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**Banking: Intermediation or Money Creation**

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## **Prompt for Discussion**

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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**

August 3, 2020

### **Roundtable Wrap-up**

Sannoy Das, Harvard Law School

March 12, 2020

### **The Power of Paradigms in Histories of Economic Development**

Christine Desan, Harvard Law School

March 5, 2020

**Thinking about whether and why money matters is more important than debates about “views” on banking intermediation**

Sir Paul Tucker, Harvard Kennedy School

February 27, 2020

**What Do Banks Do?**

Stephen A. Marglin, Harvard University

February 19, 2020

**Focusing on Risk**

Daniel K. Tarullo, Harvard Law School

February 13, 2020

**Towards a Mixed View**

Howell E. Jackson, Harvard Law School

February 5, 2020

**What Do Banks Intermediate?**

Robert Hockett, Cornell Law School

Saule Omarova, Cornell Law School

January 29, 2020

**Banks Are Not Intermediaries of Loanable Funds**

Michael Kumhof, Bank of England

Zoltan Jakab, International Monetary Fund

January 23, 2020

**What's at Stake in Debates over Bank Money Creation Mechanics?**

Morgan Ricks, Vanderbilt Law School

January 15, 2020

**Are Banks Special? A Fintech Perspective**

Charles M. Kahn, University of Illinois

January 08, 2020

**Endorsing the Money-creation View**

Marc Lavoie, University of Ottawa

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**M. Kumhof and Z. Jakab, Banks  
Are Not Intermediaries of  
Loanable Funds**

January 29, 2020

**Michael Kumhof, Bank of England**

**Zoltan Jakab, International Monetary Fund**

Financial sector problems played a critical role in triggering and prolonging both the Great Depression of 1929 and the Great Recession of 2008. The response of macroeconomists to the 1930s crisis was strikingly different from that of today. Most leading US macroeconomists, including Irving Fisher and the

founders of the Chicago School of Economics, supported proposals for 100 percent reserve banking rather than the Glass-Steagall provisions that eventually became law. One of the main reasons was that they had started to accept the fact that banks under the then-current (and still current) system fund new loans to a customer by creating new deposit money for the same customer (McLeay et al. (2014)), rather than by lending out, or intermediating, deposits that had previously been deposited with them by a different customer. This was held to be a critical vulnerability of financial systems, first because it makes it much easier for banks to create financial boom-bust cycles, as they do not have to attract funds from cautious depositors before lending, and second because it permanently ties money creation to debt creation, and can therefore lead to excessive levels of private debt that eventually trigger financial crises (for modern evidence see Schularick and Taylor (2012)). The proposals for 100 percent reserve banking were therefore aimed at taking away the money-creating ability of banks (see Benes and Kumhof (2012) for more details).

A by-product of the victory of the less radical Glass-Steagall reforms was that these critical lessons about the nature of banking had, by the 1960s, been largely forgotten (except among post-Keynesian economists). In fact, around that time banks began to almost completely disappear from mainstream macroeconomic models. When they were reintroduced after the 2008 crisis, the new research built not on the Chicago School work of the 1930s but on the factually incorrect intermediation paradigm that had been developed in the 1950s and 1960s by Gurley and Shaw (1955) and Tobin (1963). The difference between these two paradigms matters, because they have radically different implications for macroeconomic responses to shocks, and therefore for monetary and regulatory policies.

In modern neoclassical intermediation theories, increases in the size of bank balance sheets start with banks collecting new deposits of previously saved **physical** resources from savers, and ends with the lending of those same resources, referred to as loanable funds, to borrowers.

Banks are therefore warehouses or commodity traders in a very literal sense. It is clear that such institutions do not exist in the real-world financial sector. Rather banks, instead of collecting physical resources, collect checks or similar **financial** instruments. But because such instruments, to have any value, must be drawn on accounts/funds that already exist elsewhere in the financial system, they cannot be deposits of new funds from outside the financial system—they simply move existing funds within the system, and for most macroeconomic questions this is not of any interest. The funds represented by deposited financial instruments can therefore not be the loanable funds of the intermediation model, which therefore describes fictional institutions.

Among actual financial institutions, by far the dominant means of creating new deposit money is the creation of new bank loans. The bank enters a new loan, in the name of the borrower, as an asset on its books, and it simultaneously enters a new and equal deposit, also in the name of the borrower, as a liability. This is a pure bookkeeping transaction that acquires its economic significance through the fact that bank deposits are any modern economy's generally accepted medium of exchange, its money. The two underlying book entries are inseparable, as they simply represent the logic of double-entry bookkeeping. Clearly such transactions—which one of us has personally witnessed many times as a banker—involve no intermediation whatsoever (see also Werner (2014)), and all subsequent uses of the deposit for payment simply represent the above-mentioned movement of

funds within the system rather than intermediation in the sense of that paradigm.

