

Alternative Approaches to Money

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This Article summarizes the orthodox approach to money and then points the way toward an alternative developed by a small group of heterodox economists following in the footsteps of Georg Friedrich Knapp, A. Mitchell Innes, John Maynard Keynes, and Abba Lerner. This alternative is more consistent with the historical and anthropological record, and also borrows from law, sociology and political science. While it is conceivable that barter played a role in the multifarious origins of the institution that we call money, the main emphasis of the chartalist approach to money is on an authority's attempt to place resources under its command. Put as simply as possible, "taxes drive money." The sovereign's ability to impose a liability (tithes, tribute, fees, fines, and finally taxes) in a unit of account and payable in the sovereign's IOUs creates the money unit and "money things" that "answer to the description" (the unit in which debts are measured). The implications are important — not only for economic theory but also for policy formation — but have as yet remained largely unexplored. It will be argued that the alternative approach not only fits the historical record better, but also sheds more light on the nature of money in modern economies. It is hoped that legal scholars find this approach more consistent with their understanding of money.

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I. SUMMARY OF THE ORTHODOX APPROACH

Economics students are introduced to money and banking through a story about the evolution from barter to our present "fiat" money. For example, Paul Samuelson presents the "historical states of money":

Inconvenient as barter obviously is, it represents a great step forward from a state of self-sufficiency in which every man had to be a jack-of-all-trades and master of none. . . . Nevertheless, simple barter operates under grave disadvantages. . . . In all but the most primitive cultures, men do not directly exchange one good for another. Instead they sell one good for money, and then use money to buy the goods they wish. . . . If we were to reconstruct history along hypothetical, logical lines, we should naturally follow the age of barter by the age of commodity money. Historically, a great variety of commodities has served at one time or another as a medium of exchange: cattle, . . . tobacco, leather and hides, furs, olive oil, beer or spirits, slaves or wives, copper, iron, gold, silver, rings, diamonds, wampum beads or shells, huge rocks and landmarks, and cigarette butts. The age of commodity money gives way to the age of paper money Finally, along with the age of paper money, there is the age of bank money, or bank checking deposits.¹

It is more important to recognize the underlying view on money's nature than to take the history seriously (even Samuelson admits his history is "hypothetical, logical"). Money reduces transaction costs, simplifying "economic life" by lubricating the market mechanism.² Indeed, this is the unifying theme in all orthodox approaches: banks, financial instruments, and even money originate to improve market efficiency.³ That is not surprising given that "the market" is the most important metaphor adopted in orthodox economics, and surely money plays an obvious role in facilitating market transactions. The market pursues "efficiency," and transaction costs would be greatly reduced by moving from commodity money (wives?) to a representative money (paper notes representing a reserve of

1 PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS* 274-76 (9th ed. 1975).

2 MILTON FRIEDMAN, *THE OPTIMUM QUANTITY OF MONEY AND OTHER ESSAYS* (1969).

3 Peter G. Klein & George Selgin, *Menger's Theory of Money: Some Experimental Evidence*, in *WHAT IS MONEY?* 217 (John Smithin ed., 2000).

valuable commodities). Natural market forces have continually searched for more efficient media of exchange.

Thus, orthodoxy turns money into a "natural" phenomenon:

Although economists allow that money is a human invention assuming different forms in different times and places, they adopt an evolutionary perspective that de-emphasizes 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.⁴

An innate propensity to "truck and barter" is assumed as rational agents freed of social or political constraints trade to achieve higher levels of satisfaction ("utility") in markets organized through a self-equilibrating relative price system. However, with many economic actors and commodities, the number of price ratios explodes beyond tractability; further, a "double coincidence of wants" is required for any transaction to take place. Thus, one commodity is chosen to serve as a convenient medium of exchange. The chosen commodity becomes the numeraire, facilitating comparison of real values (by reducing the number of exchange ratios that must be negotiated and remembered). If a particular seashell is chosen, then the market can establish a relative price of one shell for ten coconuts; each market participant then decides whether to buy or sell at that price — weighing the utilities she would obtain from each of these two commodities, the money commodity or the coconut. The evolutionary process eventually selects a medium of exchange that has the best properties (gold — of uniform, high, stable and obvious value — displaces wives of unknown and idiosyncratic value).

The ideal medium of exchange is a commodity whose value is natural, intrinsic — free of any hierarchical relations or social symbolism. As Rudolf 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.⁵

Georg Simmel put it more concisely: money transforms the world

4 Bruce G. Carruthers & Sarah Babb, *The Color of Money and the Nature of Value: Greenbacks and Gold in Post-Bellum America*, 101 AM. J. SOC. 1556, 1558 (1996).

5 Quoted in *id.* at 1556.

into an arithmetic problem.⁶ The underlying relations are "collectively 'forgotten about'" to ensure they are not explored.⁷ That is not surprising. The market is also free (or should be free) of social relations. (For example, competitive market forces purportedly eliminate racial prejudice — the forces are "colorblind.") Arguably, the use of a commodity as a medium of exchange dis-embeds and frees the economy. Where trade had been based on customs such as reciprocity, the market — using an impersonal medium of exchange and allowing all participants to pursue self-interest — can achieve a higher level of satisfaction, as the value of each commodity, denominated in money, is determined through asocial forces of supply and demand.

The easiest way to introduce the concept of government into this scheme is to assume that it monopolizes money, forcing private agents to the government's mint for coining. The sovereign serves a useful purpose by certifying fineness of the coined commodity through its stamp; at the same time, it retains a portion of the commodity that it coins for itself. While there is a hint of illegitimacy of seigniorage (the government obtains purchasing power at the expense of suppliers), interference with market forces and thus with efficiency is minimal.

