

Credit mechanics – a precursor to the current money supply debate¹

Frank Decker and Charles A. E. Goodhart

This column assesses the analysis of credit mechanics within the context of the current money supply debate. Credit mechanics and related approaches were developed by a group of German monetary economists during the 1920s-1960s. Credit mechanics qualified a one-sided, bank-centric view of money creation, which is now often encountered in monetary theory. With the prior standard textbook models of money creation now discredited, we propose that a more general approach to money supply theory involving credit mechanics needs to be established.

Central bank expansionary interventions during the 2007-8 Great Financial Crisis (GFC) and 2012 European sovereign debt crisis have led to a renewed theoretical interest in the role of banks and central banks in the money creation process. A massive explosion in the monetary base did not promote anything like an equivalent increase in the broader monetary aggregates, as might have been expected from the economic textbook money multiplier theory. This has discredited that standard academic approach and triggered a new debate about the determinants of the money supply. The debate has

¹ This column builds on Decker and Goodhart 2018.

included leading central banks (McLeay et al. 2014; Jakab and Kumhof 2015; Deutsche Bundesbank 2017) and has rightly put back into focus the money creating capacity of banks. Central banks and commercial banks create new money when they grant loans or purchase assets and pay in their own notes or credit the amount as a sight deposit. However, many interpretations of this money creation mechanism also make the assumption that because banks can create money they can also determine the money supply. Some theorists go even further and assert that this capacity at the hands of the private banking sector presents a fundamental institutional problem, which must be removed by establishing a narrow banking system or a fully nationalized money stock (see Decker 2017). In the following, we argue that this one-dimensional interpretation of money creation exaggerates the role of banks in initiating private sector credit expansions (see already Goodhart 2017) and fails to account for the influences that bank debtors and creditors exert over the money supply determination, including both the non-bank private and public sectors.

Interestingly, a more holistic, but lesser known, money supply theory that deals with these issues was already developed by German monetary economists during the 1920s-1960s, which became known as 'credit mechanics' (). In the following, we provide a brief outline of the theory of credit mechanics in the context of the present money supply debate, with a focus on the work of Wilhelm Lautenbach, a German economist and government official, and Wolfgang Stützel, a German economist who served on the German council of economic experts (Lautenbach 1952; Stützel 1953 [1979], 1958 [1978]; see Decker and Goodhart 2018 for a more detailed discussion including other notable authors in this context).

Credit mechanics

Lautenbach's key insight was that changes in the credit volume do not simply reflect economic transactions, such as those arising from commodity production and sales, but are also caused by purely financial processes related to the organization of credit (Lautenbach 1952). In order to make his point, Lautenbach constructed a simplified version of Albert Hahn's model of a cashless economy (Hahn 1920, 2015) by consolidating all bank accounts into that of a single bank and assuming that bank credit was the only form of credit (Lautenbach 1952). The formal, arithmetic relationships between creditor and debtor accounts, which Lautenbach called 'credit mechanics', then determine the volume of credit (money supply). In this model, the sum of bank creditor accounts must be equal to the sum of bank debtor accounts from which follows that loans and deposits must appear and disappear simultaneously. Lautenbach (1952) then showed that debtor to debtor and creditor to creditor transactions leave the volume of bank credit unchanged while creditor to debtor transactions reduce ("bank money destruction") and debtor to creditor payments increase ("bank money creation") the volume of credit.

On this basis, Lautenbach argued that nothing could be said about the priority of the asset or liability side of the bank balance sheet (Lautenbach 1952). Indeed, the decision to hold a certain bank deposit balance implies that an equivalent volume of loans must be maintained. In fact, Lautenbach argued that the volume of wage payments and household savings (unspent wage money receipts) were the key determinants of the money supply. This was based on the assumptions that transactions between companies mainly represent transactions between debtors, which according to the rules of 'credit mechanics', leave the overall bank credit volume unchanged. In Lautenbach's view the development of the future deposit demand was therefore the best indicator for the development of the volume of credit.

Lautenbach's credit mechanics were taken up by Stützel (1953 [1979]) in his analysis of the determinants of the bank credit volume and forms a central part of his theory of "Balances Mechanics" ["Saldenmechanik"] (Stützel 1958 [1978]). He argued that the view that new bank loans generally lead to an increase in the volume of bank credit originated from a fallacy of composition. While for a subset of banks an increase in new lending could lead to an increase in their balance of loan assets, this did not necessarily have to be the case for the group of banks as a whole (Stützel 1953 [1979]). By contrast, the functional relationship between new loans and the volume of bank credit (central bank and banks) was that an increase in new loans (banks and central bank) per period must coincide with an equal amplification of the flow of loan repayments and/or increase in the flow of newly created deposits. Hence, Stützel argued that there was no direct relationship between the increase in new loans per period and the credit volume. This is contrary to what a naïve interpretation of a "loans create deposits theory" would suggest.

