, monetary order. Some 'pure credit' theorists argue that government is, or should be, in the same situation as any other 'individual', with 'liabilities' that have to 'compete' in frictionless financial markets (Mehrling 1999; Rossi 2000).

Thus, the orthodox economist (as well as most of the rest of society) 'forgets' that money is a social creation, even in the intellectually impoverished story told by Samuelson about Crusoe and Friday. Social relations are hidden under a veil of money. As Hilferding put it:

In money, the social relationships among human beings have been reduced to a thing, a mysterious, glittering thing the dazzling radiance of which has blinded the vision of so many economists when they have not taken the precaution of shielding their eyes against it (quoted in Carruthers and Babb, 1996 p. 1556).

Simmel put it even more concisely when he said that money transformed the world into an 'arithmetic problem' (quoted in Zelizer 1989, p. 344). The underlying social relations are 'collectively "forgotten about" ' in order to ensure that they are not explored (Carruthers and Babb 1996, p. 1559). Anyone who doubts this need only examine the way in which money is introduced into all modern mainstream macroeconomic ('arithmetic') analyses (and recall Friedman's famous presumption that money is simply dropped by helicopters).

This is much more true today than it was a century and a half ago, before the underlying social relations had become so thoroughly hidden behind the shroud of respectable analysis. Carruthers and Babb present a very interesting study of the contrast between the Bullionists and the Greenbackers in their debate about the monetary system following the US Civil War. Perhaps at no time since has the monetary system come under question to such a degree. 'Proponents on both sides entered into a discussion of the nature of money, of why things possessed economic value, and of the relation between democratic polities and markets' (*op. cit.*, p. 1565).

The Bullionists presented a position ancestral to that of today's orthodox economists. The market was natural, true money had to possess 'intrinsic value', and the laws of Darwinian selection required that only bullion could serve as true money. As one of the combatants of the time explained, 'there is all the difference between true money, real money and paper money, that there is between your land and a deed for it. Money is a reality, a weight, of a certain metal, of a certain fineness. But a paper dollar is simply a deed, the legal evidence of the title that I hold to a dollar' (*op. cit.*, p. 1568). Bullionists were also openly hostile to government,

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'suggesting that it was untrustworthy, incompetent, or corrupt' (*op. cit.*, p. 1572). Any

attempt to impose inherently valueless government paper money on the system would subvert the operation of economic laws: 'Value was determined by "natural" laws and to try to control it was to court disaster' (*op. cit.*, p. 1574). A bullion-based money would restore the 'national honour' and would constrain governments that are 'weak-willed, corruptible institutions easily seduced by the temptations of soft money' (*op. cit.*, p. 1576).

Greenbackers explicitly recognised that money is an institution, whose value is socially determined. They emphasised the role played by convention in choice of a money. Further, they argued that choice of the gold standard gave power to the few, while use of a paper money could spread power and reduce inequality. Greenbackers cleverly turned around the analogy made by bullionists about land and deeds; as one remarked: 'True money is not wealth any more than the deed for a farm is the farm itself; and there is no more use in having our money made of gold than in having our deeds drawn upon sheets of gold' (*op. cit.*, p. 1569-70). (As we will see below, neither Knapp nor Innes could have said it better! It also recalls to mind Keynes's statement about confusing a theatre ticket with the performance.) They argued that money (whether gold or paper) had value only because the government made it legal tender. 'Anyone could accept a paper dollar in payment if she knew it could be used later to buy whatever the person wanted. The way to enhance exchangeability was for the government to grant full legal tender powers to paper money' (*op. cit.*, p. 1571). Greenbackers insisted that use of an inconvertible paper money would help to take power away from special interests and return it to the population (*op. cit.*, p. 1577). Democratic government had a proper role to play in the monetary system. 'In summary, the greenback debates contested the nature of monetary value and the proper role of democratic government in finance...[G]reenbackers felt that economic value could and should be subject to conscious, democratic control' (*op. cit.*, p. 1573).

Bullionists, like today's orthodox economists, ignored or hid the social nature of money. Instinctively, they recognised that rendering markets and commodity money 'natural' helps to make it appear as if this is in the interest of all of society. If 'Darwinian' processes have selected gold as the most efficient form that money can take, then any attempt to change this must result in harm to all. Perhaps they also instinctively saw the value of hiding behind the veil of natural money:

[W]hen collectively people recognise how much of their world is socially constructed, social institutions that are based on convention - including

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relations of domination - become particularly vulnerable. Through their rhetoric, greenbackers hoped to unleash a collective realisation that would lead to a new democratic era, one in which the economy was controlled by the people rather than by the wealthy few. Bullionists worried that if democratic control were established over the monetary system and economic value, then nothing else would be safe (*op. cit.*, 1996, p. 1580).

Before moving on, one further example from history will help to bring out both the social nature of money as well as its historical specificity. Kurke examined the social origins of coins in seventh-century BC Lydia and East Greece - apparently the first

coinage. In passing, it is worthwhile to note that this fact is in itself interesting and destructive of the orthodox story of money's origins. There is little doubt that money had existed for at least 3000 years before coins were struck, taking a wide variety of forms. While one might quibble about what we want to count as money, there is no question that there were sophisticated financial arrangements and complex market forms long before anyone had the bright idea of coining precious metal. If coined metal was indeed an invention designed to reduce transactions costs, one must wonder why the invisible hand of Darwinian evolution was so slow to develop coinage while it had been quick to develop alternative - and apparently more complex - financial instruments.

Polanyi had emphasised that in ancient Greece, the economy was embedded in other non-economic institutions like 'kinship, marriage, age-groups, secret societies, totemic associations, and public solemnities' (Polanyi 1968, p. 84), which Kurke argues must have made a difference for the causes of the invention of coinage. She locates those causes mainly in a contest between an elite that wished to preserve the embedded hierarchy of gift exchange and a democratic *polis* trying to exert its sovereignty. Hence, the debate she analyses is very nearly the reverse of that which took place in post-Civil War America. In Greece, the choice of a precious metal coin was against the interests of the elite and the spread of the market was actually democratizing. In Kurke's view:

. . . the minting of coin would represent the state's assertion of its ultimate authority to constitute and regulate value in all the spheres in which general-purpose money operated simultaneously - economic, social, political, and religious. Thus state-issued coinage as a universal equivalent, like the civic *agora* in which it circulated, symbolised the merger in a single token or site of many different domains of value, all under the final authority of the city (Kurke 1999, pp. 12-13).

Let us see why.

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According to Kurke, introduction of coins arose out of a 'seventh/sixth century crisis of justice and unfair distribution of property' (Kurke 1999, p. 13). At this time, the *polis* had gained sufficient strength to challenge the *symposia*, *hetaireiai* (private drinking clubs), and other institutions and *xenia* (elite networking) that maintained elite dominance. Elite society relied on social networks and gift exchange, looking down upon the extending market and use of money - which were linked at least subconsciously to democracy. Even control over city government was maintained by bringing city officials within elite networks and making their livelihood depend upon gifts. City government began to challenge the authority of this elite, by promoting the market, by coining money and by trying to substitute salaries for gifts. The *agora* and its use of coined money subverted hierarchies of gift exchange, just as a shift to taxes and regular payments to city officials (as well as severe penalties levied on officials who accepted gifts) challenged the 'natural order'. It was thus no coincidence that the elite literary works disparaged the *agora* as a place for deceit and that coinage was always noted in such literature for its 'counterfeit' quality - and never mentioned favourably in these works. For the elite, the perfect metaphor for the *agora* was the *pome* (whore) who

worked for money, and she was contrasted with the *hetairai* (courtesans) who frequented the *symposia* to exchange their services for 'gifts'.

