I. What is Monetary Economics About?

Money is as old as exchange, which is to say it is there at the beginning. Monetary history tells of a bewildering, yet fascinating, variety of different systems, different institutions, and different phenomena down through the ages. The history of monetary economics, being the history of attempts to think in a structured way about particular monetary systems, is no less varied, and no less fascinating. Even the literature on any particular monetary system is remarkably varied. There seems always to be debate, now between the metallists and chartalists, now the currency school and banking school, now free banking versus central banking, now monetarism versus Keynesianism. It's a wonderful literature, and most of what I know about money I have learned from my study of it.

What I have learned is that, underneath the variety, there are a number of deep features that are common across all systems and even all times. New problems and phenomena are always springing up, but they seem always, once we understand them, to be merely new forms of old problems and old phenomena. Similarly, new debates are always new forms of old debates. Much of what appears to be progress is, on closer examination, rediscovery of old insights, old wine in new bottles. That said, new problems and phenomena keep springing up, and it is rarely immediately obvious how the old wisdom applies. That's why people keep writing books on the subject, to achieve a formulation that makes sense for their own time and place.

What follows is my own quite personal formulation. Those who are familiar with the literature I am engaging will be aware of the controversy surrounding some of the positions I take. The footnotes are for you. Those who are not so familiar, probably most of you, will read more for information about how the system works. The main text is for you.

Money and Finance

To my mind the most central feature of monetary systems, one that runs through the entire record, is what I like to call the **natural hierarchy of money**. Very often in monetary treatises this hierarchy is characterized as having two levels, money (means of payment) at the base and credit (promises to pay money) built on top.[1] That's not a bad place to start provided one doesn't stop there, because on closer examination almost every monetary system has a multiplicity of levels, and what appears as money at one level often looks like credit from another.[2] Just so, under a gold standard, national paper currency looks like money from a domestic standpoint, but it looks like a promise to pay gold from an international standpoint. Similarly, the debate about whether the bank deposit is a particular form of money or only a promise to pay money is a debate that cannot be resolved definitively because the answer depends on the problem at hand. To a household, a deposit is payment. To a bank, a deposit is a promise to pay reserves, since net clearing must be settled in cash.[3]

---

1 [1]Already I depart from the dominant post WW2 view of money as a form of wealth, a view shared by Keynesians and monetarists alike. I also depart from the dominant conception that it is a form of wealth demanded because of its usefulness in exchange. Defining money as the medium of exchange, while no doubt useful for some purposes, inevitably muddles the distinction between promises to pay and means of payment, and so makes it difficult to see the natural hierarchy much less grapple with it analytically.

2 [2]Furthermore, we need to be careful that the language of monetary base and credit superstructure does not lead us into implicit theorizing about the direction of causation. It is well to get into the habit of thinking of money as the highest form of credit, if only as a corrective to intellectual habits that come from thinking of credit as an inferior form of money.

3 [3]Much of the ink spilled on the vexed question of whether money is exogenous or endogenous could have been saved by greater clarity about the level of analysis. Everyone accepts that credit is endogenous, so the question of whether money is endogenous depends on whether the assets covered under the operative definition of money are more nearly promises to pay, or means of payment. The fact that what appears as credit and money depends on one's point of view implies that what appears as endogenous and exogenous is equally context-specific. Taking the entire hierarchy of money as the object of analysis, rather than just money or just credit, allows

A related feature, again fairly universal, is what I like to call the **three-dimensional character of the hierarchy**. On one dimension, the hierarchy is about credit quality. It shows up in the fact that the value of a promise to pay money depends on who is doing the promising, and this is so even once one corrects for idiosyncratic default risk. The second dimension concerns time and shows up in the maturity structure of asset prices. The familiar term structure of interest rates in part reflects expectations about future short term interest rates, but the persistent empirical rejection of the expectations hypothesis tells us that something more is going on. Finally, there is a third dimension in geographical space, in which some places (New York City today, London formerly) appear to be in the center and other places arrayed at greater or lesser "distance". Promises to pay in one location have different value than promises to pay in another. Given the advances in information technology, distance is no longer what it once was, but the hierarchical character is there still which suggests that there is more going on here than transaction costs.

