Economics of Credit and Debt*

Daniel H. Neilson†

18 November 2012

> *By finance we mean the art of providing the means of payment.*
>
> —Hawtrey, *Currency and Credit*

1 The challenges we face

The financial system is made, not found. Permit me to take as given that there is something useful about that system[1]. Though it is of our making, we do not know how the system works when it is working, nor how to fix it when it breaks, which it does quite regularly. The evidence of our ignorance is considerable. One can look at our failures over long stretches of time (Kindleberger, 2000; Reinhart and Rogoff, 2009), or deeply into our failings in particular incidents (Financial Crisis Inquiry Commission, 2011). One can look at the consequences for absolute economic activity, or for distribution. The ignorance is common to regulators, to practitioners, to the general public, and, what is our main concern, to economists.

Hawtrey's (1919) use of the word *art* in the passage quoted in the epigraph can guide us in addressing this ignorance. We should understand by his usage, first, that Hawtrey recognized the possibility of particular skill in providing the means of payment, and thus the particularly human quality of this endeavor; and second, that such provision admits of careful observation, from which we can expect to emerge patterns, regularities, and theory. Do not suppose that I equate the social function of financiers with that of artists; I claim only that there is something to be studied, and that elegant and penetrating explanations of the actual existing financial system are possible. As economists, our first challenge is to create that needed understanding and to ensure that it is preserved.

*Paper prepared for "Economics of Credit and Debt" session, Waterloo, ON, 18 Nov. 2012

†`neilson@sent.com`. Bard College at Simon's Rock and the Institute for New Economic Thinking

[1] At root, that it is what allows payments to take place, and that this is needed for a modern capitalist economy and the benefits that come with such an economy.

The financial system can be made to serve useful purposes. Hawtrey had in mind the finance of government expenditures during wartime, and he may well have been thinking in particular of the artistry of his contemporary Keynes, who had shouldered the task of providing the means of payment for Britain during World War I. Whether for war, for other public expenditures, for private investment, or for the maintenance of liquidity, finance has genuine use in society. Yet without question, the system is host to some of humanity's worst impulses. I cannot believe that it is our role to change human nature. The second challenge, then, must be to make the system work in a way that contains its own excesses.

Not all times are wartime, but Hawtrey's definition is perfectly general, and in its generality, it offers a strong theoretical claim. It lays bare the connection between the elaborate (at times byzantine) mechanisms available for deferring payment on the one hand and the eventual resolution of those deferrals using the means of payment on the other. What Hawtrey rightly considers to be an identity, the fields of economics and finance have often wrongly viewed as a dividing line.

This points the way forward. My purpose in what follows, intended as a basis for discussion at Dirk Bezemer's session "Economics of Credit and Debt," is to argue for a coherent view on money and finance, a view that takes seriously its implications both for progress in our understanding of the monetary and financial system we have created, and for better insulating the blameless from the excesses of that system.

The outlines of the needed theory already exist, not yet codified in any single book book but readily apparent to the patient student of late Hicks (1989), Minsky (1986 / 2008), Kindleberger (1981, e.g.), Copeland (1952), Keynes (1936 / 2007), Young (1924), Hawtrey (1919, 1932), Bagehot (1873), Thornton (1802), and many others. These writers each respond to the challenged posed by the institutions and circumstances of their day. They were thinkers, but also practical peoplecentral bankers, speculators, men of affairs. Theoreticians, but very much of the world. My own education in this line of thinking has been through my work with my professor and mentor Perry Mehrling (2010), and though we agree on much, we continue to find that there are plenty of points that still need debating. Likewise, I have taken some inspiration from the work of each of the other participants that Dirk has brought together, and I find that we draw from many of the same sources, and that our dialects are mutually intelligible (Bezemer, 2009).

We have thus the basis for a conversation, yet the points that remain are fundamental and worthy of debate. It is imperative that we have such a debate. Each of those represented in this discussion

find themselves outside of the academic mainstream in economics, to a greater or lesser degree. The causes and consequences of this are sociological and political first and intellectual second, and it is the work of my employer INET to counter those forces. But we also have our own obligation on this score. To accept the label of heterodoxy, I feel strongly, is to permanently consign ourselves to opposition status, and thus is intellectual forfeit—it amounts to giving ourselves license to critique without rising to the challenge of giving a full explanation.