In pointed affront to the elite, the *polis* coined gold (the most valued of gifts in the hierarchy of gift exchange) and created cheap public brothels for use by citizens. The public brothel was seen as democratic, because it 'serves "all mankind", it is "democratic", and provides women who are "common to all" ' so that 'any citizen, no matter how poor, could enjoy a *pome*' (Kurke 1999, pp. 196-7). As Kurke argues (and as the Green-backers argued), since coins are nothing more than tokens of the city's authority, they could have been produced from any material. However, because the aristocrats measured a man's worth by the quantity and quality of the precious metal he had accumulated, the *polis* was required to mint high-quality coins, unvarying in fineness. The citizens of *the polis* by their association with quality, uniform coin gained status. By providing a standard measure of value, coinage rendered labour comparable and in this sense coinage was an egalitarian innovation. Predictably, the elite reacted, attributing the introduction of coins to tyrants intent on destroying the *nomos*, the community, the divine order. It is also interesting that in the elite texts, the invention of money is attributed to the requirements of scorned retail trade - just as modern economics does, albeit without scorn - rather than to the struggle to assert sovereignty of the *polis*. As Kurke argues (and in line with what Carruthers and Babb

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argue), this mystification of the origins of money is ideological - as it remains today - a purposeful rejection of the legitimacy of democratic government.

In sum, coinage was not a transactions-cost-minimizing invention but rather emerged from a spatially and temporally specific contest between an elite that wished to preserve the embedded hierarchy of gift exchange and a democratic *polis* moving to assert its sovereignty. Precious metals were not chosen for coinage to ensure that nominal value would be maintained by high embodied value but rather because of the particular role played by precious metals in the hierarchy. Coins were then mystified by an elite that associated their creation with petty, debasing and contaminating retail trade. In reality they were linked from the beginning with provision of government finance (as Grierson 1977 notes, numismatists have come to the conclusion that early coins seem to have been issued to pay 'soldiers and sailors'). While both the elite and the supporters of the *polis* claimed legitimacy for their positions, through reference to the embedded, natural, order, coinage, development of sovereign government, and evolution of retail trade all contributed to the gradual (but always only partial) dis-embedding of the economy. In the views of the elite, the evil government only corrupts the natural, embedded economy by coining metal and reducing the sphere for elite gift exchange. Eventually all these changes of course, such that by the time of the Bullionist-Greenbacker debates, the dis-embedded market is 'natural' and the gold coin is the only proper form that money should take. According to the Greenbacker or its modern equivalent, the evil and corrupt government tries to embed the economy in social and political institutions that can only disrupt the natural, dis-embedded and efficient order. Only by wresting control over the economy away from government - for example, through bullionism or monetarism - can the market be free to work its wonders.

The purpose of reducing money to 'arithmetic', then, is to hide the social relations

behind a 'natural veil' of asocial market exchange. To be sure, the veil is transparent to the over-indebted borrower, to the hungry who lacks money for food, or to the unemployed without money wages. For the committed ideologue, however, or for the professional economist, that veil completely obscures the sociological nature of money in a quite 'useful' way.

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THE CREDIT THEORY OF MONEY

Schumpeter made a useful distinction between what he called the 'monetary theory of credit' and the 'credit theory of money'. The first sees private 'credit money' as only a temporary substitute for 'real money'. Final settlement must take place in real money, which is the ultimate unit of account, store of value, and means of payment. Exchanges might take place based on credit, but credit expansion is strictly constrained by the quantity of real money. Ultimately, only the quantity of real money matters so far as economic activity is concerned. Most modern macroeconomic theory is based on the concept of a deposit multiplier that links the quantity of privately created money (mostly, bank deposits) to the quantity of monetary base (or, high-powered money, HPM). This is the modern equivalent to what Schumpeter called the monetary theory of credit, and Milton Friedman (or Karl Brunner) is probably the best representative.

The credit theory of money, by contrast, emphasises that credit normally expands to allow economic activity to grow. This newly created credit creates new claims on money even as it leads to new production. However, because there is a clearing system that cancels claims and debits without the use of money, credit is not merely a temporary substitute for money. Schumpeter does not deny the role played by money as an ultimate means of settlement, he simply denies that money is required for most final settlements. Hence, he is not guilty of propagating a 'pure credit' approach with no place reserved for money (such as that adopted by Mehrling or Rossi).

The similarities to the analysis provided by Innes are obvious. Like Schumpeter, Innes focussed on credit and emphasised the clearing of credits and debits. According to Alfred White's introduction to the April 1913 issue of *The Banking Law Journal* that announced Innes's forthcoming May 1913 article, the position taken by Innes was 'That in fact all trading other than direct barter has been upon credit, and that *money is nothing but credit*; A's money being B's debt to him, and when B pays his debt A's money disappears; That the function of banking is to bring the debts and credits together so that they might be written off against each other...' (p. 268). Innes mocks the view that 'in modern days a money-saving device has been introduced called *credit* and that, before this device was known all purchases were paid for in cash, in other words in coins' (Innes 1913, p. 389). Instead, he argues 'careful investigation shows that the precise reverse is true' (*op. cit.*, p. 389). Rather than selling in exchange for 'some intermediate commodity called the "medium of exchange" ', a sale was really 'the exchange of a commodity for a credit'.

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Innes calls this the 'primitive law of commerce': 'The constant creation of credits and debts, and their extinction by being cancelled against one another, forms the whole mechanism of commerce...' (*op. cit.*, p. 393). The following passage is critical.

By buying we become debtors and by selling we become creditors, and being all both buyers and sellers we are all debtors and creditors. As debtor we can compel our creditor to cancel our obligation to him by handing to him his own acknowledgement of a debt to an equivalent amount which he, in his turn, has incurred. For example, A having bought goods from B to the value of \$ 100, is B's debtor for that amount. A can rid himself of his obligation to B by selling to C goods of an equivalent value and taking from him in payment an acknowledgement of debt which he (C, that is to say) has received from B. By presenting this acknowledgement to B, A can compel him to cancel the debt due to him. A has used the credit which he has procured to release himself from his debt. It is his privilege (*op. cit.*, p. 393).

The market, then, is not viewed as the place where goods are exchanged, but rather as a clearing house for debts and credits. Indeed, Innes rejects the typical textbook analysis of the village fairs, arguing that these were first developed to settle debts, with retail trade later developing as a sideline to the clearing house trade. On this view, debts and credits and clearing are the general phenomena; trade in goods and services is merely a subspecies - one of the ways in which one becomes a debtor or creditor (or clears debts). While Innes does not go so far as to claim that markets in goods and services are created specifically to provide a way in which producers can obtain the means of debt settlement, this would certainly be consistent with his argument.

Finally, banks emerge to specialise in providing the clearing function:

Debts and credits are perpetually trying to get into touch with one another, so that they may be written off against each other, and it is the business of the banker to bring them together. This is done in two ways: either by *discounting bills*, or by *making loans*. The first is the more old fashioned method and in Europe the bulk of the banking business consists in discounts while in the United States the more usual procedure is by way of loans (*op. cit.*, p. 402).

