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# Divisions of regulatory labor, institutional closure, and structural secrecy in new regulatory states: The case of neglected liquidity risks in market-based banking

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## Abstract

Monetary policy and financial regulation have been regarded one of the paradigmatic domains where states can reap the benefits of delegating clearly delineated and unequivocal policy tasks to specialized technocrats. This article discusses the negative side-effects and unintended consequences of particular ways to partition such tasks. The separation between monetary policy formulation, central banks' money market management, and financial supervision has weakened policy makers' capacities to address risks associated with banks' active liability management and to mitigate pro-cyclical dynamics in money markets. These adverse effects derive from the neglect of liquidity as a regulatory problem in formal task descriptions; from the obstacles to positive coordination between specialized technocrats in the self-contained domains of monetary policy formulation, implementation, and prudential regulation; and from a dissociation between formal responsibilities, which lie with regulators, and the resources residing in money market divisions – market expertise and influence over counterparties – that are critical to influence bank behavior. I explore these mechanisms with an in-depth case study of British monetary and financial governance between 1970 and 2007. I posit that we can generalize the respective mechanisms to explore unintended effects of 'agencification' and to contribute to a broader re-assessment of those organizing principles that have guided the construction of 'new regulatory states'.

**Keywords:** "the new regulatory state", bureaucratic fragmentation, divisions of expert work, financial governance, liquidity.

## 1. Introduction

If one domain epitomized the success of 'new regulatory states' (Majone 1994), it was central banking. Nowhere else was the intellectual case for establishing independent but accountable agencies as clear-cut as here, given that governments apparently had inconsistent preferences over monetary policy (Barro & Gordon 1983; Rogoff 1985); and in hardly any other area was the actual policy record as supportive of these arguments, given that independent central banking seemed more successful in achieving low and stable inflation than other monetary policy arrangements (Cukierman 1994).

Over the past 10 years, however, doubts have arisen as to the impeccability of these institutional designs (Tucker 2018, p. 431). These doubts have mainly originated from historical experience rather than intellectual reassessment. In particular, the 2007–2009 financial crisis falsified the belief, incorporated in inflation targeting, that "if central banks succeed in stabilizing inflation in the short term...and absent of major exogenous 'shocks'..., the economy will broadly take care of itself" (Borio 2011, p. 2). Relatedly, acute emergencies and structures pressures in depressed economies have made evident that even independent, inflation targeting central banks do not just steer the rate of inflation but play a major part in financial policy, fiscal redistribution, and (indirect) monetary financing too (Adrian & Liang 2016; Braun & Downey 2020).

I exploit this contemporary moment of institutional uncertainty and crisis to reappraise those divisions of labor in central banking and financial regulation, which relate to the principles and concepts of new regulatory states. I do so by exploring how, in the decades preceding the 2007–2009 crisis, these divisions were developed

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and entrenched, leading policy makers to neglect a specific but significant kind of risk: the risk, for banks and other financial corporations, that they cannot meet their payment obligations because they lack the funding necessary to do so. This particular risk, which motivated the development of ‘modern’ central banking in first place (Sayers 1976; Goodhart 1988; Gorton & Huang 2002), has changed its nature and grown dramatically over the past 40–60 years. The invention of active liability management in the 1960s (Konings 2011), and the rapid expansion of shadow banking since the 1980s (Thiemann 2018), have made banks and other financial market participants increasingly reliant on the availability of funding on wholesale money markets, which trade in instruments such as repo (repurchase agreements) and commercial paper (Hardie *et al.* 2013; Hardie & Maxfield 2013; Gabor 2016). In the very period that some economists regard as exceptionally stable and effectively governed through inflation targeting (called the ‘Great Moderation’) (Bernanke *et al.* 2001), these new funding structures and resultant interdependencies grew into a source of system-wide financial fragility, as firms increasingly turned to short-term wholesale funding to enlarge balance sheets and regularly roll over long-term positions, e.g. in mortgage-backed securities (Adrian & Shin 2010). In the summer of 2007, such funding liquidity became elusive and, following the insolvency of Lehman Brothers, suddenly dried up (Brunnermeier & Pedersen 2009; Gorton & Metrick 2012; Allen 2013; Tooze 2018).

While events like the global bank run in 2008 have complex causes, there exist good reasons to speak of a veritable policy failure in this case. In no major OECD country had authorities effective measures in place to halt the development of instable markets, to reduce interdependencies within the financial system, and/or to ban risky funding practices (Goodhart 2009, p. 163). Other than for capital ratios, there existed no international standard concerning “liquidity” (Goodhart 2011a). Money markets were left by and large unregulated (Gabor 2016) and, domestically, banks usually faced only very weak restrictions on how to manage their liabilities (Bonner & Hilbers 2015). Even if we cannot ultimately know whether any of the possible policy interventions would have prevented a run on global money markets, the absence or weakness of regulation seems puzzling, given the magnitude of financial and macroeconomic risks (see, e.g. Alessandri & Haldane 2009; Goodhart 2011a, pp. 334–335).

When we attempt to explain policy failures like this one, we usually cite the authorities’ widespread belief in well-functioning markets, industry threats to move offshore, and political interests in support of ‘national champions’ (globally operating banks) as plausible reasons for why the respective elements and practices in the financial sector remained by and large unregulated until the crisis (Johnson & Kwak 2010; Carruthers 2013; Thiemann 2018). While these factors are all relevant, my article draws attention to the institutional and organizational structures through which some ideas and interests in financial governance came to dominate over others. In particular, I aim to show that the separation of three policy tasks – monetary policy formulation, central banks’ money market management, and financial supervision – contributed to the incapacity of officials to act upon liquidity risks and helped sustain a situation of “structural secrecy” (Vaughan 1996) around those risks. No authority felt sufficiently responsible for regulating money markets and banks’ liability management to act decisively; and the extant divisions created obstacles for “positive cooperation” (Scharpf 1994) across specialized divisions so that broader projects to regulate the respective markets and practices fell flat. Financial firms could exploit these weaknesses to push for deregulation and block any reform. This argument extends and empirically supports claims made by practitioners and experts about the adverse implications of separating monetary and prudential policy, the latter of which effectively became micro-prudential supervision of capital ratios and only entailed weak provisions for liquidity (Adrian & Shin 2008; Hellwig 2014; Smets 2014; Adrian & Liang 2016).

