

Central Banking at a Crossroads

Anthem Frontiers of Global Political Economy

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Central Banking at a Crossroads

Europe and Beyond

Edited by

Charles Goodhart, Daniela Gabor,
Jakob Vestegaard and Ismail Ertürk



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Chapter 1

INTRODUCTION

Charles Goodhart, Daniela Gabor,
Ismail Ertürk, and Jakob Vestergaard

Background and Key Themes

Since the collapse of Lehman Brothers, central banks and regulatory authorities in general have been confronted with difficult questions. The global financial crisis made apparent that the analytical models of the Great Moderation period failed to capture the changing nature of financial intermediation and the complex business models of transnational banks operating across different jurisdictions. In turn, despite few theoretical certainties with which to draw upon, central banks have played key roles in responding to the crisis and in trying to devise more adequate modes of regulation and intervention. First, in the immediate aftermath of the crisis, it was the central bank governors of Basel Committee member countries that amended the existing Basel II rules and methodologies for capital adequacy. Second, it was the Financial Stability Board, with much the same country membership as the Basel Committee and with central bank governors gathered around the negotiating table, which identified principles and guidelines for the resolution of distressed banks. And last but not least, it was the central banks that replaced conventional tools with new instruments and practices that extend their mandate and blur the traditional separation from private financial markets. For the past five years, central banks have intervened in both public and private debt markets, taking on functions of market makers or dealers of last resort. In this book, we propose to explore these developments and set them in the context of the European crisis.

The most comprehensive national regulatory response to the crisis came from the USA, where the Dodd–Frank Act specifically aimed at regulating the business models of banks by removing the risky proprietary trading from the investment banking activities in bank conglomerates and moving over-the-counter derivatives trading to the exchanges. The Vickers Report in the UK, too, aimed at separating investment banking from the retail banking activities of universal banks, but in a less clear way, by proposing the ring fencing of retail from investment banking. Such ring fencing would involve different capital-adequacy rules for retail and investment banking activities within the same bank holding company. Technically, the Dodd–Frank and the Vickers initiatives have many differences, but both have the common goal of protecting both retail depositors and taxpayers from risky investment banking activities in universal banks. Such regulatory

interventions obviously will have significant implications for bank business models as they will have a direct impact on how profits are generated in investment banking activities. In the EU, the Liikanen Report, too, was primarily driven by the need to keep retail banking safe from such risky investment banking activities.

The book is divided into four sections. The first, “Bank Capital Regulation,” examines in detail the Basel III agreement, identifying the key novelties vis-à-vis its predecessor, Basel II, as well as its main shortcomings. While Basel III introduces several useful regulatory tools—notably, a leverage ratio, liquidity requirements, and a countercyclical capital buffer—significant weaknesses remain. The continued predominance of ratios of capital to risk-weighted assets is unfortunate, particularly in the context of an industry that operates on dangerously low levels of equity capital, and has proven the ability to improvise practices of regulatory arbitrage that can counteract the intended consequences of Basel risk calculations. In addition to an in-depth assessment of the Basel III agreement, chapters in this section question the notion that increasing the equity capital of banks would be costly to society and critically review alleged efforts to recapitalize Europe’s banks.

The second, “Bank Resolution,” explores key questions raised and lessons learnt from the global financial crisis. Its starting point is that authorities lacked the necessary tools to intervene effectively and quickly enough, resulting in resolutions that were both messy and costly—and where taxpayers were often left to foot the bill. Several specific questions will be explored: What are effective regimes for regulating and resolving (ailing) banks? How does the political context influence these regimes and what lessons can be learned from new models adopted in different parts of the world? Last but not least, how can regulators overcome the challenges of resolving banks operating across different jurisdictions?

The third, “Central Banking with Collateral-Based Finance,” develops two interconnected themes: the challenges that market-based finance pose for the conduct of central banking in periods of economic stability as well as during crises; and, through a critical theoretical angle, the increasing role that governments play for financial markets as manufacturers of high-quality collateral or safe assets. Contributors to this section examine several different mechanisms through which market-based financial systems interact with the conduct of central banking. What are the defining features of market-based finance that make it imperative to reassess the established models of central banking? How can central banks manage the relationship between money and collateral? How did debt, and in particular government debt, itself become the most common form of collateral in the financial system? How do practices of collateral intermediation affect financial stability and systemic risk? Are these practices different across jurisdictions and how relevant are these differences for central banks? What broader political questions about the governance of markets does collateral raise for central banks and governments?