The commodity money "grounds" nominal prices because its relative value is determined by the same forces of supply and demand that determine all relative prices. New discoveries lower its relative price; shortages raise it. Countercyclical forces help to maintain full employment — in a downturn, demand for money rises as demand for other commodities falls; that in turn creates incentives to shift resources to produce the money commodity. Relative scarcity ensures full resource utilization even as it stabilizes the nominal values of commodities in terms of the numeraire (equivalently, stabilizing the purchasing power of money).

Nothing really changes if government adopts representative money, issuing notes (or base metal coin) against reserves of the commodity chosen as numeraire. The value of the representative note is governed by the underlying commodity and hence by market forces. The orthodox story describes a goldsmith discovering she can issue more "warehouse receipts" for gold on hand because it is unlikely all will be presented for redemption simultaneously. Self-interest ensures the right amount of notes is issued to maintain value. However, there will still be a market effect: it is as if gold

6 GEORG SIMMEL, *THE PHILOSOPHY OF MONEY* 445 (David Frisby ed., Tom Bottomore & Davide Frisby trans., Routledge 3d ed. 2004) (1907); *see also* Viviana A. Zelizer, *The Social Meaning of Money: "Special Monies,"* 95 *AM. J. SOC.* 342, 344 (1989).

7 Carruthers & Babb, *supra* note 4, at 1559.

became relatively less scarce so its relative price falls. Unless the reserve ratio (gold against notes) changes, this is only a one-time adjustment.

Regrettably, governments abandoned use of intrinsically valuable money in favor of "fiat" monies. Government dictates the nominal value of notes or coins that have no intrinsic value, and holds no reserves of commodities behind them. Restrictions must be forced on authorities to prevent them from expanding the money supply and thereby reducing its value. Monetary growth rules, prohibitions on treasury money creation, and balanced budget requirements (as well as currency boards and dollar standards for developing nations) impose discipline on monetary and fiscal authorities — to make fiat money operate as if it were a commodity — thereby restoring the "natural," asocial, monetary order. Interestingly, in his last testimony, Fed Chairman Greenspan attributed the lower inflation rates of the past two decades to central bank formulation of monetary policy "as if" nations were on gold.⁸

Money and banking textbooks traditionally reduce discussion of the money supply to "an arithmetic problem" based on the "deposit multiplier" identity. Central banks increase the supply of reserves and banks respond by increasing loans and deposits by a stable multiple.⁹ Hence, the growth of the money supply is controlled exogenously by the central bank. Since money is mostly used for transaction purposes, it can be linked to nominal GDP through the equation of exchange. If real GDP grows at a "natural rate" (determined by supply-side factors such as technological advance and growth of inputs), and if velocity is stable, then growth of money is closely related to changes of the price level. This is the foundation of Monetarism and led to the famous call by Milton Friedman for the central bank to target reserves and thereby money growth to control inflation. By the late 1970s, this view dominated and led to real world attempts to target monetary aggregates.¹⁰

At the same time, the rational expectations hypothesis was merged with old neoclassical theory and Monetarism to create New Classical theory. The most important conclusion was that money is neutral in the short run, as

8 Alan Greenspan, Monetary Policy Report to Congress (July 20, 2005) (testimony before the Committee on Financial Services, U.S. House of Representatives, Washington D.C.), *available at* <http://www.federalreserve.gov/boarddocs/hh/2005/july/testimony.htm>.

9 Karl Brunner, *The Role of Money and Monetary Policy*, 50 FED. RESERVE BANK ST. LOUIS REV. 9 (1968).

10 L. RANDALL WRAY, MONEY AND CREDIT IN CAPITALIST ECONOMIES: THE ENDOGENOUS MONEY APPROACH (1990); Milton Friedman, *Quantity Theory of Money*, in 4 THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS 3 (Murray Milgate et al. eds., 1987).

well as the long run, so long as policy is predictable.¹¹ In practical terms, an announced and credible policy can bring down inflation rapidly merely by reducing money growth rates, and with no unemployment or growth tradeoff. Money becomes irrelevant, unless policy is random — but random policy would be useless, causing random deviations around market equilibrium. Thus money matters only as an explanation of deviations from optimum.

While we will not explore modern finance theories, developments there mirrored the evolution of mainstream economic theory in the sense that finance also became irrelevant as a result of the Modigliani-Miller theorem.¹² So long as markets are efficient, all forms of finance are equivalent — whether one uses income flows, debt, or equity is irrelevant. Financial institutions intermediate between savers and investors, efficiently allocating savings to highest use. Financial evolution continually reduces the "wedge" between the interest rate received by savers and that paid by borrowers — encouraging saving and investment. Financial market deregulation (underway since the mid-1960s in the United States) as well as innovation and globalization of international financial markets play a key role in enhancing these efficiencies, and, hence, in promoting growth. The key conclusion is that if impediments are removed, finance becomes "neutral" as it promotes efficiency.

Objections have been raised to these extreme conclusions, including the existence of credit rationing, of sticky wages and prices, and of complex input-output relations — all of which could leave money non-neutral in the short run.¹³ These have been collected under the banner of New Keynesianism, but it is usually conceded that they do not constitute a coherent theoretical challenge to New Classical theory. Rather, they are *ad hoc* assumptions at odds with normal assumptions of rational actor behavior, or, they rely on imperfections that markets will continually strive to rectify. While empirically interesting, they do not seriously challenge the theory.

Another challenge came from Real Business Cycle theory that made

11 Robert E. Lucas, *Expectations and the Neutrality of Money*, 4 J. ECON. THEORY 103 (1972).

12 Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958). In an efficient market, it does not matter if a firm sells stock or issues debt, nor does it matter what its dividend policy is. It is sometimes called the "capital structure irrelevance principle". It appears to support unlimited leveraging (since debt is equivalent to capital), thus, was invoked as justification for rising debt ratios in the recent financial markets boom.

