

The Many Faces of Money and Hierarchy

Alex Howlett

June 16, 2023

Introduction

This paper defines money as the standard instrument people accept as payment to settle debt obligations. Building on this definition, we can show that the centralization of settlement naturally causes the emergence of a hierarchy in which entities use other entities' liabilities as money. Neither money nor its hierarchy is something people invented. Money and hierarchy are inseparable. Even the international monetary system structures itself around who's using whose liabilities as money. If we ignore hierarchy, we will fail to understand money. Attempting to dismantle the hierarchy will undermine money.

Defining Money

There are (at least) two different approaches we can take to explain money. Either we can identify money as the object people call "money" and proceed to develop a theory of that object, or we can define a concept and use the word "money" as a label for that concept. The first approach might seem better because there is something called money that needs explaining. The problem is that people tend to come to the subject of money with various prior assumptions about what money is or should be.

To avoid any confusion, this paper starts with a single concept. We will use the term "money" to refer to whatever is the standard instrument that people accept as payment to settle debt obligations. Regardless of whether this is an appropriate use of "money," there is such a thing as a standard settlement instrument that needs explaining too.

In the absence of an established settlement standard, one will emerge through the process of ongoing trade, as described by Karl Menger (1892).

Men have been led, with increasing knowledge of their individual interests, each by his own economic interests, without convention, without legal compulsion, nay, even without any regard to the common interest, to exchange goods destined for exchange (their "wares")

for other goods equally destined for exchange, but more saleable.
(Menger 1892, 248)

A trade community gravitates toward “more saleable” goods—goods that have more potential buyers—for use in settlement. Indeed, the emergence of markets and the emergence of money are mutually reinforcing. This process is organic. It is not conscious. Though human institutions can facilitate it, money ultimately has a life of its own. Allyn Young (1924) says, “Men did not invent money by reasoning about the inconveniences of barter any more than they invented government by reasoning about the inconveniences of some mythical primitive state of anarchy” (265).

It is naturally more convenient to accept as payment something that others are more likely to accept as payment (Jevons 1875, 13). Young continues:

A host of different commodities have been used at different times, and by different peoples, as money. If we scrutinize a list of such commodities ever so carefully, we shall find it difficult to see that they have any common characteristics beyond the fact that, for various reasons, the commodities have all had, at a given time and place, an assured market or outlet. (Young 1924, 265)

Of course, money need not be a physical commodity. But it does have to be something whose ownership can transfer. You have to be able to spend it.

A thing will not be adopted as money unless it has, among other things, an assured outlet—somewhere you know you can spend it. And its adoption as money gives it vastly more assured outlets.

Money is whatever we can spend *right now* to settle our debts. If we already have the money, we can make a payment without having to sell anything and without having to borrow. Anyone can pay anyone with money. The purest form of money is one whose value derives entirely from what it can pay for.

Here is Menger again:

It is not impossible for media of exchange, serving as they do the commonweal in the most emphatic sense of the word, to be instituted also by way of legislation, like other social institutions. (Menger 1892, 250)

By adopting an official money, the state assures more outlets for that money. And by accepting payments in the official money, the state itself becomes an assured outlet.

Money emerges among those who want to make (and receive) payments for the same reason a language emerges among those who want to speak to each other. As with language, the use of a particular money is an arbitrary social convention. What matters is that everybody in the community follows the same convention.

The Pricing Standard

As the settlement instrument, money is a standard, but it also sets a standard: the standard against which we set our prices. For example, we can make payments using dollars, and we can also set prices in dollars. The dollar is simultaneously a standard settlement instrument and a standard pricing unit.

When debts are settled with a particular money, it is inconvenient to price those debts in terms of anything other than units of that money. And when debts are expressed in terms of a particular pricing unit, it is inconvenient to settle those debts with instruments other than those denominated in that unit. A settlement standard implies a pricing standard, and vice versa.

