7 CENTRAL BANKING

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Introduction

Before the 2007-2008 global financial crisis, the vast majority of social scientists were not paying much attention to the politics of central banking, despite the fact that, since their creation, central banks have been pivotal institutions between private financial institutions and public authorities (Singleton, 2010). During the past decades, central banks acquired considerable independence from public officials under the Central Bank Independence (CBI) template (McNamara, 2002). Governments justified their decisions to delegate monetary competences by relying on a narrow conception of monetary policy, in which central bankers should only seek to control inflation and ignore the implications of their policies on other economic issues such as financial stability or wealth inequalities (Issing et al., 2001; Marcussen, 2009). Heterodox economists and critical political economists opposed this view by declaring that monetary policy is fundamentally political as it deals with complicated policy trade-offs, which generates winners and losers (Epstein & Gintis, 1995; Forder, 2005). However, until 2007, their concerns were very marginal and remained at the fringes of the political debate. The vast majority of policy-makers, economists, and central bankers themselves agreed on the fact that the CBI template was the optimal institutional arrangement between fiscal and monetary authorities.

However, the changing role of central banks since the crisis has reversed the situation. Indeed, in face of the risks associated with an implosion of the financial system, central banks moved away from their traditional inflation-targeting framework and started to implement systemic unconventional monetary instruments in order to stabilize large interconnected financial systems and, later on, to revive growth (Goodhart et al., 2014). For the sake of simplicity, let us say that these unconventional instruments unfold in two categories: an extension

of regular liquidity offers in terms of maturity, volume, and collateral range, on the one hand, and straight purchases of securities on secondary markets (the so-called Quantitative Easing (QE) programs), on the other hand. This change of role has inflated central banks' balance sheets by five times for the Federal Reserve and the European Central Bank (ECB) and by ten times for the Bank of England between 2007 and 2019 (Potter & Smets, 2019).

In addition to these changes in monetary policy, central banks have also obtained or gained back prudential supervisory competences, which they were deprived from since the end of the 1990s (McPhilemy, 2016). In the case of the ECB, it also exerted coercive pressures on Eurozone economic reforms through the conditionality of its financial interventions and its participation in the so-called "Troika," which included the European Commission and the International Monetary Fund and supervises the implementation of these reforms (Fontan, 2018).

This shifting role led to a (re)politicization of central banking: the salience of monetary issues rose in the public debate, it created new political cleavages and new policy watchers appeared (Best, 2016; Tesche, 2019). This repoliticization worries central bankers, who see it as a threat for their independence (Goodhart & Lastra, 2018). Indeed, when independent regulatory agencies extend the remit of their power, political authorities often seek to regain control and reduce their level of autonomy (Elgie, 2002). Recent examples include Donald Trump's Twitter attacks against the Federal Reserve Chair, Jay Powell, and the German backlash against the asset purchases and the negative interest rates implemented by the ECB.

Conversely, central bankers try to neutralize repoliticization and these efforts influence the design of their policies. In fact, independent regulatory agencies often pursue "reputational strategies" in order to maintain or extend their level of autonomy (Carpenter, 2010). Central bankers often seek to subsume their new unconventional monetary tools under the pre-crisis justifications of their independence (Van't Klooster & Fontan, 2019). By emphasizing continuity, they keep decisions on new monetary instruments in the domain of their expert judgments, and thereby outside the domain of democratic politics (Hay, 2007; Johnson et al., 2019). These strategies were successful to the extent that, until today, no major central bank has suffered a significant loss of independence. In parallel, there is still a very high consensus among economists in favor of the status-quo (Dietsch et al., 2018: Chapter 4). However, this pretense to continuity obfuscates the fact that new monetary tools come with significant distributive consequences, whose costs might outweigh their benefits (Fontan et al., 2016).

In this chapter, we review how the (critical) political economy literature has scrutinized the evolving role of central banks this last decade and we debunk central banks' pretense to continuity. Since monetary policy has been successfully scientized in the last decades, this critical perspective asks to pay equal attention to the "real-world" monetary policy developments and to the

scientific debates on these developments. We remain, however, agnostic on the performativity of scientific knowledge on central bank operations.