13 For a summary, see Robert J. Gordon, *What Is New-Keynesian Economics?*, 28 J. ECON. LITERATURE 1115 (1990).

money even less important, but by adopting assumptions that almost all economists regard as highly unrealistic.¹⁴ Very briefly, the theory holds that only real factors matter; "inside" (privately issued) money is endogenous, is supplied by financial institutions on demand to meet the needs of trade, and is important only when it reduces transaction costs, encouraging more trade. "Outside" (government issued) money is "exogenous" and only determines the nominal price level. Random "shocks" to real factors (productivity, thrift) cause economic changes, with rational actors responding optimally at all times. All outcomes are equilibrium positions; there are never any involuntarily idled resources. Mainstream economists were left with the uneasy choice of internal consistency (New Classical or Real Business Cycle approaches) or empirical relevance (New Keynesianism). During the past two decades, the economics student faced a series of seemingly unrelated special purpose models that shed little light on money, banking and finance.

By the end of the 1980s, orthodox policy was also in disarray, as central banks were unable to control the money supply, while money was not closely linked to nominal GDP or to inflation. Furthermore, to many observers it seemed that money matters, in the sense that monetary policy affects unemployment and growth in predictable — even if moderate — ways. Without monetary rules to guide them, central banks cast about for alternatives, including gold prices, real or nominal interest rates, inflation rates, or exchange rates. The overriding belief was that monetary policy *somehow* is responsible for maintaining the value of money. The trick was to find the right policy rule to maintain a stable value for money.

During the 1990s, orthodoxy developed a "New Monetary Consensus" (NMC) in regard to theory and policy.¹⁵ There are several versions, but all reject monetary targets in favor of interest rate targets.¹⁶ Policy consists of adjusting the overnight interest rate in response to deviations of inflation and output growth from desired performance. Unlike 1960s Keynesianism, fiscal policy plays a small role, while monetary policy controls demand and hence growth. When the economy grows too fast, fueling inflation, the central bank dampens demand by raising interest rates; when it grows too

14 See N. Gregory Mankiw, *Real Business Cycles: A New Keynesian Perspective*, 3 J. ECON. PERSP. 79 (1989).

15 MICHAEL WOODFORD, *INTEREST AND PRICES: FOUNDATIONS OF A THEORY OF MONETARY POLICY* (2003).

16 Laurence H. Meyer, *Does Money Matter?* (Mar. 28, 2001) (The Homer Jones Memorial Lecture delivered at Washington University, St. Louis, Missouri), *available at* <http://www.federalreserve.gov/boarddocs/speeches/2001/20010328/default.htm>.

slowly (causing unemployment and deflation), the central bank lowers rates to stimulate demand.

Private banks and financial markets accommodate, following the central bank's lead. The NMC encourages central bank transparency because effective monetary policy requires the cooperation of financial markets; this, in turn, requires consistency of expectations so that central bank intentions can be quickly incorporated in expectations and thus in market behavior, making policy more effective. Further, policy changes are implemented gradually to avoid disruptive surprises that generate instability. In this way, the central bank slows growth and inflation through a limited series of small interest rate hikes — avoiding the problems created in the early 1980s when the Fed raised rates above twenty percent to fight inflation, precipitating the U.S. thrift crisis and developing country debt crises.

The combination of the NMC and the Efficient Markets Hypothesis had a synergistic effect from the mid-1990s until the current global financial crisis.¹⁷ Greenspan was acclaimed as the world's greatest central banker ever. After discovering the NMC as a pragmatic response to the demise of Friedmanian monetarism, he sought to manage expectations to control real world outcomes by building credibility as an inflation-fighting free market proponent. With inflation expectations checked, robust growth became possible without a Phillips Curve tradeoff; growth in turn was promoted through deregulation and reduced government oversight. When self-interested pursuit of profits threatened financial and economic stability, the Fed quickly intervened with the "Greenspan put" — lowering interest rates and arranging a resolution. His replacement, Ben Bernanke, proclaimed the era of "the great moderation": economic stability and better economic policy (at the hands of the central bankers) lowered risks.¹⁸ Innovators further reduced risks by creating financial instruments to hedge and diversify, and to allocate risk to those best able to bear it. Highly complex quantitative models assessed risk so that opaque instruments could be rated. These models, in turn, relied on theoretical advances derived from the efficient markets hypothesis.

It is difficult to convey how much doubt has been thrown on the entire corpus of orthodox theory by the current global crisis. Events rated by models as 25 standard deviation possibilities (once in 100,000 years) have become common. It seems that debt does matter, after all — it is not a

¹⁷ L. Randall Wray, *Lessons from the Subprime Meltdown*, 51 CHALLENGE 40 (2008).

¹⁸ See Ben S. Bernanke, *The Great Moderation* (Feb. 20, 2004) (speech delivered at the Meetings of the Eastern Economics Association, Washington DC), available at www.federalreserve.gov/Boarddocs/Speeches/2004/20040220/default.htm.

good substitute for equity or income — as do leverage and liquidity ratios. Monetary (interest rate) policy is impotent, although money does appear to be important in the sense that the whole crisis began with deflating nominal values of assets and debts — which generated a run into the most liquid assets. In short, it is hard to see the crisis as an "equilibrium" outcome (Real Business Cycle), as a suboptimal position that resulted from sticky wages or prices (New Keynesian), or as a result of excessive government regulation. Markets never took seriously attempts by Treasury Secretary Paulson or Chairman Bernanke to downplay problems — each new policy announced to deal with the crisis only led to another round of catastrophic collapses. Those outside the discipline legitimately wonder whether economic "science" has advanced at all since the 1930s.

Perhaps it has not. It could be argued that the direction taken by orthodoxy with respect to money was entirely wrong. There was already a viable alternative (with an already long tradition) that was virtually ignored by postwar economists. In the next section we summarize that alternative.