The fourth, “Where Next for Central Banking?” examines fundamental issues about the trajectory of central banking and its new, central role in sustaining capitalism. The global financial crisis has shaken the foundations of the deceptively comfortable pre-crisis central banking world. Although the traditional lender-of-last-resort role of central banks is short-term and transitional, the new unconventional balance sheet policies of

central banks that have been performed through a series of quantitative easing (QE) programs are indeterminate in duration and size. The US Federal Reserve has announced that quantitative easing will continue until unemployment reaches a desirable level and, similarly, the European Central Bank is prepared to do “whatever it takes” to save the euro. These new modes of intervention have significant allocative and distributive consequences, and yet they remain outside democratic control. Central banks today hence face not only economic, intellectual, and institutional challenges, but also the challenge of introspection. Can the traditional principles of central bank independence survive the shift to market-based finance? If not, what form should the relationship between central banks and governments take? Can such challenges be addressed independently, or is global coordination through new institutions such as the Financial Stability Board the answer to the global nature of financial markets?

There are important analytical connections between the four sections. The new regimes for regulation and resolution may encourage financial innovation to produce safe assets and high-quality collateral, while a rethink of central banking models beyond the traditional lender of last resort will have regulatory consequences. The quintessential task of the central bank, as Borio puts it in his contribution, is no longer only to react to changes in inflation with interest rate measures. Since the crisis, central banks’ liquidity provision—through standard facilities as well as through unconventional measures such as quantitative easing—has taken center stage. Yet, liquidity regulation is also one key priority of the Basel III Liquidity Rules, with the explicit purpose of shifting funding models onto longer-term sources. Thus, a return to interest rate instruments may require central banks to take into account, through their liquidity management operations, the regulatory demands for liquidity in Basel III. This goes to the heart of ongoing debates about how to integrate monetary policy and financial stability concerns, suggesting that the current consensus on macroprudential policies may need further refining to consider possible overlaps, or even conflicts, between policy objectives.

Another cross-cutting theme engages with the distinctive challenges that the financial crisis and its regulatory aftermath have raised for governments. Across the contributions in the book, governments appear in different guises. Through a resolution lens, governments may be forced to bear the costs of poorly designed resolution regimes, particularly when these involve cross-border banks under ill-defined supervisory responsibilities. Discussions of regulation and collateralized finance conceive of governments as manufacturers of high-quality liquid assets to be held under Basel III liquidity requirements or used as collateral to raise market funding. A legitimate, if not often-posed question in this respect is whether regulatory and market initiatives may be overburdening governments as much as crisis responses appear to have overburdened central banks. For example, some governments may not be supplying enough government bonds for their banking sector to be able to comply with Basel LCR (Norway, Denmark). Should that translate into exemptions from Basel rules for such banks? Conversely, since the European sovereign debt crisis, the “risk-free” status of some (high-income) sovereigns has come under question, often because repo markets stopped treating their bonds as high-quality collateral because of the burden that bank rescues posed on government finances (e.g. Ireland). Can and should governments, in their guise of collateral manufacturers, be

entrusted with financial stability when their fiscal positions are exposed to automatic stabilizers and bank rescue costs? Or rather, is it the case that new forms of coordination between central banks and governments are necessary to preserve stability in the financial markets of the future, dependent on high-quality liquid assets?

Interconnectedness within and across borders, between banks and non-bank intermediaries, also matters. Fragile connections within the financial sector may result in systemic risk, particularly where these reflect business models based on leverage, and driven by tax and regulatory arbitrage. Thus, regulatory structures and bank resolution procedures may need to become more complicated when banking institutions are closely interconnected on and off the balance sheet through cross-border networks of complex credit claims.

