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# Endogenous money in an era of financialization

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The paper opens with a consideration of the historical developments on the nature and features of money and endogenous money, and the post-Keynesian revival of ideas of endogenous money. Particular attention is drawn to the work of Basil Moore in relation to endogenous money, including the location of that analysis with commercial banks (some of whose liabilities are transferable and widely accepted as a means of payment) and the post-Keynesian-inspired revival of endogenous money. There is a brief outline of the aspects of financialization since the late 1970s which have relevance for the analysis of banks and money. Some thoughts are offered on the impact which those changes of the financial system have for the analysis of banks and of money.

**Keywords:** financialization, endogenous money, banks, securitization, shadow banks

**IEL codes:** E42, E51, G00

#### 1 INTRODUCTION

It is frequently observed that the forms of money evolve over time and the relationships between banks, central banks and the public change in significant ways. The central purpose of this paper is to reflect on the changes in the banking and financial systems since the late 1970s (which are closely associated with financialization) and the ways in which those changes may have influenced views on the forms of money and the relationships between banks, the central bank and the public.

The paper opens in Section 2 with a consideration of the historical developments on the nature and features of money and endogenous money, and the revival of ideas of endogenous money. Section 3 draws particular attention to the work of Basil Moore in relation to endogenous money, with its focus on the role of commercial banks, some of whose liabilities are transferable and widely accepted as a means of payment. It also points to the involvement of the work of Basil Moore in the post-Keynesian-inspired revival of endogenous money. In Section 4, there is a brief outline of the aspects of financialization in the past four decades which have relevance for the analysis of banks and money, offering some thoughts on the impact which those changes of the financial system have for the analysis of banks and of money. Section 5 provides some concluding remarks.

The basic argument of the paper is that the money form has been little changed over the recent decades of financialization. It remains those liabilities of commercial banks as

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measured by M1. The banking system itself has changed, however, and whereas endogenous money could be represented in terms of the financing of production and investment through the provision of loans, the immediate uses to which money are put have shifted towards loans for households and to enable asset acquisition. These have implications for the nature and path of economic and financial cycles. While monetary policy retains the policy interest rate as one of its key decision variables, it has clearly shifted to concerns over financial stability and the use of 'unconventional' policies, such as variants of quantitative easing (QE).

#### THE NATURE OF ENDOGENOUS MONEY

The work of Basil Moore (and notably Moore 1988) formed an important part of the revival of interest in endogenous money, following the work of Kaldor (for example, Kaldor 1970; Kaldor/Trevithick 1981) and a number of others. It formed the crucial foundation for the analysis of endogenous money particularly within the post-Keynesian school. Chapters in Arestis/Sawyer (2006) provide overviews of developments in endogenous money and some indication of the continuing controversies. The post-Keynesian analysis of endogenous money from the 1980s onwards was a revival of a tradition dating back many centuries. Arestis/Howells (2002: 4), for example, point out 'that endogeneity was not a radically new idea but that, per contra, it had been a theme in the late eighteenth and early nineteenth centuries between the bullionists and the anti-bullionists and later between the banking and currency schools'. They show that arguments over the endogeneity of money also arose in sixteenth-century Europe during what has been termed the 'great inflation'. Chick (2005: 54) provides a brief overview of the history of the 'endogenous money' doctrines, and remarks:

But a general drift can be discerned, from widespread acceptance of bank credit as the origin of the bulk of the money supply in the 1930s to the 1960s, to the emergence of the money-base story in the 1970s. Also, in the 1970s banks began to be portrayed as but one class of financial intermediary ...