Not only is the hierarchy multidimensional, but it is also **multi-centered**. The ultimate money that credit claims promise to deliver, directly or indirectly, is not the same thing everywhere in the system. Historically, it is almost always the case that there are at least two centers and sometimes three or more. The nineteenth century was about gold, but also about silver; individual countries were on one standard, or the other, or on both at the same time. Today, the US dollar is the center of much of the system, but it is apparent that there are other emergent centers in Europe and Japan. What makes the multi-centric character of the system interesting is that the hierarchies built around different centers tend to rub up against one

---

one to place the insights of competing schools in their proper context. Not currency school or banking school, but both, each in its proper place.

another, and even to overlap. The problem of exchange rates is not just a problem of the relation of periphery to core, or of credit to money, but is also a problem of the relation between alternative centers.

Finally, the entire multi-centric, multidimensional, hierarchical system is **dynamic and evolutionary**. At almost any time scale you care to examine, it is a system in motion. Focus your attention on daily clearing and settlement, on the business cycle frequency, or on the longer term secular scale, and you'll see constant flux: daylight overdrafts, credit cycles, wars and depressions. At every time scale, we see expansion and contraction of the hierarchy, and in all three dimensions too. As it expands, the hierarchy flattens and the apparent difference between credit and money becomes attenuated, particularly near the center of the system, but then the system contracts and the hierarchy reasserts itself. At the business cycle frequency, the phenomena surrounding this contraction and reassertion are grouped under the heading "financial crisis". At the longer run frequency, one of the most important consequences of this flux is to shift the relative importance of various centers. One center emerges and replaces another, only to be replaced itself by another emergent center.

So far, I've been painting a picture of the monetary and financial system on its own. A further feature has to do with the articulation between the financial and what some (not me) like to call the "real", an articulation I like to call **the dialectic of finance**. Promises to pay money are made on the basis of views about future money flows: business profits, household wages, state tax receipts, financial capital gains. The point is that to some extent these individual money flows arise independently of the operations of the financial system, but not entirely so, and some times and to some extent not at all. Is the "real" the base and finance the superstructure, as metaphors about the "veil of money" would have us believe? Or is the reverse more nearly descriptive of how the system works? Are accounting values more or less real than market values? The answer depends on what problem we are trying to understand, and we open ourselves better to the nature of the system when we admit its dialectical character in this respect.

There is much more to be said on this last point, as also on the others, but space constraints prevent. The attached figure is meant to suggest the lines of such a larger discussion. For present purposes it is enough to have in mind a conception of the economy at a moment in time as a system of <u>interlocking balance sheets</u>, each one linking the capital accumulation of the past and the capitalization of future income flows; this conception focuses on the articulation between accounting values and asset prices. It is also a system of <u>interlocking flows of sources and uses of funds</u> at a moment in time, each one linking receipts and expenditures on goods and services account with accumulations and decumulations (both money and credit) on financial account; this conception is less about price than quantity, about the articulation between flows of goods and flows of funds. At each moment in time, the economy is a system of stocks and a system of flows both, and it's also a system of <u>articulation between stocks and flows</u>. What I'm trying to say is that our systems of accounting--stock, flow, and the reconciliation between them--are themselves the most basic theoretical constructs we have. They are attempts to paint a picture of the dialectical hierarchy as it moves through time.[4]

4 [4]These days, hardly anyone in academic circles starts from the accounts. Why not? In brief, the analytical framework of the theory of value and general equilibrium has proven to be an irresistible pole of attraction; "monetary Walrasianism" was the framework of almost all post WW2 monetary discussion. Historians of this period are likely to record that premature formalization, and inappropriate formalization, held back the development of monetary theory. The problem is that the theory of value is fundamentally about equivalence so that a monetary theory modeled after the theory of value tends inevitably to miss hierarchical features of the system. In effect, the value-theoretic approach flattens the natural hierarchy by assumption.