To the extent that central banking and financial governance can serve as a paradigmatic research site to engage with the new regulatory state (Tucker 2018), we can leverage the findings of this paper to critically assess the design logic and concrete realization of ‘agencification’ (Gilardi 2005; Jordana *et al.* 2011) in other domains. Informing the respective public sector reforms has been the notion that the incentives of technically competent policy makers should be aligned with welfare-enhancing goals. For that purpose, authors not only proposed delegation to technocrats (“credible commitment”) (Alesina & Tabellini 2008), but also accountability of the respective technocrats for unequivocal and monitorable tasks. Formalization, specialization, and separation were thought to prevent adverse selection and principal-agent conflicts (Laffont & Tirole 1991; Dewatripont *et al.* 2000). For the case of central banking, this implied that the institutions responsible for monetary policy would be better

divorced from regulation to avoid such conflicts of interest and improve monetary (Copelovitch & Singer 2008) as well as regulatory outcomes (Winecoff 2014).

My own study supports the idea that, in this and potentially in other cases, neglect for ‘entangled’ problems and deficiencies in regulation can result from the very institutional project of resolving accountability problems and eliminating equivocality in tasks. Organizational and institutional reforms toward realizing new regulatory states can lead to bureaucratic fragmentation and hyper-specialization (Moran 2003; Christensen & Laegreid 2011; Hood & Dixon 2015; Bezes & Le Lidec 2016) – processes that induce actors to strategize toward narrow measures of success and which raise barriers for the kind of intra-bureaucratic coordination (Koop and Lodge 2014) that is required to address problems that fall through the grid. Moreover, the respective reforms can produce mismatches between formal responsibilities and tacit expertise as well as informal influence, which tilt the balance of power between regulators and rule evading private actors toward the latter group (Thiemann & Lepoutre 2017; Priore & Schrank 2018).

This article uses an exploratory case study to engage in theory elaboration. The aim is to identify and specify the suggested mechanisms and processes through high resolution empirical evidence. For that purpose, I turn to British financial and monetary governance in the period between the 1970s until 2007. The British case serves me well for the analytic purposes of this article due to the dramatic changes in monetary and financial governance observed during studied period. The UK evolved from a system of informal but stringent regulation of banking sector liquidity toward a formalized and ‘agencified’ structure (Moran 1991; Moran 2003). As part of this process, prudential supervision became separated from the Bank of England’s daily management of money markets, and this management was increasingly framed as serving the realization of narrow inflation targeting aims. On the basis of historical sources from the Bank of England archive, I can show that, through these reforms and organizational transformations, it became increasingly difficult for officials to situate banks’ funding liquidity as a prudential regulatory concern within the divisions of labor that guided their actions and which increasingly became barriers to cooperate across different functions. As divisions became sharper, a kind of “structural secrecy” (Vaughan 1996) emerged, which was only challenged by the transatlantic crisis in 2007–2009.

This article proceeds as follows. I first give some background on the build-up of liquidity risks prior to 2007 and the lack or weakness of regulation in this area. I then turn to a discussion of the literatures that address institutional and organizational dimensions of monetary and financial governance. In the main part of the paper, I reconstruct changing relations between monetary policy formulation, central banks’ money market management, and financial supervision in Britain as a result of political and internal organizational reforms; I relate these changes to officials’ reduced capacities and motivations for regulating banking sector liquidity. In the final section, I discuss how my findings relate to other empirical cases and to broader discussions on ‘agencified’ institutional design.

## 2. The return of liquidity risks with a vengeance

The substantive regulatory issues discussed in this article require some introductory explanations as they relate to neglected aspects of banking and its regulation. Financial corporations are not just the central providers of credit in the economy; they are also its largest debtors. Indeed, it is the hallmark of modern ‘fractional reserve banking’ that banks do not simply channel funds from savers to investment opportunities; nor do they put up capital for granting loans. Instead, they use their privilege to *borrow* in order to expand lending and for purchasing assets. This privilege has traditionally taken the form of deposit money creation. Deposit money is a kind of debt that banks incur toward customers in the course of issuing credit, i.e. which appears as ‘liability’ on a bank’s balance sheet at the very moment a loan is made. This liability is different from the liabilities of all other economic actors, though, because it has the quality of being redeemable into currency at any particular moment and is, therefore, treated as if it was an ultimate means of payment (Graeber 2011; Ingham 2004; Innes 2004[1913]; Wray 2011).

Funding assets with its own liabilities and thereby creating elastic liquidity for the economy is thus the hallmark of modern banking. However, this also implies that banking brings with it particular risks. For banks’ ability to create liquidity largely rests on the trust of clients in the exchangeability of banks’ liabilities into cash, and in the perceived soundness of the banks’ asset positions (Diamond & Rajan 2001). Doubts about that soundness, based on information or rumours, can lead to sudden withdrawals of funds, driving the particular bank, or even

the entire system, into illiquidity and insolvency. Worse still, withdrawals of funds can feed upon themselves because it is rational for customers observing others' withdrawals to participate in a 'run', no matter whether they have substantive reasons to doubt the bank's solvency or not (Merton 1968; Diamond & Dybvig 1983).

Such 'money panics', 'banking panics', or 'bank runs' recurred frequently in financial history, for instance in the US in the 19th and early 20th centuries (Gorton & Huang 2002), or in London's 19th century money market (Bagehot 1873). But banks' 'traditional' liquidity risks, resulting from customers' sudden deposit withdrawals, were more or less eliminated by the early 20th century in the Western world. Central banks were founded or reformed in order to assume the role of 'lender of last resort' (Goodhart 1988). Together with the introduction of deposit insurance and reserve requirements (Goodfriend & Hargraves 1983), such 'liquidity reinsurance' (Tucker 2018, p. 457) for the financial sector helped solidify trust among bank customers that bank liabilities would be exchangeable into public currency at any time (Gorton & Metrick 2012, p. 426). Stability was maintained well into the post-war period, even though policy concerns for banking crises receded into the background (Goodhart 2011b, p. 140). Policy makers and bankers were primarily focused on managing the war debt overhang and with providing the funds needed for post-war reconstruction. But as Turner (2014) and Allen (2015) succinctly argue for the British case, the overriding role of government debt as the dominant safe asset in this period (Goodhart & Needham 2018; Needham & Hotson 2018), combined with capital controls and cartelized banking structures, meant that liquidity risks remained negligible (see Mehrling 2011: for an account of the US case).