Emphasizing different aspects of money's function, different authors use different terms to describe both the settlement instrument and the pricing unit. The settlement instrument is often labeled as a "medium of exchange," "means of payment," or "store of value." The pricing unit is often described as a "unit of account," "money of account," "measure of value," or "standard of value."

[M]oney is one of those concepts which, like a teaspoon or an umbrella, but unlike an earthquake or a buttercup, are definable primarily by the use or purpose which they serve. The use or purpose of money is two-fold : it provides a medium of exchange and a measure of value. (Hawtrey 1919, 1)

We might say that the settlement instrument defines a pricing unit, or vice versa. Hicks (1989) suggests that the pricing unit (standard of value) logically precedes the settlement instrument (medium of payment).

We seem to be thus left with two distinguishing functions of money: standard of value and medium of payment. Are they independent, or does one imply the other? It is not easy to see that there can be payment, of a debt expressed in money, unless money as a standard has already been implied in the debt that is to be paid. So money as a means of payment implies money as a standard. But could a debt expressed in money be discharged otherwise than in money? Surely it could. (Hicks 1989, 43)

Hicks, of course, is right that debts can be settled using something other than the standard settlement instrument. Even debts notionally paid in money can often offset so that settling them requires no actual cash (money) to flow. But it is always possible to make the notional cash flows explicit if desired. The settlement instrument is still there in spirit.

Which came first: the settlement instrument or the pricing unit? It hardly matters. They are intimately connected, and both are useful to understand.

Money as the Highest Form of Credit

Macleod (1866) describes credit as “anything which is of no direct use, but which is taken in exchange for something else, in the belief or confidence that it can be exchanged away again” (18). Money is “the highest and most general form of credit” (19) because it is the standard settlement instrument. It can be exchanged with anyone, and it can be exchanged for anything.

In the first chapter of his *Currency and Credit*, Hawtrey (1919, 1–16) imagined a world of “credit without money”. He started with credit, as defined by Macleod, and added a standard pricing unit reconciling different forms of credit. He then derived the standard settlement instrument, money, from that starting point.

Money is a general claim to things that are not money. A claim to money is itself also a form of credit. Any promise to pay money—a money debt—is a claim to money for the receiver of the promise.

Under certain conditions, money claims can themselves serve as money. For example, we make payments using bank deposits. Bank deposits, which are a claim to cash, are widely accepted as payment to settle debts. They are a standard settlement instrument in their own right.

Schumpeter (1954) said, “You cannot ride on a claim to a horse, but you can pay with a claim to money.” (305)

Bank deposits can be money only when they represent a demand claim. If everybody trusts that they can exchange deposits for the same amount of money at a moment’s notice, then they have no reason not to accept the deposits as payment.

Credit and money are both equally media of exchange. Credit is often said to be a substitute for money. It would be just as accurate to say that money is a substitute for credit, that the . . . means of discharging a debt is a substitute, so far as the creditor is concerned, for the debt itself. (Hawtrey 1919, 15)

Hyman Minsky (1986) said that “everyone can create money; the problem is to get it accepted” (255). What he meant was that anyone can promise money. But it’s another thing to convince a counterparty to accept the promise, let alone establish common knowledge that the promise is good. Banks specialize in doing just that, so we use their promises as money.

Being a bank isn’t easy. A bank must carefully manage its cash flows to ensure it can make good on its demand deposits. If cash flows out faster than it flows in, the bank will eventually run out of money. To give itself a cushion, the bank will hold some portion of its assets in the form of cash or instruments that can be quickly exchanged for cash, such as deposits at another bank.

There is even a shortcut that allows people to turn their promises into money without first having to become a bank. They can convince a bank to “monetize”

their debt for them. When a bank lends a customer money, it replaces that customer's liability (the loan) with something the customer can spend as money (deposits). Perry Mehrling (2017) calls this "the alchemy of banking."

