Introduction to *Central Banking, Monetary Policy and the Future of Money*

Guillaume Vallet, Sylvio Kappes and Louis-Philippe Rochon

**INTRODUCTION**

Since the 2007/08 financial crisis, central banks have been waking up to new realities concerning both the limitations of conventional policies, and the impact conventional and unconventional policies may have, only to face the possibility of aggregate demand secular stagnation. The task currently facing central banks is in identifying the challenges ahead and to respond to them with the right tools and policies.

This is a far cry from the Goldilocks years of the Great Moderation when central bankers and policymakers celebrated, thinking they had finally got things right. Business cycles had been vanquished, we were told, with huge and obvious implications for monetary policy. Keynes was a relic of a bygone era. However, this illusion was short lived.

With the financial and then the pandemic crises, central banks tested the limits of monetary policy. They pushed interest rates to near zero in many countries, but the results were disappointing as the policy had very limited or even no success in generating economic growth, thus disapproving neoclassical theory. It would appear that consumption and investment decisions rely on variables other than the rate of interest. Real interest rates were pushed to negative territory in the hope of stimulating demand. However, this was an instance of imposing a theory where the empirical evidence was clearly showing otherwise. As Storm writes, ‘As the real interest [rate] increased from 1.6% in 1980 to 8.1% in 1984, the investment rate increased’ (Storm 2019, n.p., original emphasis).

Nevertheless, there was still a belief in the loanable funds theory: if only real rates were pushed low enough, investment would pick up. This was how some, such as Lawrence Summers, interpreted secular stagnation: not
as much as a crisis in aggregate demand, but instead as a crisis in loanable funds, easily solved by lowering interest rates.

This approach corresponded, for the past few decades, with the rise of the Austrian philosophy, where central banks have been made to carry most of the economic-policy burden, thereby contributing to the age of monetary policy dominance, during which fiscal policy was given up to the pursuit of economic growth. Governments, it was assumed, overburdened us and future generations with piles of public debt. They had to assure balanced or sound finances, and leave the challenge of fine-tuning economic activity to independent central bankers.

An important conclusion we can draw from the pair of crises is that central banks are unable to carry the whole burden of recovery. With the failure of both conventional and unconventional policies, many central banks resorted to asking governments to inject stimulus, given that they ‘had done their job’. As Bernanke testified in front of Congress, on 5 June 2012, ‘Monetary policy is not a panacea. … I would feel much more comfortable if Congress would take some of this burden from us and address these issues.’

It was the return of Keynes, or rather, the ‘Return of the Master’ (Skidelsky 2009). Although Keynes did make an appearance in 2009, it was short lived as, by 2010, many countries had resorted back to sound finance. But the Master did return in a big way during the COVID crisis, when unprecedented fiscal stimulus, including in some countries the quasi-nationalization of private-sector wages, proved so historically important. Around the world, governments embraced deficit spending on a large and unprecedented scale: once again, Keynes rescued aggregate demand.

Central banks also went through a rethinking process of their own. Strict adherence to inflation targeting, which has been around since the early 1990s, started to wane, as some central banks started to adopt either dual mandates, for example, New Zealand which was ironically the first bank to inflation target, or a looser version of inflation targeting – average inflation targeting.

Of particular note, and following in the footsteps of a number of countries such as Canada, the Federal Reserve abandoned reserve requirements in 2020, in a further attempt to update their monetary framework. This is a clear statement that reserve requirements do not work in giving central banks control over the supply of credit by commercial banks. That is, the money multiplier is dead, and as a recently published paper by the Federal Reserve states, ‘RIP money multiplier’ (Ihrig et al. 2021).
THE OLD MODEL OF CENTRAL BANKING

Despite these seemingly positive changes over the past decade, has there been real change in monetary thinking, or has it been more cosmetic than anything else? The answer may be a little of both.

To answer this question, let us begin with a discussion of what we call the old model of central banking, most associated with Friedman’s monetarism, pre-dating the new consensus model. Such an old model, we argue, is based on the following nine fundamental arguments:

1. Central banks control the supply of high-powered money or reserves.
2. Central banks exert control over the growth of monetary aggregates, the money supply.
3. Central banks control reserve requirements.
4. The money multiplier is at the core of the transmission mechanism.
5. Debate over rules versus discretion, favouring the former.
6. The natural rate of interest is a relevant variable for policy.
7. Money and inflation are linked.
8. Central banks must be independent.
9. The long-run neutrality of money.

Accordingly, central banks can control the money supply given their control over high-powered reserves and reserve requirements, a key element in the money multiplier. It is assumed that the money multiplier is stable. If central banks want to rein in money supply growth, they need only to either decrease the supply of high-powered money or increase reserve requirements. In both instances, the supply of money is assumed exogenous and therefore independent of whatever occurs in the economy, by definition. In accordance with the quantity theory of money, assuming stable velocity, the rate of growth of the money supply should be set according to the long-run, natural growth of the economy, also known as Friedman’s rule.

According to this model, commercial banks are mere financial intermediaries, and their lending activities are at the mercy of central banks: they are severally constrained in their ability to lend – by the availability of reserves and deposits. Central banks can influence lending by increasing or decreasing the availability of high-powered money to the banking system and, through the (stable and predictable) money multiplier, will impact the supply of bank loans. That is, deposits create loans.