In the past 50 years, though, liquidity risks similar to the ones encountered in the 19th century have re-emerged, and they have taken a new form that undermines the policy solutions and institutional settlements found during late 19th and early 20th centuries. Scholars have characterized this development as the transition from 'traditional' to 'securitized' or 'market-based' banking (Gorton & Metrick 2012; Hardie *et al.* 2013), which is marked by three interrelated processes. First, banks have adopted 'asset liability management' (Konings 2011, p. 123; Minsky 1975). They do not simply rely on customers maintaining their deposit holdings, but seek to attract and reinvest liquid funds on the markets. As a reflection of this trend, the share of deposit liabilities as a percentage of overall banking sector liabilities fell, from about 80 percent in the immediate post-WW2 period to little more than 50 percent by the early 2000s (Jordà *et al.* 2017, p. 10). This development is intimately associated with securitization as a version of active *asset* management. Second, what has partly replaced deposits are money market liabilities. Two types of money markets have assumed a particularly important role for the provision of funding liquidity for securitized banking. One is the (asset-backed) commercial paper market that expanded massively in the two decades before 2007 (Thiemann & Lepoutre 2017, p. 1782). The other is the repo (short for repurchase agreements) market, which has become the largest market for wholesale lending and borrowing. Up until 2007, the US repo market grew to \$4.5 trillion; the European market reached a size of €6.5 trillion. The rise of these markets is intimately associated with a third development, namely the growth of a 'shadow banking system' since the 1980s (Pozsar *et al.* 2010; Thiemann 2018). Money markets are at the heart of shadow banking because they redistribute and create 'shadow banking liquidity' (Gabor & Vestergaard 2016; Ricks 2016). Shadow banks without access to deposit money use money markets to obtain funds (e.g. broker-dealers) (Unger 2016); and institutional investors, such as money market funds, have become the primary providers of this liquidity because they aim to invest their capital into 'deposit-like' instruments like commercial paper or repo (Pozsar & Singh 2011).

These developments, driven by increasingly fierce competition as well as new modes of cooperation between bank and non-bank firms, have transformed and raised the risks associated with the liability-side of financial balance sheets. The financial crisis of 2007–2008 is a dramatic illustration of this fact. In line with the new structures of liquidity, this crisis has been described as a *wholesale* bank run. Wholesale bank runs demonstrate some distinct patterns, which make them systemically more damaging than traditional ones. As already noted by Walter Bagehot, because financial institutions maintain complex and tight relations of indebtedness with one another, problems at one institution trigger market-wide effects (Allen & Carletti 2008; Haldane 2009). For instance, economists recorded a dramatic increase in perceived counterparty risk after the failure of Lehman Brothers, reflected in a buyers' strike in commercial paper markets, spikes in interbank lending rates, and a widespread withdrawal of funds. Shadow banks were particularly affected by these developments because their term and liquidity transformation became loss-generating as soon as wholesale funding costs rose (Adrian & Shin 2008). A second risk amplifier consists in similar balance sheet behavior among financial firms (Haldane 2009). For instance, firms

simultaneously tried to sell similar assets in 2008, thereby accelerating downward price trends (Brunnermeier & Pedersen 2009). But most attention has been given to the particular collateral-related dynamics underlying repo-credits (Gorton & Metrick 2012). Lenders in the repo market introduced higher haircuts following Lehman's bankruptcy, amounting to a higher percentage deduction from the market value of pledged collateral. This forced borrowers to either provide more collateral or reduce borrowing. But safe collateral became scarce, leaving market actors with the deleveraging option (Allen 2013, p. 14). In that situation, only unprecedented central bank intervention (Cecchetti & Disyatat 2010; Allen 2013; Mehrling 2014; Tooze 2018) and public bail-outs (Woll 2014) saved the Western banking system from collective collapse.

My article addresses the question why policy makers disregarded the build-up of these risks caused by structural transformations of the financial system during the late 20th and early 21st centuries. We have several indications for such neglect. First, the Basel Agreements concerned with global standards for financial regulation contained *no* provisions for banks' liquidity management, even though an international committee at Basel had initially formed to address *liquidity* risks (in the Eurodollar markets). But as Goodhart (2011a) shows, policy makers' focus gradually shifted away from these concerns "towards capital adequacy ratios applied on an international basis" (Capie *et al.* 1994, p. 74; Stellinga & Mügge 2017, p. 408). Equally striking is the absence of any prudential oversight over money markets, such as repo, allowing highly leveraged lending and borrowing via these markets. For instance, US investment banks funded as much as 25 percent of their assets with short-term repos before the crisis (Hördahl & King 2008). Many commercial banks were equally exposed, as the example of the Royal Bank of Scotland (RBS) demonstrates (FSA 2011, p. 97). Post-crisis research suggests that minimum standards for haircuts or leverage constraints could have mitigated these money market risks (Adrian & Liang 2016, p. 18). Lastly, while central bank reserve requirements were reduced or disappeared entirely, hardly any new provisions came to replace them, such as safety buffers of cash and ultra-safe assets to be drawn down in situations of crisis (Bonner & Hilbers 2015).

Following the crisis, Peter Cooke, a key figure in the development of modern banking regulation (who will reappear later in this paper), addressed this imbalance between capital rules and those concerned with banks' liability structures. He noted that "[c]apital adequacy has always been a cornerstone of the market - and of banks' own assessment of financial soundness. In recent years, though I think it has been overemphasized at the expense of liquidity adequacy - which, in 'olden days', was given equal prominence by the market and by banks' own managements" (see also Hotson 2017).<sup>1</sup> This statement finds support in recent research, which demonstrates that average capital ratios in a country give little predictive power over the occurrence of a financial crisis (and have actually not much changed since 1945), whereas the composition of liabilities does (Diamond & Rajan 2001; Jordà *et al.* 2017).

