

WINTER 2020

Banking: Intermediation or Money Creation

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Prompt for Discussion

Contributors: Morgan Ricks, Marc Lavoie, Robert Hockett, Saule Omarova, Michael Kumhof, Zoltan Jakab, Paul Tucker, David Freund, Charles Kahn, Daniel Tarullo, Stephen Marglin, Howell Jackson and Christine Desan, Sannoy Das

Commercial banks are, indisputably, at the center of credit allocation in virtually all modern economies. Astonishingly, however, it remains controversial exactly how banks expand the money supply.

According to one view, banks operate as intermediaries who move money from savers to borrowers. The basic idea is that banks extend the monetary base by lending out of accumulated funds in a reiterative way. In round 1: a bank takes a deposit, sets aside a reserve, lends on the money; round 2 – the money lands in another bank, that bank sets aside a reserve, lends on the money; round 3 – the process repeats. Money's operation is effectively multiplied in the economy because banks transmit funds constantly from (passive) savers to (active) borrowers, thus distributing money across those hands. The system works because savers, who are content to leave their funds alone, are unlikely to demand more than the

(respective) reserve amounts back from any round. Banks balance their flow of funds over time as borrowers repay their loans.

According to another view, commercial banking activity amounts to “money creation” rather than the pooling and transmission of existing funds. Banks fund the loans they make by issuing deposits (or promises-to-pay in the official unit of account) that are treated by the wider community as money, not only as credit. They have, in effect, immediate purchasing power. The constraint on banks’ lending capacity is not the sum of previously accumulated funds, but the banks’ ability to clear obligations owed to other banks against obligations demanded from other banks. That activity depends on national payments systems coordinated and stabilized by central banks.

We open this roundtable to proponents of each approach to banking. We invite them to argue their case, to respond to one another, and to elaborate the implications that their view has on matters including the definition of money, the role of private capital accumulation, the relationship of commercial banks to central banks, and the behavior of the money supply.

Contributions

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Sir Paul Tucker, Harvard Kennedy School

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Focusing on Risk

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Michael Kumhof, Bank of England

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Marc Lavoie, University of Ottawa

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The issue is whether the “money creation” view of banking or the “financial intermediation” view of banking is the correct one. I’ll use Andolfatto’s summary of the views: “The heterodox view [i.e. the money creation view] is that banks are critically different from other financial market participants. In particular, while non-bank agencies wanting to finance investments first need to acquire the requisite funding, this is not the case for banks. In contrast to the

non-bank sector, banks can *create* the money they lend.” The financial intermediation view (he calls it the orthodox or mainstream view) is that for the purposes of business cycle analysis, “it makes little sense to draw a sharp distinction between which ... liabilities constitute ‘money’ and which do not ... The fact that bank lending creates money—i.e., that bank liabilities are more liquid than those of other financial agencies—is not a critical consideration.” (Andolfatto, 2018, pp. 1-2)

Narrowly speaking, of course banks are special—only the banking system creates money, as long as money is *defined* as bank deposits plus cash. If only the transfers of cash or bank deposits are given particular legal powers and protections, then banks are special in a less trivial sense. But if our goal is understanding macroeconomic fluctuations, Andolfatto concludes the specialness of banks’ money creation powers is at best secondary. Like Andolfatto, I would argue that liquidity, not “moneyness” as such, has been the key feature of the problem, and so it makes little sense to try to draw a sharp line between, for example, financial institutions that are shadow banks and financial institutions that are shadow not-banks.

On the other hand, banks are *both* intermediaries and money creators. If the money creation view is valid, then intermediaries that do not create money are not special. What about the opposite case: are money creators that do not intermediate special? We are in an era in which payments and payments systems are becoming the province of non-traditional financial institutions. Moreover, we are at the beginning of an age in which non-financial institutions such as telecoms companies and social network providers are creating money. Once they grow sufficiently important, the likelihood is that the old instabilities of the banking world could be triggered

by activities of non-financial institutions in the payments system. In other words, the important worry is the interaction between confidence in credit markets and confidence in liquid assets used as payments instruments, regardless of whether they are handled by the same institution.

Samuelson's *Economics* was my college textbook and I remember puzzling carefully over this passage in the chapter on money creation:

"According to ... false explanations, the managers of an ordinary bank are able, by some use of their fountain pens, to lend several dollars for each dollar left on deposit with them. No wonder practical bankers see red when such behavior is attributed to them. They only wish they could do so. As every banker well knows, he cannot invest money that he does not have; and any money that he does invest in buying a security or making a loan will soon leave his bank... [However, t]he banking system as a whole can do what each small bank cannot do! ...the banking system and the public do, between them, create about \$5 of bank deposits for every dollar taken out of circulation and left in the banks." [i]

I point to this in order to put aside the flashiest but largely irrelevant part of the debate, highlighted by the oft-recurring phrase "stroke of the pen": That is the question of whether and what powers should be attributed to the individual banker. If this issue is taken as the focus of the distinction between intermediation and money creation, then the difference is more apparent than real: If you are a banker in an oligopolistic banking system (like the UK relative to the US)

there is a good chance that the spending from the loan you provide will end up plopped back into a different branch of your company, and the main difference is how much confidence you have in that before the funds actually show up. As the US banking system becomes more and more concentrated “practical” minds probably decide their pens wield somewhat greater power, but you don’t need to take a stand on the question of whether the lending decision is made before or after the funding is in place to agree that banks create money.