However, let us conclude this section by discussing two additional points. First, some orthodox approaches deviate from that described above. The most rigorous orthodox approach is the general equilibrium model developed by Gerard Debreu, Kenneth Arrow and others in the late 1950s. The original model had neither production nor money. Even as late as the 1980s, Frank Hahn lamented that it appears impossible to introduce money into such models.¹⁹ While some developed "cash in advance" approaches that simply assume money is required for transactions, there are no convincing arguments offered for the requirement. A possibly more fruitful starting point imposes the requirement that taxes must be paid with currency.²⁰ We will return to this below, as it is consistent with the state theory of money. Finally, one version of the NMC has promoted a fiscal theory of the price level.²¹ This is also related to the heterodox approach discussed next. These two orthodox yet dissenting approaches could form the basis for a more interesting reformulation of monetary policy. However, the worthwhile ideas contained in them are already better treated in the heterodox tradition. What these orthodox versions do offer, however, is sophisticated mathematics absent from heterodoxy.

Second, we can identify four distinguishing characteristics that divide orthodox from heterodox approaches to money: money as debt; existence

19 FRANK H. HAHN, MONEY AND INFLATION 1 (1983).

20 See Dror Goldberg, The Tax-Foundation Theory of Fiat Money (unpublished manuscript), available at www.drorgoldberg.com/tax.pdf (last visited July 1, 2009).

21 WOODFORD, *supra* note 15.

of uncertainty; social nature of money; and role of the authority. Orthodoxy begins with money as a commodity — chosen because of special physical characteristics. While orthodoxy recognizes that bank money is a liability of the bank, the nature of the government's money is usually not clear. Further, the difference between commodity and debt money is finessed — that is, it is never made clear how the transition from commodity money to debt money might affect the economy, and thus how analysis should change. For example, if money is now debt, does it make sense to conduct "real analysis" and then to add money almost as an afterthought? Second, true uncertainty is absent from most orthodox theory; only probabilistic risk is allowed. This is recognized as important even by orthodox economists like Hahn²²: without uncertainty there is no need for money. The reason is that one could contract for all future transactions today with no need to keep options open through the use of money contracts. While one can argue that in the Robinson Crusoe world money reduces transaction costs, in the modern world with supercomputers there is no need for money as an intermediary. Furthermore, there is no need for the use of financial institutions either. As Charles Goodhart argues, all of the rigorous orthodox models assume there are no defaults (the transversality assumption) — a necessary consequence of the absence of uncertainty:

Without default, we do not need money; and we do not need financial intermediaries either. If all agents always repay their debts in full, what more information does a creditor need? . . . Why is there any need for banks as financial intermediaries? . . . It is remarkable that money/macro analysts have managed to construct such a massive theoretical, and indeed empirical, edifice on such sanitized and implausible foundations.²³

Third, we turn to the orthodox views on the nature of money and the role of the state. Leaving to the side the possibility that there might have been commodity money (Samuelson's shells, wives, and cigarettes) in the past, it is hard to maintain that commodity money is or has been important in modern developed capitalist economies. Modern monies are IOUs — bank liabilities, central bank liabilities, and Treasury liabilities. That means there is at least one kind of social relationship involved, that between creditor and debtor, unlike the relation-free use of a commodity as a medium of exchange. In orthodoxy, this creditor-debtor relation is ignored, or at least assumed to

²² HAHN, *supra* note 19.

²³ Charles A.E. Goodhart, *Money and Default*, in KEYNES FOR THE TWENTY-FIRST CENTURY: THE CONTINUING RELEVANCE OF THE GENERAL THEORY 213, 213-14 (Mathew Forstater & L. Randall Wray eds., 2008).

be of no importance (as in the Modigliani-Miller theorem). Finally, modern monies are almost always denominated in a national unit of account, a sovereign currency. Only the tax-based general equilibrium approach and the fiscal theory of the price level make any attempt to recognize this key feature. As we will see, the heterodox approach to money addresses each of these issues in an entirely different manner.

II. AN ALTERNATIVE, HETERODOX, APPROACH

The orthodox story of money's origins is rejected by most serious scholars outside economics as historically inaccurate.²⁴ While there is evidence of ceremonial exchange in primitive society, there is nothing approximating

²⁴ Clearly, the history of the origins of money is contested. Economists tend to use a story about money's origins in order to shed light on its nature and are less concerned with historical accuracy. Still, if the orthodox story deviates considerably from the historical and anthropological record, it is possible that economists have mischaracterized the nature of money. See GLYNN DAVIES, *A HISTORY OF MONEY FROM ANCIENT TIMES TO THE PRESENT DAY* (1994); Geoffrey W. Gardiner, *The Primacy of Trade Debts in the Development of Money*, in *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES* 128 (L. Randall Wray ed., 2004); GUNNAR HEINSOHN & OTTO STEIGER, *PRIVATE PROPERTY, DEBTS AND INTEREST OR: THE ORIGIN OF MONEY AND THE RISE AND FALL OF MONETARY ECONOMICS* (1983); John Henry, *The Social Origins of Money: The Case of Egypt*, in *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra*, at 79; Michael Hudson, *The Archaeology of Money: Debt Versus Barter Theories of Money's Origins*, in *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra*, at 99; Geoffrey Ingham, "Babylonian Madness": *On the Historical and Sociological Origins of Money*, in *WHAT IS MONEY?*, *supra* note 3, at 16; Geoffrey Ingham, *The Emergence of Capitalist Credit Money*, in *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra*, at 173 [hereinafter Ingham, *The Emergence of Capitalist Credit Money*]; GEOFFREY INGHAM, *THE NATURE OF MONEY* (2004); A. Mitchell Innes, *What is Money?*, 30 *BANKING L.J.* 377 (1913), *reprinted in* *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra*, at 14 [hereinafter Innes, *What is Money?*]; THOMAS MADDOX, *THE HISTORY AND ANTIQUITIES OF THE EXCHEQUER OF THE KINGS OF ENGLAND IN TWO PERIODS* (Greenwood Press 2d ed. 1969) (1769); Karl Polanyi, *Aristotle Discovers the Economy*, in *TRADE AND MARKET IN THE EARLY EMPIRES* 64 (Karl Polanyi, Conrad M. Arensberg & Harry W. Pearson eds., Henry Regnery Co. 1971) (1957); Rudolph Robert, *A Short History of Tallies*, in *STUDIES IN THE HISTORY OF ACCOUNTING* 75 (A.C. Littleton & B.S. Yamey eds., 1956).