### 3. Rethinking the disentanglement of financial regulation from monetary policy: The unintended consequences of "agencification"

Much of the discussion around the gap in liquidity regulation before the transatlantic financial crisis has focused on ideational factors (i.e. belief in efficient money markets) (Allen & Carletti 2008; Mehrling 2011); structural pressures of financial globalization (Battilossi 2010, p. 142; Goodhart 2011b; Reinicke 1995); and/or the politics of promoting national champions (Thiemann 2014; Thiemann 2018). But the argument that institutional orders and particular divisions of policy tasks played a decisive *mediating* role vis-à-vis these other forces resonates with a large body of empirical and theoretical research in economics, political science, and regulation studies. The classic argument in this vein is that monetary stability is better served by independent central banks whose policy preferences differ from elected governments that might promise price stability, but then regularly go on to induce inflationary employment growth (Barro & Gordon 1983; Rogoff 1985; Cukierman 1994). More relevant to my question here is a recent line of research that extends this theoretical reasoning to divisions of labor between monetary and *financial* policy (for earlier treatments, see Di Noia & Di Giorgio 1999; Goodhart 1994; Goodhart & Schoenmaker 1992). In an influential paper, Copelovitch and Singer (2008) show that central banks *with* regulatory responsibilities are less capable of maintaining low inflation, and they argue that this is due to conflicts of interest between price and financial stability. A central bank with mandates for both tends to decide in favor of lower interest rates in order to help banks, even at the risk of higher inflation. Winecoff (2014) expands on this

idea and argues that, in countries with regulating central banks, financial firms tend to hold less capital due to their expectation of central bank support (see also Smets 2014, p. 287).

While institutional and organizational aspects have thus featured prominently in the study of monetary and financial governance, scholars have predominantly focused on conflicts of interest, time-inconsistent preferences, and principal-agent problems as guiding concepts for such research. Accordingly, most of this literature lends support to delegation or ‘agencification’ as commitment devices for elected governments (Alesina & Tabellini 2008); to disentangling responsibilities for different policies, in order to rule out conflicts of interest (Dewatripont *et al.* 2000); and to the definition of unambiguous and tractable – if not measurable – objectives, in order to overcome principal-agent conflicts and guarantee accountability (Tucker 2018). The literature thus presents central banking and financial regulation as domains, where the arguments in favour of new regulatory states are as strong as they can be.

But it is with the negative side-effects of an institutional architecture and organizational structure that more or less fulfils the above prerequisites that this paper is concerned. I am thus interested in why an organizational structure designed to address the commitment and accountability concerns discussed may produce problems of a different nature, such as the neglect of difficult-to-classify, difficult-to-isolate, and hence ‘entangled’ problems such as financial sector liquidity.

For this purpose, I draw on two alternative perspectives. One comes from academic research and practitioner reflections on the formation of large and internally differentiated financial governance apparatuses during the past 40 years (Moran 1991; Vogel 1996; Haldane & Madouros 2012). The respective literature suggests that political choices over mandates, struggles over professional jurisdiction (Seabrooke & Tsingou 2014), and the development of particular modes of coordination in international arenas have shaped this institutionalization path. For instance, central banks have transformed into independent technocratic bodies (Abolafia 2012; Holmes 2013; Fligstein *et al.* 2017) that take decisions in policy committees and are thoroughly embedded in broader communities of macroeconomic discourse (Marcussen 2009; Riles 2018; Roberts 2011, p. 37). By contrast, financial supervisors engage in rituals of accounting and auditing (Power 1997) and use standard-setting as a predominant mode of international coordination (Vogel 1996; Oatley & Nabors 1998; Schneiberg & Bartley 2008; Thiemann & Lepoutre 2017).

An important implication of this literature is that central banking and financial regulation have developed as increasingly separate domains, with relatively distinct epistemic foundations, professional norms, and criteria of success. As a result, up until the transatlantic financial crisis, certain issues, like macro-financial risks, fell through the cracks (Davies & Green 2010). In a prescient paper, Claudio Borio anticipated this problem:

“Prudential authorities may be reluctant to address problems that, from their perspective, appear to have an exclusively macroeconomic origin, and be tempted to leave it exclusively to the monetary authorities. Monetary authorities may feel that as long as near-term inflation appears under control, addressing the build-up of imbalances is a task that should be left exclusively to their prudential counterparts, insofar as the imbalances raise threats to financial stability.” (2005, p. 85).

The neglect or weakness of regulations concerned with banks’ liability management and money markets can thus be conceptualized as a crucial outcome of this separation and “deafness” (Hellwig 2014) between monetary and prudential policy. Complementarily, my study points to the role of central banks’ money market management. This ‘operational’, market-oriented domain of central banking had played a decisive role in combining macroeconomic *and* financial stability policies in earlier periods (Mehrling 2011; Goodhart 2011b; Hotson 2017). In contemporary central banking, though, it has lost this role and become a pure implementation function for inflation targeting (Bindseil 2014).

Another important impetus for rethinking divisions of regulatory labor comes from a growing literature that discusses problematic dimensions of new regulatory states in more general terms (Moran 2003; Christensen & Laegreid 2011; Bezes & Le Lidec 2016). This literature suggests that ‘agencification’ as a general trend amongst Western developed countries in various policy fields (Majone 1994; Majone 1999; Gilardi 2005; Jordana *et al.* 2011; Tucker 2018) can have unintended consequences. Here I am interested in three mechanisms that the literature introduces to capture such effects. The first derives from the ways in which officials in new regulatory states are evaluated and made accountable (Hood 2012). The assumption is that actors confronted with pre-specified and narrow accountabilities and performance criteria develop strategies, knowledge, tools, and professional

identities that allow them to achieve success under these particular constraints – a phenomenon sometimes referred to as reactivity (Espeland & Sauder 2007). This can reduce actors' willingness and capacity to question basic premises of their policy approach and to optimize only toward measurable success. Indeed, once officials have achieved success within the respective frameworks of accountability, they may become critical forces that resist institutional change. In this paper, I discuss the tight association between central banking and inflation control and between prudential regulation and capital ratios as cases in point.