However, if the central bank can influence the supply of loans, this is only a short-run phenomenon. Indeed, monetary policy only has short-run effects. In the long run, money is neutral and has no impact on real
variables. Money only affects prices in the long run. This is the standard way of reading the quantity theory of money equation: from left to right and, if money supply growth is appropriately set, then in the long run the price level remains constant.

This is an important function of central banks, and is seen as crucial given the notion that inflation is influenced by all things monetary: inflation is ‘always and everywhere a monetary phenomenon’. Control of the growth of the money supply therefore becomes of paramount importance: if central banks cannot control the money supply, then they must as well give up on trying to control inflation.

The idea that inflation and money are linked was considered – and still is – a universal truth. This led Friedman to propose his monetary rule. There were in fact two main reasons for favouring rules over discretion: Friedman had a deep mistrust of central bankers, and in this sense always opposed the notion of independent central banks. At least, were they so independent, rules would ensure that central bankers would follow proper monetary policy etiquette.

THE NEW MODEL OF CENTRAL BANKING

In recent years, central banks themselves have come a long way in leaving at least parts of the monetarist story behind, and many have gone so far as to embrace some version of the post-Keynesian theory of endogenous money (even though post-Keynesian works and authors are seldom, if ever, cited). If the old model of central banking owed a debt to Friedman, the new approach owes a great deal to the work of Wicksell.

In this new model, most now readily admit that it is the rate of interest that is the control instrument, not some monetary aggregate, and that the setting of interest rates is independent of the quantity of reserves in existence – what Borio and Disyatat (2010) have termed the ‘decoupling’ effect. Former Bank of Canada Governor Gerald Bouey famously stated in 1982, ‘We did not abandon the monetary targets: they abandoned us’ (Dodge 2010). It is perhaps because of this that central banks turned to another monetary framework, careful, however, not to stray theoretically too far from orthodox monetary thinking. Indeed, ‘the main change is that it replaces the assumption that the central bank targets the money supply with an assumption that it follows a simple interest rate rule’ (Romer 2000, p. 154).

With that in mind, central banks then looked for a more suitable model to build, and turned to inflation targeting, a concept that goes back at least to Keynes (1923). This elegant, three-equation model (see Romer 2000;
Taylor 1993; Woodford 2003) contains a Taylor rule, and well-behaved IS and Phillips curves. New Zealand was the first country in the world to adopt the new model, in 1990, followed by Canada the following year.

The model was widely popular with central banks and academics. Indeed, Goodfriend (2007, p. 59) claimed that ‘the Taylor Rule became the most common way to model monetary policy’, and Taylor (2000, p. 90), heralded that ‘at the practical level, a common view of macroeconomics is now pervasive in policy-research projects at universities and central banks around the world’.

The inflation target itself became the anchor for inflation, and in Wicksellian fashion, we find embedded in the model the inescapable natural rate of interest determined by productivity and thrift, and a market-determined benchmark rate set by the central bank. The model was also based on some fine-tuning: whenever the rate of inflation was above target, central banks, via a Taylor rule, would raise the benchmark rate, hoping the economy would slow down just enough to bring inflation back down to target, via the well-behaved IS and Phillips curves. Without these, of course, the model falls apart.

The adoption of this new model corresponded also to the period of the Great Moderation, leading some to argue that ‘In the years prior to August 2007, central banks had appeared to have almost perfected the conduct of monetary policy’ (Goodhart 2011, p. 145).

Yet, with the financial crisis, the model began falling apart and a new search for a new monetary policy framework was under way. This model was confronted with the problem of the lower bound, where central banks were unable to push nominal interest rates below zero. Here, central banks were convinced the natural rate was below zero and hence why they needed to push the benchmark rate to such low levels. However, in their model, even a zero nominal rate was still too high: real rates were still above the natural rate given low levels of inflation. Interestingly, the secular stagnationist view was based precisely on this view: our economies were stagnating because the natural rate had fallen below zero; austerity had nothing to do with it. As stated previously, stagnation was interpreted as a crisis in loanable funds, not a crisis in aggregate demand per se. Owing to this, fiscal policy was not seen initially as a possible solution; austerity made sense, according to this view.

In the continued absence of fiscal policy, central banks were struggling to be seen as still relevant, and turned to unconventional means to foster economic growth – means that proved as uninspiring as the more conventional policies. Yet, the financial crisis would eventually reveal the degree to which the monetary new emperor had no clothes: the limits of this new view were starting to emerge. In a startling new paper, ‘Whither
Central banking, monetary policy and the future of money

Summers and Stansbury (2019) were now admitting ‘the impotence’ of the model: ‘Simply put, tweaking inflation targets, communications strategies, or even balance sheets is not an adequate response to the challenges now confronting the major economies … Central banks cannot always set inflation rates through monetary policy’.

THE HUMPTY-DUMPTYING OF THE NEW MODEL

There is no denying that the new consensus model has come under criticism in the past decade, since the financial crisis, and not just from post-Keynesians, but from a growing number of analyses from within central banks themselves. The question remains as to whether all the central banks’ guards and horses can put the model back together again.