Banks are in the business of monetizing debt. People, firms, and governments alike pay banks for this service. That payment comes in the form of interest on the loan.

A Structural Hierarchy

By transforming more specific forms of credit into money, banking provides flexibility for entities who would otherwise lack the funds to settle their debt obligations. Without banking, even those with good credit would find themselves unduly limited by the constraint of debt settlement.

Pooling cash and centralizing settlement at the bank vastly reduces the amount of cash that needs to flow. A payment from one depositor to another merely changes who has a right to demand cash.

Payment communities avail themselves of banks to relax the settlement constraint and economize on money. Banks themselves can use central banks. A hierarchy of money emerges in which each layer of the hierarchy uses the above layer's liabilities as money. People use bank deposits as money. Banks use central-bank deposits as money. The emergence of banking is the emergence of hierarchy.

Always and everywhere, monetary systems are hierarchical.
(Mehrling, 2012)

Every layer of the hierarchy faces a settlement constraint that can be relaxed with help from the layers above. As long as the banks themselves remain able to settle their debt obligations, what's money at each layer of the hierarchy is fully money. It is generally accepted for the settlement of debts in its layer.

All money is a settlement standard. The money at the top of the hierarchy is the monetary standard. Money is either standard money or demand claims on standard money originating further down the hierarchy. One dollar of deposits claims one dollar of cash all the way up the hierarchy. This one-to-one, or "par", relationship transmits "moneyness" from the top to the bottom. A violation or relaxation of par will either demonetize lower monies or, at the very least, bifurcate the monetary standard.

At the top of the money hierarchy sits the bank that manages the monetary standard. We call this bank the central bank. If the monetary standard is a commodity, the central bank faces a settlement constraint. The central bank holds a reserve of the monetary standard to absorb cash-flow imbalances just like any other bank. In today's world, our monetary standards are pure credit. The central bank's own liabilities serve as the monetary standard.

In addition to being a bank for the other banks (i.e., a banker's bank), the

central bank is usually also a bank for the government (i.e., a government bank). The central bank issues its own liabilities—the monetary standard—in exchange for the government’s liabilities. This constitutes a monetization of public debt, just as retail bank lending is a monetization of the private debt of consumers or firms. Perry Mehrling calls the dual public/private nature of money “the essential hybridity of money.” (Mehrling 2017)

Monetary vs. Financial Stability

When the economy is in a state of relative financial stability, it means that claims for money are generally being redeemed at face value. Debts are mostly being paid, and the settlement constraint is generally permissive enough to allow payments to go through. Financial stability means banks are able to balance their cash flows to maintain par between layers of the money hierarchy.

By contrast, monetary stability is the stability of money in its capacity as the most general form of credit. Money is exchangeable for anything. A money is stable when it can, on average, reliably purchase the same amount of stuff. Monetary stability means stable purchasing power. The less stable the money the harder it is to use as a standard settlement instrument. The fixed par hierarchy transmits monetary stability (or instability) down from the standard money to all the subordinate monies.

For better or for worse, a gold standard ties the stability of all money to the monetary stability of gold. Like any other bank, the central bank balances cash (gold) flows to keep its deposits at par. Unlike other banks, the central bank’s position at the center of the system affords it the power to influence market conditions. It uses this power—monetary policy—to push the market price of gold toward par. This encourages gold buyers and sellers to find each other on the market, eschewing redemption with the central bank. If successful, monetary policy can keep the volume of the central bank’s gold inflows and outflows small, minimizing its need for reserves.

Under a pure credit standard, the central bank makes no promise to redeem its deposits for a higher form of money. There *is* no higher form of money. Rather than piggybacking on gold’s monetary stability (or lack thereof) through redeemability for gold, the central bank must manage monetary stability directly. Instead of stabilizing money against one commodity, the bank can use monetary policy to stabilize money against a basket of commodities, consumer goods, or whatever is most consistent with the stable purchasing power of money.