It is an intellectual puzzle as to why the idea of endogenous money created by commercial banks in the loan process was pushed out of macroeconomic thinking. The formulation of the IS-LM analysis as a simple representation of the economics of Keynes incorporated a given stock of money, generally treated as exogenous, and was unable to comprehend how investment could be financed and expanded ahead of savings. The role of banks and the creation of money through the loan process was clearly a fact of life and the money-multiplier story recognized the role of banks in the creation of loans and money (in the form of bank deposits), albeit that their ability to do so depended on the reserve ratio and the availability of reserves. Indeed, a significant element in the development of the endogenous money approach came from the realization that the central bank, acting as lender of last resort, would supply reserves to the banks as required. The existence of endogenous money helped to explain how investment expenditure could expand ahead of savings: perhaps that was a major block on the acceptance of 'endogenous money' as it reversed the neoclassical perspective of the promotion of savings rather than the post-Keynesian perspective of the driving force of investment.

In Sawyer (2005) I note the change between Keynes's analysis of endogenous money in the Treatise on Money (Keynes 1930) and his analysis in The General Theory (Keynes 1936) with a constant, if not exogenous, stock of money.

There is a universality to the nature of money - in the sense that money is an asset which is a generally accepted means of payment denominated in the unit of account.

Ultimately, money is one, and its essence or nature cannot change over time. Money has always consisted of claims on real resources denominated in a unit, which is determined by the State because it symbolizes the creation of real wealth generated by expenditure. Those claims are embodied or inscribed into various supports, each of which is a form of 'abstract money': clay tablets, coins of gold or silver or copper, paper notes, banks' and central banks' liabilities issued on themselves. (Parguez 2002: 52, emphasis in original)

Money is an asset to the holder but does not constitute net worth for society as a whole. The evolution of what forms money takes is well known, as are the difficulties of applying the definition of money - how widely accepted does an asset need to be to qualify as widely accepted?

Whatever the precise ways in which money came into being, it was closely associated with the rulers (sovereigns) in the determination of the unit of account and in the creation of the money form. The form which money takes evolves over time. The institutions associated with the creation of money also change over time and the ways in which the money institutions operate evolve. Banks (in the sense of recognized deposit-takers) perform many functions, of which two are particularly significant here. Considered as savings and investment banks, they accept deposits and provide loans to the non-bank public. Considered as clearing banks, some of their liabilities (cheque-account deposits) are transferable and are generally accepted as means of payment. Chick (1986) postulated five stages of banking, which serve to illustrate the evolving nature of the banking and financial system and the financial assets which can be regarded as money. The evolution comes in terms of the banks' liabilities becoming a widely used means of payment, which can then be regarded as part of the money supply. There are further stages of banking involving the development of interbank lending and the central bank providing lender-of-last-resort facilities, and with the banks entering a new phase of liability management. The 'endogenous money' analysis focuses on clearing banks with deposits (in cheque accounts), the latter viewed as money. The question to be addressed is how financialization may have impacted on that analysis and whether the key insights developed within that analysis continue to apply and, if so, in what modified form. There have been major changes in the scale and nature of the financial system in the last four to five decades, which can be placed under the label of financialization of the present era. Processes of financialization have been evident for at least a century and a half (see for example Vercelli 2014) and what is to be understood by the term financialization is hotly contested. The focus here is on the developments within and related to the financial system in the past four decades, which have been involved in the growing economic and social power of the financial system. Specifically, what are the implications of those developments for what is to be regarded as money, the operations of banks and other financial institutions; and what are the implications for financial stability and the working of monetary policy?

#### BASIL MOORE, BANKS AND MONEY

Basil Moore described his approach ('alternative paradigm') as being

that in all modern capitalist economies the total volume of bank deposits is effectively determined by the demand for bank credit. The credit money stock is credit-driven and demanddetermined. Both the base and the money stock are endogenous. The money supply function is horizontal in interest-money space. The supply and demand for credit money are interdependent, and interest rates are exogenous. (Moore 1989: 66)

Interest rates are only exogenous in the sense that decisions on them are taken by the central bank (with mark-up or mark-down for interest rates on loans, deposits, etc.), and Moore saw the central bank as having a substantial range of discretion over which it can vary rates, though the range 'will be very small in small, "open" economies operating under a fixed exchange rate regime' (Moore 1991: 406-407). The expansion of a bank's balance sheet was not constrained through a reserve ratio requirement in association with a predetermined availability of central-bank reserves. The central bank would supply any reserves (at a 'price') which were required to meet any reserve requirements (legal or otherwise).