We focus on two lines of criticism that are central to the inquiry developed in this *Handbook of Critical Finance Studies*.¹ First, we examine how financial power shapes central banks' unconventional policy to the benefit of private finance. Second, we review how these "high-finance" struggles affect "low-finance," that is, what are the distributive effects of post-crisis monetary policy on firms and households? Finally, we examine current debates on alternative monetary tools, which could potentially fare better than current monetary arrangements in distributive, ecological, and democratic terms.

In what follows, we analyze the pre-crisis CBI template that informs the practices and rhetoric of central bankers to this day ("The Era of CBI") and the heterodox criticism against this model ("The Heterodox Criticism of CBI"). Then, we explain how financial power shapes central banks' unconventional monetary operations ("Financial Power"), outline the distributive implications of unconventional monetary policies ("The Distributive Dimension of Unconventional Monetary Policy"), and expose debates on future monetary arrangements ("After the Crisis: Which Alternative Monetary Policy Instruments?").

The Era of CBI

Central banks are public institutions that have the monopoly over the issuance of legal tender. They are not the sole creators of money: the greatest part of the money supply is made of the sum of all credits issued by private banks (McLeay et al., 2014). However, central banks' money has a special privilege that makes them pivotal regulatory institutions within the state-finance nexus: all other kinds of money are promises redeemable in central banks' money (Pistor, 2013). This privilege gives central banks the capacity to achieve two policy objectives that are crucial for the functioning of financialized capitalist systems: price stability and financial stability (Goodhart, 2011).

While these two objectives remained constant throughout their history, central banks were also assigned other roles, which fluctuate in time and space. For example, the US Federal Reserve is tasked with the mission of pursuing full employment. Some central banks, especially in non-Western countries, aim at maintaining a stable exchange rate and support national developmental policies (Campiglio et al., 2018). In the same vein, Western central banks were also backing up domestic credit policies in the aftermath of the Second World War until the advent of the CBI era (Monnet, 2018). Historically, the extent of objectives granted to central banks is correlated with their degree of independence: the higher the degree of independence of central banks, the smaller their set of goals, and vice versa.

The CBI template swept around the world in the late 1980s. Its main premises were that central banks should remain politically independent and that their main task was to maintain low inflation. The theoretical sources of CBI

are rooted in the context of the inflationary 1970s in industrialized countries. Since established Keynesian theories seemed unable to explain the inflationary pressures of the time (De Vroey, 2016), other schools of thought started to gain preeminence in the macro-economic debate. The so-called new classical macroeconomics were very influential in the build-up of the CBI template (Barro & Gordon, 1983; Kydland & Prescott, 1977; Lucas, 1972). The core issue identified by these theories is the "time-inconsistency problem," which relates to the lack of credibility of elected officials when they announce that they are committed to fight inflation. Since market participants believe that elected officials cannot resist manipulating the money supply, they adapt their expectations and price future inflation in their investment decisions, which, in turn, generate inflation pressures.

The policy upshot is to reinforce the credibility of central banks' anti-inflationary stance by isolating them from political pressures and removing incentives that might distract them from their price stability objective. Kydland and Prescott (1977) proposed to adopt strict monetary rules to anchor credibility, but their proposal was quickly dismissed following rule-based policy failures (Kaldor, 1985). Rogoff's (1985) proposal was much more successful because it made anti-inflationary credibility compatible with flexible policy-making. His solution consists in appointing a "conservative" central banker who is significantly more biased against inflation than other policy-makers are, so as to minimize the risk of letting central banks engage in expansionary and inflationary policies.

The CBI template constitutes an important exemption to the majoritarian rule in liberal democracies. According to its proponents, its legitimacy depends on two important features. The first feature is that central banks have only one policy objective: price stability, and one tool to achieve it: the setting of shortterm interest rates. That goal is "narrow": it does not require policy measures beyond the technical operations required to reach the inflation target. Second, that goal can easily be operationalized and monitored by tracking changes in the price index. Low inflation can, therefore, serve as an objective and narrow guide for central banks' actions. In practice, from the 1980s onward, the vast majority of central banks converged on a very similar pattern of practices to reach their objectives (Borio, 2011). In the pre-2007 era, central banks usually determined a target rate, and then aimed at maintaining that rate thanks to open market operations (OMO), in which liquidity is provided in the form of central banks reserves to commercial banks at a certain interest rate against collateral for a short time. In that framework, central banks have only an indirect influence on real economic variables: private banks form the channels of transmission of central bank monetary policy and allocate credit to households and firms.