moneyless markets based on barter (outside trivial cases such as POW camps).²⁵ Furthermore, the orthodox sequence of "commodity (gold) money" and then credit and fiat money does not square with history. Written records of credits and debits predate precious metal coins by thousands of years. Indeed, financial accounting was highly sophisticated and more "efficient" for market transactions than the use of coins that developed thousands of years later.²⁶ Finally, historians and anthropologists have long disputed the notion that markets originated spontaneously from some primeval propensity, emphasizing instead the role played by authorities in creating and organizing markets.²⁷

Perhaps the most interesting aspect of the orthodox story is that it completely ignores the most obvious feature of the monetary landscape: in almost every case, a money of account (or, "currency") is associated with a nation-state.²⁸ The heterodox alternative locates money's origin in

25 There is some evidence of barter-based "external" trade — between tribes, for example. While I am skeptical that these should be seen as markets, I do not make the claim that "gift-giving" involved only useless goods. Even modern "exchange" at Christmas could be seen as a form of barter-based "markets" if one wanted to stretch the metaphor sufficiently. Those who advance the barter approach to money need to provide evidence for internal barter-based trade and a market whose efficiency is enhanced by the spontaneous choice of one commodity to serve as medium of exchange.

26 See PHILIP GRIERSON, *DARK AGE NUMISMATICS* (1979) [hereinafter GRIERSON, *DARK AGE NUMISMATICS*]; PHILIP GRIERSON, *THE ORIGINS OF MONEY* (1977) [hereinafter GRIERSON, *THE ORIGINS OF MONEY*].

27 Polanyi, *supra* note 24; see also Christine Desan, *Coin Reconsidered: The Political Alchemy of Commodity Money*, 11 *THEORETICAL INQUIRIES L.* 361 (2010).

28 Orthodoxy has never been able to explain how individual utility maximizers settled on a single numeraire. See Gardiner, *supra* note 24; Ingham, *The Emergence of Capitalist Credit Money*, *supra* note 24. While the use of a single unit of account results in efficiencies, it is not clear what evolutionary processes would have generated the numeraire. See Klein & Selgin, *supra* note 3. The market is supposed to produce relative prices, each denominated in the numeraire. However, this presupposes specialization of labor and/or resource ownership — but this pre-market specialization, itself, is hard to explain. See Stephanie A. Bell, John F. Henry & L. Randall Wray, *A Chartalist Critique of John Locke's Theory of Property, Accumulation, and Money: Or Is It Moral to Trade Your Nuts for Gold?*, 62 *REV. SOC. ECON.* 51 (2004). Once markets develop, specialization increases welfare; however, in their absence, specialization is risky, while diversification of skills and resources would be prudent. Further, even if this can be finessed, no evolutionary process that would generate a single unit of account has been identified. See Klein & Selgin, *supra* note 3. It seems unlikely that either markets or a money of account could have evolved out of individual utility-maximizing behavior.

credit and debt relations, with the money of account emphasized as the numeraire in which liabilities are measured. In turn, some trace debt to the tribal wergild designed to prevent blood feuds.²⁹ Wergild fines were paid directly to victims and their families, and were socially established and levied by public assemblies. Note that fines were not levied in a unit of account, but rather in a particular item that was both useful to the victim and more-or-less easily obtained by the perpetrator. These fines were gradually converted to payments made to an authority. This could not occur in an egalitarian tribal society, but had to await the rise of a ruling class. As John Henry argues for the case of Egypt, the earliest ruling classes were probably religious officials, who demanded tithes (ostensibly, to keep the gods happy).³⁰ Alternatively, conquerors required payments of tribute by a subject population. Tithes and tribute came to replace wergild fines, and fines for "transgressions against society," paid to the rightful ruler, could be levied for almost any conceivable activity.³¹ Eventually, taxes replaced most fees, fines and tribute.

At first, authorities levied obligations in goods or services to be delivered, one for each sort of transgression, and development of a unit of account was conceptually difficult.³² It is easier to come by measures of weight or length — the length of some anatomical feature of the ruler (from which comes our term for the device used to measure short lengths), or the weight of a quantity of grain — which seems to be the source of all the early monetary units (mina, shekel, livre, pound).³³ Hudson links the early monetary units of the temples

29 See generally Innes, *What is Money?*, *supra* note 24; A. Mitchell Innes, *The Credit Theory of Money*, 31 *BANKING L.J.* 151 (1914), reprinted in *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra* note 24, at 50 [hereinafter Innes, *The Credit Theory of Money*]; A. MITCHELL INNES, *MARTYRDOM IN OUR TIMES: TWO ESSAYS ON PRISONS AND PUNISHMENT* (1932); GRIERSON, *THE ORIGINS OF MONEY*, *supra* note 26; L. RANDALL WRAY, *UNDERSTANDING MODERN MONEY: THE KEY TO FULL EMPLOYMENT AND PRICE STABILITY* (1998); SIMMEL, *supra* note 6; *CREDIT AND STATE THEORIES OF MONEY: THE CONTRIBUTIONS OF A. MITCHELL INNES*, *supra* note 24.

30 Henry, *supra* note 24.

31 Mark Peacock, *State, Money, Catallaxy: Underlaboring for a Chartist Theory of Money*, 26 *J. POST KEYNESIAN ECON.* 205 (2004).

32 See GRIERSON, *DARK AGE NUMISMATICS*, *supra* note 26; GRIERSON, *THE ORIGINS OF MONEY*, *supra* note 26; Henry, *supra* note 24.