Money and Economics

Of all the deep features that may be found in most monetary systems, it is the last-mentioned dialectic of finance that economists find most difficult to accept (and that accordingly makes them less interested in examining the other features). One of the reasons is the weight of the history of our own discipline, and also past experience as recorded in economic history. Philosophically speaking, we are materialists, and the financial view smacks of idealist fallacy. Morally speaking, we are consumers--Adam Smith famously emphasized that the point of production is consumption--and we want to insist that bags of wheat are more important than stacks of bonds. And we are also savers--Smith again famously favored the parsimonious shopkeeper over the profligate prince. Historically, economists have been a voice in favor of preserving and augmenting the accumulations of the past, and we've been correspondingly suspicious about the durability of mere capital gains that arise from possibly illusory prospects about the future. We favor the ant over the grasshopper, putting something aside for hard times to come. And we favor progress, putting something away so that the lives of our children and grandchildren will be better than our own. Something for nothing is hard to accept, and it sounds perilously close to sin.

Most of all, it's the free lunch that we suspect. In two centuries, we've just begun to get used to the free lunch of trade (Ricardian comparative advantage) and that makes us free traders and internationalists. We're still much less used to the free lunch of technological change (Marxian relative surplus value), and accordingly look with greater suspicion on the capital markets that finance the transformation of inventions into innovations, than we do on the money markets that merely finance trade. The current globalization of trade and revolution of production, both trends deeply associated with microelectronics, appeals but also appalls. In the nature of things, the appeal gets attached to the real, and the pall to the financial, to wit our anxiety over the globalization of money markets and the speculative excess of capital markets. It is obvious to us all that finance is a key element in the world of today. Still, somewhere deep inside we want to think of flows of income emerging from previously accumulated real stocks of productive resources, and it bothers us when stocks of wealth appear out of thin air.

A further obstacle to modern understanding, and there is paradox in this, concerns the economic role of the nation state. For most of economic history, the state has been rather weak and consequently dependent on money markets and financial markets for its projects. For most of the history of economics, the main concern of public finance has been to find sources of revenue to support the public credit.[5] Monetary policy in the nineteenth century was mainly about maintaining convertibility of the domestic currency in world markets, which for the most part meant gold convertibility. The main problem for the state, in most periods and most places,

---

5 [5]It is only recently, perhaps since the consolidation of the British war debt, that state finance has been on a sufficiently sound basis to rival private finance. And it is even more recently that state finance has been on a sufficiently sound basis to back a convertible domestic currency.

6 Even today, the notion that currency is in some sense backed by the public credit remains controversial. Most people seem to be more comfortable thinking about currency as "fiat", a kind of paper token taking the place of outside gold, than as a liability of the central bank. Similarly, most people seem to be more impressed by the impact of "legal tender" laws than I am. Also along these lines, most people seem to think that "credibility" in itself--understood as a kind of moral stature or toughness, something like a commitment to pay one's bills quite apart from one's actual ability to do so--is a critically important aspect of central banking. In all these respects, the loss of a commodity anchor seems to have left us intellectually unanchored as well.

7 I think that national money today is best understood as a promise to pay, just as it was under the gold standard. The payor is much the same. What has changed is that what is to be paid is not one particular commodity but rather abstract value itself, the value of the unit of account named on the bill.

has been to find a way to insert itself into the ongoing hierarchy of private credit and international money.

It's easy history to forget, because in our minds it is overshadowed by the twentieth century's financial history in which states mobilized unprecedented resources to fight two hot wars and a cold one, plus a world depression in the middle. In the long emergency stretching from 1914 to about 1960, commercial considerations took a back seat to political considerations, public credit swelled to rival and then surpass private credit, and the natural hierarchy of money (all three dimensions of it) came to be built on the basis of national currency whose convertibility into gold was abandoned as soon as it was tested. Inevitably, new ideas and theories also came to the fore, ideas that for the most part had been formed first in backward states that made the decision to go it alone because of the lowly place they would be assigned were they to try inserting themselves into the existing hierarchy. This is paradoxical, that theories suited for weak states looking for ways to jump-start economic development became the guiding principles for the leading states in the world. Monetary policy in the twentieth century was mainly about supporting the market for state debt, secondarily about supporting domestic economic stability, and not much at all about maintaining one's place in the larger hierarchy of credit and money since that larger hierarchy was substantially in a shambles most of the time.