In any event, in an equilibrium environment it becomes problematic to try to distinguish whether the banker creates the funds or receiving the funding allows the banker to transmit (a smidgen more of) funds. (Just as we can’t say whether supply “causes” demand or demand “causes” supply.) The loan officer may feel confident that he has the freedom to issue or not to issue the loan, that he is the initiator of the causal sequence. But if he decided to issue a loan for a larger amount than his customary limits, or to a borrower whose safety was outside of customary boundaries, that illusion of autonomy would disappear, along with his job.

And at the aggregate level both accounts agree: fractional reserve banking means that the banking system as a whole creates money in greater quantities than the reserves (gold, or Central Bank deposits) that “back” it.

In the sphere of monetary economics, theoretical economists are often accused—rightly—of formulating “just-so stories” to explain development of institutions. So that’s just what I will do.

Suppose you want to create money out of thin air, and you have abandoned attempts at alchemy. What are the alternatives? Well, in theory, creating money is pretty easy. Specifically, suppose you were a respected celebrity. You go to a fancy restaurant but forget your wallet. You write out an IOU. People are happy to accept it; they know you can and will pay it back. They will even pass it along to other people who are also happy to take it, as long as they recognize your signature.

Pretty soon you realize this is a good deal—you can just pay with IOUs wherever you go—everybody is willing to take them.

Companies like Disney are in an even better position—they can issue IOUs which are redeemable in, say, rides at Disneyworld. Lots of people are happy to take these IOUs because they want to go to Disneyworld anyway. Other people will be willing to take the IOUs even if they don't want to go to Disneyworld because they can always sell them to someone who does want to. And so Disney Bucks can circulate just like money—indeed if they do, they *are* money.[ii]

Governments are like Disneyworld in an important sense—people have a natural need for government-issued IOUs because they use them to pay taxes. So as long as there is a need to pay taxes there is a natural demand for government issued IOUs and they too can circulate as money.

So in my just-so story, money creation has nothing to do with banking, if we take banking to mean the making of loans. Where the link comes is in the question of how much money an entity wants to create. There are only so many meals a celebrity can eat. Governments are in a more natural position to create

large amounts of money—there are soldiers to be paid, provisions to be bought. Large retailers nowadays—and above all, electronic retail intermediaries (Amazon, WeChat)—are in a natural position as well.

But if *your* primary asset is fame and reputation, and your demand for restaurant meals or other goods is limited, then the natural trade to make is to *lend* that good name to the less famous or less reputable. Thus in much of early modern Europe, development of bank money becomes ancillary to the development of bills of exchange and credit enhancement.[iii] The creditors of your customers prefer your liquid liabilities to the illiquid liabilities that the creditors could have offered them.

If the ability to create money is, as the saying goes, “a license to print money,” then why doesn’t a bank or any other institution create an infinite amount of it instantaneously? The crucial limit is the confidence of the users of the money. The debt is liquid. Normally it is to be redeemed in something even more liquid (gold, government assets).[iv] So there are two aspects to confidence: Is the institution solvent (That is, do its assets exceed its liabilities?) and is the institution liquid (That is, are the assets promised in redemption adequate for any immediate needs?). Liquidity can be satisfied either by full backing or by fractional reserves, based on expectation of short-term redemption requirements. Fractional reserves are less stable, but a lot cheaper for the issuer.[v] Of course in modern economies, that confidence could come instead from guarantees, explicit or implicit, by the government or central bank (provided they themselves have confidence to spare).

Most of the accounts in economics which imply mind-boggling increases in some endogenous quantity as a result of an increase in an exogenous quantity are not fully equilibrium accounts: they rely on situations in which only one side of the market is constrained. The real attraction of the Keynesian paradigm, in its popular form, is the Keynesian multiplier—the possibility that, by spending, a government can create enough income to stimulate demand for more output and thereby grow the economy. The story works fine—in theory and practice—as long as we are in a situation where there are no difficulties with the economy's ability to produce to meet the extra demand.[vi] In that case, the first and crucial step in the process is that an increase in demand creates its own supply. Idle resources are available and so all that is necessary for additional output to appear is for someone to ask for it. (The decision to ask for it has to entail that the decision maker not significantly reduce its demand for any other goods in the economy.) Money need not even be involved: it would be enough for the individual to order the additional goods on credit. As long as the supplier believes in the credibility of the order, he could in principle meet it, thereby increasing GDP, and the resultant income to himself directly or to his employee indirectly would stimulate further rounds of production. The heterodox theory of banks and money works in analogous fashion. The first and crucial step is that a decision by the banker to make a loan creates its own supply of money. Once this happens, then the demand stemming from the loan follows through the original Keynesian account.