A bank sets a loan interest rate (for 'high quality' borrowers) which it perceives will maximize its interests (for example, profits), and then meets the demand for loans which presents itself, giving the appearance of a horizontal supply-of-loans curve in the short term. Moore, drawing on the equality between loans and deposits, converted the horizontal supply-of-loans curve into a horizontal supply-of-deposits/money curve. This became the basis of the 'horizontalist' term in the title of Moore (1988). The complete horizontalist position was challenged by what came to be known as the structuralist position (see Dow 2006; Lavoie 2006).

I would argue that there will always be the short-term appearance of a horizontal supply-of-loans curve in that banks set the interest rate at which they offer loans and meet any demand which is forthcoming at the set interest rate. In setting the interest rate, the banks will pay due regard to their own interests and the expected demand. When the circumstances change, including the policy rate of the central bank and banks' experience of the demand for loans, then the interest rate on loans will be re-evaluated. The supply relationship which would then be mapped out cannot be uniquely stated and clearly depends on the factors which lead to a change in the loan interest rate.

The 'horizontalist' view of money was to be contrasted with the 'verticalist' view of money which treated the central bank as exogenously determining the monetary base (Moore 1989: 65). What Moore called the standard paradigm was (and often remains) the standard fare of macroeconomics texts alongside the money multiplier, via which the volume of central-bank money in effect determines the overall money stock.

The work of Moore and other post-Keynesians fed into questioning the significance of the so-called credit (or money) multiplier. It thereby also contributed to the view that loans create deposits and deposits create reserves, which have become key ways in which propositions of the endogeneity of money can be tested. Changes in reserve ratio policies have reinforced this view. The central bank acts as the lender of last resort to the banks. The thrust of Moore's (and others') work was to dismiss the money-multiplier relationship between reserves and bank deposits via the reserve ratio requirement. Instead, the scale of deposits comes about as a result of loans, with reserves obtained as needed by banks.

There has been much empirical work and events which have been favourable to Moore and other post-Keynesian writers on endogenous money. The causal relationships, such as loans 'cause' deposits and deposits 'cause' reserves, have been validated by a significant amount of empirical work (surveyed in Howells 2006). Central banks and others have acknowledged the endogeneity of money created through the commercial banking system (see for example McLeay et al. 2014; Deutsche Bundesbank 2017). The experiences under programmes of QE have seen the central-bank reserves held by banks rise dramatically. The money-multiplier approach would have suggested a rapid rise in loans and M1, which did not happen. It was rather that the rise in bank deposits occurs in the savings accounts (part of M3 and M4 which are not included in M1), and the repayment of bank loans. Bindseil/König (2013: 385) have recognized that 'the last 25 years have vindicated the substance of [Moore's] thinking in a surprising way that could hardly have been anticipated in 1988. Central bankers have by now largely buried "verticalism", at least when it comes to monetary policy implementation'. But under QE the central bank in effect sets the quantity of bank reserves through the asset purchase programme of QE, rather than the central bank supplying reserves as required by banks. The operation of QE could be viewed in terms of the 'verticalist' approach which Moore identified, in that the quantity of bank reserves was fixed by the central bank. The increase in banks' reserves with the central bank following QE did not lead to a corresponding rise in M1, with the increase in bank reserves being many times greater than the increase in M1. There were no money-multiplier effects.

Moore contrasted the 'horizontalist' approach with the 'verticalist' approach. The 'verticalist' view could be seen as a hang-over from a pre-banking era when money was largely created by, or on behalf of, the sovereign or the state. Moore (1989: 66, fn 5) saw the mainstream monetary theory as having 'inherited an approach to money derived from a world where money was a commodity, traditionally gold or silver. In that case it was not unreasonable to regard the money stock as some largely exogenous stock of the money asset, determined by gold production or the balance of payments'. However, even when the money form takes a physical form based on metals which potentially have an alternative use, it is still credit money and created by the state authority. There could be seen to be some revival of a verticalist approach in so far as the amount of central-bank money (held as reserves by commercial banks) is determined by policy, as has been the case with QE and in some representations of modern monetary theory (MMT) with money-funded budget deficits.