There is thus a constant circulation of debts and credits through the medium of the banker who brings them together and clears them as the debts fall due. This is the whole science of banking as it was three thousand years before Christ, and as it is today. It is a common error among economic writers to suppose that a bank was originally a place of safe deposit for gold and silver, which the owner could take out as he required it. The idea is wholly erroneous . . . (*op. cit.*, p. 403).

Innes also rejected the view that banking reserves limit the business of banks. Note that the deposit multiplier was not really understood by most

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of the profession until the 1920s, and of course it became most important in the Monetarist approach developed by Friedman and Brunner only in the 1960s. But Innes had offered a critique long before that:

Too much importance is popularly attached to what in England is called the *cash in hand* and in the United States the *reserves*, that is to say the amount of *lawful money* in the possession of the bank, and it is generally supposed that in the natural order of things, the lending power and the solvency of the bank depends on the amount of these reserves. In fact, and this cannot be too clearly and emphatically stated, these reserves of *lawful money* have, from the scientific point of view, no more importance than any other of the bank assets. They are merely credits like any others . . . (*op. cit.*, p. 404).

We will come back to this issue in a moment, but note that the position of Innes is similar to that of Schumpeter. It is the circulation of credits and debits that is the focus of analysis. Still, both reject a 'pure credit' theory, with each recognizing that 'lawful money' is required for net clearing (if the bank's credits fall short of its debits 'at the end of each day's operations' (*op. cit.*, p. 404)). In the next section we will examine in more detail Innes's analysis of 'lawful money' - which is far superior to that attributed by Schumpeter to the chartalists.

In the chapter above, Ingham rightly objects to the tendency of Innes to replace one universalist approach (the orthodox metallist approach) with another (the 'primitive law of commerce'). As Ingham notes, we need to distinguish carefully among social relations (including money) within different types of societies. Ingham is most concerned with developing a credit theory of money that is appropriate to capitalist society. Hence, while he agrees that all money *is* credit, he argues that not all credit serves as money - a topic to be explored further in the next section. Further, while Innes's emphasis on the circulation of credits is well-placed, he should have distinguished carefully between transferable and nontransferable credit. It may well be true that banks originated out of the clearing house business, but what is perhaps more distinctive about commercial banks in the capitalist era is that they *create* transferable credit money (notes or deposits).

Actually, I do not think Innes would disagree with Ingham, rather, Innes probably chose to over-emphasise credit clearing and exaggerated its universality in response to prevailing views. I do think he hinted at an understanding that transferability of debt is important, and he recognised that banks create new credits in addition to serving the clearing house function. Innes said that both bank notes and bank deposits are acknowledgements 'of the banker's indebtedness, and like all acknowledgements of the kind, it is a "promise to pay" ' (*op. cit.*, p. 407).

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While he usually speaks of banks as 'the clearing houses of commerce' where 'the debts and credits of the whole community are centralised and set off against each other' (Innes 1914, p. 152), he also acknowledges the case in which the bank creates a debt on itself in anticipation of a sale/purchase between two parties. (The following passage comes after an example in which a purchase/sale is achieved through use of bills of exchange, with clearing done by the banker. Here he presents a case with a sale/purchase without bills of exchange. In the example, B, C and D are buyers and A is the seller of some goods.)

Now let us see how the same result is reached by means of a loan instead of by taking the purchaser's bill and selling it to the banker. In this case the banking operations, instead of following the sale and purchase, anticipates it. B, C, and D before buying the goods they require make an agreement with the banker by which he undertakes to become the debtor of A in their place, while they at the same time agree to become the debtors of the banker. Having made this agreement B, C and D make their purchases from A and instead of giving him their bills which he sells to the banker, they give him a bill direct on the banker. These bills of exchange on a banker are called cheques or drafts (Innes 1913, p. 403).

In other words, the bank makes 'a loan' by creating 'a deposit', but this is exactly analogous to creation of credits/debits through use of bills of exchange. (Since today we count bank deposits as part of the money supply, what Innes is explicating is an 'endogenous' expansion of the money supply, although he rightly calls this credit.) The banker then needs only to ensure that 'his debts to other bankers do not exceed his credits on those bankers, and in addition the amount of the "lawful money" or credits on the government in his possession' (1913, p. 404). The banker 'knows by experience' the number of his cheques that will be presented to him for clearing, as well as the number of cheques he will present to other banks for clearing, thus, knows how much HPM to keep in reserve for net clearing purposes. 'It must be remembered that a credit due for payment at a future time cannot be set off against a debt due to another banker immediately. Debts and credits to be set off against each other must be "due" at the same time' (*op. cit.*, p. 404). Of course, a number of practices can be developed to facilitate net clearing, such as establishment of correspondent banks that would discount bills and provide reserves for net clearing. Innes does not discuss this and it is not important for our analysis.

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INNES AND THE STATE THEORY OF MONEY

As discussed, Schumpeter distinguished between the monetary theory of credit and the credit theory of money - a useful distinction that can also be found in Innes. Neither of them went so far as to adopt a pure credit approach; both provide a role for 'real' or 'lawful' money. In his second article, *The Credit Theory of Money*, Innes (1914) devoted much of the analysis to this role (ironically, his first article *What is Money?* spent proportionately more space on the credit theory, while the second article really delved into the nature of money while spending far less time on credit). While there is no evidence that Innes was familiar with the work of Knapp (Knapp's book was not translated to English until 1924, although it had been published in German in 1905), the similarities are remarkable. Along this line, another useful distinction is that made by Goodhart (1998), between the metallist approach and the chartalist approach. Both Innes and Schumpeter rejected the metallist approach. Schumpeter wrote about the chartalist approach, but unfortunately he defined it too narrowly. (He identified it as a legal tender approach, much as that adopted by the Greenbackers. However, neither Knapp nor Innes adopted a legal tender approach, in which government money is

supposedly accepted because of legal tender laws. Knapp called legal tender laws nothing more than an expression of a 'pious wish'; Innes called for abolition of legal tender laws, arguing that they are not the source of 'the real support of the currency' but rather encourage bank runs.) Innes did not mention the chartalist approach, but much of his analysis is consistent with it. In this section, I will present the chartalist and state money approaches (I do not believe there is a real difference between them) and relate them to the analysis provided by Innes.

Above we have briefly examined an alternative approach to the origins of money, suggested by the great numismatist, Grierson, and elaborated in Goodhart (1998) and Wray (1998a). According to this alternative, money originated not from a pre-money market system but rather from the penal system (Grierson 1977, 1979; Goodhart 1998). Hence, we emphasise the important role played by 'government' in the origins and evolution of money. More specifically, it is believed that the state (or any other authority able to impose an obligation - what we will describe as 'sovereign power') imposes an obligation in the form of a generalised, social unit of account - a money - used for measuring the obligation. The next important step consists of movement from a specific obligation - say, an hour of labour or a spring lamb that must be delivered - to a generalised, money, obligation. This does not require the pre-existence of markets, and, indeed, almost certainly predates them. Once the

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authorities can levy such an obligation, they can then name exactly what can be delivered to fulfil this obligation. They do this by denominating those things that can be delivered, in other words, by pricing them. To do this, they must first 'define' or 'name' the unit of account. This resolves the conundrum faced by methodological individualists and emphasises the social nature of money and markets - which did not spring from the minds of individual utility maximisers, but rather were socially created.