The crisis has dispelled the illusions that central banking could be a scientific endeavor, firmly grounded in rigorous models, supported by communicative strategies whose ultimate goal was to train financial markets to interpret the central bank's interest rate signals adequately. Rather, the rapid pace of financial innovation, including the growth of the shadow banking sector, has posed significant challenges to the existing institutional and political order, challenges that scholars will be researching in detail over the next decade. Central bankers now live in a world of multiple instruments (interest rates, collateral framework, macroprudential tools, forward guidance) and multiple objectives (price stability, unemployment and financial stability). Resolving potential conflicts between these objectives will require technocratic, and for some deeply political, judgments that throw into question the dominant paradigm of central bank independence. Cross-border coordination, the crisis has shown, is crucial, while the institutional architecture to enable such coordination is yet to be developed. Researchers will have to theorize the mechanisms through which central banks with competing domestic priorities—most pressing, at this point, the pace of exiting unconventional measures—can cooperate to contain cross-border spillovers, and the extent to which, in the absence of cooperation, the careful use of capital controls will become the new normal in the post-crisis global financial system. Finally, the structural implications of the ongoing efforts to re-regulate finance are yet to be fully understood. What would central banking look like in a world where intermediation moves from highly regulated banks into the shadow banking world?

Overview of Chapters

Part 1: Bank Capital Regulation

Andrew Haldane notes that since the mid-1990s, banking regulators globally have allowed banks the discretion to use their own models to calculate capital needs. Most large banks today use these models to scale their regulatory capital. This self-regulatory shift was made with the best of intentions. Yet its consequences have been predictable. Self-assessment has created incentives to shade reported capital ratios. As elsewhere, a regulatory regime of constrained discretion has given way to one with too much unconstrained indiscretion. Incentives will always exist to shift risk to where it is cheapest.

No tax or regulatory system can fully avoid those incentives. However, some regimes may be better at constraining those incentives than others. The current mix of complexity and self-regulation may provide too few constraints. Complexity has meant that avoidance and arbitrage can flourish behind a curtain of opacity. In addition, self-regulation has meant that even as one wormhole is closed, others can be created in their place.

This calls for regulatory repair. Without change, the current regulatory system risks suffering, like the LIBOR fixers, from reputational damage. Fortunately, there are early signs that regulatory change is afoot to place tighter constraints on this (in)discretion. Making greater use of simple, prudent regulatory metrics could restore faith, hope, and clarity to the financial system to the benefit of banks, investors, and regulators alike.

Admati, DeMarzo, Hellwig, and Pfleiderer examine what they see as the “fallacies, irrelevant facts, and myths” in debates about bank capital regulation (Chapter 3). In so doing, they particularly counter the pervasive view that “equity is expensive,” which leads to claims that high capital requirements are costly and would affect credit markets adversely. The authors find that arguments made to support this view are either fallacious, irrelevant, or very weak. For example, the return on equity contains a risk premium that *must* go down if banks have more equity. It is thus incorrect to assume that the required return on equity remains fixed as capital requirements increase. It is also incorrect to view higher taxes paid by banks as a *social* cost. Policies that subsidize debt and indirectly penalize equity through taxes and implicit guarantees are distortive. Any desirable public subsidies to banks’ activities should be given directly and not in ways that encourage leverage. Suggestions that high leverage serves a necessary disciplining role are based on inadequate theory, lacking empirical support. Admati and colleagues conclude that bank equity is *not* socially expensive, and that high leverage is not necessary for banks to perform *all* their socially valuable functions, including lending, deposit taking, and issuing money-like securities. On the contrary, better-capitalized banks suffer fewer distortions in lending decisions and would perform better. The fact that banks choose high leverage does not imply that this is socially optimal, and, except for government subsidies and when viewed from an *ex ante* perspective, high leverage may not even be privately optimal for banks. Setting equity requirements significantly higher than the levels currently proposed would entail large social benefits and minimal, if any, social costs. Approaches based on equity dominate alternatives, including contingent capital. To achieve better capitalization quickly and efficiently, and prevent disruption to lending, regulators must actively control equity payouts and issuance. If the remaining challenges are addressed, capital regulation can be a powerful tool for enhancing the role of banks in the economy.