A second, related problem encountered in 'agencified' state formations concerns the difficulties of "positive coordination" (Scharpf 1994). Coordination challenges have been found daunting in centralized ministries (Scharpf 1976). But they have arguably grown amongst fragmented agencies that frequently experience problems of under- and overlap (Koop & Lodge 2014). It is not just turf wars and bureaucratic politics (Allison & Halperin 1972) that stand in the way of such coordination; additionally, institutional closure of self-contained expert domains raises barriers for cross-divisional coordination. I take up this problem here and relate it to the separation of monetary policy and financial regulation. In the paper cited above, Claudio Borio suggested that hitherto ignored financial stability risks could be addressed if central bankers and regulators entered into an "intense dialogue" (2005, p. 99). What I will show in this paper is that the very divisions responsible for the emergence of 'orphan problems' *also* worked against positive coordination as a remedial strategy.

Finally, this paper takes up a discussion amongst regulation scholars on balances of power between public officials and private sector groups under conditions of bureaucratic fragmentation. The dominant way of approaching this question emphasizes risks of capture that arise if agencies can exchange exclusive information with the private sector and can withhold this information from principals (Laffont & Tirole 1991). A complementary argument is that if agencies have several objectives, they will prioritize those that encounter less resistance from powerful interest groups (Dewatripont *et al.* 2000). In this article, I am interested in a different proposition, namely that narrow mandates and task areas, designed to eliminate principal-agent problems and conflicts of interest, can *weaken* public officials vis-à-vis the private sector (Priore & Schrank 2018). For instance, regulators with narrow mandates using highly specific tools of intervention may encounter problems and obstacles that they are not prepared for. Think of financial regulators, who operate under restrictive mandates and are therefore powerless vis-à-vis types of rule evasion that are not covered by their formal remits (Thiemann & Lepoutre 2017); or think of officials that do not have access to the substantive expertise on regulatory issues that is found in dissociated parts of the bureaucracy. Relatedly, in some domains officials may only be able to exert pressure on the private sector if they have leverage over resources that the private sector depends on. Finance is a context where such dependencies run deep (Pistor 2013). However, as I will discuss, in contemporary divisions of labor, the organizations controlling the respective resources (central banks and finance ministries) do not give priority to regulatory responsibilities.

My contention thus is that, in order to understand why policy makers neglected and/or failed to address structural changes in banking and the build-up of liquidity risks in the years preceding 2007–2009, we need a different set of concepts and investigative strategies than those offered by the literature on commitment problems, conflicts of interest, and principal-agent relations. Instead, we should more thoroughly explore the path-dependencies that have shaped contemporary governance apparatuses (Pierson 2004), and pay attention to possible adverse consequences of 'agencification', institutional closure and task differentiation as defining features of contemporary bureaucratic practice. I develop this argument empirically, through an explorative, in-depth case study that provides a nuanced account of how new divisions of labor were established between macroeconomic policy, central bank money market management, and prudential regulation, and how these divisions affected the regulation of banks' liquidity management. Before I turn to this story, I will justify the selection of my empirical case and describe the kind of data used in this analysis.

#### 4. Case selection and methods

In this study, I deliberately focus on how divisions of policy tasks affect policy making processes rather than exhausting all possible explanations for a particular outcome (relative weakness of liquidity regulation) (George & Bennett 2004). The empirical study itself should help me elaborate the ways in which this particular connection can be drawn (Vaughan 1992). For that purpose, I chose an empirical setting that provides me with an



**Table 1** The fate of post-war reserve requirements in Great Britain

1951–1955: Reserve requirement of 28–32% (norm)

1955–1963: Minimum reserve ratio of 30%

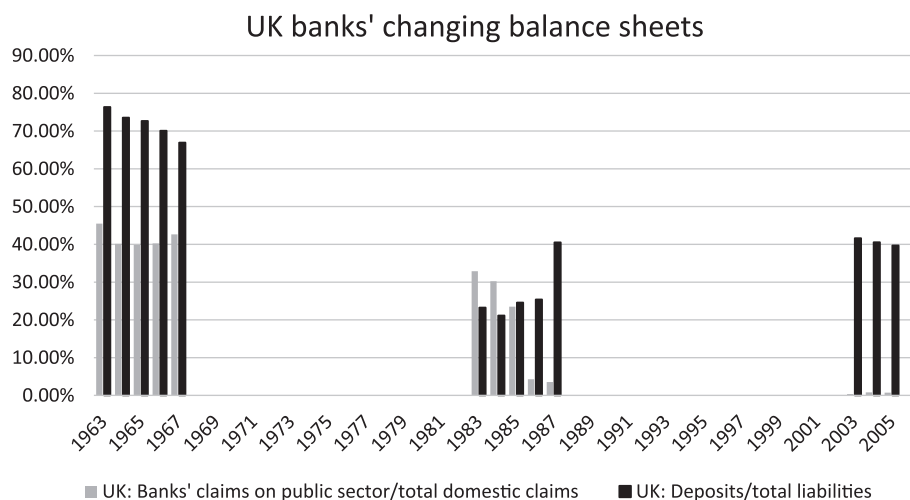
1963–1971: Lowered to 28%

1971–1981: Lowered to 12½%

1981–1986: “Club money” (6% average/4% minimum reserves)

1986: Reserve requirements abandoned

Sources: Own research; Turner (2014, p. 182).

**Figure 1** UK banks' holdings of domestic public sector debt, as a percentage of overall assets, and their deposit liabilities as percentage of overall liabilities. Source: Goodhart (2011a).

opportunity to observe significant alterations in the divisions between policy tasks and to trace the effects of reforms over time. United Kingdom serves me well for that purpose, for several reasons. First, the UK was a vanguard state (Hood & Dixon 2015, p. 15) that underwent significant public sector reforms and agencification. Financial governance was particularly affected by these developments. In his influential work, Michael Moran (Moran 1984, 1991; Moran 2003) observes a radical transformation from ‘club governance’ of gentlemanly elites toward formalization and codification in the 1970s and 1980s, a tendency that was reinforced during the New Labour era. The regulation of the banks’ liability management changed significantly during this period (Allen 2014; Turner 2014). Within a decade (1971–1981), the UK moved from requirements for banks to hold around 30 percent of their assets in government securities to the complete abolishment of reserve requirements (Needham & Hotson 2018, p. 7; see Table 1). As a result, banks dramatically reduced their holdings of traditional liquidity buffers to a negligible level in 2007 (Turner 2014, p. 179; see Figure 1). Money markets that had first arrived as unregulated, offshore domains soon turned into the primary conduits for managing liabilities. This also led to a sudden jump in the holdings of what Jordà *et al.* (2017, p. 11) classify as non-core liabilities. For these reasons, the British banking system was particularly exposed to the wholesale bank run in 2007 to 2009. Northern Rock was the first bank to collapse due to its large exposure to money markets (Shin 2009) and others, such as RBS, followed suit. My primary aim thus is to ask how we can draw connections between the respective institutional, regulatory, and sectoral transformations observed in this case.