The second feature that justifies the CBI framework is that the pursuit of price stability by central banks does not have major distributive consequences (Ingham, 2004). This implies that central bankers can treat monetary policy

as "neutral," in at least two senses. First, in line with what monetarists have claimed since the 1960s (Friedman, 1968), most central bankers generally adhere to the view that monetary policy does not have any long-term effect on macroeconomic variables, except for inflation. Changes in "real" variables (such as worker productivity) affect the economy in the long run, but "monetary" variables do not. Hence, price stability was considered as a precondition for the successful pursuit of other objectives rather than a variable that can be manipulated for distributive purposes. Second, OMOs were supposed to have a neutral impact on the relative prices of financial assets and, thus, to avoid interferences in the price formation process among market participants (market neutrality).

In sum, under the CBI template, central bank operations were broadly perceived as apolitical (Marcussen, 2009); the goal to attain was narrow and consensual and the technical means to achieve it unproblematic. Crucially, this perception also forms the justifications for the very high level of independence given to central bankers.

The Heterodox Criticism of CBI

Against this consensus, heterodox scholars constantly claimed that monetary policy is utterly political and they tried to debunk the myths underlying the CBI framework (Aglietta & Orléan, 1998).

First, even if the aims of monetary policy are narrow, fulfilling these aims give rise to important trade-offs (Forder, 1998). For instance, the aims of price stability and full-employment often come at odds with each other, as fast-growing economic systems may generate inflationary pressures. Moreover, the beneficial nature of price stability cannot be assessed in isolation from other economic phenomena or from outside specific political contexts. For instance, in the post-war period, West Germany experienced both low inflation and low unemployment rates thanks to its economic model based on good export competitiveness and strong institutional coordination between the Bundesbank and powerful trade unions (Hall & Franzese, 1998). However, following the creation of the Eurozone, the imitation of the German price stability model was less beneficial for other European countries where wage coordination and export performance are weaker (e.g., Spain, Italy, France, Greece, and Portugal).

Second, monetary policy, even before 2007, has distributional effects. Indeed, low inflation tends to benefit creditors, at the expense of debtors. Compared to other groups, owners of financial assets have benefited from a disproportionate increase in their wealth since the early 1980s, which marked the starting point of the financialization of the economy (Epstein, 2005). This is the result of financial deregulation and high real interest rates, which stemmed from conservative inflation–targeting monetary policies. Some central bankers have acknowledged that monetary policy can generate these distributional impacts (Fontan et al., 2016: 15). However, they generally dismiss the relevance of these effects by framing them as the unintended, small, and unavoidable consequences

of monetary policy, which, according to them, could be addressed with fiscal policy (Fontan et al., 2016: 16–17).

Third, the independence of central banks from political actors does not mean that central banks are independent from financial markets. Indeed, the financialization of the economy, which has accelerated since the 1980s, meant that financial intermediaries (on financial intermediaries, see also the chapter by Tadjeddine in this *Handbook*) raised in importance and gained increased powers to influence their regulators, including central bankers. Adolph's (2013) seminal research documents several cases of former central bankers moving to private institutions at the end of their careers, or of private bankers getting appointed in high-profile positions in central banks. The troubling conclusion is that those passing through these revolving doors are more likely to take decisions in favor of the private financial sector, which amplifies the risks of "regulatory capture."

In short, from the 1990s until the 2007–2008 financial crisis, the CBI framework reigned (almost) unchallenged. The overall consensus was that central banking was mostly concerned about technicalities, and that its main purpose was to maintain low inflation. It was believed that the financialization of the economy was conducive to financial stability and that monetary policy had no effect on the distribution of wealth and income. However, the next two sections show that the 2007 financial crisis has put a serious blow to these conceptions and has shaken the pre-crisis consensus. In fact, the discrepancy between the stability of the CBI paradigm and the changing role of central banks since the crisis is a major research agenda for critical finance studies.

Financial Power

The CBI framework might have successfully isolated central bankers from political pressures but failed at identifying another source of influence: financial power. Beyond the issue of regulatory capture (cf. the previous section), scholars have identified two sources of power wielded by the financial sector over central banks: (1) structural power and (2) infrastructural power.