In “Complexity, Interconnectedness: Business Models and the Basel System” (Chapter 4), **Blundell-Wignall, Atkinson, and Roulet** argue that the main hallmarks of the global financial crisis were too-big-to-fail institutions taking on too much risk with other people’s money: excess leverage; default pressure resulting from contagion and counterparty risk; and the lack of regulatory and supervisory integration and efficient resolution regimes. From this point of departure, the authors look at whether the Basel III agreement addresses these issues effectively. Basel III has some very useful elements, notably a (much too light “backup” only) leverage ratio, a capital buffer, a proposal to deal with pro-cyclicality through dynamic provisioning based on expected losses, and

liquidity and stable-funding ratios. However, the authors show that Basel risk weighting and the use of internal bank models for determining them leads to systematic regulatory arbitrage that undermines its effectiveness. Empirical evidence about the determinants of the riskiness of a bank (measured in this study by the distance to default) shows that a simple leverage ratio vastly outperforms the Basel T1 ratio. Furthermore, business model features (after controlling for macro factors) have a huge impact. Derivatives origination, prime broking, etc. carry vastly different risks to core deposit banking. Where such differences are present, it makes no sense to have a one-size-fits-all approach to capital rules. Capital rules make more sense when fundamentally different businesses are separated.

Vestergaard and Retana examine the alleged recapitalization of Europe's banks, demonstrating that the procedures orchestrated by the European Banking Authority (EBA) were little but a smokescreen for regulatory inaction (Chapter 5). When publishing the results of the recapitalization exercise, the EBA reported that European banking had been successfully recapitalized and now was in a much stronger position, with a much strengthened capital base and overall resilience. Vestergaard and Retana question this assessment. The recapitalization orchestrated by the EBA was based on a capital assessment methodology that has been subject to considerable criticism. The methodology of basing regulatory capital requirements on risk-weighted assets is a less reliable indicator of banks' soundness and resilience than ratios of capital to total assets. The chapter compares the assessments undertaken by the EBA—all of which are based on risk-weighted assets—with data on leverage ratios, defined as equity capital to total assets. By equity capital criteria, the recapitalization of European banks was insufficient at best. Only 7 out of 24 banks actually increased their ratio of equity capital to total assets. Second, the least well-capitalized banking sector among the larger Eurozone countries is not Spain or Italy, but Germany, closely trailed by France. The banking sectors of Spain and Italy have equity to total assets roughly double the size of those of Germany and France. Third, European banking remains far below the levels of equity capital recommended by scholars—and hence, remains vulnerable to shocks, and dependent on various forms of state subsidies, guarantees, and bailouts. Finally, the EU's new capital requirement regulation and directive, CRD4, will institutionalize the European reluctance to recapitalize its banks, and hence impede rather than improve the resilience of European banks.

Part 2: Bank Resolution

In “Bank Resolution in Comparative Perspective” (Chapter 6), **Charles Goodhart** notes that one key lesson of the recent financial crisis has been that standard bankruptcy procedures are inappropriate in the case of a bank. Instead, we need a special resolution regime (SRR) for banks, Goodhart argues, enabling the financial authorities to intervene in a failing bank to handle its demise in a variety of ways as might seem best. The establishment of an SRR is to be buttressed with two further reforms. The first is that the ratio of potentially loss-absorbing capital to (risk-weighted) assets should be greatly increased. The second reform involves making advance plans for periods of extreme

difficulties for large and systemic banks, in the shape of recovery and resolution plans (RRPs). The first part, the “recovery” segment, requires the bank to think how it might be able to survive periods of extreme pressure (e.g. by selling assets or by borrowing, perhaps by establishing some kind of contingent put option). The second part, the “resolution plan,” requires the bank to organize its affairs in such a way as to facilitate and expedite intervention by the official agency established under the SRR for the purpose of resolving failed banks (should the recovery part of the RRP prove insufficient). Even with such arrangements in place, considerable complications remain, however. Goodhart discusses strengths and weakness of single versus multiple entry point approaches as well as issues relating to the timing of intervention, the scope of deposit insurance, and mechanisms for bail-in. He concludes that the future of not only the process for bank resolution, but also of the structure of the wider financial system, remains in doubt. We may know what kind of ultimate equilibrium state, for the financial system, we might like to attain, but the empirical evidence clearly suggests that we have very little clear idea of how best to get from here to there.