Note that the state can choose anything it likes to function as the 'money thing' denominated in the money of account, and, as Knapp emphasised, can change 'the thing' any time it likes: 'Validity by proclamation is not bound to any material' and the material can be changed to any other so long as the state announces a conversion rate (say, so many grains of gold for so many ounces of silver). (Knapp 1973 [1924/1905] p. 30). What Knapp called the state money stage begins when the state chooses the unit of account and names the thing that it accepts in payment of obligations to itself - at the nominal value it assigns to the thing. The final step occurs when the state actually issues the money thing it accepts. In (almost) all modern developed nations, the state accepts the currency issued by the treasury (in the US, coins), plus notes issued by the central bank (Federal Reserve notes in the US), plus bank reserves (again, liabilities of the central bank) - that is, the monetary base or high-powered money (HPM). The material from which the money thing issued by the state is produced is not important (whether it is a gold coin, a base metal coin, paper notes or even numbers on a computer tape at the central bank). No matter what it is made of, the state must announce the nominal value of the money thing it has issued (that is to say, the value at which the money thing is accepted in meeting obligations to the state).

Innes insisted that even government (or state) money is credit. Note, however, that he recognised it is a special kind of credit, 'redeemed by taxation' (Innes 1914, p.

168). This credit takes the form of 'small tokens which are called coins or notes', issued 'in payment of its purchases', which its subjects then 'use in the payment of small purchases in preference to giving credits on ourselves or transferring those on our bankers' (*pp. cit.*, p. 152). In other words, we can use credits on government ('currency') to purchase without going into debt (but we can also do that with bank money, if we first obtain the bank money through sale of goods or services). Still, for the government, a 'dollar is a promise to "pay", a promise to "satisfy", a promise to "redeem", just as all other money is. All forms of money are identical in their nature' (*op. cit.*, p. 154). But what is it that the government 'promises to pay'? Innes argues that even on a gold standard it is not gold that government promises to pay. If

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government paper money is submitted in exchange for gold, government promises to pay have not been reduced:

It is true that all the government paper money is convertible into gold coin, *but redemption of paper issues in gold coin is not redemption at all, but merely the exchange of one form of obligation for another of an identical nature* (*op. cit.*, p. 165).

As the Greenbackers argued, it makes no difference whether the deed is printed on paper or on gold. Likewise, whether the government's IOU is printed on paper or on a gold coin, it is indebted just the same. What, then, is the nature of the government's IOU? This brings us to the 'very nature of credit throughout the world', which is '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' (*pp. cit.*, p. 161). Innes explains:

Now a government coin (and therefore also a government note or certificate which represents a coin) confers this right on the holder, and there is no other essentially necessary right which is attached to it. The holder of a coin or certificate has the absolute right to pay any debt due to the government by tendering that coin or certificate, and it is this right and nothing else which gives them their value. It is immaterial whether or not the right is conveyed by statute, or even whether there may be a statute law defining the nature of a coin or certificate otherwise (*op. cit.*, p. 161).

What, then, is special about government? Innes noted that the government's credit 'usually ranks in any given city slightly higher than does the money of a banker outside the city, not at all because it represents gold, but merely because the financial operations of the government are so extensive that government money is required everywhere for the discharge of taxes or other obligations to the government' (*op. cit.*, p. 154). The special characteristic of government money, then, is that it is 'redeemable by the mechanism of taxation' (*op. cit.*, p. 152): '[I]t is the tax which imparts to the obligation its "value"... A dollar of money is a dollar, not because of the material of which it is made, but because of the dollar of tax which is imposed to redeem it' (*op. cit.*, p. 152).

By contrast, orthodox economists are 'metallists' (as Goodhart 1998 calls them), who argue that until the twentieth century, the value of money was determined by the gold used in producing coins or by the gold that backed up paper notes. However, in

spite of the amount of ink spilled about the gold standard, it was actually in place for only a relatively brief instant. Typically, the money thing issued by the authorities was not gold

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money nor was there any promise to convert the money thing to gold (or any other valuable commodity). Indeed, as Innes insisted, throughout most of Europe's history, the money thing issued by the state was the hazelwood tally stick: 'This is well seen in mediaeval England, where the regular method used by the government for paying a creditor was by "raising a tally" on the Customs or on some other revenue getting department, that is to say by giving to the creditor as an acknowledgement of indebtedness a wooden tally' (Innes 1913, p. 398). Other money things included clay tablets, leather and base metal coins, and paper certificates. Why would the population accept otherwise 'worthless' sticks, clay, base metal, leather or paper? Because the state agreed to accept the same 'worthless' items in payment of obligations to the state.

But a government produces nothing for sale, and owns little or no property; of what value, then, are these tallies to the creditors of the government? They acquire their value in this way. The government by law obliges certain selected persons to become its debtors. It declares that so-and-so, who imports goods from abroad, shall owe the government so much on all that he imports, or that so-and-so, who owns land, shall owe to the government so much per acre. This procedure is called levying a tax, and the persons thus forced into the position of debtors to the government must in theory seek out the holders of the tallies or other instrument acknowledging a debt due by the government, and acquire from them the tallies by selling to them some commodity or in doing them some service, in exchange for which they may be induced to part with their tallies. When these are returned to the government treasury, the taxes are paid. How literally true this is can be seen by examining the accounts of the sheriffs in England in the olden days. They were the collectors of inland taxes, and had to bring their revenues to London periodically. The bulk of their collections always consisted of exchequer tallies, and though, of course, there was often a certain quantity of coin, just as often there was, one at all, the whole consisting of tallies (*op. cit.*, p. 398).

Contrary to orthodox thinking, then, the desirability of the money thing issued by the state was never determined by its intrinsic value, but rather by the nominal value set by the state at its own pay offices (at which it accepted payment of fees, fines and taxes). Nor, contrary to Schumpeter and the Greenbackers, was the desirability or use of government money maintained by legal tender laws.

Once the state has created the unit of account and named that which can be delivered to fulfil obligations to the state, it has generated the necessary preconditions for development of markets. All the evidence suggests that in the earliest stages the authorities provided a full price list, setting prices for each of the most important products and services. Once prices in money were established, it was a short technical leap to the

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creation of markets. This stands orthodoxy on its head, by reversing the order: first

money and prices, then markets and money things (rather than barter-based markets and relative prices, and then numeraire money and nominal prices). The next step was the recognition by government that it did not have to rely on the mix of goods and services provided by taxpayers, but could issue the money thing to purchase the mix it desired, then receive the same money thing in the tax payments by subjects/citizens. This would further the development of markets because those with tax liabilities but without the goods and services government wished to buy would have to produce for market to obtain the means of paying obligations to the state. As Heinsohn and Steiger (1983) say, the market is the place to which one turns for earning the means of debt settlement, including the means of tax settlement. This is quite different from the orthodox view that markets develop so that individuals may maximise utility by trading consumables.