Financial *structural power* derives from the central role played by financial institutions in our economies (Culpepper & Reinke, 2014). When banks become too-big-to-fail (TBTF) during the financialization process, it is much more likely that public authorities will bail them out in the case of financial difficulties (Woll, 2014). The awareness that policymakers' hands are tied creates a problem of moral hazard, since banks have an incentive to grow to the point that they become TBTF. In fact, Federal Reserve insiders acknowledged in 2004 that reputational and economic costs linked to the failure of a TBTF institution would be so high that they would have no choice but to bail out insolvent banks, even though it would trigger a moral hazard problem (Stern & Feldman, 2004).

Arguably, the liquidity offered to insolvent institutions in the early stages of the crisis and the systemic unconventional monetary tools implemented later on confirmed that, when central banks are faced with a trade-off between

short-term financial stability and long-term financial stability, they tend to favor the former (Jacobs & King, 2016; Kalaitzake, 2019). In turn, these interventions transformed central banks into "bad banks," to the extent that they swapped liquidity against risky assets previously owned by commercial banks (Cour-Thimann, 2013). Moreover, banks did not use this favorable situation to recapitalize and consolidate their balance-sheets to be more resilient when the next financial crisis hits (Brunnermeier & Sannikov, 2016). Rather, the discrepancy between the post-crisis weak economic growth and market euphoria suggests that financial operators did not make any fundamental changes to their risky behaviors (Admati & Hellwig, 2014; Turner, 2016).

Considering that the economic and social consequences of the 2007 market meltdown would have been more severe without the swiftness and the scope of central bank interventions, moral hazard could be considered as a small price to pay (Eichengreen, 2014). However, in this case, we would expect central bankers and other political authorities to support stricter financial regulation and deleveraging of the financial sector to prevent similar scenarios in the future. Yet, financial regulation reforms did not meaningfully limit the problematic financial activities that led to the crisis (Helleiner, 2014; Thiemann et al., 2018). The first research results on the role played by central banks in these reforms show that, far from advocating stricter rules, they have advocated further financialization of the banking sector (Conti-Brown, 2016: 160; Gabor & Vestergaard, 2018; Kalaitzake, 2019). We argue that financial structural power partly explains this regulatory neglect.

Commercial banks wield *infrastructural power*, i.e., they exert control over the transmission channels of monetary policy (Braun, 2018). In the words of Braun, these channels of transmission are "infrastructural entanglements" which makes central bankers dependent on bankers to steer the economy. Scholars have explored how central banks' depoliticization strategies ignited commercial banks' infrastructural power before the crisis on both sides of the Atlantic (Braun, 2018; Krippner, 2012; Walter & Wansleben, 2019). Now, they study how this leverage led to the protection and promotion of problematic market activities by central bankers and their lack of control over the use of the liquidity provided to financial operators since the crisis.

After Lehman Brothers' bankruptcy, the Fed, the BoE, and the ECB injected massive amounts of liquidity to stabilize problematic segments of financial markets propelled by the 1990s financial innovation and deregulation, such as repo and securitization markets (Braun, 2016; Gabor & Ban, 2016; Krippner, 2012). In fact, since the crisis, central banks became "market-makers of last-resort": they now provide safe assets to market participants who use them as collateral in repo market operations (Mehrling, 2010). Moreover, the ECB came to rely so much on the smooth functioning of repo markets for the transmission of its monetary policy that it successfully opposed their inclusion into the EU financial transactions' tax proposal (Gabor, 2016; Kalaitzake, 2017). Moreover, the ECB and the BoE have also been at the forefront of the EU authorities' efforts

to revive securitization markets under the Capital Market Union proposal (see *Competition and Change*, special issue 2018, 22(2)). In other words, central bankers have actively defended and promoted problematic market activities that led to the crisis because the transmission of their monetary policy came to rely on their smooth functioning.