Martin Čihák and Erlend Nier undertake a review of the global evidence on resolving problem banks (Chapter 7). In response to the global financial crisis, many countries are considering or have made changes in their regimes for resolving problem banks, Čihák and Nier note. In most cases, this has involved carving banks out of general bankruptcy regimes, and moving toward early intervention and resolution regimes specifically designed for banks. Such special regimes typically give more powers to central banks and other financial authorities, and reduce the involvement of the judicial system. This chapter provides a critical review of the reforms in bank resolution regimes around the globe, building on updated information from recent global surveys, including the updated Bank Regulation and Supervision Survey organized by the World Bank. The chapter identifies features of a well-designed and well-implemented bank resolution regime that can be helpful in containing the fiscal costs and limiting the impact of a bank failure on financial stability, both in the home country and in foreign jurisdictions. It highlights the issue of rules versus discretion: these regimes provide wide discretion to financial authorities to act in resolving the problem bank, but they also need to contain clear rules to ensure that timely action occurs, and that it withstands subsequent legal challenges. The chapter notes that while the conceptual reasons for SRRs for banks are strong, such regimes are not a panacea, and need to be complemented by other measures. In addition, real-life resolution regimes have important limitations and shortcomings that reduce their effectiveness. Indeed, Čihák and Nier’s review of the post-crisis reforms suggests that legal and regulatory changes, while going in the right direction, have not fully addressed the underlying incentive breakdowns highlighted by the global financial crisis.

Focusing on “Bank Resolution in New Zealand,” **David Mayes** considers whether the proposals for a bail-in of creditors that is currently being implemented as a way to resolve systemically important banks in New Zealand would also work in the EU/EEA (Chapter 8). This method, labeled “open bank resolution,” but more appropriately described as “bank creditor recapitalization,” is particularly relevant in the light of the resolution procedures adopted in Cyprus in March 2013, which have many aspects in common, Mayes argues. While New Zealand is unusual in having a highly concentrated banking sector owned

by Australian banks, aspects of the scheme are transferable. However, other aspects of the scheme make it unlikely that it will actually be used, mainly because there is no deposit insurance, and hence ordinary depositors would be part of the compulsory bail-in. This not only increases financial instability by encouraging a bank run before insolvency, but is unlikely to be politically acceptable at the time, as depositors are voters. The chapter considers five key issues: first, the New Zealand requirement that the parts of the cross-border bank be divisible along jurisdictional boundaries and capable of operating on their own immediately on resolution; second, whether resolution can be successful if home and host countries do not cooperate; third, whether the writing down of creditor claims is the best method of bailing in; fourth, whether such a resolution can actually be completed rapidly enough so that the bank can, in effect, remain “open”; last, whether it can actually operate without provoking an early bank run. Mayes concludes that while the proposals appear practically feasible and transferable to other jurisdictions, particularly given the concerns of the Liikanen and Vickers Reports over the division of banking groups’ activities, it is unlikely that bailing in ordinary depositors would be preferred to the bailing in of bondholders after the resources of the shareholders, subordinated debt holders, and other junior creditors have been exhausted.

Part 3: Central Banking with Collateral-Based Finance

In his chapter, **Manmohan Singh** asks what happens when central banks become important players in collateral markets. Quantitative easing programs change the relative price(s) of money and collateral, and in doing so reshape what Singh calls the “collateral space.” In the old collateral space, private financial actors, typically non-banks, could meet growing collateral demand from the financial system by reusing collateral. Collateral thus flows at a velocity that allows it to support various repo transactions simultaneously. In contrast, the new collateral space is characterized by increased complexity and is complicated by new actors: central banks, regulators, and collateral custodians. These have a differentiated impact on collateral velocity, and therefore on financial lubrication. Thus, central banks’ purchase of high-quality assets, through quantitative easing, slows collateral flows since central banks hold these in silos with zero velocity by definition. Regulatory demands for high-quality assets are expected to similarly drain collateral from financial markets.