THE (DOMESTIC) VALUE OF MONEY

As we have seen, Innes rejected the metallist view and argued 'the dollar is a measure of the value of all commodities, but is not itself a commodity, nor can it be embodied in any commodity. It is intangible, immaterial, abstract' (Innes 1914, p. 159). Much of his second article is devoted to examining the value of the dollar in terms of commodities - that is, the depreciation or appreciation (the latter, according to Innes, never seems to occur) of the *domestic* value of money. (Note that in what follows in this section, we will use the terminology adopted by Innes, rather than the more current practice, which is to use the words inflation or deflation to refer to the domestic value of the currency in terms of commodities, and depreciation or appreciation to refer to the foreign exchange value of the currency.) He was most concerned with 'the relation between the currency system known as the gold standard and the rise of prices' (*op. cit.*, p. 160). He rejects a 'supply and demand' of gold explanation as inapplicable, especially in any system in which gold is coined or any system that otherwise operates on a 'gold standard'. He argued that the relatively high inflation of the Mediaeval period (often called the 'price revolution') was due to 'the constant excess of government indebtedness over the credits that could be squeezed by taxation out of a people impoverished by the ravages of war and the plagues and famines and murrains which afflicted them' (*op. cit.*, p. 160). He concluded that a similar result is obtained early in the twentieth century even though policy makers believe they can hold up the value of the currency by

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maintaining a fixed price for gold. Innes argues this is mistaken and indeed contributes to depreciation of the currency. His arguments are rather difficult to pierce, thus, it is worthwhile to spend some time with them. I think he is on the right track, notwithstanding the gentle critique by Ingham; in the final portion of this section I will correct what I perceive to be his major error.

In his discussion of the determination of the value of money, he repeats his earlier claim that government money - no matter what it is made of - is evidence of government debt, and that it is accepted because it can be used in payment of taxes. He notes 'We are accustomed to consider the issue of money as a precious blessing,

and taxation as a burden which is apt to become well nigh intolerable. But this is the reverse of the truth. It is the issue of money which is the burden and the taxation which is the blessing' (*op. cit.*, p. 160). Innes realised this would strike the reader as a strange interpretation, hence, he devoted several pages in explanation. Quite simply, when government purchases goods or services by issuing money, this imposes a burden on the citizenship because a portion of society's output is moved to the government sector. (He has earlier asserted that government is mostly a consumer of output, not a producer. Obviously, this is contingent on the society under analysis, but it certainly applies to government in the major capitalist economies of the twentieth century.) Moreover, the government's credit money remains for some time in circulation, allowing recipients also to put claims on society's output. It can even end up in banks as reserves of 'lawful money' and thereby generate bank loans and creation of private credit money. He later says he is not exactly sure how this generates depreciation of the currency (inflation), a point to which we will return, but it seems obvious to him that this circulation of credits (both private and government) must be behind the general rise of prices.

In Innes's view, taxes are a blessing because they remove from the circulation government money. Effectively, what he is talking about is the government spending multiplier and the deposit multiplier. If a government purchase (injection of government money) is followed by a government tax payment (redemption of government money), then there will not be a net increase of private sector purchasing power. Some portion of society's resources will have been moved to the government sector - which is the purpose of the tax system, although that purpose can be partially hidden beneath the veil of money. At the same time, 'lawful money' will not accumulate as banking system reserves when the injection is matched by an equal reserve drain as taxes are paid. Only government deficit spending (spending in excess of tax payments) results in a net injection of HPM. Hence, it is only deficit spending (properly

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defined, as we will see below) that depreciates a currency (as a reminder, he means domestic inflation).

In mediaeval society, currency depreciation would take place all at once, even in a single day. While historians and economists alike have long told stories about monarchs who purposely debased coins (by reducing gold content), Innes denied that this ever took place. He noted that early coins never had denominations printed on them. Instead, nominal value was announced by the monarch and maintained at government pay offices. A coin's nominal value in circulation would be determined by its value in acceptance of payments to government. When the monarch found he had already issued too much credit (such that he was unable to purchase desired goods and services), he would simply reduce the official value of the coins already issued (such that, say, two coins would have to be delivered at public pay offices rather than one). By doing so, monarchs 'reduced by so much the value of the credits on the government which the holders of the coins possessed. It was simply a rough and ready method of taxation, which, being spread over a large number of people, was not an unfair one, provided that it was not abused' (Innes 1913, p. 399). In short, government 'cried down' the coins in place of raising tax rates, but in the process this would devalue the market

value of the government's debt - an overnight devaluation that would be manifested as soon as markets adjusted prices upward in terms of government coin.

There is some hint in Innes that the extent to which net injections would be inflationary depends on the productive capacity of the economy. Hence, he refers to mediaeval society, with 'plagues and famines and murrains which afflicted them', presumably holding down capacity and increasing the inflationary pressures resulting from government spending. It should be noted that even a 'balanced budget' expansion of government spending forces a transfer of a portion of output to government without reducing private sector purchases (the so-called balanced budget multiplier). If the economy were already operating at full capacity, this would cause at least some prices to rise due to bottlenecks -depending of course on institutionalised price setting procedures.

By the time that Innes was writing, depreciation of the currency relative to domestic production did not occur all at once because government did not normally 'cry down' currency. Instead, a sort of 'creeping' depreciation (again, he means inflation) had set in. Presumably, except in wartime, economies were more able to provide goods and services desired by government than they had been in the mediaeval period. However, because government persistently injected

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more money into the economy than it drained through taxes, there was continuous downward pressure on the value of money.

Economists and policy-makers wrongly assumed they could keep up the value of government money by tying it to gold, that is, by maintaining buy and sell price points, government would prevent the sort of depreciation Innes discussed. He faulted this view for two reasons. First, he argued that when government buys gold it fixes the price of gold by emitting government obligations: 'In exchange for each ounce of gold the owner receives in money' (Innes 1914, p. 162). (This is the case even when, as in the US, the government purported to accept gold 'on deposit' rather than purchasing it outright.) Through its actions, the government keeps the price of gold above 'the intrinsic value of the metal' - what it would be if the government did not try to maintain and accumulate a gold reserve. In turn this means the government is always adding net government debt (HPM) due to its gold purchases, with all the consequences discussed above. Hence, a proper accounting of 'government spending' would include the purchases of gold at a fixed price, designed to maintain the value of money but in fact depreciating it. The gold standard could only stabilise the price of gold, but not the value of money in terms of other commodities (except by coincidence).

Finally, Innes noted that in the past the value of private money could deviate from that of government money, if government engaged in 'crying down' the nominal value of its debts too frequently. In the past, there would be the equivalent of a 'bank dollar' (privately issued) and a 'current dollar' (issued by government), whose values would diverge (*op. cit.*, p. 165). However, by the twentieth century the value of private money tended to follow very closely the path taken by the value of government money. This was, Innes speculated, perhaps because of legal reserve requirements for the banking system and the sheer amount of government money circulating (which, as we recall, could lead to a multiple expansion of private money). Further, in the past, devaluation

was immediate and well recognised; by the twentieth century, devaluation was slow and insidious, practically unnoticed so that 'we are not aware that there is anything wrong with our currency. On the contrary, we have full confidence in it, and believe our system to be the only sound and perfect one, and there is thus no ground for discriminating against government issues' (*op. cit.*, p. 166).

In the end, though, Innes admits 'the forces of commerce that control prices have always been obscure', hence 'we shall remain a good deal in the dark as regards the forces behind the rise of prices' (*op. cit.*, p. 166). When it comes to what we might call the 'microeconomic' forces that set prices, Innes refers to 'the great combinations which are such powerful

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factors in the regulation of prices' and also presents a potted 'supply and demand' explanation (pp. 166 and 167, respectively) but admits these 'are mere suggestions on my part' (p. 166). Ingham rightly casts doubt on Innes's examination and points to mark-up approaches to firm-level pricing.