We use the term “bank deposit” broadly here to include all non-equity financial sector liabilities—everything from checking accounts to longer-term debt securities, and from commercial banks to non-bank financial institutions (NBFIs)—because they can all be considered forms of broad money, albeit with varying degrees of liquidity. While the initial deposit is always created as a low-interest high-liquidity checking account, the ultimate holders will demand a different combination of financial return and liquidity. However, in each case the original loan has expanded the financial sector’s balance sheet and therefore the supply of broad money, and only the repayment of the loan can reverse this.

Morgan Ricks, in this forum, argues that the distinction between the intermediation and money-creation paradigms is not conceptual but normative, in that it involves a policy choice between different institutional set-ups. In his view the recent dominance of the intermediation view has itself led to institutional boundaries between banks, the traditional creators of money, and NBFIs, the traditional intermediaries of bank money, becoming blurred, because NBFIs can increasingly perform similar functions to banks. In terms of this blurring of boundaries, the Tobin (1963) intermediation view therefore won the day. But it most certainly did not win the day in the appropriate characterization of the financial system as a whole, which more than ever corresponds to the money creation paradigm. For this characterization the key question is not how to classify an individual institution but how to classify the system. And here the key observation is that the financial system can create money as long as a subset of institutions can create money. The fact that this subset

has started to account for a larger share of the total, as Ricks argues, only reinforces our argument that the system as a whole corresponds clearly to the money creation paradigm. Furthermore, the only intermediaries in this system can only exist in symbiosis with money-creating banks.

Charles Kahn, in this forum, argues that banks are both intermediaries and money creators. His arguments show how important it is to be very clear about what the money creation paradigm does and does not claim. Namely, banks in a very general sense are of course intermediaries, but they are not intermediaries of loanable funds because, as explained above, they are neither intermediaries of physical resources nor of financial “funds” that have been deposited with them. The main sense in which banks are intermediaries is as the providers of a payment system that allows non-banks to use bank liabilities as the economy’s medium of exchange. The point is that the *creation* of these liabilities follows exclusively the logic of the money creation paradigm, with no role for the intermediation paradigm.

There are other instances where greater clarity about the money creation paradigm’s actual claims can remove disagreements that are more apparent than real. For example, Charles Kahn agrees with David Andolfatto (2018) that “the fact that bank lending *creates* ... liabilities that are *more liquid* than those of other financial agencies is not a critical consideration” [italics are mine], where the emphasis is on the “more liquid” as a distinguishing characteristic of the money creation paradigm. However, this is not at all the distinguishing characteristic, it is in fact irrelevant, and in fact some non-bank liabilities might well be more liquid than some bank liabilities. Instead, the distinction lies in “creates”, because this is something that non-bank lending never does. Non-bank lending consists of lending out funds

that have been accumulated on the lender's asset side, and which are claims on another institution, while bank lending creates funds *ex nihilo*, and these are claims on the lending institution itself. And again, the fact that the money-creating subset of financial institutions has started to account for a larger share of the total only reinforces this argument.

Perhaps the most important example of an apparent rather than real disagreement about the money creation paradigm is "If the ability to create money is ... a license to print money, then why doesn't a bank ... create an infinite amount of it instantaneously?" (Kahn), accompanied by arguments that this could not happen in the real world because, on the liability side, the banker who does this will suffer from excessive deposit withdrawals while, on the asset side, he will incur greater lending risks, thereby reducing the quality of his debt. But these claims are *identical* to those of the money-creation paradigm. Specifically, in such models bankers who create money need to compete with other bankers on the terms of their deposits in order not to lose them, and they need to assess the creditworthiness of their borrowers in order to lend only up to the point where the marginal benefit of doing so equals the marginal cost, with the same being true for their borrowers. The difference is rather that, given all of these constraints, the banker who can create funds *ex nihilo* can respond to changes in lending or deposit market conditions far more quickly than the mythical intermediary of loanable funds.

The money creation or financing function of banks has been repeatedly described in recent publications of the world's leading central banks. What has been much more challenging, however, is its incorporation into macroeconomic models. In Jakab and Kumhof (2019) we therefore build one model with

money creating banks and another otherwise identical model with intermediation banks and contrast their predictions following a “financial crisis” shock whereby the likelihood of borrowers missing payments increases significantly and persistently. Banks respond to the increased default risk by making fewer new loans, and charging higher interest on the ones they continue to make.