A significant part of my analysis focuses on the period from the 1970s until the late 1980s, for which I could use previously unexplored sources that document an intense episode of organizational reorganizations and associated deliberations in the Bank of England on how to address liquidity-regulation within the incipient orders of a financial regulatory state (*BoE Archive 10A211/1–2*). These deliberations marked a critical turning point because

they coincided with the ultimate dismantling of the post-war approach to public financial management (in 1981) and the emergence of new banking practices (e.g. clearing banks moving into real estate financing). The archival sources demonstrate in empirical detail and clarity how and why institutional and organizational changes mattered for the ways in which officials conceived risks and debated regulation. Additionally, I interviewed officials who had been the authors or readers of these files. While the interview data suffers from possible false memories and biases frequently found in personal retrospective accounts, I could often triangulate interviewee statements with historical sources and thereby evaluate their validity. I provide a list of my interviewees in the Appendix.

## 5. The emergence of a financial regulatory state in Britain and its failure to regulate liquidity

### 5.1. British financial governance until the 1970s

Until the 1970s, banking regulation and money market management were conducted by one and the same organizational entity. This was the Discount Office at the Bank of England. Due to the short tenure of governors and the highly constrained role for Executive Directors, this organizational unit, together with the Chief Cashier, constituted the power-center inside the Bank of England and the operative heart of British financial governance (Goodhart 2011b, p. 140).<sup>2</sup> In its market interventions and regulations, the Discount Office combined two different logics of policy making that reflected the hybrid role of the British central bank. A sectoral logic consisted in providing banking services to other banks, with the purpose of managing reserves and stabilizing money markets. Prudential regulation of markets and institutions was integral to this practice as the Bank needed to maintain orderly conditions, trust in the soundness of its counterparties, and ensure the existence of sufficient high-quality collateral (Tucker 2009). Since the two World Wars, the marketing of public debt had become the second main rationale of central banking (Allen 2014). This marketing was accomplished through auctions in Treasury Bills, by privileging these Bills as collateral for central bank lending, and by treating them as safe liquidity for regulatory purposes (Turner 2014). The Discount Office used moral suasion as the primary approach for ensuring compliance with its rules. Elite networks and transactional relations between the Bank of England and its counterparties provided the social foundations for this informal regulatory regime (Capie 2010, p. 590; Moran 1991, p. 63). But the Discount Office additionally kept the threat of statutory action and of possible direct state intervention in the background (Allen 2014, p. 196; Turner 2014, p. 185) – the “shadow of hierarchy” thus played a decisive role (Héritier & Lehmkuhl 2008). This was especially relevant when central bankers demanded compliance with onerous regulatory requirements, such as temporary lending ceilings.

If the Discount Office managed to simultaneously maintain orderly market conditions, manage public debt, and regulate the banks, this was also due to the highly compartmentalized and cartelized sectorial structure within which such financial governance took place. For instance, for historical reasons, small firms had emerged in the City of London for ‘discounting’ bills as the primary short-term debt instruments (Fletcher 1976). These so called Discount Houses took bills from the banks and funded their holdings with withdrawable, secured loans (‘call money’). The sizable wholesale liquidity risk that resulted from these arrangements (banks could withdraw cash at any time) was mitigated by the Bank of England, which offered discount window facilities exclusively to the London Discount House cartel. In return, the Houses were kept on a much tighter regulatory leash, were obliged to buy up all offered Treasury bills in weekly auctions, and were supposed to convey the central bank’s ideas of where market rates should move.<sup>3</sup>

The Discount Office also fostered special relationships with the clearing banks. This group of institutions organized in the *Committee of London Clearing Banks* (CLCB) held the privilege of managing the national payment system and was promised lending of last resort. In return, the Discount Office required ‘clearers’ to hold about 30 percent of their assets as reserves.<sup>4</sup> First explicated in 1951, this norm was supposed to avoid “a continual state of anxiety as to how the Government’s requirements for finance for the following week were going to be met”.<sup>5</sup> Reserve requirements also provided a rationale for banks to keep ‘call money’ with Discount Houses as these withdrawable loans counted toward their reserves. Additionally, the banks held sizable cash balances directly with the Bank of England (Needham & Hotson 2018).

### 5.2. From institutional crisis to a financial regulatory state (1970s)

In the post-war period, we thus encounter an approach to financial governance that, in stark contrast to later drives toward ‘agencification’ and specialization, was implemented by a central operative entity, which combined various explicit and latent functions, and that was embedded in a highly institutionalized context of cartelized banking and centralized political decision-making (‘Westminster democracy’). However, from the 1960s onwards, external pressures and internal tensions put this regime under considerable strain. One set of problems arose from the exclusive nature of the Bank of England’s relations to the City. Any firm that did not maintain transactional and social relationships with the Discount Office was left unregulated (Schenk 2004, p. 332). For instance, foreign institutions in the Euromarkets and non-bank finance companies were deliberately kept outside the regulated sphere; the Bank refused to transact with these actors or assume lender of last resort responsibilities toward them (Burn 1999, p. 241). This caused two interrelated problems. On the one hand, outsider-companies could evade restrictive regulations and thus enlarge their market share vis-à-vis the clearing banks (Ross 2004, p. 316). As a consequence, the incumbents lobbied for a change in regulatory requirements, which led to the abandonment of credit ceilings and a sizable reduction in reserve requirements in 1971. Secondly, since the unregulated ‘fringe banks’ had mainly used their market opportunities for mortgage financing, they were the first to run into liquidity and solvency problems when, in the early 1970s, a housing market crisis began. The ‘Secondary Banking Crisis’ ensued, which was only resolved at high costs through concerted bail-outs and take-over actions by the Bank of England together with clearing banks (Reid 1982). It thus became increasingly evident that the informal transactional approach to regulation maintained by the Discount Office was insufficient in regulating competition between, and maintain stability amongst, a wider set of firms. In an attempt to preserve the Bank of England’s authority and powers in the City under these circumstances, the governors therefore decided to separate out some of the Discount Office’s competencies and fields of operation and establish a specialized unit for Banking and Money Market Supervision with a broader reach (Capie 2010, p. 610).