This is not the place to present a theory of pricing and inflation, but it is useful to compare Innes's views with those of Adam Smith. Like Innes, Smith argued that the reason otherwise worthless 'paper' was accepted even if it were not made convertible to gold was because it was redeemable in payment of taxes (Wray 1998). Smith argued that so long as the paper money was kept scarce relative to the total tax liability, it might even circulate above par. Like Innes, Smith related the value of money both to its use in tax payments and to its relative scarcity. While I think it is indisputable that government 'tokens' will be accepted by taxpayers if they are redeemable for taxes, and that they will circulate at par value so long as government accepts them at par value, it is not a simple matter to relate money's relative value (purchasing power in terms of commodities) to its scarcity relative to tax liabilities. If an economy is operating at full capacity (say, during a major war), then government purchases (hence, money emissions) may well be associated with inflation. Probably more relevantly, if government raises the prices it is willing to pay for its purchases, this must almost certainly devalue the currency. Finally, Innes is probably on the right track when he explains why we no longer have depreciation of government money without a concurrent depreciation of private money, but he might have placed more emphasis on the role played by government in maintaining parity - both through the clearing mechanism (for example, at the Fed - which was a new invention at the time) and at government pay offices.

In sum, government money is accepted because the government accepts the same at public pay offices. Ultimately, the 'real' value of money (what it can purchase domestically) is determined by what must be done to obtain it. For the most part, money is obtained in modern economies by providing labour services or goods or promises to pay to the markets. In addition, there are 'transfers' provided mainly by government (welfare, subsidies, graft, pensions and so on). The easier it is to obtain money, the lower its value must be - all else equal. In modern economies, government plays a role in operating a clearing mechanism, partly to facilitate payments made to itself and partly to ensure that favoured private liabilities (notably, bank liabilities) always clear at par against government money. Government can, if it chooses to do so, peg the price of a

particular good or service by standing ready to buy/sell at an administered price. In the nineteenth century, many countries

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periodically administered the price of gold. As Innes argued, this did not necessarily stabilise the value of money relative to other domestic commodities. While it would take us too far afield, I have elsewhere argued that if the government wants to increase the stability of the domestic value of its currency, a better choice would be the basic wage (since wages go into the production of all commodities, to a greater or lesser degree). Still, it would be impossible and undoubtedly undesirable to completely fix the nominal value of the consumer's basket of purchased commodities. With technological change and new commodities that replace older ones, as well as changes of relative proportions of commodities consumed, money's domestic purchasing power cannot remain rigid. As Keynes argued, however, some degree of stickiness of money wages is desired (for money to retain its liquidity) and a government policy directed towards that purpose seems reasonable.

As government has grown in size since the time of Innes (although it is apparent that the relative size of government has waxed and waned throughout recorded history), its pricing decisions have probably become increasingly important. The government is today a major price setter, both in terms of wages it pays directly as well as in prices of privately produced goods and services it purchases. In many or most countries, government imparts an inflationary bias (or, what Innes called a tendency toward depreciation) through its formal or informal indexing of prices it pays. This is, of course, the modern equivalent to the mediaeval practice of 'crying down' the coinage. The mediaeval crown would announce that two coins rather than one had to be delivered to pay offices; markets would react by raising prices in terms of the crown's money (since sellers would have to earn more coins, each of which was now worth less, to pay their taxes). Today, the government announces it will pay two dollars per hour of labour rather than one. The impact on market prices is no doubt less direct but still effective. Government could deflate prices (appreciate the money) by cutting the prices it paid ('crying up the coinage') but the effects on relative prices and incomes and wealth, and hence on markets, would be highly disruptive - and thus not recommended.

THE (FOREIGN) VALUE OF MONEY

Innes did not really address the foreign value of money, that is, the determination of exchange rates. However, in most people's minds today, the gold standard has more to do with fixing exchange rates among currencies than with maintenance of the domestic value of the currency.

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And while gold standards have (thankfully) mostly gone the way of corsets, inkwells and buggy whips, many modern nations have elected to peg the value of their currencies to one or more foreign currencies. The European Monetary Union, the Argentinian currency board, or the Asian pegs attempt to stabilise the foreign value of the money of

these nations.

There is a common view that in the distant past, precious metal (especially gold) was used as a medium of exchange among countries. There may be some truth to this, although I suspect its importance is grossly overstated. We know that bills of exchange were a very early innovation that allowed long-distance trade across currencies. Even during the peak of the experiment with a gold standard, the gold did not have to move because bills of exchange circulated the commodities among nations. Still, as I have admitted we must be modest in our claims about the distant past, so let us presume that precious metal was used between nations. Why?

If it is true that 'taxes drive money' domestically, in the sense that the 'tokens' issued by government are made generally acceptable because they are accepted at public pay offices (and as we shall see in the next section, in the sense that the unit in which government tokens are denominated becomes the money of account), then what forces determine the acceptability of a nation's currency outside its borders? In the case of a colony, taxes or tributary payments can be imposed on the subject population, hence, the coloniser's money will be accepted. (This is how Europe monetised Africa. See Wray 1998 and Rodney 1974.) But why would the citizens of a sovereign nation accept foreign currency or liabilities denominated in a foreign currency? The immediate answer is, of course, that the foreign currency (or asset denominated in that currency) can be used to buy the exports of the foreign country, or to buy assets in that country. This in turn hinges on the willingness of the citizens of that foreign country to accept their own currency (or liabilities denominated in it). We hence return to the sovereign power to impose taxes.

The acceptability of a foreign currency might then diminish to the extent that sovereignty of the foreign ruler is doubted, or, equivalently, to the degree that there are questions about the willingness of the foreign population to accept its ruler's tokens. Private trade was mostly carried on through use of bills of exchange, which did not involve circulation of sovereign tokens outside the country of issue. But purchases by the sovereign involved either issue of coin or issue of an acceptable liability to be held, for example, by a bank that would then issue its own liabilities for use by the sovereign. Foreign purchases could be problematic. The

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situation of the conduct of a foreign war brings this into sharp relief. When the king of country A conducts a foreign war against country B, he must hire mercenaries and purchase provisions largely in country B. Sellers in country B are quite naturally reluctant to take his tokens - there is little reason to trust him, and some reason to expect he might lose the war and possibly his crown. If his tokens are made of precious metal, they will be accepted at least at the value of the bullion; perhaps they will be worth more - depending on expectations concerning the outcome of the war, the likelihood that the sovereign would cry down his debts even if he won the war, the ease with which the coins could be redeemed for local currency, and so on. But at the very least, the sovereign could expect that coined metal would be worth its bullion value. This probably goes at least some way towards explaining why coinage in the form of precious metal was so persistent, why precious metal coins did circulate in foreign countries, and why sovereigns - especially from the end of the mediaeval period forward

- were so keen to accumulate gold reserves. I doubt it is a coincidence that mercantilism, the plunder of the Americas, attempts to establish and maintain a gold standard, and the conduct of nearly continual foreign wars marked the final third of the last millennium.

It is not hard to see why sovereigns would also want to maintain the belief in the soundness of their coinage, particularly through its 'purity'. Innes argues that high-quality coinage was sought mostly to reduce counterfeiting, and no doubt that is true. But if coins might circulate (abroad) at bullion value, it was necessary to ensure that precious metal content was believed to be (if not in fact) high. It is also easy to see why an almost mystical or religious belief that soundness of the currency at home was also linked to a precious metal would gradually develop over the decades and centuries. However, when a government's coin circulates at no more than the value of its embodied precious metal, it is no longer circulating as money. When a sovereign ships gold to a foreign nation to purchase mercenaries or supplies, he is effectively engaging in barter. It is conceivable that trade between nations has taken place on the basis of gold or some other precious metal, but that should be seen as non-monetary trade - perhaps the closest thing to barter that has taken place historically on any significant scale.