Stützel also rejected any one-sided, bank-centered view of the money supply determination. Stützel (1953 [1979]) argued that there were always two parties to any credit contract. The initiative to enter into the contract could at times originate from the bank and at times from the non-bank customer. Hence, statements that central banks could 'pump' money into the economy and commercial banks could create credit and respectively increase sight deposits without the active participation of the public made the critical, but often unstated, assumption that the market for central bank money and bank deposits was a seller's market. However, booming capital markets and strong levels of consolidation of deposit holdings into security holdings could create an environment where the non-banks decided how much of the offered supply of bank loans was taken up (Stützel 1953 [1979]). Moreover, another critical factor was the borrowing capacity of the individual bank customer. In Stützel's view (1959) this capacity

was always limited and determined by the value of the borrower's assets and the degree to which an individual asset could be monetized and deployed as collateral (an important but often neglected point more recently emphasized by Heinsohn and Steiger 2013).

Implications

The insights presented by Lautenbach and Stützel support the points made by Goodhart (2017), who noted that loans to the non-bank private sector are commonly negotiated in advance in the form of overdraft and stand-by, or credit, limits. The actual drawing of the loan is then left entirely in the hands of the borrower. Nor is the balance of power in the prior negotiation entirely in the hands of the bank. Competition and regulation constrain the power of each bank to fix loan terms, just as the availability of collateral security limits the ability of the borrower to obtain credit.

Nevertheless, recent publications on money creation, for instance, McLeay et al. (2014), Jakab and Kumhof (2015) and Werner (2014, 2016) predominately focus on the money creating capacity of the individual bank, not taking much, or any, notice of the developments in German monetary economics since Hahn (1920). The theoretical analysis of the determination of the money supply in the USA and UK has for too long been based on misleading partial equilibrium approaches. Earlier it was based on the money multiplier; which implied that the money stock was driven primarily by changes to the central bank's monetary base. This ignored the fact that, if the central bank wanted to fix a short-term interest rate, which it generally did, then the base had to adjust to commercial banks' need for base money, rather than the reverse. Subsequently the divorce between the recent explosion in bank balances at the central bank and the sluggish growth in the broader money stock has scuppered the money multiplier approach. But this void is being filled by yet another partial equilibrium analysis, whereby the emphasis

is focused entirely on the, supposedly unilateral, ability of the individual bank to create loans, and money, ex nihilo. In contrast, we argue that a more general approach to money supply theory involving credit mechanics and the influence of all those participating, bank debtors and creditors, both the non-bank private and the public sector, needs to be established.

References

- Decker, Frank. (2017) "Central Bank or Monetary Authority: Three views on Money and Monetary Reform." *Economic Affairs*, 37, 343–356.
- Decker, Frank and Charles A. Goodhart (2018) "Credit Mechanics – A Precursor to the Current Money Supply Debate." *CEPR Discussion Paper*, DP13233.
- Deutsche Bundesbank. (2017) "The role of banks, non-banks and the central bank in the money creation process." *Monthly Report*, April.
- Goodhart, Charles A. E.. (2017) "The Determination of the Money Supply: Flexibility Versus Control." *The Manchester School*, 85, S1, 33-56.
- Hahn, L. Albert. (1920) *Volkswirtschaftliche Theorie des Bankkredits*. Tübingen: J. C. B. Mohr (Paul Siebeck).
- Hahn, L. Albert. (2015) *Economic Theory of Bank Credit*. Translated by Clemens Matt. Oxford: Oxford University Press.
- Heinsohn, Gunnar and Otto Steiger. (2013) *Ownership economic*. Translated and edited with comments and additions by Frank Decker. London: Routledge.

- Jakab Zoltan and Michael Kumhof. (2015) "Banks are not intermediaries of loanable funds – and why this matters." *Working Paper* No. 529, Bank of England.
- Lautenbach, Wilhelm. (1952) *Zins, Kredit und Produktion*. Edited by Wolfgang Stützel. Tübingen: J. C. B. Mohr (Paul Siebeck).
- McLeay, Michael, Amar Radia and Ryland Thomas. (2014) "Money creation in the modern economy." *Quarterly Bulletin*, Bank of England, Q4.
- Stützel, Wolfgang. (1953 [1979]) *Paradoxa der Geld und Konkurrenzwirtschaft*. Habilitationsschrift 1953. Aalen: Scientia Verlag.
- Stützel, Wolfgang. (1958 [1978]) *Volkswirtschaftliche Saldenmechanik*. Second edition. Tübingen: Mohr Siebeck.
- Stützel, Wolfgang. (1959) "Moderne Kreditpolitik." *Konjunkturpolitik – Zeitschrift für angewandte Konjunkturforschung / Applied Economics Quarterly*, 2, 65-81.
- Werner, Richard A.. (2014) "Can banks individually create money out of nothing? – The theories and the empirical evidence." *International Review of Financial Analysis*, 36, 1-19.
- Werner, Richard A.. (2016) "A lost century in economics: Three theories of banking and the conclusive evidence." *International Review of Financial Analysis*, 46, 361-379.