A second set of problems confronted by the Discount Office in the 1970s came from the monetary dislocations experienced in Britain during that decade. As described above (pp. 17–19), the Bank’s money market management had been used for marketing Treasury Bills and for maintaining orderly conditions in the City. But due to this complex bundle of objectives and external constraints (the authority for rate changes lay with HM Treasury), the Discount Office was ill-prepared for responding to political demands for disinflation (Hall 1986; Fourcade-Gourinchas & Babb 2002; Needham 2014).<sup>6</sup> These difficulties were exacerbated by the turn of British banks toward active liability management and offshore markets, a development that reduced the effectiveness of controls (Goodhart 1986). With inflation rising, the central bankers thus found themselves on the defensive, also because a faction of increasingly prominent orthodox monetarists blamed the Bank’s market managers for causing excessive monetary expansion. These developments and accusations led officials from the respective division, together with the Governor, to become embroiled in ideological debates and the high politics of monetarism during the first Thatcher government (Tucker 2004).

Regulatory and monetary crises during the 1970s until early 1980s thus challenged an integrated and institutional approach championed by the Discount Office (Moran 1984).<sup>7</sup> Politicians and senior officials responded to these crises by initiating a process of organizational restructuring. As mentioned, a crucial step consisted in separating a dedicated, monofunctional unit focused on prudential regulation from the practice of money market management conducted by the Discount Office. This separation was seen as critical for supervision to become an effective and legitimate branch of financial policy in its own right; as a Bank official stated, the “basic justification” of supervision should be “clearly separate from considerations of monetary policy”.<sup>8</sup> This view was reiterated a few years later, when another key official claimed that regulation should be “exercised with judicial principles and not operating convenience in mind”.<sup>9</sup> Closely associated with this reorientation was the need to respond to inflation, which had become framed in monetarist terms. The Bank of England and its money market managers thus needed to adjust and re-articulate their interventions in terms of money supply control.

### 5.3. The failed re-regulation of liquidity, 1980–1987

One unintended effect of these changes was heightened uncertainty and confusion about the regulation of banking sector liabilities. This regulation had been a critical part of the Discount Office’s techniques, but now became

uneasily situated between money market management and the newly institutionalized supervisory work. In the mid-1970s, the supervisors had claimed formal responsibility for prudential liquidity provisions.<sup>10</sup> But at that time, all *de facto* power had remained with the Discount Office, given that the money market managers actually controlled liquidity in the banking system and had much closer contact with the relevant counterparties.

However, with further steps toward liberalization and deregulation, this discrepancy between *de jure* and *de facto* powers became exposed and created conflicts over who was in charge. The immediate context for these conflicts was Thatcher's decision taken in 1981 to abandon the 12½ percent reserve asset ratio, which had been a cornerstone of the Discount Office's money market management techniques and had required banks to maintain a considerable share of safe assets against overall deposit liabilities. The money market managers inside the Bank responded to this deregulation by raising concerns. For them, regulated liquidity was essential for preserving the extant money market structures upon which they relied for daily management purposes. In particular, the Discount Houses, the central bankers' direct counterparties, depended on the clearing banks keeping 'call money' with them. It was unclear how the banks would continue managing their reserves after Thatcherite deregulations and how this would affect the Discount Houses. A second worry concerned the acute liquidity situation of banks. At the time, banks began economizing on their liquid funds and expanded more aggressively into consumer lending (Hotson 2017). Simultaneously, the government tried to reduce available liquidity in the system in order to improve on its money supply targets, primarily through a practice known as 'overfunding' (i.e. issuance of more bonds to the non-bank public than were needed for actual funding purposes). This resulted in a situation in which the banking sector encountered several liquidity shortages in the first half of the 1980s, which the officials had to address through *ad hoc* means. The money market managers were unhappy with this situation and their role. Due to the deregulation under Thatcher, they were deprived of any powers to restrain bank lending, leaving them with accommodating the banks' demands as their only option. But this accommodation undermined their leverage over credit- and money creation in the banking sector and hence the capacity to influence the money supply. As one member of the Money Market Division noted with some frustration:

"What is clear at present is that the banks have us dancing to their tune. Despite assurances which they may have given about restraint on personal lending, they have no incentive to do so."<sup>11</sup>

As a result of these problems, money market managers considered a thorough re-regulation of banking sector liquidity that would also respond to the *prudential* issues that arose from the banks' more aggressive liability management practices. In the document entitled "The Measurement of Liquidity", the authors posited that there existed micro- and macro-prudential reasons for such regulation. Banks could run into individual liquidity problems and hence were supposed to keep some safety cushions for such situations. Additionally, as the officials argued, in some instances "liquidity is being drained from the banking system as a whole", which would make system-wide regulation necessary.<sup>12</sup> Such regulation was also to ensure a proper use of the central bank's liquidity backstop because, "if the banking system is to be able to withstand such events within the framework of the Bank's customary market operations and lender of last resort facilities, it needs to maintain within its total liquidity sufficient assets to be used in these operations".<sup>13</sup> The Bank officials recognized that a classic reserve asset ratio, defined as a share of customer deposits, no longer worked. This was because wholesale markets had become an important source of funding and also the prime source of liquidity risks. Therefore, all kinds of liabilities (not just retail deposits) and the entire spectrum of maturity-mismatches between the banks' assets and liabilities should be taken into account.