This is our third and final challenge: for our understanding to be relevant, for our insight to guide the management of a system that humankind has created but does not understand, we must be prepared to engage with each other, with the wider community of economists, and with policymakers and the broader public. Quite specifically, elegant and technical but institutionally infeasible proposals are not of much use. Abstractions with no route to practicalities are not of much use. Equating disagreement with lack of understanding is not of much use.

2 Theoretical outline

Following late-in-life Hicks Hicks (1989, p. 42), every transaction can be viewed as having three parts: the contract between buyer and seller, the delivery from seller to buyer, and the delivery from buyer to seller (i.e., payment). All three may take place simultaneously, as when I pick up the *FT* at a newsstand in the airport; or all separately, as when I subscribe online, take delivery daily, and settle up annually. As soon as settlement may be made by anything other than spot payment at the time of delivery, the notion of credit is introduced: from the moment of delivery until settlement, the seller has received from the buyer only a promise.

Not all promises are created equal. Sometimes it may be common knowledge what are the best promises, other times we rely on the opinion of specialists to judge the appropriate level of trust.

Promises are made and accepted in anticipation of a more or less uncertain future (Keynes, 1936 / 2007; Minsky, 1975 / 2008); the world can change in the time between when a promise is made and when the day of reckoning arrives. Final settlement may or may not be made as agreed. The crucial question, for us, is what things may be used to satisfy commitments as they come due. For small transactions, banknotes may do the trick. For larger transactions, bank deposits are the rule. In larger denominations and in different situations, government or other securities may be the thing. What is essential is that transfer of ownership extinguishes the debt, with satisfaction. What is

used to extinguish our debts it is fair to call money, giving primacy to money's function as means of payment.

The range of possible private promises is great, and the cost of evaluating them can be high, so society has long recognized a role for a specialist. Such specialists we call banks, and their business is to accept the promises of others while ensuring the quality and reputation of their own. So long as banks' own promises are good, they can make payment on behalf of their customers.

This task banks can accomplish by holding as assets a range of claims on others, entitling them to a steady flow of incoming payments. As these are collected over time, the bank can be assured of always having at its disposal enough funds to make payment to others on behalf of its clients. Recognizing this, the banks' own promises are good when there is widespread confidence that their activities are indeed likely to continue to generate needed cash inflows.

The ease of making payment we can call liquidity. If you don't have cash, you can get it by selling something, and when that is easy we can say that market liquidity is abundant. You can instead get it by borrowing, and when that is easy we say that funding liquidity is abundant.

The business of ensuring market liquidity is that of dealers, who in normal times stand ready to buy and sell at the initiative of their clients. Without dealers, buying and selling would be harder, and prices would be worse for sellers and buyers alike. The business of ensuring funding liquidity is that of banks, who in normal times stand ready to lend and borrow at the initiative of their clients. Without banks, lending and borrowing would be harder, and rates would be worse for borrowers and lenders alike.

In filling their role in the payment system, banks must maintain the moneyness of their liabilities by creating them and destroying them at the initiative of their clients. This process, it is fair to say, amounts to banks' acting as dealers in their own liabilities. When banks cannot serve this function, it has been recognized that there is a role for one large bank to take it on. It is of central importance that we recognize the generality of that need—the failure could be in entities that do not call themselves banks, yet their role in the system could be just the same. This view is both new (Mehrling, 2010) and old (Bagehot, 1873), or more precisely the underlying truth needs to be updated for current institutions.

There is much more to be elaborated in this view, but this is not the place for it. Suffice it to say in conclusion that there is the clear possibility of an integrated view of financial and money markets, one that is abstract enough to make room for theory and concrete enough to be familiar

to practitioners and central bankers.

3 My work

The preceding theoretical sketch is quite general. The relevance that I have offered as one of our central challenges demands more specificity, which I have tried to achieve in my own work.