There's nothing wrong with the argument, except that the process has already occurred before we observers even arrive on the scene. All that excess reputation and the associated free well of potential money has already been used up. From the correct statement that the amount of deposits in the economy is many times greater than the amount of reserves backing them comes the debatable statement that on the margin,

if a banker decides to issue a loan, it poses no further consequences: the new loan is no less profitable (equivalently, there is no limit to the number of borrowers willing to take loans at the interest rate required by their own riskiness and by the bank's standards) and offering the loan does not dilute the quality of the bank's debt-money-like or not-in the eyes of lenders. Otherwise, the size of the bank's balance sheet is limited by these two factors, even when it creates money out of thin air.

Now the bank doesn't need to worry about dilution of quality of its money if it is backed by deposit insurance and a too-big-to-fail protection. Shadow institutions—so far—do not have as clear protection. The ability of a shadow institution to issue additional liquid paper in return for the less liquid instruments of its counterparties depends on the trust maintained in its paper; the willingness to do so depends on the quality of the counterparty's paper. Each additional piece of paper issued decreases the value of its existing paper, because it reduces its ability to make good on that paper. (And the paper is short term or demandable specifically as a commitment device to reduce its incentives to dilute its paper).[vii] The company chooses the best prospects to which it will make loans. Each additional loan is that much riskier. Just like with a bank, there is a positive feedback, a "liquidity multiplier"[viii] in the economy as further customers become less constrained. Any difference is primarily due to the nature of the guarantees regulators provide to the banks they regulate.

Suppose the lender (bank or nonbank) becomes a better judge of risk, thereby increasing the profitability of its lending. Or suppose it becomes more trustworthy, thereby increasing its ability to issue IOUs without diluting their value. (Or just suppose a progressive government demands it use its pen to

make more loans to deserving borrowers). Holdings of liquid IOUs in the economy goes up. Spending goes up to the extent that availability of liquid IOUs was a constraint on the expenditures. Income goes up, to the extent that resources are available to meet that demand. Just as in the classic Keynesian synthesis, the effect depends on the power of this feedback relative to the constraints on supply of resources, including supply of trust for the loans being made and supply of trust in the IOUs issued. And in some circumstances—financial crises—these feedbacks may be great, although that is unlikely in situations with plenty of liquidity and relatively little available short term production capacity.

While I'm skeptical of the short run effects outside of crisis situations, I have great confidence about the importance as a long run phenomenon. The development of a banking system stimulated economic development. In the future, the ability to monetize the good name of, for example Walmart and PayPal and Facebook could further reduce the cost of providing liquidity, resulting in further economic growth.

So what about the shadow banks that look more like intermediaries than liquidity creators? Again, the crucial part of the story is not the individual companies which are, just like the banks in the classic story, constrained by the need to get the funds from somewhere. The point is that the system as a whole, combining money market funds, hedge funds, pension funds, and brokers—and in the future fintechs and network platforms—creates the wherewithal that no firm can do by itself.

The claim that this is not possible because there is some limit on the amount of money in the system is an error except

in the shortest of runs. We have seen large institutions develop arrangements to increase the velocity of the money even when the amounts available are limited. Banks don't need to create additional money if they can move it faster through CHIPS.[ix] And in principle Walmart and Facebook won't even need the banks.

[i] Samuelson, Paul. *Economics: An Introductory Analysis*. First Edition. New York: McGraw Hill, 1948, p. 324. (No I'm not old enough to have studied out of the first edition, but this statement remained unchanged at least through the edition that I actually used.)

[ii] Disney is a useful example here, because the desirable product is a service, not an easily transmitted good. If the good could pass from hand to hand, commodity money would suffice. A more pedestrian but real example is Canadian Tire money, redeemable for a variety of goods at the store.

[iii] For the case of 17th and 18th century Amsterdam, see Quinn and Roberds (2015).

[iv] If redeemable in commodities (Canadian Tire money, again) the principles remain the same.

[v] Diamond and Dybvig (1983) provide a model illustrating the instabilities that can arise when banks offer their customers options that cannot be honored simultaneously, as for example when depositors in total have the right to withdraw more funds

than the bank has immediately available in reserves.

[vi] In the synthesis of the ISLM model, the other caveat is that the increases in demand for output are not choked off by financial restrictions increasing interest rates and thereby blocking off demand.

[vii] A fintech developing a new independent payments system (think, for example PayPal) would be in essentially the same position. Its willingness to create IOUs depends on the opportunities it sees: the demand by the public for its IOUs as payments media, and the effect that further issuance and management of its assets has on public confidence.

[viii] This feedback is examined in a host of models since the financial crisis and some prescient ones from before. See for example, Brunnermeier and Pedersen (2009) (working paper version available in 2005).

[ix] CHIPS is a private sector large value payments system run by The Clearing House. It handles \$1.5 trillion in dollar payments daily. Roughly speaking, each dollar placed in the system on a given day is recycled among participants to settle more than \$100 of payments on average during that day, Kahn, Charles and William Roberds (2012), "Clearing House Interbank Payments System", *Wiley-Blackwell Encyclopedia of Globalization*, Ritzer, George, ed., John Wiley and Sons.