Under the gold standard, the central bank faces a settlement constraint from above, which it transmits down the hierarchy. Under a credit standard, the central bank faces a monetary stability constraint from above, which, again, transmits down the hierarchy as a settlement constraint. In times of stress, the central bank can choose to violate its own constraint to relax the settlement constraints below it. Under a gold standard, that means suspending convertibility

to gold. Under a credit standard, that means allowing the purchasing power of money to fall. In either case, the central bank sacrifices monetary stability in favor of financial stability.

Both monetary and financial instability express themselves as cash-flow imbalances but at different layers of the hierarchy. Financial instability occurs in the brittle part of the hierarchy where instruments are pegged to each other at par. Monetary instability occurs at the interface between money and that which money buys.

Minsky seems to have started from the idea that, because government faces no survival constraint, imbalance between its cash commitments and cash flows shows up not as a tendency to crisis, but as a tendency to depreciation of future cash flows relative to present cash flows. This tendency takes the form of price inflation domestically and currency depreciation internationally. In effect, socialization of a private imbalance between cash commitments and cash flows (in order to avoid crisis) does not change the fact of imbalance, but only the mechanism through which adjustment takes place. (Mehrling 1999, 146–7)

Minsky and Mehrling’s “survival constraint” is our settlement constraint. Whether the government faces a settlement constraint is up to the central bank, the bank that monetizes the government’s debt. If the government has the power to order the central bank around, then there is a sense in which it faces no settlement constraint. But the government still uses the central bank’s liabilities as money. It is structurally below the central bank in the hierarchy.

International Money Hierarchy

The 19th-century gold standard was an international par money hierarchy with gold at the top. Although currencies were each claims to specific amounts of gold, gold was expensive to ship, which made foreign-issued gold claims costly to redeem. The price of foreign exchange (FX)—claims to foreign gold—in the domestic market had to deviate from par to induce an international gold flow. FX prices—exchange rates—could move within a spread around par.

The international monetary system ran largely on FX. Claims to gold were far less cumbersome than gold itself. And FX often took the form of sterling-denominated claims on London. Banks and governments held reserves of sterling FX to absorb international cash-flow imbalances. The Bank of England sat at the top of the international money hierarchy, just below gold itself. It was the central bank for the international monetary system.

In the first half of the 20th century, par with gold was violated and the monetary standard fragmented. The system reformed itself around the United States dollar. The international monetary system now uses dollar liabilities as money.

[T]here is no formal dollar area, and good reason why there should not be. The dollar became established as a reserve currency by an evolutionary process which took advantage of the use of currency as a unit of account, medium of exchange, and store of value. It can function as a reserve currency only when it performs these functions. (Kindleberger 1969, 131)

The global dollar system is a pure-credit par hierarchy with the Fed at the top. But the international money hierarchy extends beyond the dollar system. There are banks that use the dollar as money, hold reserves of dollars, and manage dollar cash flows, but issue non-dollar liabilities for use as money by those below them. Those banks are the other central banks. Their liabilities are the standard monies for their domestic money hierarchies.

The international money hierarchy—with its diverse array of central banks and standard monies—is no longer strictly a par hierarchy, yet it remains a structural hierarchy of entities using other entities' liabilities as money.

The international monetary standard has changed in the past. It can change again. But there is no longer any par at the top of the hierarchy to violate. Instead, there will be a shift in who's using whose liabilities as money.

Floating Exchange Rates

Gold parity is gone. But even the gold standard had floating exchange rates. The Bank of England actively balanced its gold flows and maintained par redeemability. It did not directly intervene in the price of sterling-denominated FX in foreign markets. Exchange rates were determined by markets. The central bank's monetary policy constrained exchange rates, but the central bank did not *target* exchange rates.

Today, the big central banks target monetary stability directly. They each stabilize the purchasing power of their respective monetary standards. When exchange rates deviate from purchasing power parity, trade flows gradually adjust to take advantage of the price differential. This puts pressure on purchasing power and threatens monetary stability.