That work began in my dissertation, where Perry Mehrling and I used the price difference between forwards and futures, in interest rates and foreign exchange, to estimate a market price of liquidity risk. We used this price to try to explain deviations from the expectations hypothesis of interest rates (long rates are equal to a series of short rates, compounded) and from uncovered interest parity (forward exchange rates predict future spot exchange rates), both of which fail in practice. The liquidity risk premium, we found, helps explain EH deviations, but not UIP deviations. For the present discussion, what I think is most important is that the work takes seriously the institutional realities of the system, down to the settlement details of the contracts involved. Simultaneously, it takes seriously the persistent theoretical issues left unresolved by the state of the art in economic theory, EH and UIP.

A more mature paper, with David Grad and Mehrling (2011), looks at the evolution of the Fed's and ECB's responses to the financial crisis from 2008 to 2010. Seemingly caught unawares by the sudden emergence of the crisis, the Fed tried a range of responses before the crisis was quelled. Three periods are clearly demarcated by the changing use of the Fed's balance sheet: before Bear, when the Fed continued to rely on the Fed funds rate; Bear to Lehman, when the Fed changed the composition of its balance sheet without expansion; and post-Lehman, when the Fed absorbed over a trillion dollars worth of problematic securities by expanding its own balance sheet. The Fed seemed surprised at each escalation, yet problems and responses alike were tractable from our theoretical perspective, and indeed the novelty of the crisis seemed less profound in light of an understanding grounded in the tradition of central banking.

Since then, my most public outlet has been the *Money View* blog, which I co-author with Perry Mehrling. Our purpose is manifold. Each post is about the scope and scale of an op-ed, which is to say that they are just big enough to make one clear and substantive point. I aim to be topical, responding to news or to new research, and also synthetic, offering explanation and deep reading where the news media cannot do so. We have also found that we fill an otherwise-empty niche,

using the language of interlocking balance sheets to analyze such issues as Chinese exchange-rate policy, the Eurozone crisis, and QE3. We have also taken on issues of a more intellectual nature, responding to such camps as the Market Monetarists and the MMTers.

As an economist with INET, where I am on staff, my charge has been to build out our financial stability research program. My focus here has been particularly monetary, guided among other influences by the theoretical view laid out here.

4 The way forward

The test of economic theory must be in its reconciliation to the real world. Theory for theory's sake is mathematics, and this is not the comparative advantage of economists. Real-world relevance need not mean policy relevance, narrowly put; indeed what has passed for "policy recommendations" in economics journal articles seems hopelessly abstract anyway. Pure understanding may indeed be a legitimate goal of economic theory, but that understanding must be constantly subject to the test of new events.

If relevance is a goal, an essential task of monetary theory must be the analysis of the institutions of today's monetary and financial system. Money, the very object of our study, is created and destroyed at every moment by the diversified banks that dominate our financial landscape. But those who call themselves economists, yet work in banks, are derided as practicioners, their knowledge considered to be tainted and their practical experience inadmissable. This failing is not without ramifications. The story of the Fed's response to the crisis of 2007–2008 (Grad et al., 2011) is one of a central bank cut off, to a large extent by its own choice, from the day to day operations of the system of which it is the center. When that system began to collapse, the Fed had to learn very quickly how to respond.

The money system is not the same always and everywhere—it changes with the development of the real economy, the changing needs of market participants, with changing institutional structures and practices, and indeed with changing theories. Yet it must be the first premise of analysis that there is something constant to be analyzed, and to me it does not seem difficult to say what that something is. First, our claims on others, and their claims on us, are summarized as balance sheets. As Hawtrey reminds us, those claims will one day be settled in the means of payment, and so those balance sheets are the place to start. The system's accounting is closed, which imposes a strong

discipline on the analysis. Unlike the discipline of optimizing agents, however, it is also true.