Basil Moore's analysis focused on clearing banks and their ability to provide loans, which enabled the creation of bank deposits and thereby added to the stock of money. The questions which arise from the processes of financialization are: in what ways and in what manner have changes in financial structures and the mode of operations of financial institutions impacted on the analysis of the behaviour of banks and the creation of money? These include whether the financial institutions whose liabilities are regarded as a means of payment (even if partial) have evolved beyond the established clearing banks, and specifically whether the financial assets associated with shadow banks are to be regarded as money. The evolution of the clearing banks and the roles and functions which they undertake raises the question of the contemporary applicability of the framework deployed by Basil Moore (and largely followed in the post-Keynesian endogenous money literature). In addition, the focus of loan provision was often taken (at least implicitly) to relate to firms borrowing for production and investment, whereas financialization has been viewed as involving borrowing by households and for speculation.

Moore (1986: 448) had noted that

'liability management' innovation has, quite literally, revolutionized the business of banking. The importance of holding liquid assets for precautionary purposes has, as a result, sharply declined. Banks are now able to finance any new loan requests by the expedient of issuing additional CDs [certificates of deposit], both domestically and in the Eurodollar market, in a manner impossible for the Fed to control.

Moore focused on the role of the central bank in terms of its role as 'lender of last resort' to the commercial banking system, with central banks having to 'supply currency and reserves both to the public and to the banking system on demand, in pursuing their ultimate responsibility of ensuring the liquidity of the financial system' (Moore 1989: 66). The central bank was seen to be able to vary the short-term interest rate and so the supply price at which they provide legal tender to the banking system. It was then viewed that the commercial banking system accepts deposits and provides loans to the public on demand, at interest rates which are a mark-up or mark-down on banks' cost of funds (ibid.).

Modern monetary theory (for example, Wray 1998) has served as a reminder that government spending has to be financed (initial finance in the terminology of the circuitist) and that typically government expenditure is (initially) financed through central-bank money. However, it is of course funded through a mixture of bonds, an increase of central bank money held by banks, and tax revenues. Alongside government spending, there is a transfer of deposits from the government's account with the central bank into commercialbank accounts with the reserves of the commercial banks at the central bank increasing. In this context, the significant feature is how much of the central-bank money created to enable expenditure to proceed remains in existence. Just as commercial banks' credit money is subject to a reflux mechanism, so too is central-bank money. The centralbank money which was held as bank reserves is returned to the central bank through payments of taxes and purchase of bonds, and in that way is removed from the private sector.

However, some significant differences can arise in so far as the central bank operates to ensure a particular level of bank reserves. This has in effect happened through QE, under which the central bank purchases financial assets in exchange for central-bank money, and does so with the intention of maintaining that level of reserves. Similarly, the volume of bank reserves may be policy-determined when policy sets the extent to which a budget deficit is to be money-funded. In usual practice, the degree to which a deficit is money-funded depends on the decisions made by the private sector (including banks) as to the additional amount of central-bank money (bank reserves, notes and coins) to be held.

## FINANCIALIZATION, MONEY AND FINANCE

A general perspective on financialization has been provided by Epstein (2005: 3) when he wrote that 'financialization means the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies'. Within Epstein's broad definition, the recent period is often viewed in terms of the expansion of the banking sector and of equity markets and the growth of what is often termed 'shadow banking', growth of a range of financial instruments with securitization and derivatives, the engagement of non-financial corporations in financial dealings, and the growth of consumer borrowing and household debts. Van der Zwan (2014) identifies three themes within financialization studies; the emergence of a new regime of accumulation, the 'pursuit of shareholder value' and the 'financialization of the everyday'.