Twentieth century experience has accustomed economists to a state-credit-centric and state-money-centric view of the natural hierarchy. We tend to think of the central bank as the government's bank more easily than we think of it as the banker's bank, and accordingly we see money more readily as a form of inexpensive government finance than as the ultimate means of payment. The state-centric view is not necessarily wrong, but it is partial, and becomes more so every day, which is not to say that we are necessarily returning to the commercial-centric world of the previous age either. Its manifold critics notwithstanding, the modern state seems to be here to stay. The point to hold onto is that the modern system has two centers, state and commercial, and we understand it better when we open ourselves to the dialectical character of the system in that respect. The dialectical character of modern finance is not just about the tension between the real and the financial, the historical past and the imagined future. It is also about the ongoing present tension between state principles and commercial principles.

That dialectic is also difficult for economists to accept, and so presents another obstacle to understanding, but for a different reason. The state and the market have always had their proponents and opponents, and thoughtful economists have always recognized that the important issue is not which is better but rather how best to combine the strengths of each in order to tackle the problem at hand. Postwar economics was constructed to rationalize what we can now see was a quite special and temporary set of institutions in this regard. Macroeconomics was about how to use the state (fiscal and monetary authority) to improve market outcomes (economic stabilization). Institutional changes have, to some extent, left that economics behind, as most economists recognize, but we are a long way from consensus around a new economics, just as we are a long way from stabilizing around a new set of institutions. New Classicals are perhaps more forward looking in their insistence on reconsideration of the commercial principle, while New Keynesians fight a conservative rearguard action in defense of the state principle, but the bifurcation of debate is symptomatic of the problem. “The dogs may bark, but the caravan moves on” (Montagu Norman). We economists fight old battles within our ranks while the world that needs our attention transforms itself outside the window.

Monetary Policy

Under the national money system, countries got used to the idea that they could manipulate domestic interest rates in order to achieve domestic stabilization goals. This was possible because the multi-centric hierarchy had a center in each national currency. Much of what the textbooks teach about monetary policy represents a working out of how this kind of system operates, with the intention of illuminating how the nation state can best make use of the fact that its own liability sits at the pinnacle of the local hierarchy of money. The problem with what the textbooks say is that the world has changed. Expansion of trade has brought integration of money markets and, to a somewhat lesser extent, capital markets also. In effect, the system has evolved from one with many hierarchies, each barely touching the rest, into a system with only a very few centers and with overlapping hierarchies built around those centers. This means that the monetary policy problem is quite changed. Indeed, the situation of most countries is as much like the 19th century gold standard as it is like the 20th century national money experience that has been codified in the text books.

Under the gold standard, the central banker's problem was to keep national promises to pay gold in balance with the actual capacity to pay. Under the national money system, the central banker's problem was to keep promises to pay the national money in line with the actual capacity to pay. Because the national money central banker could create more national money as the need arose, his task was presumed to involve a greater degree of freedom than the gold standard central banker enjoyed, from which followed the ambition to pursue additional stabilization goals. In both systems, however, the goal was to be achieved mainly by manipulation of the discount rate. Thus, even though in principle the gold standard central banker stood ready to buy and sell gold at a fixed price, swelling or depleting his gold reserve depending on the balance of demand and supply, in practice he operated by manipulating the discount rate in order to obviate the need for substantial gold flows.[6] The operational practice of the national money central banker went not very far beyond this. The difference was a more complex set of stabilization goals.

In the literature, the difference between central banking under the gold standard and under a national money system is often characterized as the difference between focusing on external stability (exchange rate) as opposed to internal stability (price level). Useful as this formulation is for characterizing the inward turn that came with the increasing importance of the state, the distinction it draws is potentially misleading in other dimensions. For one, although the exchange rate and the price level are both prices of money, they are very different kinds of prices. Central banks could and did try to fix exchange rates by standing ready to buy and sell gold, but never could they or did they try to fix the price level by standing reading to buy and sell the relevant basket of commodities. Furthermore, as has already been mentioned, however the target might change, the main operational tool was always the discount rate and its main line of influence was on credit. For this reason, it is arguably more accurate to emphasize the continuity of concern about the balance between the credit superstructure and the means of payment, a balance whose visible symptoms (exchange rate, price level) shifted along with the monetary regime in effect.