Second, it is almost always liquidity that binds, not solvency. Your net worth may be positive or negative, but if you can pay your bills, you can probably make it one more day. When you can't pay your bills, it doesn't much matter what your net worth may be. So we must ask what is the source of liquidity in the economy, and though much could be said on this matter, the short answer seems to be that it comes from dealers, who use their own balance sheets to facilitate buying and selling throughout the economy. Hawtrey (1932) (in a macro way) and Treynor (1987) (in a micro way) are exceptionally clear on this.

Finally, the hierarchical nature of the system must be taken into account. Not all promises are equal, and those who make the best promises have priveleged places in the system. (Causation goes both ways here.) Here financial power meets political power, and again this seems to be at all times a fulcrum of the system.

5 For discussion

As I see it, the following areas would be productive avenues for our collective efforts.

1. Banks as creators of money and the existence of a quantity of money. Banks create and destroy money as part of their day-to-day business. There are many, notably those from a corporate-finance perspective, who scoff at this notion, and it is hard to make much progress without this key point.
2. State vs. private money and the status of the central bank. Some theories, notably MMT, place the state necessarily at the center of the monetary system, citing its taxing power. Yet most money in the economy is private money, created by banks as part of their normal business. Moreover the institutional identification between the Treasury and the central bank seems to be a major simplification of the actual political economic considerations involved.

   The central bank is a bank: it describes itself as one, it is run like one, and its balance sheet looks like one. The Treasury is part of the executive. The two can cooperate, but this seems a particular political-economic circumstance, not a theoretical necessity.
3. Shadow money. A key element of the global financial crisis was the emergence of the shadow banking system, characterized by the expansion of securitization, credit derivatives, and money-market funding. This is money creation, done not by banks but in murkier corners. Our

theories will guide us, but will need updating for the new institutions.

References

Walter Bagehot. *Lombard Street: A description of the money market*. Henry S. King and Co., 1873. In electronic form at `http://www.gutenberg.org/dirs/etext03/lsadm10.txt`.

Dirk J. Bezemer. "No one saw this coming": understanding financial crisis through accounting models. Paper 15892, June 2009.

Morris A. Copeland. *A study of moneyflows in the United States*. National Bureau of Economic Research, New York, 1952.

Financial Crisis Inquiry Commission. *The financial crisis inquiry report*. PublicAffairs, New York, 2011.

David Grad, Perry Mehrling, and Daniel H. Neilson. Evolution of last-resort operations in the global credit crisis. Mimeo, 18 March 2011.

Ralph G. Hawtrey. The art of central banking. In *The art of central banking*. 1932.

R.G. Hawtrey. *Currency and credit*. Longmans, Green, London, 1919.

John Hicks. The nature of money, the market makes its money, and banks and bank money. In *A Market Theory of Money*. Oxford, 1989.

John Maynard Keynes. *The General Theory of Employment, Interest, and Money*. Palgrave Macmillan, Hampshire, UK, 1936 / 2007.

Charles P. Kindleberger. *International Money: A collection of essays*. George Allen and Unwin, London, 1981.

Charles P. Kindleberger. *Manias, panics, and crashes: a history of financial crises*. Wiley Investment Classics, fourth edition, 2000.

Perry Mehrling. *The New Lombard Street: how the Fed became the dealer of last resort*. Princeton University Press, Princeton, NJ, 2010.

Hyman P. Minsky. *John Maynard Keynes*. McGraw-Hill, New York, 1975 / 2008.

Hyman P. Minsky. *Stabilizing an unstable economy*. McGraw-Hill, New York, second edition, 1986 / 2008.

Carmen M. Reinhart and Kenneth Rogoff. *This time is different: eight centuries of financial folly*. Princeton University Press, Princeton, NJ, 2009.

Henry Thornton. *An enquiry into the nature and effects of the paper credit of Great Britain*. Hatchard, London, 1802.

Jack L. Treynor. The economics of the dealer function. *Financial Analysts Journal*, 43(6):27–34, November/December 1987.

Allyn Abbott Young. The mystery of money: How modern methods of banking payments economize the use of money. the role of checks and bank-notes. the enormous edifice of credit. In *The Book of Popular Science*. The Grolier Society, 1924.