In a Bank of England paper now almost a decade old, McLeay et al. (2014) go to great lengths to dispel some old myths surrounding monetary creation, and clarify the misconceptions of money creation from the reality. In particular, they argue that lending creates deposits: ‘In the modern economy, those bank deposits are mostly created by commercial banks themselves’ (McLeay et al. 2014, p. 15). More crucial, we believe, is the explanation of why reserves are not an important component of bank lending, and cannot ‘be multiplied into more loans’ (McLeay et al. 2014, p. 14).

In a second paper published at the Bank of England, Jakab and Kumhof (2018) argue that ‘loans come before deposits’ and that ‘a new loan involves no intermediation. No real resources need to be diverted from other uses, by other agents, in order to be able to lend to the new customer’ (Jakab and Kumhof 2018, p. 4), which they claim is a ‘more realistic framework’ which is ‘supported by a long and growing list of central bank publications’ (Jakab and Kumhof 2018, p. 1). Moreover, they specify that this view ‘has always been very well understood by central banks’ (Jakab and Kumhof 2018, p. 7).

The Bundesbank, of all banks, also contributed to this new central bank model, in 2017, with a paper entitled ‘The role of banks, non-banks and the central bank in the money creation process’. A reference to the ‘money creation process’ is a very telling rejection of the exogenous money story where this process is absent, in the notion of helicopter money. The paper argues that:

Sight deposits are created by transactions between a bank and a non-bank (its customer) – the bank grants a loan, say, or purchases an asset and credits the corresponding amount to the non-bank’s bank account in return. Banks are thus able to create book (giro) money. This form of money creation reflects the
financing and portfolio decisions of banks and non-banks and is thus driven by the same factors that determine the behaviour of banks and non-banks. (Deutsche Bundesbank 2017, p. 15)

In a 2018 speech, Christopher Kent, Assistant Governor of the Reserve Bank of Australia, discussed whether money was ‘born of credit?’ He makes clear that ‘Money can be created, however, when financial intermediaries make loans. Accordingly, the concepts of money and credit are closely linked in a modern economy … The process of money creation requires a willing borrower … [and the bank must] satisfy itself that the borrower can service the loan’ (Kent 2018, p. 4).

These are familiar themes for post-Keynesians, who will recognize the notion that loans create deposits, and that they are demand-determined by creditworthy borrowers; that is, money is seemingly endogenous.

Moreover, two papers recently published by the Federal Reserve show a very different side to the central bank model. In the first, Rudd (2022) argues that inflationary expectations are no ground for predicting future levels of inflation. According to the author, such an idea rests on ‘extremely shaky foundations’ (Rudd 2022, p. 25). The conclusions are devastating as anticipations of inflation certainly are a core principle of central banking today. The ‘pugnacious paper’ created a firestorm, leading The Economist (2021) to declare the paper ‘a social-media sensation’.

In the second paper, by Ihrig et al. (2021), with the provocative subtitle ‘R.I.P. money multiplier’, the authors explain the changes to monetary policy in the USA, following the financial crisis and COVID. The paper is worth noting for a few reasons. First, in light of the Federal Reserve’s elimination of reserve requirements in 2020, the authors warn professors of mistakes they still make when teaching money and banking. Second, the authors admonish textbooks for still teaching the ways of the old model. The subtitle of the paper is meant to be a definitive statement (and perhaps even a warning) to economists that they are doing a disservice to students by not correctly representing (or understanding) what central banks do. Both reasons are summarized by the title to one section of the paper: ‘Make sure your teaching is current’.

Finally, in celebrating the twenty-fifth anniversary of the publication of Moore (1988), Bindseil and König (2013) – Bindseil works at the European Central Bank (ECB) – have acknowledged that ‘the last 25 years have vindicated the substance of his thinking [Moore’s] 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’ (Bindseil and König 2013, p. 385). This is an acknowledgement that the old model of central banking is dead.
Or is it? While many of the above quotes (and we could have cited a number of other papers) certainly appear, at least on the surface, as indicative of important changes in monetary thinking, we are not convinced. While there is no doubt that central banks have come a long way in repudiating some of the elements of the old model, we argue they have not successfully done so in their entirety. What is left is perhaps best described as a hybrid model. We agree with Fiebiger and Lavoie (2020, p. 78) who have argued that ‘The NCM replaced money supply targeting with inflation targeting while preserving monetarist results.’ This is exactly what Lavoie (2006, p. 167) meant when he wrote, almost two decades ago, that new consensus models ‘simply look like old wine in a new bottle’.

Let us once again refer to the nine arguments above:

1. Central banks control the supply of high-powered money or reserves.
2. Central banks exert control over the growth of monetary aggregates, the money supply.
3. Central banks control reserve requirements.
4. The money multiplier is at the core of the transmission mechanism.
5. Debate over rules versus discretion, favouring the former.
6. The natural rate of interest is a relevant variable for policy.
7. Money and inflation are linked.
8. Central banks must be independent.
9. The long-run neutrality of money.