However, the response of hypothetical intermediation banks would necessarily exhibit a much smaller and slower balance sheet adjustment. This is because depositors would have to reduce their physical savings to reduce deposits, but with a rate of decline that is determined by their preferences over physical flows such as consumption and labor supply. Economic theory suggests that households prefer relatively steady consumption and labor supply/income over time, and therefore have a strong aversion to sudden large changes in saving (income minus consumption), and empirical estimation of such models has confirmed this. The empirical evidence on bank balance sheets, by contrast, shows that banks’ loan books shrink dramatically during crises, and furthermore both individual and aggregate bank lending exhibits frequent, large, and fast jumps even during normal times, which is also inconsistent with the intermediation paradigm. The only other theoretically feasible channel for bank balance sheets (but not loan books) to shrink would be for depositors to acquire holdings of private debt or equity securities from banks during the crisis. But empirical evidence shows that this does not happen to any significant extent. Therefore, banks in the intermediation model would make counterfactually small and slow balance sheet adjustments, but accompanied by large and immediate changes to lending rates to ensure continued profitability in the face of higher lending risk.

Money creating banks can instantly and massively reduce the

quantity of their lending, because loan repayment does not involve the delivery of physical resources to the bank but the cancellation of offsetting gross loan and gross deposit entries at the bank. On the supply side of the credit market, loans and deposits are purely financial or bookkeeping transactions by banks that create gross balance sheet positions, as opposed to the physical transactions and net balance sheet positions of the intermediation paradigm. And on the demand side of the credit market, loans and deposits are driven by non-banks' preferences over gross financial stocks rather than over net physical flows. There is no theoretical reason, nor empirical evidence, suggesting that those preferences call for smoothing. As a result, such models can exhibit much greater balance sheet volatility in response to shocks. Specifically, following a crisis, loan cutbacks reduce borrower leverage ratios and thus borrower risk much more rapidly, so that interest rate spreads increase by less than in the intermediation model.

Finally, the contraction in GDP is significantly larger in the money creation model. The reason is credit rationing, a prominent feature of the data for most crises. The mechanism is based on the insight that the aggregate non-bank sector in the money creation model does not face budget constraints whereby spending is constrained by prior income, as in the intermediation model. Instead, as is obviously true in a real world where most agents have some access to credit, they only face deposits-in-advance constraints whereby their spending is constrained by their prior income plus net new credit (see Kumhof and Wang (2019) for more details). And crucially net new credit does not represent, as in the intermediation model, the diversion of physical resources from other agents to the borrower, but the ex-nihilo creation of new aggregate purchasing power independently of the economy's pre-loan income flow. This new purchasing power, by mobilizing resources that would otherwise have remained idle, can trigger

increases in the economy's post-loan income flow. The much greater impact of bank financing on aggregate purchasing power in money creation models is the main reason why they exhibit significantly larger GDP effects following shocks.

These insights have many important policy implications. Some of them concern fairly detailed issues such as the proper macroprudential regulation of a financial sector when its money creation function is recognized, but others take us all the way to the most basic notions of macroeconomic management. A prominent example is the many policy prescriptions that aim to encourage physical investment by promoting saving, which is believed to finance investment. The problem with this idea is that saving does not finance investment, financing does. Bank financing of investment projects does not require prior saving but money creation that gives investors sufficient purchasing power to buy new plant and equipment. Once purchases have been made and recipients deposit the money, they become savers in the national accounts statistics, but this saving is an accounting consequence—not an economic cause—of lending and investment. This point is not new, it goes back at least to Keynes. But it seems to have been forgotten in many policy debates.

What then are the real constraints on changes in bank lending and money creation? The key constraint is clearly economic; it is the assessment of its implications for future profitability by both banks and their customers. Monetary and macroprudential policies can affect this profitability calculus, but private sector sentiments can change independently of policies to trigger booms and busts. By contrast, the two most commonly cited quantitative constraints on bank lending simply do not exist. This includes, as we have argued, the availability of savings of physical resources. But it also includes the availability of central bank reserves.

Modern central banks target interest rates, and (abstracting here from quantitative easing) they must supply as many reserves as banks demand at those rates. The still very popular deposit multiplier paradigm of banking, which argues that banks make loans by repeatedly lending out an initial deposit of central bank reserves, therefore also reverses the actual causation, which runs from loans to deposits to reserves, as argued by many others in this forum.

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# **Banks are not intermediaries of loanable funds – facts, theory and evidence**

**Authors: Zoltan Jakab and Michael Kumhof**

In the loanable funds model, banks are modelled as resource-trading intermediaries that receive deposits of physical resources from savers before lending them to borrowers. In the financing model, banks are modelled as financial intermediaries whose loans are funded by ex-nihilo creation of ledger-entry deposits that facilitate payments among nonbanks. The financing model predicts larger and faster changes in bank lending and greater real effects of financial shocks. Aggregate bank balance sheets exhibit very high volatility, as predicted by financing models. Alternative explanations of volatility in physical savings, net securities purchases or asset valuations have almost no support in the data.

Zoltan Jakab and Michael Kumhof. (2019) *Banks are not intermediaries of loanable funds – facts, theory and evidence*.

Bank of England Staff Working Paper No. 761. Available at:  
<https://www.bankofengland.co.uk/working-paper/2018/banks-are-not-intermediaries-of-loanable-funds-facts-theory-and-evidence>