The theme of particular relevance for this paper is the increasing scale of the financial sector in terms of bank deposits and stock markets, and the various developments in the financial sector. Financialization has involved and been stimulated by financial liberalization and deregulation, which impact on the behaviour of financial institutions and credit expansion. The present era of financialization has involved rapid growth of household debt, which has implications for financial instability and cycles. In the context of endogenous money, the emphasis shifts from the creation of bank deposits through loans being linked with the financing of production and investment towards deposit creation linked with household debt.

The processes of financialization are involved in changes in the size and scale of the financial sector and its economic and political importance. In this section the intention is to consider some of the dimensions of changes in the financial sector (most but not all of which may be regarded as part of the processes of financialization) and their implications for the way in which money is conceptualized and analysed.

Financial systems have often been viewed through the lens of being either bank-based or market-based, though typically they lie along a spectrum that reflects the different relative significance of financial markets and financial institutions. As I argued in Sawyer (2014), the bank-based/market-based dichotomy underplays the essential features of commercial banks as creators of money, and the associated features that loans precede deposits and that investment generates saving. The bank-based/market-based view generally involves the comparison being made between banks and markets as allocators of capital funds, the stimulation of savings and the monitoring of investment, and overlooks the unique role of banks as creators of money. Financialization in the present era has involved a blurring of the boundary between capital market and banking activities. Hardie et al. (2013) challenge the widely used dichotomous framework of bank-based vs capital-market-based financial systems. The emphasis of Hardie et al. (2013) is the emergence of 'market-based banking', with banks becoming much more involved in financial markets. They argue that 'the rise of market-based banking highlights a crucial source of change that undermines patient capital' (ibid.: 696), which had often been seen as a virtue of bank lending. 'Market-based banking undermines the central position of relational banking by increasing the position of market considerations relative to long-term bank business decisions, where a bank sacrifices short-term profitability in the expectation of subsequent recompense' (ibid.: 696).

There are many changes in the financial and banking system associated with the processes of financialization. The focus here is on two broad areas. First, the significance (or otherwise) of the rise of household debt and credit arrangements for the operation of banks is considered. Second, and much more important, the significance of securitization and shadow banking for the money form and the operations of the commercial banks is considered.

#### Household debt and credit

Higher levels of household debt (relative to income) have been a general characteristic of financialization across most countries. Similarly, there has been considerable growth in the use of credit arrangements, credit cards and other modes of conducting transactions. The simple question is whether, and if so how, such growth of debt and credit fundamentally changes the ways in which commercial banks and money creation is viewed. In respect of the rise of household debt, the view expressed (in the context of the circuitist approach) that

the introduction of household debt, which is a characteristic feature of a modern financialized capitalist economy, does not change fundamentally the logic of the TMC [theory of the monetary circuit] perspective, except that the existence of household debt serves merely as an 'addon' to business credit without necessarily reducing the amount of credit-money advances needed by business enterprises at the beginning of the monetary circuit to undertake production. (Seccareccia/Correa 2018: 424-425)

The interactions between firms' production and investment decisions and the willingness of banks to finance those decisions are, of course, important ingredients in the generation of business cycles. The modifications which higher levels of household debt would imply for the analysis of the business cycle would come from the manner in which the demand by households to borrow and the willingness of banks to meet that demand move over time. Household borrowing is often (but not always) undertaken from savings banks and some non-bank financial institutions. As such, household debt does not involve money creation as do loans from commercial banks. Household borrowing and the expenditure flowing from it are one component of fluctuations in aggregate demand and thereby economic activity. The analysis of the business cycle would need to move past the accelerator-multiplier type of framework in which investment and the financing of investment are drivers of economic fluctuations to incorporate fluctuations in household borrowing, etc. However, the point to be made here is that the essence of the endogenous money perspective itself is unaffected.

It has always been the case that a large amount of trade initially takes place on the basis of credit between the parties involved, followed by settlement through money as the means of final payment. In effect, a trade can take place prior to the availability of money provided that suitable credit arrangements are in place, but the credit is in anticipation of the availability of money. The growth of credit cards and the like serve to involve a third party in the credit arrangements and to expand greatly the household use of credit. I would argue that here again the essential relationships between credit (to enable transactions to occur) and money and its creation are not changed.