The issue is that there is a huge discrepancy between the amounts of liquidity injected by central banks in the financial markets and their impact on economic performance (Turner, 2016). This is because commercial banks exploit their leverage to use the liquidity provided by central banks for purposes other than providing credit to economic agents (such as either investing in exiting assets or derivatives or engaging in share buybacks). Political economy research on the conditionality attached to monetary instruments has shown that central bankers fail to control the use of their liquidity (Dietsch et al., 2018: Chapter 3). For example, as no conditionality was attached to the initial ECB Long-Term Refinancing Operations (LTRO), banks engaged in trade activities that are problematic from the point of view of central bank policy objectives: they borrowed liquidity at 1% to purchase risk-free sovereign bonds with higher interest rates and pocketed the difference. When some form of conditionality on the use of liquidity was introduced (Targeted (T)LTRO), banks were reluctant to participate in these operations, and the ECB quickly gave up its attempt to control the use of its liquidity (Fontan, 2018).

In the same vein, the latest ECB monetary policy innovation combines TL-TRO with the creation of a two-tier system³ on bank reserves. This allows "dual interest rates" in which central banks set an interest rate for bank lending, which is lower than the interest rate paid by banks on their reserves held at the central bank. Hence, "dual interest rates" raise the net interest income of the private financial sector: the ECB "pays" banks to pursue lending (Mackintosh, 2019). Like with its other unconventional tools, the ECB justifies these very generous conditions for the private banking sector with the argument that such advantages are necessary to incentivize banks to lend more to firms and households (European Central Bank, 2019).

In sum, isolating central banks from political pressures does not solve the issue of their independence towards financial market interests. Quite the contrary, the answer of independent central banks to the financial crisis has exposed that their policies are, at least to some extent, influenced by the structural and infrastructural power wielded by financial institutions. Studying financial power over central banks offers vibrant research perspectives to analyze recent developments within the state-high finance nexus (Strange, 1986). Moreover, since the crisis, central banks became key policy actors in national and supranational financial reforms thanks to their epistemic authority (Omarova, 2018). From this perspective, analyzing their research production on financial regulation might add a new piece to the puzzle of lackluster post-crisis financial regulation (on financial regulation, see also the chapter by Coombs in this *Handbook*).

The Distributive Dimension of Unconventional Monetary Policy

The analysis of financial power sheds lights on how central bank operations are impacted by the preferences of market players in the high finance circles. Studying the distributive effects of central banks' unconventional policies helps to understand how financial power impacts low finance, that is, wealth distribution at the household/firms level. In fact, the criticism addressed by heterodox scholars against the "neutral monetary policy" assumption underlying the CBI framework (cf. "The Heterodox Criticism of CBI" section) must be renewed in line with the shift in the instrumentation of monetary policy since the crisis. While we know that the bias displayed by conservative central bankers in favor of price stability has advantaged the owners of financial capital over other economic agents, does unconventional monetary policy generate winners and losers?

Central bankers claim that their asset purchase programs do not have significant distributive effects. In fact, they recognize that their purchases have direct inegalitarian effects: when central banks purchase sovereign bonds, this pushes up the value of those bonds – and affects other market segments too as it fosters demand for corporate bonds and equities. Since the households that hold financial assets are concentrated at the top end of the wealth distribution, asset purchases make rich people even richer (Bell et al., 2012). However, central bankers claim that this is not the end of the story just yet. Asset purchases also trigger indirect effects: they help to revive growth and, thus, boost employment and wages, which mostly help the modest households. In turn, the combined effects of direct and indirect channels on households' wealth depend on the composition and the distribution of financial assets and debts among households (Colciago et al., 2019: 23).

ECB economists claim that, in the case of asset purchases conducted in the Eurozone since 2015, indirect effects outweigh direct effects and they conclude that ECB asset purchases have actually decreased wealth inequality (Ampudia et al., 2018: 33; Lenza & Slacalek, 2018). Can we trust this in-house ECB research and extrapolate that, in general, asset purchases have helped to decrease inequalities? Since these are the only studies (to our knowledge) to make such strong claim on the egalitarian effects of asset purchases, it is important to discuss them to make our larger point about the distributive dimension of unconventional monetary policy. Fontan et al. (2019) found four reasons to be doubtful about these results, and we introduce a fifth argument, which tackles the market neutrality issue.