We can conclude that arguments 1–4 have been abandoned by many central banks, and in new consensus models as well. However, despite these advances, welcome as they are, we are still not entirely in agreement with the idea that mainstream thinking is any closer to the post-Keynesian story of endogenous money. That is, the new model of central banking certainly leaves behind a number of assumptions of the old model, but from a post-Keynesian perspective, it does not go far enough. Five elements still remain at the core of the model.

Argument 5: as regards the debate over rules versus discretion, we can summarize that it has evolved, but perhaps not by much. The old model contains a monetary rule, while the new model contains an interest rate rule. However, Taylor (1993, p. 195) defines his approach as akin to ‘a responsive rule’. Indeed, Taylor (1993, p. 196) claims that ‘Policymakers do not, and are not evidently about to, follow policy rules mechanically’, therefore leaving some room for discretion, and warns about making Taylor rules ‘too complex’. So, in many ways, central banks use fine-tuning to adjust interest rates in response to inflation shocks.
Argument 6: as regards the natural rate of interest, it is still at the heart of new consensus models. In a Wicksellian manner, it acts as an anchor to short-term benchmark rates. The purpose of the central bank is to set the rate and to move it up or down until it reaches an inflation target, corresponding presumably with the natural rate.

The question is whether we can have a theory of endogenous money while also espousing a natural rate of interest. Rochon (1999) and Smithin (1994) have always rejected the claim that a theory of endogenous money can accommodate a natural rate of interest. If post-Keynesians believe the benchmark rate is truly exogenous, then that would rule out a natural rate that acts as an anchor for central bank rates. At best, as Palley (2006, p. 80) writes, the new consensus ‘is a conception of endogeneity that is fundamentally different from the Post Keynesian conception, which is rooted in the credit nature of money’. Palley names the new consensus (NC) approach as ‘central bank endogeneity’. In a similar vein, we would argue that the new consensus lacked a ‘theory of endogenous money’. As Setterfield (2004, p. 41) arrives at the same conclusion: ‘whereas the stock of money is endogenous in practice in NC macroeconomics, it is endogenous in principle in PK macroeconomics’.

Argument 7: in addition, inflation is still thought to be linked to monetary policy. Only central banks are equipped to regulate economic activity efficiently in order to influence inflation and achieve its target, with minimal damage to the economy. Inflation, we can say, is always and everywhere a monetary policy phenomenon.

Argument 8: central bank independence is still considered a sine qua non of mainstream monetary policy. Advocates claim that it is at the core of current monetary thinking, especially now (at the time of writing this introduction) as inflation is starting to increase around the world. According to Goodhart (2021), if inflation persists, central banks must move to swiftly increase interest rates or risk losing credibility. Central bank independence is tied to notions of credibility: ‘It is important to have in place adequate mechanisms to “guard the guardians” of monetary and financial stability’ (Goodhart and Lastra 2018, p. 49).

There is also a staunch defence of the long-run neutrality of money. This is particularly so in current research on the links between monetary policy and income distribution. While some central banks recognize the income distributive impact of monetary policy, it is said to be small and temporary (see Rochon 2022). For instance, Romer and Romer (2001, p. 910) claim that ‘It is certainly true that expansionary policy can generate a boom and reduce poverty temporarily. But the effect is unquestionably just that: temporary.’ In a recent survey, Colciago et al. (2019, p. 1224) argue that ‘Over the longer horizon, the distributional impact is likely to die out
given the temporary nature of the effects of monetary policy shocks.’ This is a required conclusion to a theory that insists on long-run neutrality.

The new model is thus not too far from Friedman (Fiebiger and Lavoie 2020), well evidenced in the following quote by Bernanke (2003, online speech): ‘I am ready and willing to praise Friedman’s contributions wherever and whenever anyone gives me a venue … We can hardly overstate the influence of Friedman’s monetary framework on contemporary monetary theory and practice … both policymakers and the public owe Milton Friedman an enormous debt’.

THE POST-KEYNESIAN MODEL OF CENTRAL BANKING

While mainstream economists have had to face new realities and come to some realizations about how central bank policy operates, post-Keynesians have also made some changes in the way they perceive central banks and monetary policy. Endogenous money is still the copingstone of post-Keynesian theory, where the rate of interest is set by central banks in a total disconnect with the natural rate, which is rejected. Loans make deposits, and banks are never constrained by a lack of deposits or reserves, but only by a lack of creditworthy borrowers. While Kaldor (1970) and Moore (1988) are central to this view, the ideas were present in many of Joan Robinson’s writings, especially The Accumulation of Capital (1956).

Post-Keynesians have pushed the boundaries of central banking by advocating against the use of fine-tuning, and by linking monetary policy to income distribution. As regards the first of these, the concept of fine-tuning consists of incrementally increasing and decreasing interest rates until the correct rate of interest is found, which delivers an inflation consistent with its target. However, a great deal is assumed here. In new consensus models, this fine-tuning is based on well-established IS and Phillips curves: central banks change interest rates in an effort to generate just the right amount of change in output, which in turn will generate just enough change in unemployment and inflation. However, these are empirical relationships that need to be tested, and thus far the empirical evidence is weak.