It isn't too surprising that international transactions could take on a non-monetary flavour. If, as we have argued above, money represents a social relation, then it is tied to a particular society. Developing a money that can be used across different societies requires development of particular social relations. The relations between a coloniser and the colonised can lead to use of a common money, although with the coloniser using money to maintain a position of power over the colonised

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nation. Relations between two more or less equal sovereign nations are not so simple. It is a fairly straightforward matter to use bills of exchange or other liabilities when the total of the financial exchanges is balanced, that is, when no net clearing is required. Of course, if trade in goods and services is not balanced, this is no problem if residents of the net exporter will hold credits denominated in the currency of the importer. This necessarily requires development of at least a minimal level of continuing social relations between the two. A gold standard reduces the social relationship required because financial claims can be converted to precious metal - that is they can be demonetised.

Alternatively, it can be agreed that ultimate clearing will take place in the currency of a third nation. When there is a dominant country, its currency can take the place of bullion. In fact, for many decades before World War II the UK pound served this function, even though nations were purportedly on a gold standard. After World War II, the dollar took the place of the pound as the international clearing unit even though, again, a gold standard was in place. Since the break-up of the Bretton Woods system, the dollar has retained its place as the currency used for ultimate clearing by many nations but without convertibility of the dollar to gold.

Even if a country chooses to use gold, pounds or dollars for ultimate clearing, it does not necessarily adopt a gold, pound or dollar standard -that is, a fixed exchange rate against the clearing unit. Since the early 1970s, most nations have chosen to float

their currencies (with varying degrees of floatiness); a few have chosen fixed exchange rates (with varying degrees of fixity). There is only one issue related to exchange rate regime that I wish to touch upon here. When a sovereign ties his tokens to a precious metal, he must then obtain the metal before he can issue tokens. He can receive gold in tax payment, purchase gold (at a fixed price) or take gold 'on deposit' (the case of the US examined by Innes). Of course, as Innes recognised, purchasing gold or taking it on deposit requires that the sovereign issue debt - more tokens. If the sovereign tries to issue too many tokens relative to his gold reserves, he always faces the problem of a run. If his required expenditure exceeds the quantity of tokens he can safely issue, he is forced to 'borrow' before he can spend. For example, he can issue a nonconvertible IOU to a private bank and then use the bank's IOU to purchase commodities. The sovereign's spending is 'financially constrained' to what he can 'afford' based on his gold reserves plus his ability to tax and borrow.

Trying to fix the exchange rate is risky business, requiring large reserves. Ultimately, a nation could need 100 per cent reserves to fend off attacks on the exchange rate. In a floating rate system, the exchange rate

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seems to be complexly determined, perhaps even more complexly determined than is the domestic value of the currency. Economists and policy makers hold a variety of beliefs about the determinants of exchange rates - most of them border on superstition. It is commonly believed, for example, that high interest rates lead to currency appreciation, but counter-examples abound, with interest rates higher than 100 per cent accompanied by a collapsing currency. A trade surplus is also supposed to appreciate a currency, but, again, we find a country like the US with persistent trade deficits and a strong currency. Finally, inflation or the prospect of inflation is supposed to lead to devaluation. There is probably some truth in all of these hypotheses, but it is a complex truth. More implausibly, there is a widespread belief that slow economic growth, high unemployment, fiscal austerity and tight monetary policy that taken together impoverish the domestic population is the surest path to a strong currency. While there might be some short-run trade-offs (cyclically slow growth might reduce inflation and increase a trade surplus, putting upward pressure on the currency), over the longer run it is very difficult to believe that a currency's strength is maintained in such a manner. Rather, strong economic performance and a highly productive labour force must ultimately be the source of a currency's strength.

IMPLICATIONS FOR OPERATION OF MODERN MONEY SYSTEMS

When a modern government spends, it issues a cheque drawn on the treasury; its liabilities increase by the amount of the expenditure and its assets increase (in the case of a purchase of a good produced by the private sector) or some other liabilities are reduced (in the case of a social transfer). The recipient of the cheque will almost certainly take it to a bank, in which case either the recipient will withdraw currency, or (more likely) the recipient's bank account will be credited. In the former case, the bank's reserves are first increased and then are reduced by the same amount. In the latter

case, bank reserves are credited by the Fed in the amount of the increase of the deposit account. The bank reserves carried on the books as the bank's asset and as the Fed's liability are nothing less than a claim on government-issued money, or, a leveraging of HPM. In other words, treasury spending by cheque really is the equivalent of 'printing money' in the sense that it increases the supply of HPM. Unless bank required reserves happened to increase by an equivalent amount, the banking system will typically find itself with excess reserves after the treasury has spent, creating HPM. (Some modern systems don't have

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required reserves, in which case excess reserves are created if net emission of HPM exceeds desired reserves.)

The important thing to notice is that the treasury can spend before and without regard either to previous receipt of taxes or prior bond sales. In the US, taxes are received throughout the year (although not uniformly as tax payments are concentrated around April 15 and other quarterly due dates). These are mostly paid into special tax accounts held at private commercial banks (Bell 2000). It is true that the treasury transfers funds from these private bank accounts to its account at the Fed when it wishes to spend, but this is really a reserve maintenance operation designed to minimise effects on reserves that result when the treasury issues cheques. When the treasury spends, bank reserves increase by approximately the same amount (less only cash withdrawals) so that the simultaneous transfer from tax accounts is used to neutralise bank reserves. These additions to/subtractions from reserves are carefully monitored and regulated by coordination between the Fed and the treasury, but this should not confuse analysts about the processes at work. The treasury spends by having the Fed emit HPM; that HPM is simply a liability that can be increased as necessary to finance the treasury's spending. The treasury does not need to transfer deposits from private banks to the Fed in order to spend; it needs to do so simultaneously with spending only to minimise reserve effects.

On the other hand, tax payments by households lead to a reserve drain as the treasury submits the cheques to the Fed for clearing, at which point the Fed debits the bank's reserves. Things would be much simpler and more transparent if tax receipts and treasury spending were perfectly synchronised. In that case, the treasury's spending would increase reserves, and the tax payments would reduce them. If the government ran a balanced budget there would be no net impact on reserves. In this case there would be no need for the complex coordination between the Fed and treasury using tax and loan accounts because there would be no reserve effects so long as the budget were balanced.

However, let us suppose that the timing were synchronised but that spending exceeded tax revenues so that a budget deficit resulted. This means that after all is said and done, there has been a net injection of reserves. It is possible that the extra reserves created happen to coincide with growing bank demand for reserves - in which case the treasury and Fed need do nothing more. More probably, the net injection of reserves resulting from budget deficits would lead to excess reserves for the banking system as a whole. The receiving banks would offer them in the Fed funds' market, but would find no takers. This would cause the Fed funds' rate to begin to fall below the

Fed's target, inducing the Fed to

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drain reserves either through an open market sale or by reducing its discounts. When the treasury runs a sustained deficit, quarter after quarter and year after year, the Fed would find it was continually intervening to sell bonds; obviously, it would eventually run out of bonds to sell. This is why, over the longer run, responsibility for bond sales designed to drain excess reserves from the system must fall to the treasury - which faces no limit to its own sales of bonds as it can create new bonds as needed to drain excess reserves.