First, a recent literature review of the Heterogeneous Agents New Keynesian (HANK) models⁴ gives a much more nuanced view than the research produced by the ECB (Colciago et al., 2019). After identifying four direct channels of transmission of unconventional tools and two indirect ones, this literature review notices that most of the research has considered these channels in isolation and that the research results of these studies contradict each other. The

authors conclude that the existing empirical evidence on the distributive effects of monetary policy is mixed: effects vary according to the channel under study, the examined monetary tool, and the economic structure of the country and households. In other words, contrary to the conclusions of the ECB researchers who considers only two channels of distribution, it is impossible to estimate precisely the distributive effects of unconventional monetary policy until HANK models incorporate direct and indirect channels of transmission of monetary policy simultaneously rather than in isolation.

Second, there are solid reasons to have doubts about the capacity of HANK models to deliver robust estimations of the distributive effects of unconventional monetary policy. Indeed, the distinction between direct and indirect effects indicates that the former is easier to measure than the latter. While direct effects have, without doubt, inflated financial asset prices, causal links between asset purchases and the stimulation of economic growth are much harder to track down. For example, a recent study has shown that the identification strategy used in Lenza & Slacalek (2018) is invalid (Elbourne & Ji, 2019). Indeed, these authors have substituted the values attached to the ECB monetary policy in the model by random numbers but reached similar results. If macroeconomic changes associated with monetary policy were robust, results with random numbers should have been different from the ones used in the ECB's studies.

Third, the measurement of wealth inequalities is problematic. For example, by using the national wealth-to-national income ratio as a proxy for wealth inequalities rather than the Gini index,⁵ Fuller et al. (2019) found that rising house prices, which is an effect of asset purchases, has inegalitarian effects. By contrast, in conventional central banks models, it is assumed that rising house prices help to decrease wealth inequalities, which are measured with the Gini index. Moreover, the measurement of inequalities in the monetary economics literature does not really correspond to common perceptions of inequalities. This discrepancy is exemplified in the left panel of Figure 7.1, which replicates a simulation of the impact of ECB purchases on wealth inequalities (Ampudia et al., 2018: fig. 4).

According to the authors, the fact that the lowest quintile experiences the fastest wealth growth in percentage among the whole population is an indicator of the egalitarian effects of asset purchases. Yet, the representation of the data in percentage hides huge disparities of variation in monetary values. The right panel of Figure 7.1 shows it well: 2.5% of 1,100% barely amounts to 30% of additional wealth for the poorest quintile while the median wealth for the richest quintile is augmented by more than 5,000%. While these evolutions would be associated with a slight decline in the Gini index, it would take more than 350 years for the net rise in median income of the lowest quintile to exceed the higher quintile.

Fourth, this study and other central banks' researchers do not consider alternative counterfactual scenarios seriously enough. While central bankers often repeat that asset purchases might have inegalitarian effects, they underline that

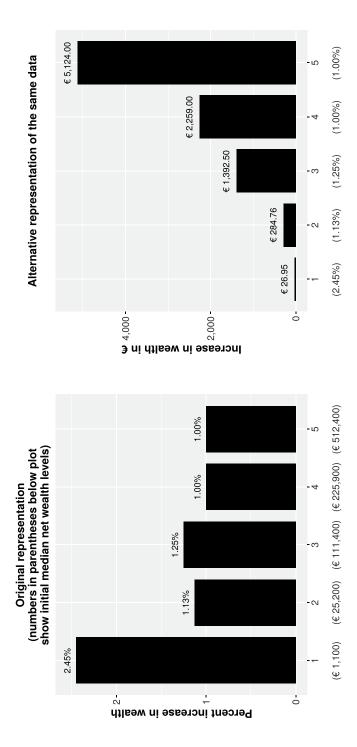


Figure 7.1 Two dissenting views on the distributive effects of asset purchases (Fontan et al., 2019, p.11).

the lack of implementation of these instruments would have brought even worst distributive outcomes since poor households suffer the most during recessions (Fontan et al., 2016: 18). Asset purchases were arguably a better policy option than doing nothing. However, it does not preclude alternative monetary tools that would fare better than QE in distributive or environmental terms. We turn to these alternatives in our next and last section.