Singh explores various channels through which collateral shortages may be alleviated in the future. He first notes that manufacturers of AAA securities, although lower in number since the European sovereign debt crisis, will continue to increase supply. Fine-tuning some regulatory demands may also play an important role. Central banks may follow the example of the Reserve Bank of Australia, and engage in collateral transformation. In the medium term, assuming no major dislocation in financial markets, central banks can unwind sizable good collateral from their balance sheet and alleviate shortages (if any). However, release of collateral from central bank balance sheets may not be as easy as quantitative easing, since repo rates cannot exceed policy rates, especially where central banks continue to price excess reserves/money favorably. The US Federal Reserve strategy to release collateral through reverse repos has doubtful

effects on financial lubrication since it does not permit onward re-pledging. Thus, for some key jurisdictions (e.g. the USA), fine-tuning the price of money and the price of collateral will remain a challenge.

Daniela Gabor explores the importance of collateralized bank-funding strategies for the design of monetary policy measures during the crisis (Chapter 10). In so doing, the chapter first provides a taxonomy of crisis measures that distinguishes between market-based and bank-based crisis measures. Until 2012, the US Federal Reserve and the Bank of England deployed the first (quantitative easing), while the European Central Bank (ECB) preferred bank-based measures (long-term refinancing operations) that it argued would fit better with the bank-based nature of the European financial system. Gabor argues that this distinction is moot where banks rely on collateralized funding, as large European banks do. The chapter highlights a crucial policy challenge in monetary unions with integrated funding markets: banks' access to market funding depends on existing portfolios of marketable collateral; in the Eurozone, these are mainly composed of sovereign bonds. This is an important, if yet underexplored structural change in the actors and trading strategies in sovereign bond markets with crucial implications for the conduct of central banking during a crisis. Collateral management is intimately linked to leverage and relies on mark-to-market risk management strategies. This sharpens the pro-cyclicality of sovereign bond markets, and in doing so, ties bank-funding conditions to the sovereign's funding conditions. Yet the institutional architecture of central banks is ill-suited to deliver bank stability under these conditions. Political and institutional factors constrain the central bank's ability to stabilize the most important market for collateral, the sovereign bond market. This worsens "two-way risks" between the counterparty (bank) and the collateral (sovereign bond), further deteriorating both bank and sovereign funding conditions, particularly under a limited degree of internationalization of collateral portfolios. For this reason, the ECB's outright market operations (market-based) succeeded where successive rounds of long-term refinancing operations (bank-based) failed.

Nina Boy takes a step back from the immediate question of how collateral impacts the conduct of central banking. She instead unpacks the assumption that sovereign debt should be treated as a safe asset, an assumption that has guided regulatory initiatives such as Basel III. How did debt, and in particular government debt, itself become the most common form of collateral in the financial system? In other words, how did government debt become "safe"?

The safety of sovereign debt corresponds to the establishment of sovereign creditworthiness: from sovereign bonds being charged a significantly higher interest rate than commercial loans in the Middle Ages, to them circulating as "unsecured"—that is, no longer requiring additional security in the form of either collateral or a high interest rate, but trading merely on "full faith and credit." Corporate bonds, by contrast, when unsecured, have to compensate with a higher interest rate or, if secured, imply the pledge of specific assets as collateral, and the issuer "paying" for the extra safety by receiving a lower interest rate than on a comparable, unsecured bond. As such, sovereign safety has underwritten the rise of collateral-based finance, and plays a crucial role for both financial lubrication and financial stability. But the question receives additional interest with the "increased questioning of sovereign debt representing a genuine risk-free rate" (BlackRock 2011) following the sovereign debt crisis.

Going beyond the standard assumption underpinning modern finance theory and standard economics that sovereign debt is safe, the chapter first offers an economic historian's account of the establishment of sovereign creditworthiness. In order to grasp a critical dimension of this process of accreditation, attention must be turned to the wider cultural context, in particular that from which the discipline of history has traditionally sought to distinguish itself: literary fiction. Drawing on influential studies in the field of the "new economic criticism," the chapter traces the role of fictional realism in making the financial fictions of fiat money and sovereign bonds creditworthy.

Part 4: Where Next for Central Banking?