Both Keynes and Robinson rejected fine-tuning. Keynes is famous for having said that fine-tuning ‘belongs to the species of remedy which cures the disease by killing the patient’ (Keynes 1936, p. 323). In a similar vein, Robinson, in a greatly underappreciated essay, argues that ‘The regulating effect of changes in the rate of interest was at best very weak’
Introduction

(1943, p. 26), and again in 1952, where she describes as a ‘false scent’ the use of counter-cyclical monetary policy, and rejects:

> the conception of an economy which is automatically held on a path of steady development by the mechanism of the rate of interest … But it is by no means easy to see how the monetary mechanism is supposed to ensure how that the rate of interest actually assumes its full employment value … The automatic corrective action of the rate of interest is condemned by its very nature to be always too little and too late. (Robinson 1952, pp. 73–4)

While recognizing this, post-Keynesians further argue that monetary policy is foremost about income distribution. While the mainstream is starting to recognize this, as stated previously, there is nevertheless a stark difference with post-Keynesians. While for the mainstream, monetary policy may have income distributive effects in the short run, for post-Keynesians, monetary policy is income distribution. It is for both of these reasons that Lavoie (1996, p. 537), in rejecting fine-tuning, concludes that:

> It then becomes clear that monetary policy should not so much be designed to control the level of activity, but rather to find the level of interest rates that will be proper for the economy from a distribution point of view. The aim of such a policy should be to minimize conflict over the income shares, in the hope of simultaneously keeping inflation low and activity high.

PURPOSE OF THE CENTRAL BANKING AND MONETARY POLICY SERIES

In early 2018, we decided to organize a small gathering on ‘the future of central banking’, and applied for a financial grant from the Social Sciences and Humanities Research Council (Canada) as they have a wonderful programme for that purpose.

The three of us had been having discussions around this topic for a few years previously, noticing what appeared to be important changes in central banking and monetary policy, from ‘unconventional policies’ such as quantitative easing and lower-bound policies, to discussions over income distribution, the environment and the quasi-embrace of at least some version of endogenous money by some central banks.

It was in this spirit that we gathered in Talloires (France), on the shores of Lake Annecy, over a few days on 26–28 May 2019. We invited some well-known heterodox scholars, such as Elissa Braunstein, Gary Dimsky, Juliet Johnson, Marc Lavoie, Dominique Plihon and Mario Seccareccia, but also some more mainstream scholars, such as Etienne Farvaque and
Ulrich Bindseil, in an effort to encourage a dialogue of sorts on central bank-related topics. We also partnered with the Young Scholars Initiative, from the Institute for New Economic Thinking, which funded the travel and accommodation of 11 young scholars. This partnership has proven rewarding for all those involved.

By all accounts, it was a huge success and it was from this gathering that the idea of a book on the same topic was born. The ensuing book went well beyond the initial plan, as we expanded its scope and breadth. The Future of Central Banking is the first book of this series, and we divided it into several sections, each dealing with the relationship between central banking, monetary policy and various themes, such as the environment, gender, income distribution, macro-prudential policies, structural change and central bank independence.

While we are very proud of this book, and it remains in many ways ground-breaking, it soon became apparent that there was more to be said on each of these topics, and so we began discussions with Edward Elgar Publishing to create a series dedicated to all aspects of central banking. While we signed the contract for the book in July 2019, by November we signed a contract to create the series. That first book would then anchor the rest of the series.

From there, we felt that many of the topics from the first book needed to be developed, so we decided to do entire books on each of these themes. We agreed on the next four titles – income distribution, the environment, social responsibility and the future of money – and quickly contacted some possible contributors.

This then launched us in new directions, and new reflections, with the aim of moving forward the critical discussion over the future of central banking, and pushing the boundaries of heterodox thought. In many ways, the mainstream was ‘out-researching’ us on some of these topics, and heterodox economists had to return to monetary policy and push forward. This was also the rationale for creating the Monetary Policy Institute, which we all direct.

The overall goal of this new series is to contribute to a new research agenda on central banking and monetary policy. Note, the title of the series is not simply ‘monetary policy’ as we understand it, that is, interest rates and their impact on the economy. While there is still a great deal of work to be done in this respect, for instance, understanding the impact of incremental changes in interest rates on income distribution and social classes, on gender, on the environment, and so on, we need to go beyond a mere discussion over interest rates, and consider central banks as institutions. This remains a gravely underdeveloped area of research in economics, though sociologists have considered this topic with great...
Introduction

promise. In this context, economists have much to learn from sociology, and their emphasis on power, for instance.

Sociological studies on central banking highlight that, as institutions, central banks produce rules that ‘coerce’ individuals and shape their lives through their policies. In that, central banks exert what Susan Strange termed ‘structural power’ on the economy and society. This ‘structural power’ is personally concentrated in central bankers’ hands, whose sociological profile should be put in relation to the distributive nature of monetary policy: do central bankers really serve the people? This crucial argument demonstrates that central banks reciprocally need people’s confidence in order to gain social legitimacy: central banks’ power needs to be ‘socially embedded’. Central banks are undoubtedly non-neutral institutions, and for that reason, economics has a lot to learn from other social sciences.