33 See WRAY, *supra* note 10, at 7. As John M. Keynes argued in his research on ancient monies, "the fundamental weight standards of Western civilization have never been altered from the earliest beginnings up to the introduction of the metric system." See 28 *THE COLLECTED WRITINGS OF JOHN MAYNARD KEYNES* 239 (Donald Moggridge ed., 1982); see also WRAY, *supra* note 29, at 48; Innes, *What is Money?*, *supra* note 24, at 386.

and palaces of Sumer in the third millennium BC to the "monthly consumption unit, a 'bushel' of barley, the major commodity being disbursed."³⁴ After the development of the universal unit of account, credits and debts could be denominated in "money."

This should not be interpreted to imply that money is administered "top-down."³⁵ As discussed, most money used in modern society is issued by private financial institutions. Still, what we typically find is: a) a state-determined money of account (the dollar); b) treasury and central bank liabilities that function as the national currency (coins and notes); c) private monetary liabilities issued in a state money of account (bank deposits and so on); d) many private monetary liabilities made convertible into the state's currency; and e) clearing among banks and with the state in the state's money (the central bank's liability). In sovereign nations, the state's spending and taxing take the form of liabilities denominated in the state's unit of account.³⁶ While it appears that payments are made to the state using private liabilities, in practice banks intermediate between taxpayers and the state, as their reserves are debited when a taxpayer's check clears. Similarly, Treasury check recipients obtain credits to bank deposit liabilities, while intermediating banks receive credits to reserve accounts. By including the private banking system in these transactions between the state and its subjects or citizens, the state enhances the general acceptability of bank liabilities. These serve as the primary money used in private transactions. The emphasis on state money does not mean that private credits and debts (denominated in the state unit of account) should be ignored; indeed, it is certain that private innovations played a major role in the evolution to the modern financial system.³⁷

There are times when this arrangement collapses: there are cases in which the sovereign's coins are not accepted (even where the penalty for nonacceptance was a hot coin burned into one's forehead — casting doubt

34 Hudson, *supra* note 24, at 111.

35 Keynes makes a strong case, arguing that the "state money" stage has existed for 4,000 years, at least. See 1 JOHN MAYNARD KEYNES, A TREATISE ON MONEY 4 (Harcourt, Brace & Co. 1976) (1930). While I believe he is correct, it is not necessary to make that case here.

36 There are exceptions. Even the U.S. Treasury accepted foreign coin in payment of duties and taxes until well into the nineteenth century; and many modern governments have issued debt denominated in foreign currency. These exceptions do not prove a rule; rather they are examples of imperfect sovereignty.

37 Indeed, while the Bank of England was founded to provide state finance (the crown's credibility was tarnished), most of the functions associated with central bank operations (such as lender of last resort interventions) merely followed the lead set by money-center London banks. See WRAY, *supra* note 10, at 45-54.

on the belief that coins circulated at a value determined by precious metal content!); sometimes foreign coin displaces domestic currency; hyperinflation has been known to lead to the abandonment of the state unit of account even by the state; governments have defaulted on their liabilities — refusing to accept their own tallies or coins in payment; sometimes monies are issued with gold or land or foreign currency backing; and private bank liabilities may collapse in value. There is also the example of the European monetary union today — nations voluntarily ceding monetary sovereignty. All of these are interesting and worthy of careful study. The question is whether they should be seen as normal, even inevitable. Which of the following is more relevant today: the seventeenth century Hamburg mark banco giro, the U.S. Confederacy, the Weimar Republic, or the British experience since the founding of the Bank of England? The first three provide examples of alternatives to state money or of failed state monies; the last is an example of a successful, but evolving sovereign currency. It is this example that should be taken as the rule, and perhaps even as a model for other nations to follow.

In an insightful pair of articles, A. Mitchell Innes developed a credit theory of money that he integrated with a state money approach.³⁸ He mocked 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"; instead, he argued "careful investigation shows that the precise reverse is true."³⁹ A sale does not consist in exchanging something for "some intermediate commodity called the 'medium of exchange,'" but is really "the exchange of a commodity for a credit."⁴⁰ "The constant creation of credits and debts, and their extinction by being cancelled against one another, forms the whole mechanism of commerce"⁴¹

The credit approach locates money's origin in credit and debt relations. The analysis is inherently social — at the very least requiring a bilateral relation between debtor and creditor, each using a social unit of account to measure obligations. The store of value function of money is also important, for one stores wealth in the form of others' debts. On the other hand, the medium of exchange function and the market are deemphasized; indeed, one could imagine credits and debits without markets or a medium of

38 Innes, *What is Money?*, *supra* note 24; Innes, *The Credit Theory of Money*, *supra* note 29.

39 Innes, *What is Money?*, *supra* note 24, at 389.

40 *Id.* at 391.

41 *Id.* at 393.

exchange. Unlike a one-off exchange using a handy commodity money, the credit/debt relation is persistent — until the debt is retired. There is thus an explicit and lasting social relation between creditor and debtor that could include hierarchy and power. Moreover, and this is important, the debt will usually be extinguished by delivering a third-party IOU. Finally, we should not automatically presume that credit emerged from mutually beneficial negotiations; there is nothing "natural" about credit/debt — rather, this relation is largely involuntary, and develops as a result of complex social, historical, political, and economic forces.

This leads to an integration of Knapp's "state money" approach with the credit money approach of Innes.⁴² Instead of seeing government currency and reserves ("high powered money," HPM, or monetary base) as a "fiat money" with no backing, the alternative insists that even government money consists of a set of credits and debts.⁴³ On the government's balance sheet, HPM is a liability; on the holder's balance sheet, HPM is an asset. What backs the government liability? Following Innes, we need to explore 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 acknowledgment or obligation."⁴⁴ Any issuer of a debt must accept it back in payment, and Innes explains clearly that the government is no exception:

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.⁴⁵

Government money — like any liability — must be accepted by its issuer. Still, government money *is* different, because it is "redeemable by the mechanism of taxation" and "it 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."⁴⁶ In other words, what "stands behind" the state's currency is the tax system, and the state's obligation to accept its currency in tax payment.