Last but not least, central banks do not only purchase sovereign bonds: many of them intervene now on corporate securities markets (Van't Klooster & Fontan, 2019). Central bankers claim that these interventions are "market neutral," that is, they do not distort relative prices of financial assets. To implement market neutrality, central bankers mirror investment funds' business models as they follow a passive neutral strategy, which consists in purchasing a basket of securities that is representative of the market universe. While central bankers seem to be successful in not distorting prices within the corporate securities markets, their purchases create clear winners and losers. Winners include the firms with a large exposure to the corporate securities markets whose securities are directly purchased by central banks, that is, big multinational firms with a large carbon footprint (Matikainen et al., 2017). Conversely, losers are small and medium enterprises (SMEs), which do not have the financial capacities to emit bonds.

In sum, unconventional monetary policies have distributive consequences. While it is still difficult to identify winners and losers of these policies, preliminary research indicates that owners of financial assets and multinational firms with a large carbon footprint are part of the former group while households and SMEs are part of the latter group. In the light of these indications, it is easy to understand why central bankers fear for their legitimacy. However, rather than trying to hide these facts by claiming that their interventions are neutral, central bankers should acknowledge these inescapable consequences and look for policy instruments that could deliver better outcomes.

After the Crisis: Which Alternative Monetary Policy Instruments?

In this section, we review several alternative instruments that, according to their proponents, might weaken financial power and lead to better distributive outcomes. Most notably, these proposals illustrate how the current framework within which central banks navigate might have become obsolete.

One of them is the so-called "helicopter money" proposal, in which central banks would credit citizens' account directly, rather than going through financial intermediaries. Born as a thought experiment by Milton Friedman (1968), the idea was later revived by NGOs and left-wing elected officials in the aftermath of the global financial crisis. Muellbauer (2014), an academic and think-tank researcher, argues in favor of providing "all workers and pensioners" with a 500€ payment from the ECB, using their social security number or the electoral register to identify them. In the non-academic world, this policy has sometimes been

called "QE for the people" to highlight its appeal in comparison with the QE programs in the United States and Europe (e.g., van Lerven, 2016).

The main rationale given to that proposal (Blyth & Lonergan, 2014; Buiter, 2014; Muellbauer, 2014) is that, in economies suffering from a lack of spending, giving money directly to people (instead of buying bonds) would help to revive growth or help stop a recession. According to Muellbauer (2014), this effect is expected to be larger in economies where people are relatively more cash-poor (e.g., Portugal or Spain) than in economies, such as Germany, where people have already constituted large amounts of savings.

The helicopter money proposal suggests that, for central banks to have significant effects on the post-crisis economy, they might need to get rid of the CBI framework and the regular channels of transmission of monetary policy. However, with helicopter money, private banks would still hold a central place within the financial system, since money would be credited on citizens' bank accounts. As the 2007–2008 financial crisis has shown, the important weight of private banks in the economy creates a moral hazard problem and helicopter money would not help to decrease financial power (see "Financial Power" section).

Central Bank Digital Currencies (CBDC) could provide a useful tool for central banks to bypass the private sector while allowing them to implement unconventional monetary policies, such as the helicopter money proposal. In fact, today, central bankers seriously consider implementing CBDC. CBDC would be labeled in a national currency (euro, dollar, sterling pound...) and would, in most scenarios, amount to giving access to central bank balance sheet to a larger public (Barrdear & Kumhof, 2016; Bordo & Levin, 2017; Broadbent, 2016; Dyson & Hodgson, 2016). In practice, each citizen would have an account, labeled in CBDC, either directly at the central bank or indirectly through specific agencies. In any case, the money would stay at the central bank, and be legally its money, even if accredited financial intermediaries could provide access to these accounts to the public. Citizens and firms would be able to exchange their money held in cash or on their bank account against CBDC.

The implementation of CBDC on a large scale has the potential to reduce dramatically financial power. Contrary to the "simple" helicopter money proposal, CBDC would allow central banks to credit citizens' accounts directly without necessarily resorting to banking intermediaries (Engert & Fung, 2017: 6). CBDC could also help alleviate financial structural power, by making private banks less vital for the economy. Citizens could opt for holding their savings on central banks' accounts, which, by definition, would be much safer than commercial banks' accounts (Broadbent, 2016; Dyson & Hodgson, 2016: 9–10). Moreover, the introduction of CBDC would decrease banks' infrastructural power by offering an alternative payment system that is not managed by the private banking sector.