Finally, the crucial question is whether central banks serve the interests of the people (see Fontan et al. 2018). This opens up a Pandora’s Box of questions and more, about central banking, monetary policy and social responsibility, democracy, gender, income distribution and structural change. One by one, these themes are covered in the books in this new series which aims to push the boundaries of how we currently analyse, reflect and write about central banks.

THE STRUCTURE OF THE BOOK

When it comes to the relationship between money and its future, many key issues come to mind. Specifically, as readers will discover in this book, at stake is principally the future of national currencies, which includes the rise in digital currencies. Similarly, the increasing number of local currencies is explored in this book. Both digital and local currencies address a key issue: do these currencies challenge the existing central banks’ monetary systems, or do they offer new positive opportunities for such systems?

The book, which contains 11 chapters by leading economists and social scientists, seeks to shed new insights on this issue.

In Chapter 1, Matheus R. Grasselli and Alexander Lipton analyse different types of cryptocurrencies (pure-asset, or commodity-like, cryptocurrencies such as Bitcoin, central bank digital currencies and stable coins) and the associated distributed ledger technology (DLT) on which they are based. This first chapter, with the use of examples and cases, is crucial to understand both the technical aspects underlying each of these and their economic properties. The reader will learn that cryptocurrencies can perform multiple economic functions. Since cryptocurrencies seem to
be everywhere today, it is paramount to distinguish between those seeking their own space of sovereignty and those whose existence is related to that of stable existing assets, such as stable coins. At stake is also their capacity to promote and secure trade and transactions on a large basis.

With that aim in mind, the authors also rest on a stock-flow consistent model incorporating the different types of cryptocurrencies. This macroeconomic modelling enables the reader to understand the systemic economic consequences of changes in the balance sheet arising from transactions between the main economic sectors and actors (financial institutions, central bank, banks, firms, and so on).

Chapter 2, by Matheus Trotta Vianna, also deals with cryptocurrencies, but with a special focus on Bitcoin. The latter has been frequently described as an alternative to national currencies, which was either praised or condemned by economists and people. In order to avoid falling into the trap of analysing Bitcoin through these two extreme approaches, the author conducts an analysis consisting of separating the Bitcoin system and technology from the Bitcoin unit individually. This distinction is crucial to assess both the potential but also the risk associated with the spreading use of this cryptocurrency. As Trotta Vianna emphasizes, although Bitcoin’s system has technically the power to facilitate and improve our payments and other related systems, the Bitcoin unit raises serious concerns, especially in connection with its scarcity.

Resting on the Keynesian theory of money, the author explains why Bitcoin’s model, whose underpinnings are based on the classical theory of money (merely defined as an asset fulfilling the three traditional functions of means of payment, unit of account and store of value), fails in being considered as money. Specifically, according to Trotta Vianna, it is worth remembering that Bitcoin does not meet the two Keynesian essential properties: Bitcoin’s elasticity of production and substitution are not zero (or negligible). More broadly, Bitcoin is not debt: ‘I owe you’ (IOU) transactions do not exist within its system, and no economic actor is promising to accept your Bitcoin back. However, although not a money, Bitcoin implies monetary transactions that could hamper but also jeopardize central banks’ monetary systems. For this reason, the author of the chapter is right when he mentions in his conclusion that central banks pay greater attention to Bitcoin, and cryptocurrencies more generally.

In the following chapter, Léo Malherbe and Matthieu Montalban follow the same conclusions than Trotta Vianna’s: they start their chapter emphasizing that Bitcoin is not a complete money. This first statement is key to address the relationship between Bitcoin – also more generally cryptocurrencies, or even ‘crypto-assets’ according to the two authors – and central banks’ systems. Specifically, the chapter copes with the consequences of
the emergence of these cryptocurrencies, and digital currencies, on the changing role of central banks as well as on banks in the payment industry. These cryptocurrencies have particularly gained ground in the aftermath of the 2007–08 crisis. Some economic actors behind have backed their cryptocurrencies to official currencies, such as stablecoin, and some central banks themselves have reacted by creating their own digital currencies, the central banks digital currencies (CBDCs).

As Malherbe and Montalban explain, CBDCs are part of a technological upgrade of the monetary authorities that would allow users to benefit from a secure electronic payment method that could bypass intermediaries, such as banks and Big Techs. On the one hand, CBDCs are presented as a way to fight against both the structural power of banks, and the rise of Big Techs, which can be seen as a threat for user’s privacy. On the other hand, CBDCs can be seen as a way to allow financial inclusion, with less drain on foreign reserves and as cheap international transfers without putting at risk the general public, as occurs with cryptocurrencies.

At the first sight CBDCs seem to challenge the functioning of the current banking system as well as the payments system. However, as the authors explain, CBDCs correspond more to the re-emergence of older projects, in that CBDCs can be compared to old ‘deposited currency’ proposals, particularly those of the 1930s. That is, CBDCs are ‘old wine in new bottles’ according to Malherbe and Montalban. Also, it is worth noting that CBDCs as well as cryptocurrencies tackle a fundamental issue: the debate on centralization versus decentralization of the monetary system and its consequences on the role, power and structure of banks.