42 GEORGE FRIEDRICH KNAPP, *THE STATE THEORY OF MONEY* (Augustus M. Kelly 1973) (1924).

43 See WRAY, *supra* note 29, at 74-96.

44 Innes, *The Credit Theory of Money*, *supra* note 29, at 161.

45 *Id.* at 161.

46 *Id.* at 152.

There is sovereign power behind state money — the power to impose fees, fines, tithes, or, ultimately, taxes.⁴⁷

The claim that dollars have value because of the dollar tax does not mean that only those with tax liabilities will accept dollars, or that anyone accepting a dollar in payment is consciously thinking of the tax liability. People also accept bank liabilities (checks drawn on banks) without realizing that the issuing bank must accept its own check to pay down a loan it has made — the person accepting the check probably uses another bank and may not have any outstanding bank loans. However, if a bank refused to accept its liabilities in payment, these would quickly lose value. Similarly, so long as government imposes a dollar tax on some of its citizens, and so long as it requires payment in the form of its dollar liabilities (even where banks play an intermediating role), this will be sufficient to ensure that the dollar will be desired. (It is not necessary to make the stronger case that the tax liability is a *necessary* condition for acceptance, but only that it is a *sufficient* condition⁴⁸). And just as a bank's liabilities will be accepted by those who are not bank debtors, a government's currency will be accepted by those with no current tax liabilities — and even by those with no conscious thought of tax liabilities.

Note that the state can choose anything to function as the "money thing": "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).⁴⁹ In practice, the state chooses something that cannot be readily counterfeited (encased clay tablets, wooden tallies, stamped coins, and notes with special ink).⁵⁰ The

⁴⁷ See also Abba P. Lerner, *Functional Finance and the Federal Debt*, 10 SOC. RES. 38 (1943) [hereinafter Lerner, *Functional Finance and the Federal Debt*]; Abba P. Lerner, *Money as a Creature of the State*, 37 AM. ECON. REV. 312 (1947); Charles Goodhart, *Credit and State Theories of Money: The Contributions of A. Mitchell Innes*, 37 HIST. POL. ECON. 759 (2005) (book review); Alain Parguez, *A Monetary Theory of Public Finance — The New Fiscal Orthodoxy: From Plummeting Deficits to Planned Fiscal Surplusses*, 32 INT'L J. POL. ECON. 80 (2002); WRAY, *supra* note 29.

⁴⁸ Other kinds of obligations, such as fees and fines, will also "drive" money in the sense that the authority can name what can be delivered to extinguish the obligation. It is also possible that private institutions could create a unit of account and means of payment to be used in private pay communities. While there is some historical evidence of private units of account, I would argue that they are relatively insignificant; all modern units of account are state moneys.

⁴⁹ KNAPP, *supra* note 42, at 30.

⁵⁰ Hudson, *supra* note 24; WRAY, *supra* note 29, at 39-73.

state chooses the unit, names the thing accepted in payment of obligations to itself, and issues the money-thing it accepts. In (almost) all modern developed nations, the state accepts the currency issued by the treasury (in the United States, coins), plus notes issued by the central bank (Federal Reserve notes in the United States), plus bank reserves (again, liabilities of the central bank) — together, HPM. The material used to produce the money thing issued is unimportant (whether gold, base metal, paper, or even digitized numbers at the central bank).⁵¹ No matter what it is made of, the state must announce its nominal value and accept it in payments.

Banks perform two essential functions: underwriting (risk assessment and monitoring) and third-party clearing. They are not intermediaries between "savers and investors," but rather allow creditors and debtors to clear accounts with third-person — bank — liabilities. The bank's own IOUs are more widely accepted in part because it specializes in underwriting. As discussed above, this is not an important activity if there is no default; but when the future is uncertain and no one (neither issuer nor holder of an IOU) can be certain of final payment, it is essential. Banks also develop continuing relations with their customers (on both sides of their balance sheets) that enhance risk assessment: holders of the bank's liabilities trust in its creditworthiness, while the bank's own debtors know that continued access to loans requires that they service their debts. And banks have adopted practices that make their services valuable: relations with correspondent banks to enhance liquidity; holding capital and reserves (and, in the old days, agreeing to double indemnity in the case of insolvency); later, relations with a central bank; and still later, development of deposit insurance. All of these practices put bank money at the apex of the "pyramid" of money-denominated liabilities.⁵²

Another important bank activity is clearing between the state and its

51 Here we are speaking of state money used internally, but there is no guarantee that the state's money will be accepted outside the nation's borders. I believe that part of the reason for the use of coined precious metal may be the necessity of making payments outside national borders. Here the orthodox belief that the value of a coin would be equal to its embodied precious metal value rings truest. Mercenaries fighting foreign wars would not accept coins at values much above gold content because they had to spend them in the enemy nation, and there was no certainty that the employing sovereign would prevail. By this logic, the value of a coin would decline toward its precious metal content the farther it moves from the sphere of influence of the issuer. Goodhart concurs with this hypothesis. See Goodhart, *supra* note 47.

52 Stephanie Bell, *The Role of the State and the Hierarchy of Money*, 25 CAMBRIDGE J. ECON. 149 (2001).

taxpayers: the taxpayer does not have to obtain a government liability to pay taxes, because the treasury accepts bank liabilities in payment, and banks intermediate between the government and its subjects/citizens.⁵³ Payment by government generates a credit to the recipient's bank account and to the bank's reserves; payment to government (including tax payment) results in a deduction from the taxpayer's account and from bank reserves. Bank reserves are not the "raw material" from which banks make loans (as in the orthodox deposit multiplier story), but rather are the government liability held by banks to facilitate clearing with the government for their customers. The development of par clearing — both among banks and with the government — was a critical step in the establishment of monetary systems based fundamentally on private banks, because it allowed their money to substitute for government money.