What I'm suggesting is that the central bank, regardless of whether it is primarily a banker's bank or primarily the government's bank, and regardless of whether it is operating

8 [6]Like modern market makers in securities markets, central banks made the market between gold and their own currency without having to hold substantial inventories of either, relying instead on the ability to borrow when needed. The significant difference is that market makers in securities borrow currency from the banking system when they need it to finance their holdings, whereas the central bank simply creates more currency as a short position in the unit of account on its own balance sheet.

under a gold standard or within a national money context, always operates within the **constraint of the natural hierarchy of money**. Under the gold standard, that constraint appears as something external to the bank, and the bank's job is to watch over the integration of national money and credit into the system of international money and international credit. Under the national money standard, the same constraint appears as something internal to the bank. In this system, the bank's own liabilities are the ultimate (local) means of payment, the hierarchy of money appears not as something natural but as something imposed on the credit system by the central bank itself. Money seems to be only artificially scarce, and the agent that imposes the scarcity is the central bank (not often a popular role).[7] This is appearance, however, and every central banker knows that reality is something quite different.

In a world where national currency appears to be the ultimate money, it is difficult to resist the impulse to flatten the natural hierarchy of money by monetizing all manner of domestic credits, public and private. Hard experience of the consequence of yielding to such temptation[8], however, has made central banks resist, which means to insist on retaining the distinction between credit and money, even public credit (Treasury) and national money (Fed). Only in extreme exigency--war for the public sector, financial crisis for the private sector--do central bankers relent. Just so, war finance typically involves what we might think of as Lender of Last Resort intervention for the public sector. In peaceful, normal times, the central banker's job is to

9 [7]This is the entry point of the literature on the political economy of central banking, as well as the larger concern about "accountability".

10[8]This refers to inflation certainly, but also more fundamentally to the financial repression that seems inevitably to accompany inflation. Market economies appear to benefit from rather elaborate and sophisticated credit arrangements--they are the counterpart for the plan that coordinates a command economy--and monetary disorder makes it difficult to write mutually beneficial private credit contracts. This perhaps is the underlying reason for the observed control the supply (price) of its own liabilities in order to create a hierarchy of money appropriate to the moment. The art of doing so comes from the dynamic and evolutionary character of the system--the appropriate hierarchy is always in flux, at every time scale and in all three dimensions.[9]

From this standpoint, it is possible to see the modern tension between state and commercial principles as in fact a familiar and ever-present tension, albeit one that has modulated over time. The main modulation of the last century had to do with the increased importance of the state. The increased importance of commercial principles in recent decades does not mean a return to the weak-state monetary regime of previous centuries; the state retains its twentieth century economic importance, but in a world where the commercial principle operates as well. How does the emerging new system work?

It is easy to see that the changing monetary regime matters least for the least powerful states, since they are bound to be somewhat far down any hierarchy of money. Thus, the problem of the peripheral countries often quite closely resembles the gold standard problem. Just so, all the old debates about the benefits of being on the gold standard now reproduce themselves in the debate about the benefits of a currency board. Similarly, the debate about dollarization versus currency board is analogous to the debate about gold coin versus gold bullion as a standard. We understand these discussions better when we view them as arising from the weak fiscal apparatus of the states involved. The essential problem in these states is to place state credit on a commercial basis. States that are unable to do so may find that their

---

negative correlation between inflation and productivity growth.

11[9]This is clearly an argument for discretion rather than rules. The Wicksellian formulation about the interplay of the bank rate and the natural rate of interest can be understood as an allotted position in the hierarchy is too low to make it worthwhile to join, and try to go it alone. Alternatively, they may choose to try fitting in with one of the emergent alternative hierarchies, such as that likely to arise around the Euro. Or they may try to position themselves in an intermediate position, in effect adopting bimetallism domestically in order to deal better with the emergent international bimetallism. We've seen all these strategies before, when the issue was gold and/or silver, and we'll see them again.