While it may sound strange, we conclude that treasury bond sales are not a borrowing operation at all, but are in fact nothing but a reserve draining operation (that substitutes one kind of treasury liability for another). This becomes apparent when one recognises that the treasury cannot really sell bonds unless banks already have excess reserves, or unless the Fed stands by ready to provide reserves the banks will need to buy the bonds. If the treasury typically tried to first 'borrow' by selling bonds *before* it spent, it would be trying to drain reserves it will create only *once* it spends. As it drained required or desired reserves, it would cause the Fed funds' rate to rise above the Fed's target - inducing an open market purchase and injection of reserves by the Fed. The central bank and treasury cannot drain excess reserves that don't exist!

Another way of putting it is that the government spends by issuing IOUs, and the private sector uses those IOUs to pay taxes and buy government bonds. Obviously, if government spending were the only source of these IOUs, the private sector could not pay taxes or buy bonds *before* the government provided them through its spending. In the real world, government spending on goods and services is the main, but not the only source, of the IOUs needed by the private sector to pay taxes and buy government bonds. In addition, the central bank provides its IOUs through discounts or open market operations (or, gold and foreign currency purchases), and these IOUs are perfect substitutes for treasury IOUs. Most economists have become confused about all this because they do not understand the nature of the coordination between the Fed and the treasury.

Indeed, most economists do not understand that monetary policy has nothing to do with the quantity of money, but is concerned only with the overnight interest rate. The central bank's provision of, or removal of, reserves is nondiscretionary and is always merely in response to actions of the treasury or the private sector. On the other hand, fiscal operations always impact reserves, and government deficits always lead to a net injection of reserves.

We conclude that the purpose of government bond sales is not to borrow reserves - a liability of the government - but is instead designed to

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offer an interest-earning alternative to undesired non-interest-earning bank reserves that would otherwise drive the Fed funds' (overnight) rate towards zero. Note that if the Fed paid interest on excess reserves, the treasury would never need to sell bonds because the overnight interest rate could never fall below the rate paid by the Fed on excess reserves. Note also that in spite of the widespread, orthodox, belief that

government deficit spending places upward pressure on interest rates, it would actually cause the overnight rate to fall to zero if the treasury and Fed did not coordinate efforts to drain the created excess reserves from the system. (For proof of this, note that for many years after the mid-1990s, the overnight interest rate in Japan was kept at zero, in spite of government deficits that reached 8 per cent of GDP, merely by keeping some excess reserves in the banking system.) On the other hand, budget surpluses drain reserves from the system, causing a shortage that would drive up the Fed funds' rate if the Fed and treasury did not coordinate actions to buy and/or retire government debt. Needless to say, orthodoxy has got the interest rate effects of government budgets exactly backwards.

One could think of government bonds as nothing more than HPM that pays interest - indeed, as described above, the government would never need to sell bonds if the Fed paid interest on excess bank reserves, or if the Fed's interest rate target were zero. Bond sales are not really a borrowing operation but are instead an interest rate maintenance operation. Obviously, however, banks are not the only entities in the private sector that would like to earn interest by holding government IOUs. Indeed, households and firms generally like to accumulate a portion of their net wealth in the form of interest-earning government debt. In a growing economy, the outstanding stock of government IOUs (both interest-earning and non-interest-earning) will need to grow to keep pace with the demands of the private sector. This means that a government deficit should be the 'normal', expected, situation. In contrast, sustained budget surpluses can be achieved only by draining the government IOUs held as net wealth. This is why government budget surpluses usually cannot be sustained for long - they reduce the private sector's disposable income (because taxes exceed government spending) and destroy private net wealth (by draining government IOUs), and hence set off tremendous deflationary impacts on the economy.

We can see that Innes's analysis is consistent with most of the analysis of this section. He did not address in any detail the nature of treasury bonds - but of course those weren't important before World War I. Further, the relations between the Fed and treasury had not been worked out even in 1914. Innes focussed on excessive government credit, although he did not endorse a balanced budget. He perhaps would not

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have endorsed a permanent deficit, either, as it is not clear that he recognised a general propensity to hold government credits. He did recognise that both government purchases of goods and services, as well as purchases of gold, lead to net injections of HPM (lawful money) as we have argued above.

CONCLUSION: AN INTEGRATION OF THE CREDITARY AND STATE MONEY APPROACHES

Innes offered an unusually insightful analysis of money and credit. He not only provided the clearest exposition of the nature of credit, but he also anticipated Knapp's 'state money' approach (or, what Lerner much later called the 'money as a creature of the

state' approach). To put it as simply as possible, the state chooses the unit of account in which the various money things will be denominated. In all modern economies, it does this when it chooses the unit in which taxes will be denominated. It then names what will be accepted in payment of taxes, thus 'monetizing' those things. Imposition of the tax liability is what makes these money things desirable in the first place. And those things will then become what Knapp called the 'valuta money', or, the money thing at the top of the 'money pyramid' used for ultimate or net clearing in the non-government sector. Of course, most transactions that do not involve the government take place on the basis of credits and debits, that is, in terms of privately issued money things.

This can be thought of as leveraging activity - a leveraging of the money things accepted by government, or, what we have called high-powered money. However, this should not be taken the wrong way - we are not hypothesizing some fixed leverage ratio (as in the orthodox deposit multiplier story). Further, as explained above, we fully recognise that in all modern monetary systems the central bank targets an overnight interest rate. This means that it stands by ready to supply HPM on demand to the banking sector (or to withdraw it from the banking sector) to hit its target. However, this comes at a cost - the central bank never drops HPM from helicopters. It either buys assets or requires collateral against its lending, and it may well impose other 'frown' or supervisory costs on borrowing banks. Hence, while central bank provision of HPM provides a degree of 'slop' to the system, the domestic value of the HPM is ultimately determined by what the population must do to obtain it from government. This mostly involves provision of goods and services to government in exchange for the HPM that can be used to pay taxes. As Innes makes clear, HPM is a government liability, hence, issuing HPM

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puts the government in debt: 'A government dollar is a promise to "pay", a promise to "satisfy," a promise to "redeem," just as all other money is' (*op. cit.*, p. 154). For what is the government liable? It is liable to accept its HPM in payments made to itself. '[T]he government, the greatest buyer of commodities and services in the land, issues in payment of its purchases vast quantities of small tokens which are called coins or notes, and which are redeemable by the mechanism of taxes ...' (*op. cit.*, p. 152).

Likewise, the privately supplied credit money is never dropped from helicopters. Its issue simultaneously puts the issuer in a credit and debit situation, and does the same for the party accepting the credit money. For example, a bank creates an asset (the borrower's IOU) and a liability (the borrower's deposit) when it makes a loan; the borrower becomes a debtor and a creditor. Banks then operate to match credits and debits while net clearing in HPM: banks are 'the clearing houses of commerce, the debts and credits of the whole community are centralised and set off against each other' (*op. cit.*, p. 152). Borrowers operate in the economy to obtain bank liabilities to cancel their own IOUs to banks. There is thus a constant circulation in markets that takes on the character of credits and debits chasing one another. 'This is the primitive law of commerce. The constant creation of credits and debts, and their extinction by being cancelled against one another, forms the whole mechanism of commerce . ..'(Innes 1913, p. 393).

It is hoped that the contributions in this collection, together with the original

articles by Innes, offer an alternative to the 'veil of money' offered in most economic analyses of 'monetary arithmetic'.

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