## Securitization and shadow banking

Chick (1993) added a sixth stage of banking to the five which she had identified in Chick (1986). This sixth stage 'is characterized by two processes: the securitization of credit, which allows banks to reduce the risk of illiquidity intrinsic to banking, and the emergence of offbalance sheet operations' (Farhi/Prates 2011: 2-3). Those authors then identify a seventh stage as emerging at the beginning of this century, 'the main characteristic of the stage ... [being] the inextricable interpenetration between the balance sheets of the banking system and the so-called Shadow Banking System' (ibid.: 3). These features of securitization and shadow banking have been central to the processes of financialization.

Caverzasi et al. (2019: 1030) argue that

securitisation has opened the opportunity for standard banking institutions to expand their business and widen the pool of potential creditworthy borrowers, and – perhaps more relevantly – it has also provided the financial system with the 'raw materials', i.e. the securitised assets necessary for the manufacturing of complex structured financial products satisfying the increasing demand for financial assets of financial institutions, seeking either remuneration for intermediated funds or collaterals for the repo market.

Further, commerical banks and shadow banks play separate roles in the financial system such that 'financialisation did not alter the role of commercial banks as money creators, but rather diverted endogenously created money to the financial sphere' (ibid.: 1029).

The shadow banking system is viewed as a collection of non-bank financial intermediaries that provide a range of services which are similar to those of commercial banks but subject to different and less demanding banking regulations, and without the relationships with the central bank which commercial banks have, including the central bank being lender of last resort. Michell (2017) identifies two views on the shadow banking system. The market view 'sees the phenomenon as the rise to dominance of disaggregated market-mediated financial transactions, and emphasises such activities as dealing in securitized debt. In this view, money and banking are demoted in significance relative to arms-length marketmediated financial transactions' (ibid.: 355). The money view 'instead posits that the shadow banking system should be seen as an analogue to the traditional banking system because it performs bank-like functions such as maturity and credit transformation. Holders of this view argue that, rather than market intermediation, shadow banking is an extension of banking because shadow banks issue money' (ibid.: 355).

The shadow banking system raises many concerns in association with financial instability and regulation of the financial system. Those concerns are outside the immediate interests of this paper, which are linked with the significance of the growth of shadow banking for the analysis of money in the post-Keynesian tradition. The argument here can be simply stated. First, the liabilities of the shadow banking system are not (at least yet) to be treated as money since 'these financial claims cannot be used either as a means of payment for goods and services or as a means of settlement for financial contracts' (ibid.: 355). In the future it is possible that the transfer from one agent to another of the liabilities of shadow banks will become regarded as a means of settlement, but for the present this is not the case. In terms of the creation (and destruction of) money, the clearing banks retain their pre-eminence.

The liabilities 'issued by the shadow banking system are near-monies: liquid short-term stores of wealth' (ibid.: 355) rather than being money in the sense of a generally accepted means of payment. Nersisvan/Dantas (2017) analyse banks and non-bank financial institutions in terms of the creation of liquidity within what they term the pyramid of financial liabilities building on the idea of a hierarchy of money. They conceptualize 'liquidity creation ... as the process of exchanging liabilities occupying the lower tiers of the pyramid for those at the higher tiers' (ibid.: 280). They then conclude that 'the finance sector can be a larger source of instability than accounted for' (ibid.: 297). In a similar vein, by means of a worked example, starting with a loan made by a bank to a non-financial agent who acquires some bank deposits, Lavoie (2019) finds that the overall amount of credit can rise even though the amount of bank deposits does not; and that the amount of liquid assets held by the non-financial sector also rises. The non-bank financial system contributes to the creation of liquidity and the provision of credit. He argues that 'the additional credit could have been provided just as well by the banking sector [and] ... that the non-bank financial institutions would have been unable to provide any credit unless non-financial agents had previously transferred some of their bank deposits to the non-banks' ibid.: 116).