This alternative approach provides a more useful vision of the monetary operations of a capitalist, "market" economy than does the orthodox view of money serving as a lubricant. The monetary economy is dominated by a complex web of financial relations, characterized by Hyman Minsky as "money now for money later" propositions.⁵⁴ Money is not a veil that needs to be stripped away to observe the essential characteristics of the "market economy." Rather, money and those credit-debt relations are the key institutional relations of the capitalist economy.

III. CONCLUSIONS AND IMPLICATIONS

The alternative view leads to quite different conclusions regarding the nature of money, and monetary and fiscal policy. Money is not a neutral "thing" that facilitates exchange, but rather it is an institutionalized social relation. Neither capitalist production nor the operation of the modern state can be analyzed without addressing money's fundamental role. Access to and control of money gives power — with economic, social, and political consequences. Money is a social invention, not a natural phenomenon, and society can use it to achieve public purposes. By the same token, money, finance, and debt matter.

It is commonly believed that fiscal policy faces a budget constraint such that its spending must be "financed" by taxes, borrowing (bond sales), or "money creation." Since many nations prohibit direct "money creation" by

⁵³ Innes, *The Credit Theory of Money*, *supra* note 29.

⁵⁴ HYMAN P. MINSKY, *STABILIZING AN UNSTABLE ECONOMY* 228 (1986).

the government's treasury, the last option is possible only through complicity of the central bank — which buys the government's bonds, financing deficits by "printing money." Actually, a government that issues its own currency spends exclusively by crediting bank accounts — using banks as agents of government, as discussed above — while tax payments result in debits of bank accounts. Deficit spending by government results in net credits to bank accounts. Those receiving net payments from government usually hold bank liabilities, while banks hold reserves (we can ignore leakages from deposits — and reserves — into cash as a simple complication). While there are fairly complex coordinating procedures followed by the central bank and treasury, the logical point is that deficit spending by the treasury results in net credits to banking system reserves.⁵⁵

If that leads to excess reserve positions, overnight interest rates are bid down by banks in the interbank lending market. Unless the central bank operates with a zero rate target, declining overnight rates cause open market bond sales to drain excess reserves. Bond sales by the treasury and central bank are, then, triggered by deviation of reserves from the position desired by banks, and are properly seen as part of monetary policy, rather than as government borrowing. Finally, the interest rate target is exogenously "administered" by the central bank.

What is the significance? The state can take advantage of its role in the monetary system to mobilize resources in the public interest, without worrying about "availability of finance." It still has to worry about real resources: are they underutilized? If not, increased government use means that other activities will have to be curtailed — a tradeoff that should be considered. But in the normal situation in which many resources are underutilized, the government can use the monetary system to put them to work, simply through its spending financed by crediting bank accounts. If that results in a budget deficit, there is no cause for alarm. Lerner called this the "functional finance approach": the government's spending and taxing policies should be formulated to achieve public objectives, rather than to "balance the budget."⁵⁶

The alternative view also rejects simple orthodox relations among money, spending, and inflation. The outstanding "money stock" is simply an aggregation of some portion of the quantity of credits (and, equally, debts)

⁵⁵ See Stephanie Bell, *Do Taxes and Bonds Finance Government Spending?*, 34 J. ECON. ISSUES 603 (2000); Stephanie Bell & L. Randall Wray, *Fiscal Effects on Reserves and the Independence of the Fed*, 25 J. POST KEYNESIAN ECON. 263 (2003).

⁵⁶ Lerner, *Functional Finance and the Federal Debt*, *supra* note 47.

at some point in time.⁵⁷ It can grow through time, either because the rate of creation of new credits has risen, or because the rate of retirement of credits (that is, clearing credits and debts) has fallen. Either can result from a variety of circumstances, and correlation with some measure of the value of money (as measured by an index of prices) is likely coincidental. Further, even if the link between "money growth" and "inflation" were more than coincidence, which policy might constrain "money growth" is ambiguous. Direct "credit controls" that constrain lending for, say, real estate might cool overheated housing markets, which *could* reduce the growth of a price index that included housing prices, and could reduce the growth of some monetary aggregate. However, it is hard to see why the usual tool used by modern central banks — rate hikes — would lower money growth and inflation. This does not mean that money is neutral, for it is key to the production process in a capitalist economy. But it does cast serious doubt on the NMC call for fine-tuning of "demand gaps" through use of monetary policy.

The alternative also emphasizes that debt does matter; since default is possible, the Modigliani-Miller theorem fails. The recent financial bubbles (and busts) are perfectly consistent with the alternative view. Indeed, this crisis validates the work of Minsky — who always argued that the system was evolving toward an increasingly fragile financial structure.⁵⁸ Furthermore, policymakers' response to the global crisis demonstrates that they do not accept orthodox theory or policy, as they instinctively turned to fiscal policy for stimulus. They have decisively rejected any argument that markets can self-regulate, that the Fed can fine-tune, or that money and finance is neutral — even if they do not understand the alternative presented here.

By emphasizing the importance of the link between the state unit of account and public finance, the alternative approach points to new directions for monetary, fiscal and exchange rate policies that stand in stark contrast to the orthodox view of money as little more than a market lubricant. There is still much research to be undertaken to further develop these issues, but a good place to start is with the nature of sovereign power and credit-debt relations.

57 BASIL J. MOORE, *HORIZONTALISTS AND VERTICALISTS: THE MACROECONOMICS OF CREDIT MONEY* (1988).

58 MINSKY, *supra* note 54. For an analysis of the 2007-2009 financial crisis based on Minsky's work see Anastasia Nesvetailova, *The Crisis of Invented Money: Liquidity Illusion and the Global Credit Meltdown*, 11 *THEORETICAL INQUIRIES* L. 125 (2010).