Both proposals would be in line with the dynamics unfolding in central banking since the 2007 financial crisis. In short, these dynamics have consisted

in giving greater powers to central banks while looking for ways to circumvent the damaging effects of financial power. Yet, the increased powers of central banks have not come with stricter political controls (Adolph, 2018; Högenauer & Howarth, 2016; Jones & Matthijs, 2019). Without significant changes in the current central banking framework, the helicopter money and CBDC proposals would aggravate this problem: central bankers would have access to household and firms financial data, and they would take decisions with even more profound distributive consequences than current unconventional monetary policy.

One way forward to increase their legitimacy would be to adapt their mandate, by putting more weight on the distributional or environmental impact of their (unconventional) policies (Fontan et al., 2016; Van't Klooster, 2018). Alternatively, greater cooperation between monetary and fiscal authorities does not necessarily involve mandate change: central banks could increase their purchases of public investment banks, respect ethical or environmental criteria defined by the parliament when purchasing bonds, or form tier committees with fiscal authorities to set allocative targets (Ryan–Collins & Van Lerven, 2018). From this perspective, the current central banks' frameworks in South–East Asia and the former mandates of Western central banks during the 1950s offer glimpses of how monetary policy could contribute more directly to the fight against climate change and inequalities (Campiglio et al., 2018; Monnet, 2018).

Concluding Remarks

Between the 1990s and the 2007–2008 financial crisis, central banking followed a specific template, which, by historical standards, has narrowed down the objectives of monetary policy to price stability and isolated central banks from political pressures to an unprecedented degree (Singleton, 2010). While heterodox scholars maintained that central banks were inherently political institutions, the CBI template reached a very high level of consensus among policy-makers and economists and it led to an effective depoliticization of monetary issues (Marcussen, 2009). The 2007 financial crisis changed this state of affairs, since it fragilized central assumptions of the CBI model (such as the neglect of financial stability). Moreover, the unconventional monetary instruments implemented by central banks have been much more controversial than the regular pre-2007 interest rates policies (Goodhart et al., 2014).

In this chapter, we have identified two critical research agendas, which offer stimulating perspectives on how to grasp the power dynamics at play in this new era of central banking. On the one hand, there is a new stream of political economy literature, which untangles the state-finance nexus by analyzing the role played by central banks in the stabilization of hypertrophied and fragile financial systems. This analysis of "high finance" power games reveals that private banks were able to wield structural and infrastructural power over central banks and, thus, have influenced the formulation of unconventional monetary policy in their favor.

On the other hand, to understand how these "high finance" power struggles impact "low finance," we have reviewed the most recent macro-economic research on the distributive implications of asset purchases. While acknowledging the mixed empirical results of this stream of research, we are very critical of the in-house ECB research claiming that asset purchases have helped to decrease inequalities. On the contrary, rich households and multinational firms with large carbon footprint seem to be the obvious winners of unconventional policies, while gains by poorer households and SMEs are less obvious.

Finally, in the light of all the drawbacks of the unconventional monetary policy developed under the CBI framework, we have explored two potential reforms that are gaining traction in the public debate: helicopter money and CBDC. These proposals have an obvious ethical appeal but they could reinforce the unchecked gain of power of central banks since the crisis. In sum, future research in critical finance studies should pay specific attention to the widening gap between the gain of new powers by central bankers and their resilient high level of protection against political interferences.

Notes

- 1 In this chapter, we had to exclude other significant topics of interest on central banking. Yet, we encourage readers to pay attention to the international dimension of the monetary system, which is fraught by the discretionary politics of the Federal Reserve (Sahasrabuddhe, 2019) or to the ideational research aiming at opening the "black-box" of central banks' decision-making (Ferrara, 2019; Golub et al., 2015).
- 2 This evolving role mirrors the changing structure of financial systems where collateral-based repo operations became the main source of financing for banks and other financial intermediaries (Gabor, 2016).
- 3 A two-tier system exempts part of commercial banks reserves held at the central bank from negative rates.
- 4 HANK models differ from the Representative Agents New Keynesian (RANK) models that were used before the crisis in that they allow modeling various consumption responses of households to monetary policy changes (Kaplan et al., 2018).
- 5 The Gini index is the most common measure to track wealth inequality.
- 6 The ECB, the Bank of England, and the Swiss National Bank are three good examples.

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