From this brief discussion, one implication to be drawn is that commercial banks remain central to the creation of money and in that sense the endogenous money analysis remains intact. Financial institutions other than commercial banks have expanded their role but have not as yet become what may be viewed as money creators in that their liabilities are not accepted as means of payment. Further, those financial institutions have not developed 'lender of last resort' relationships with central banks. It is, rather, that the growth of financial institutions has the effect of increasing liquidity. The restraints on the banks to expand the stock of money through loan creation are changed through the possibilities of securitizing loans. This also points to the need to analyse the creation of money through bank loans in a system-wide manner, which embeds the commercial banks into the overall financial system. Further, it requires the incorporation of the behaviours of households and firms with respect to their holdings of different types of assets and liabilities. This type of analysis has, of course, been undertaken using stock-flow consistent modelling. The result enables movement well beyond the simple representation of endogenous money in terms of (say) a horizontal supply of loans, translated into a horizontal stock of money.

### 5 CONCLUDING REMARKS

Money is the means of payment, and the money form is always endogenous in the sense it has to be created and its creation is linked with expenditure decisions. The analysis of Basil Moore focused on commercial banks' creation of money (bank deposits) through the loan

2. Michell (2017) was writing about shadow banking and the circuitist analysis, but I argue the remarks are of general validity.

process, and postulated loans being provided at an interest rate set by banks themselves. Monetary policy is envisaged in terms of the setting of a policy interest rate by the central bank, which forms the basis of the interest rates paid or charged by the banks. It has been argued that the money form has been little changed over the recent decades of financialization: it remains the liabilities of commercial banks held in cheque accounts, and measured by M1. This is not to say that the banking system has not changed, however, as of course it has. Whereas endogenous money (and more generally the circuitist approach) could be represented in terms of the financing of production and investment through the provision of loans, the immediate uses to which money are put have changed. The shifts towards loans for households and to enable asset acquisition have implications for the nature and path of economic and financial cycles. Banks must still provide loans to enable expenditure, but to whom and on what conditions have changed, with implications for the evolution of the economy and the possibilities of financial crises. Although monetary policy retains the policy interest rate as one of the key decision variables, it has clearly shifted to concerns over financial stability and the use of 'unconventional' policies, such as variants of quantitative easing.

#### REFERENCES

- Arestis, P., Howells, P. (2002): The 'great inflation': 1520-1640: early views on endogenous money, in: Arestis, P., Desai, M., Dow, S. (eds), Money, Macroeconomics and Keynes, London: Routledge, 4-14.
- Arestis, P., Sawyer, M. (eds) (2006): A Handbook of Alternative Monetary Economics, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.
- Bindseil, U., König, P.J. (2013): Basil J. Moore's Horizontalists and Verticalists: an appraisal 25 years later, in: Review of Keynesian Economics, 1(4), 383-390.
- Caverzasi, E., Botta, A., Capelli, C. (2019): Shadow banking and the financial side of financialisation, in: Cambridge Journal of Economics, 43(4), 1029-1053.
- Chick, V. (1986): The evolution of the banking system and the theory of saving, investment and interest, in: Economies et Sociétés, 20(8-9), 111-126.
- Chick, V. (1993): The evolution of the banking system and the theory of monetary policy, in: Frowen, S.F. (ed.), Monetary Theory and Monetary Policy: New Tracks for the 1990s, London: Macmillan, 79-92.
- Chick, V. (2005): Lost and found: some history of endogenous money in the twentieth century, in: Fontana, G., Realfonzo, R. (eds), The Monetary Theory of Production: Traditions and Perspectives, Basingstoke, UK: Palgrave Macmillan, 53-66.
- Deutsche Bundesbank (2017): The role of banks, non-banks and the central bank in the money creation process, in: Monthly Report, 69(4), 13-34.
- Dow, S. (2006): Endogenous money: structuralist, in: Arestis, P., Sawyer, M. (eds), A Handbook of Alternative Monetary Economics, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 35-51.
- Epstein, G. (2005): Introduction: financialization and the world economy, in: Epstein, G. (ed.), Financialization and the World Economy, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 3–16.
- Farhi, M., Prates, D.M. (2011): The seventh stage of development of the banking system, Hans-Boekler, URL: https://www.boeckler.de/pdf/v\_2011\_10\_27\_farhi\_prates.pdf.
- Hardie, I., Howarth, D., Maxfield, S., Verdun, A. (2013): Banks and the false dichotomy in the comparative political economy of finance, in: World Politics, 65, 691–728.
- Howells, P. (2006): The endogeneity of money: empirical evidence, in: Arestis, P., Sawyer, M. (eds), A Handbook of Alternative Monetary Economics, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 52–68.
- Kaldor, N. (1970): The new monetarism, in: *Lloyds Bank Review*, 97, 1–17.