In Chapter 4, by Pál Péter Kolozsi, Kristóf Lehmann and Zoltán Szalai the reader will find a review of the literature on the possible impact of CBDC on the transmission of monetary policy. This impact is a matter of trust in money. This is why, once again, the emergence of digital currencies challenges the confidence that economic actors place in money. As in the previous chapters, the authors emphasize the increasing trend shared by central banks to issue their own digital currencies. This choice is not without any consequences regarding the monetary policy transmission channel to the economy and, more broadly, on monetary sovereignty.

This is why the authors turn to the post-Keynesian’s approach of endogenous money to analyse the rise of CBDC, in the context of radical uncertainty. According to Kolozsi, Lehmann and Szalai, resting on this approach is crucial to understand the legitimacy of central banks’ money, since the private sector is unable to provide monetary and financial stability. By contrast, central banks are able to ensure the stability of the banking and the financial systems, which depends on the quality and quantity of the asset side of bank balances and to the insurance of central
banks’ lender-of-last resort function. However, the authors recognize that the increasing digitalization of money offered by the private sector as well as its growing use could lead to declining use of traditional central bank currency.

Chapter 5, by Ulrich Bindseil, Fabio Panetta and Ignacio Terol, is also dedicated to the analysis of the rise of CBDCs, and its consequences. The authors begin by emphasizing that many central banks decided a few years ago to turn to the issuing of their own digital currency to sustain confidence. Specifically, the main underpinning idea was to preserve public access and full usability of central bank money in a world in which consumers and firms turn increasingly to electronic payments. Moreover, at stake for central banks was the issue of maintaining financial stability. Therefore, the chapter discusses success factors for CBDCs, and how to avoid at the same time the risk that CBDCs could crowd out banks and private-sector payment solutions. Indeed, since the rise in the number of CBDCs is often associated with disintermediation, it is crucial to assess the effective impact of the spread of CBDCs on the banking and financial sectors.

The chapter describes very well the state of the debates between the pros and the cons of CBDC, the authors explaining the expected advantages and the likely drawbacks of CBDCs. In particular, although the latter must be attractive through their capacity to foster trade (including an international dimension), they also have to fit with the security of the payments system (including the connection between the domestic payments system to international payments networks). This is why Bindseil, Panetta and Terol discuss the role of the incentives applied to private-sector service providers involved in the distribution, usage and processing of CBDCs, including fees and compensations.

Marco Gross and Christoph Siebenbrunner start the following chapter by defining three structural features of monetary systems (a two-layer structure comprising a private-sector agent deposit system with commercial banks; money created is tied to bank loans; and money stock is endogenously and elastically driven by demand and constrained loosely by regulation of different types). From this, the authors argue that the notion of money creation as a result of banking credit is compatible with the notion of liquid funding needs in a multi-bank system, in which liquid fund (reserve) transfers across banks occur naturally. Similarly, Gross and Siebenbrunner stress that interest-rate based monetary policy has a bearing on macroeconomic dynamics precisely in relation to that multi-bank structure.

The chapter is insightful in that it rests on key theoretical and empirical facts. The authors classify the existing literature on banks’ loan activity,
including that on the intermediation, the fractional reserve and the money creation view. However, the authors go beyond this literature, focusing not only on bank lending (money creation) but also they lay out the lending process through centralized non-bank financial institutions and decentralized-market based intermediation. The authors apply this focus to a series of balance sheet examples based on double-entry bookkeeping principles, but also to a stock-flow consistent agent-based model (ABM) to illustrate the monetary system dynamics related to the loan and money creation process. Gross and Siebenbrunner conclude the chapter with a discussion related to CBDCs, shedding light on both how CBDC systems would be designed in relation to ‘credit provision’, and how the use of CBDCs on a large scale is likely to strengthen monetary policy’s ‘control potential’ over the economy if the CBDC was to be ‘interest-bearing’.

In Chapter 7, Eva Julin also grapples with the issue of CBDCs, focusing mainly on the Swedish e-krona that the Central Bank of Sweden, the Riksbank, is expected to launch. The author starts her chapter by discussing the expected benefits of the introduction of CBDCs, before applying this framework to the Swedish example. In Sweden, the decrease in the use of cash is one of the main reasons pushing for the introduction of the e-krona. The author even believes that in Sweden currently, it could be assumed that the general public has an overall trust in the monetary system, in that their private digital money can be exchanged for state guaranteed money (cash in particular).

However, it is paramount to ensure that CBDCs would not jeopardize the payments system, even though the Central Bank of Sweden has often noted that increased competition and innovation on the payment market are desirable developments (including private initiatives). This is why reflections on the risk associated with the creation of the e-krona, as well as the possibility of its functioning in the event of disruptions, crises and contingency is crucial. This is evidence that the most important underpinning of the e-krona is that it must be of benefit to all Swedish people: money is a common good that should be protected.

Even though Julin considers electronic money to be the unavoidable future for most countries, it is worth keeping in mind that smoothly functioning and reliable modes of payment should be regarded as a collective utility. Therefore, the public sector should continue to be involved in the payment market, since the state has a responsibility to maintain confidence in the monetary system.