Claudio Borio notes that the global financial crisis has shaken the foundations of the deceptively comfortable pre-crisis world of central banking (Chapter 12). Pre-crisis, the quintessential task of central banks was seen as quite straightforward: keep inflation within a tight range through control of a short-term interest rate, and everything else will take care of itself. Everything was simple, tidy, and cozy. Post-crisis, many certainties have gone. Price stability has proven no guarantee against major financial and macroeconomic instability. Central banks have found themselves reaching well beyond interest rate policy, aggressively deploying their balance sheet in a variety of "unconventional" monetary policies. As a result, the line between monetary and fiscal policy has become blurred precisely at a time when public sector debts are ballooning and sovereign risk is rising again. And many increasingly question the very ability of central banks to maintain inflation within acceptable ranges, notably to avoid deflation.

Central banks now face a threefold challenge, Borio argues: economic, intellectual, and institutional. Borio puts forward a compass to help central banks sail in these largely uncharted waters. First, the tight interdependence between monetary and financial stability will need to be fully recognized and policy frameworks adjusted accordingly. This, in turn, will require bolder steps to develop analytical frameworks in which monetary factors play a core role, not a peripheral one as hitherto—an intellectual rediscovery of the roots of monetary economics. Second, there should be a keener awareness of the global as opposed to the purely domestic dimensions of those tasks. The common view that keeping one's house in order is sufficient for global stability should be reconsidered. This calls for an intellectual shift that is analogous to the one that has already occurred in financial regulation and supervision, from a microprudential to a macroprudential perspective. Finally, the autonomy of central banks will need to be protected and strengthened.

The ballooning of central bank balance sheets after the 2007 crisis in core capitalist countries has attracted the critical attention of economists and financial media, notes **Ismail Ertürk**. Monetarist economic theory instinctively problematizes such an expansion of central bank balance sheets as an inflationary phenomenon. A Minskian perspective that questions the neutrality of money in neoclassical economics, on the other hand, justifies central bank activism as necessary to bring capitalism back to stability after inevitably destabilizing endogenous credit expansions. Regardless of these different theoretical framings, there clearly is a policy convergence in both liberal

market economies and coordinated market economies, whereby central banks use unconventional monetary policies to generate growth and employment. In his chapter, Ertürk proposes an alternative framing of unconventional central bank policies after the 2007 crisis by shifting the focus to the role of central banks as holders of long positions on sovereign debt and non-tradable bank assets. In the process of injecting liquidity to the dysfunctional post-crisis banking system through quantitative easing programs, central banks have ended up investing in sovereign risk and bank credit risk with unintentional allocative and distributive consequences. This so-called central bank put is on a capitalism that hardly achieves positive growth rates in core capitalist countries. The risks of holding long positions on low-growth capitalism include unknowable exit costs to the economy and society in core capitalist countries.

Sheila Dow argues that the problem of insufficient collateral for the financial system is a product of weak economic conditions and financial instability, which has eroded confidence in the valuation of assets, and that this has been compounded by central bank independence (Chapter 13). In order to consider further the relationship between central banks and governments, it is necessary to go back to first principles and consider what society needs from central banks, Dow stresses. The role of the central bank is then explored as being to provide a stable financial environment as a basis for real economic activity. This involves the provision of a safe money asset; proactive regulation, monitoring, and supervision of (institutionally separated) retail banks which supply this asset, as well as the wider banking system; and lending to government as required, subject to maintaining the value of the currency. The evolution of this traditional role in relation to banks and government is analyzed in terms of collateral, emphasizing their interdependencies. As a result, it is argued that central banks should not be independent of government, but rather that the traditional, constructive, mutual relationships between central banks, retail banks, and government be restored.

Annelise Riles addresses a central challenge for international financial regulatory systems today: the management of the impact that global systemically important financial institutions (G-SIFIs) have on the global economy, given the interconnected and pluralistic nature of regulatory regimes. Her chapter focuses on the Financial Stability Board (FSB) and proposes a new research agenda for the FSB's emerging regulatory forms. In particular, it examines the regulatory architecture of the new governance (NG), a variety of approaches that are supposed to be more reflexive, collaborative, and experimental than traditional forms of governance. A preliminary conclusion is that NG tools may be effective in resolving some kinds of problems in a pluralistic regulatory order, but they are unlikely to be suitable for all problems. As such, this chapter proposes that analyses of the precise conditions in which NG mechanisms may or may not be effective are necessary. It concludes with some recommendations for improving the NG model.

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