- Kaldor, N., Trevithick, J. (1981): A Keynesian perspective on money, in: Lloyds Bank Review, 139, 1–19.
- Keynes, J.M. (1930): A Treatise on Money, London: Macmillan.
- Keynes, J.M. (1936): The General Theory of Employment, Interest and Money, London: Macmillan. Lavoie, M. (2006): Endogenous money: accommodationist, in: Arestis, P., Sawyer, M. (eds), A Handbook of Alternative Monetary Economics, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing, 17–34.
- Lavoie, M. (2019): Advances in the Post-Keynesian analysis of money and finance, in: Arestis, P., Sawyer, M. (eds), Frontiers of Heterodox Macroeconomics, Basingstoke, UK: Palgrave Macmillan, 89–129.
- McLeay, M., Radia, A., Thomas, R. (2014): Money creation in the modern economy, in: *Bank of England Quarterly Bulletin*, 2014(1), 14–27.
- Michell, J. (2017): Do shadow banks create money? 'Financialisation' and the monetary circuit, in: *Metroeconomica*, 67(2), 354–377, doi: 10.1111/meca.12149.
- Moore, B.J. (1986): How credit drives the money supply: the significance of institutional developments, in: *Journal of Economic Issues*, 20(2), 445–452.
- Moore, B.J. (1988): Horizontalists and Verticalists: The Macroeconomics of Credit Money, New York: Cambridge University Press.
- Moore, B.J. (1989): The endogeneity of credit money, in: Review of Political Economy, 1(1), 65–93.
  Moore, B.J. (1991): Money supply endogeneity: 'reserve price setting' or 'reserve quantity setting'?, in: Journal of Post Keynesian Economics, 13(3), 404–413.
- Nersisyan, Y., Ďantas, F. (2017): Rethinking liquidity creation: banks, shadow banks and the elasticity of finance, in: *Journal of Post Keynesian Economics*, 40(3), 279–299.
- Parguez, A. (2002): Victoria Chick and the theory of the monetary circuit: an enlightening debate, in: Arestis, P., Desai, M., Dow, S. (eds), *Money, Macroeconomics and Keynes*, London: Routledge, 45–55.
- Sawyer, M. (2005): Some reflections on changes in Keynes's analysis between the *Treatise* and the *General Theory*, in: Fontana, G., Realfonzo, R. (eds), *The Monetary Theory of Production: Traditions and Perspectives*, Basingstoke, UK: Palgrave Macmillan, 95–107.
- Sawyer, M. (2014): Bank-based versus market-based financial systems: a critique of the dichotomy, FESSUD Working Papers, No 19 (available at fessud.eu).
- Seccareccia, M., Correa, E. (2018): Rethinking money as an institution of capitalism and the Theory of Monetary Circulation: what can modern heterodox economists/institutionalists learn from Karl Polanyi?, in: *Journal of Economic Issues*, 52(2), 422–429.
- Van der Zwan, N. (2014): State of the art: making sense of financialization, in: *Socio-Economic Review*, 12(1), 99–129.
- Vercelli, A. (2014): Financialisation in a long-run perspective: an evolutionary approach, in: International Journal of Political Economy, 42(4), 19–46.
- Wray, L.R. (1998): Understanding Modern Money: The Key to Full Employment and Price Stability, Cheltenham, UK and Northampton, MA: Edward Elgar Publishing.