In more central countries, those with stronger fiscal apparatus, the problem is different. There is no question about creditworthiness, but there is question about the long run commercial value of the national currency. Quite apart from the emotional appeal of currency sovereignty, pegging to a more central currency is no answer because there is question about the long run value of that currency as well. Gold had its gyrations, but no one ever questioned its long run value; not so the dollar. This, I think, is how one can make sense of the current popularity of "inflation targeting".[10] Central bankers are looking to establish, within some reasonable bounds of uncertainty, the long run commercial value of their currency. Doing so has the important effect that speculation tends to be stabilizing rather than destabilizing; when deviation from long run value is seen as tending to narrow over time rather than widen, the action of speculators seeking to profit from such deviation will tend to return values to their long run levels.[11] Note

---

attempt to find a compact language to discuss these matters scientifically.

12[10]In the literature, inflation targeting is usually presented as a response to the perceived failure of money supply targeting, and the need for an explicit target is all bound up with concerns about accountability. These operational and political concerns are important but not so fundamental, I think, as the issue of ensuring the commercial value of the currency in the first place.

13[11]The current apparent consensus in favor of "price stability" as the primary goal of central bankers needs to be understood in this context. It does not stem, so it seems to me, from a long-run vertical Phillips curve view of the world, nor from any other ideological preconception that the economist's ideal world of free markets resembles closely the actual world. It is a pragmatic that, because each country uses its own price index, even successful inflation targeting does not necessarily guarantee the long run exchange rate relative to any other currency. Unlike the 19th century, we're apparently not trying to establish a mono-centric system of fixed exchange rates, only a system in which the central currencies fluctuate within reasonable bounds.

Where does this leave the US, which sits at the center of the hierarchy? Even the US needs to concern itself with its place in the hierarchy of money, and the reason is the multi-centric character of the system. There are advantages to being at the center, of which the oft-remarked seigniorage is probably one of the smallest; it is not just the state that can borrow at lower interest rates, but also all the borrowers arrayed below it in the hierarchy. That said, it is important to remember that the alternative centers are not just Europe and Japan, but also (at least potentially) the highest quality commercial credits. Historically, states have not always been the best credits. It is clear however that states that have been able to put their credit on a commercial basis have subsequently enjoyed much greater freedom of maneuver. Not just war finance, but also health, education and retirement finance depend crucially on the credit standing of the state. When central bankers talk about price stability as their highest goal, they should be understood as defending the natural hierarchy of money that makes such credit operations possible.

Conclusion

---

judgment about the limitations placed on monetary policy by the current organization of speculative markets.

14 Similarly, the current consensus in favor of "independence" is not so much about the academic's fear of election-motivated interference with policy, and more about maintaining the natural hierarchy by maintaining the distinction between credit and money, even when that credit is issued by the government (Treasury) and the money is a national currency issued by a quasi-

To recapitulate, I've been saying that the emerging system looks like a blend of features from the national money system with features more reminiscent of the gold standard. Remember how the gold standard worked. The price level was controlled, at least in principle, by the relative price of gold. The problem was that discoveries of new low-cost sources of the metal would cause inflations, and so would new institutions like the Federal Reserve that economized on gold reserves. On the other side, rising demand for monetary reserves, caused by economic growth and expansion of the gold standard across the face of the globe, would cause deflations. The rise of the nation state made it possible to operate the system independent of the vagaries of gold, though of course still subject to the vagaries of the nation state. Today, the globalization and integration of markets operates to discipline those vagaries, though of course that discipline has its own vagaries, and so central bankers are trying to find ways to impose discipline on the system themselves. The idea is to work with the markets rather than against them.

Are the vagaries of market discipline worse than the vagaries of the nation state? It's hard to say. What we can say is that today, as always, the monetary system is in a process of dynamic evolution toward something else. At this stage, so it seems to me, the alternative futures that may be possible are sufficiently unclear that it is best to focus attention on how the system operates and how it is evolving. Likely the system of the future will be one intended by no one, so it is better to try to read what is happening than to form elaborate plans that will never be implemented because there is no one in a position to do the implementing.

---

governmental central bank (Fed).