Central banks can use monetary policy to push back. But monetary policy moves interest rates, and financial markets are global too. Just as trade flows adjust to take advantage of deviations from purchasing power parity, capital flows (international lending and borrowing) adjust to take advantage of deviations from interest rate parity. Borrowers want to borrow in markets with relatively lower interest rates. Lenders want to lend in markets with relatively higher interest rates.

Capital flows are much quicker and easier to adjust than trade flows. Nothing needs to be produced or shipped. As a result, interest rate parity is a tighter constraint on exchange rates than purchasing power parity. Yet the desire

of central banks to push against interest rate parity stems from the need for monetary stability. And monetary stability is needed in the first place for money to function as money.

Money does not respect borders (Avdjiev et al. 2015). It is not constrained by geography. As long as capital flows are free to adjust, there can be only one monetary policy (Rey 2015): the monetary policy of the central bank at the top of the international money hierarchy. The Fed is the central bank for the international monetary system—even the parts of it denominated in subordinate monetary standards.

Conclusion

Money is many things to many people. Different views of money reflect different faces of the same underlying structure. And that structure is hierarchical. Money and its hierarchy are natural features of markets. Money is vital market infrastructure. Without a market, there is no money. Without money, there is no market.

In order to see [the importance of money] in its true proportion we ought . . . to take a completely organised and civilised society, with all the modern developments of commerce and industry, and to examine to what extent such a society might have existed just as it is without the use of money, or which of its characteristics would be necessarily sacrificed. In other words we have to find not the historical but the logical origin of money. (Hawtreys 1919, 2)

Only by understanding money as the standard settlement instrument—the most general form of credit—can we clearly see the structural hierarchy inherent in the logic of money. Only by understanding the logic of money and its hierarchy can we hope to have realistic expectations about the possibilities money can achieve.

References

- Avdjiev, Stefan, Robert N. McCauley and Hyun Song Shin. 2015. “Breaking free of the triple coincidence in international finance.” *BIS Working Papers* no 524 (October)
- Hawtreys, Ralph G. 1919. *Currency and Credit*. London: Longmans, Green and Co.
- Hicks, John. 1989. *A Market Theory of Money*. Oxford: Clarendon Press.
- Jevons, W. Stanley. 1875. *Money and the Mechanism of Exchange*. New York: D. Appleton and Co.

- Kindleberger, Charles P. 1969. "Measuring Equilibrium in the Balance of Payments." Reprinted in *International Money* by Charles P. Kindleberger, 120–138. London: George Allen & Unwin, 1981
- Macleod, Henry Dunning. 1866. *The Theory and Practice of Banking*. Vol 1. 2nd ed. London: Longmans, Green , Reader, & Dyer.
- Mehrling, Perry. 1999. "The Vision of Hyman P. Minsky." *Journal of Economic Behavior and Organization* 39 no. 2: 129-158.
- Mehrling, Perry. 2012. "The Inherent Hierarchy of Money." In *Social Fairness and Economics. Economic Essays in the Spirit of Duncan Foley*, edited by Lance Taylor, Armon Rezai, and Thomas Michl, 394–404. London and New York: Routledge
- Mehrling, Perry. 2017. "Financialization and Its Discontents." *Finance and Society* 3, no. 1: 1–10.
- Menger, Karl. 1892. "On the Origin of Money." *The Economic Journal* 2, no. 6: 239—255.
- Minsky, Hyman P. 1986. *Stabilizing an Unstable Economy*. New Haven CT: Yale University Press
- Rey, Hélène. 2015. "Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence" NBER Working Paper No. 21162.
- Young, Allyn A. 1924. "The Mystery of Money." Reprinted in *Money and Growth: Selected Essays of Allyn Young*. edited by Perry Mehrling and Roger Sandilands, 265–351. London: Routledge, 1999.