Andrés Arauz, in Chapter 8, starts by stressing that CBDCs are already here in central banking. From the pioneering role of Ecuador and China in the creation of these currencies, the author states that CBDCs now belong to the monetary landscape. The aim of the chapter is neither to focus on...
the relationship between CBDCs and the related payment system dynamics, nor on that between CBDCs and the financial stability impacts on the commercial banking system.

Arauz explores the CBDCs’ impacts on production, resting on a circuit-theory based approaches with respect to the monetary theory of production. Elaborating on this approach, the author studies the characteristics that CBDCs should have with an activist central bank in mind, especially one low in the international money hierarchy and sympathetic to development concerns of its country. Similarly, the author ties the fate of CBDCs with the emergence of other cryptocurrencies, which correspond to privately issued programmable money. Although there is a large array of monetary instruments, or quasi-monetary instruments, sustaining the use of this programme money (mobile-phone airtime, airline miles and food stamps), Arauz argues that with CBDCs, a successful CBDC that can guarantee real-time gross settlement, by definition, should rest on a unique ledger. To expand this statement, the author analyses the issue of fungibility between bank money and central bank money, what he terms the contingent liability on the CBDC ledger.

Chapter 9, written by Georgina M. Gómez, is the first of the three chapters of the book dedicated to local currencies. In this chapter, the author focuses on the Redes de Trueque, an Argentinian complementary currency system which was the largest in the world between 1995 and 2006. As for the WIR currency which is explored in Chapter 11, albeit for different reasons, the Redes de Trueque arouses interest since it is described as a system able to trigger counter-cyclical mechanisms. Therefore, revisiting the case, Gómez discusses the generative conditions that led to trickle-down effects, especially income effects on low-income groups. As the author explains, these groups would normally suffer the most from the generalized scarcity of means of payment and economic downturns, so complementary currency circuits would support these groups the most. Last but not least regarding the political economy of money, Gómez’s breakthrough is to emphasize throughout the chapter that the underpinnings of currencies’ use are also an expression of class inequalities.

In Chapter 10, Jérôme Blanc and Marie Fare cope with the transformative power of community and/or complementary currencies (CCs) on money itself. Particularly in the aftermath of the Global Financial Crisis, several projects of CCs emerged, ‘in between dollarization and blockchain-based currencies’ as the authors state. Beyond their differences, CCs may be presented as experiences that fall into the category of organized monetary plurality, which have gained ground for more than 20 years.

In this chapter, Blanc and Fare shed light on the emergence and development of CCs from what they term a twin process of spreading
Introduction

and differentiation (in relation to the innovations CCs hold). The authors also examine the diversity of relations existing between CCs and regulatory authorities, ranging from threats (including direct prohibition) to integration within appropriate legal frameworks. Depending on their different purpose, Blanc and Fare classify the CCs according to the three main objectives they pursue, namely, a territorialization of activities, the stimulation of exchanges, and the transformation of practices, lifestyles and social representations.

Although these three main objectives are consistent with a great diversity of situations in reality, they share the view that CCs can be analysed in relation to potential drivers of institutional change in the meaning of money, without necessarily challenging the existing national monetary framework. By contrast, according to the authors, CCs can generate monetary plurality within the official monetary system and opening spaces for monetary commons.

Finally, in Chapter 11, Guillaume Vallet deals with the underestimated WIR, a Swiss local currency that has been in existence in Switzerland since the 1930s. This enduring existence being rare for a local currency, the author addresses the issue of confidence in the WIR and, more broadly, in money. To that end, Vallet rests on the French institutionalist approach of money, whose authors refer to three main keystones when they grapple with the issue of confidence in money: methodical, hierarchical and ethical confidence.

As regards the WIR, as the author explains, confidence rests on its capacity to boost trade between Swiss small businesses but also the social bonds between them, since this currency promotes sharing and the non-maximization of profits. Similarly according to Vallet, the WIR owes its strength, its attractiveness and its resilience to crises to this currency also being related to the Swiss monetary system: not only does the WIR help bolster confidence in the Swiss monetary system taken as a whole, but the reverse is also true. It is the assumption of the author that the WIR owes its popularity to the confidence placed in the Swiss franc system.

This focus on the WIR example is crucial to analysing the inherent monetary tension between centralization and fragmentation, since this local currency embodies the dual relationship with monetary unity and plural forms of money in a given monetary space. This echoes the conclusions of Malherbe and Montalban, expressed in Chapter 3. The WIR thus exemplifies the extent to which money has a ‘life’, and is a ‘process’ according to the author. This is why, relying on specific social values and norms, the WIR system personifies a form of local anchorage that is decisive for both the Swiss economy and Swiss democracy.
Central banking, monetary policy and the future of money

NOTE

1. For a survey following a post-Keynesian perspective, see Kappes (2021).

REFERENCES


Introduction


Robinson, J. (1952), The Rate of Interest and Other Essays, London: Macmillan.


Rudd, J.B. (2022), ‘Why do we think that inflation expectations matter for inflation? (And should we?)’, Review of Keynesian Economics, 10 (1), 25–45.


Central banking, monetary policy and the future of money