Thus, with this document, the money market managers presented an ambitious plan for reregulating liquidity after the dismantling of the post-war regime (Turner 2014). However, the new Banking and Money Market Supervision Division, founded in the aftermath of the Secondary Banking Crisis, argued against the proposal and rejected the imposition of liquidity ratios on banks. A key motivation for this opposition was the supervisors' attempt to defend their new turf. They argued that the money market managers had "inextricably mixed up" two separate concerns.<sup>14</sup> One emerged from the money market managers' aim of preserving extant market practices (e.g. 'call money'); another was prudential safeguards against liquidity crises. The supervisors claimed responsibility over the latter issue; and for their own prudential regulation, they rejected any kind of quantified liquidity ratio. In fact, they posited that, in accordance with their overall regulatory philosophy, they could more adequately deal with liquidity risks on a case-by-case basis, accounting for the individual situation of each bank.<sup>15</sup>

In their immediate reaction to the supervisors' claims, members of the Money Market Division expressed objections and doubt. For one, from the standpoint of money market management, the supervisors, by focusing on individual companies and usually concentrating on credit risk, misconceived the nature of liquidity and the possibilities of a market-wide crisis.<sup>16</sup> Moreover, liquidity regulation would inevitably remain linked with the operational dimension of central banking and the Bank's responsibility to step in as lender of last resort. The money market group also questioned whether their supervisory colleagues would be powerful enough to impose adequate liquidity buffers without reference to pre-specified ratios.<sup>17</sup> However, at the end of the day, the market managers had to accept that, within the new divisions of labor, they were no longer responsible for prudential affairs. Given this, a compromise was found to dissociate operational and prudential concerns. The money market managers would negotiate a voluntary agreement with the banks so that the latter kept some 'call money' with the Discount Houses (henceforth called 'club money' to emphasize its voluntary nature); and the supervisors would observe the banks' prudential liquidity on a qualitative, case-by-case basis.

In the following years, the money market managers gradually learnt how to manage liquidity and money market rates within the liberalized market ecologies that had developed since the 1970s and under the imperatives of anti-inflation politics. For the time being, the central bankers still used the Discount Houses as the conduits for channeling liquidity to banks, primarily by purchasing bills from them. But this particular operational route increasingly became superfluous. In 1984, the markets division therefore announced the termination of 'club money' within two years. With 'Big Bang', the Bank of England also gave up its tight control over the gilt market, increasingly relying on broad and liquid markets to accomplish the transmission from short- to long-term rates.<sup>18</sup> These decisions foreshadowed the 1997 reform, when the Bank began managing liquidity directly with banks and other financial institutions, through repurchase (repo) agreements secured by government bonds.<sup>19</sup> By the mid-1980s, the money market division thus was on a path of aligning its newly defined mandate – managing liquidity for the sole purpose of inflation control – with the practices of active liability management and with interconnected, liquid money and capital markets that actually proved useful for the central bankers in managing inflation expectations (Kneeshaw and Van den Bergh 1989).

On the other side of the organizational divide, the Bank's supervisors had successfully claimed jurisdiction over regulatory affairs by emphasizing the advantages derived from qualitative case-by-case negotiations. But in the course of the 1980s, they began to rethink this regulatory approach. In particular, Peter Cooke emerged as a proactive bureaucrat in the Supervisory Division with the aim of formalizing financial regulation as a task on equal footing with other central banking activities – a challenge that arose after the collapse of Johnson Matthey Bankers in September 1984 and in the wake of intensified negotiations at the *Basel Committee on Banking Supervision* (BCBS).<sup>20</sup> As part of this effort, Cooke also proposed taking up the money market managers' initial liquidity regulation proposal and including this in his unit's remit. In 1984, his Division therefore published a new consultation document on "Sterling Primary Liquidity" that elaborated on the shelved proposal from 1980. In the new document, the supervisors suggested that, in reflection of overall maturity mismatches (i.e. including wholesale liabilities), banks should keep core liquid sterling assets, which would allow them to withstand a money market crisis lasting a month.<sup>21</sup>

Discussions on this document lingered on until the late 1980s. But the proposal was ultimately dropped. Several forces worked against it and, more generally, against the inclusion of liquidity into the purview of financial regulation. The first was that, in the course of the 1980s, financial regulation underwent a process of institutional closure. A crucial step in this process was taken with the 1986 *Financial Services Act*, which rationalized regulation solely in terms of customer and shareholder protection<sup>22</sup>; wholesale money markets – "which exclusively serve professionals" – were deliberately excluded from the "full rigour" of this Act.<sup>23</sup> More important still, policy makers' discussions at the BCBS, which had initially been concerned with banks' capitalization and liquidity provisions (Toniolo 2005, p. 469), soon turned exclusively to credit risks and the associated regulation of capital (Goodhart 2011a). This narrowing of focus happened in the wake of the developing country debt crisis. US policy makers pushed for an accord on capital regulation in order to address domestic political pressure for tighter regulation while avoiding a loss of competitiveness for their banks (Oatley & Nabors 1998). Once a focus on capital had consolidated, officials' work turned to the intricacies of establishing rules for coordination, and these dynamics further contributed to liquidity falling through the cracks. The center-piece of such coordination became the 'home country rule', which prescribes that subsidiaries of each bank be regulated together with a bank's

headquarter, according to domestic accounting rules (Green 2015, p. 444; Thiemann 2018). This principle was developed to regulate capital in transnational financial conglomerates, but could not be easily extended to the banks' liability structures. These involved exposures in different markets and different currencies that are not necessarily those where a bank has its legal home.

Moreover, in consultations with the private sector during the 1980s, Cooke and his colleagues proved institutionally too weak to expand their jurisdiction. Banks not only raised objections against the supervisors' proposal with the familiar regulatory arbitrage arguments.<sup>24</sup> They also refused to consider the supervisors as legitimate counterparties in discussions over liability management and regulatory provisions concerning money markets. This is evidenced by the fact that bankers regularly sent their position papers to the *Money Market Division*, not to the supervisors who had issued the consultation documents.<sup>25</sup> Bankers also explicitly stressed that supervisors had a mandate for prudential affairs concerning individual banks, but *no* responsibility for "ensuring that the system as a whole had adequate liquidity".<sup>26</sup> Following this same line of reasoning, British Bankers Association representatives argued in a meeting with Bank staff in 1986 that "it would be more appropriate – and in line with current supervisory practice – to agree the stock levels that should be held by banks in the course of the normal supervisory dialogue", not through a comprehensive regulation.<sup>27</sup>

The proposed liquidity provisions thus became problematic because they transgressed the boundaries set for financial regulation. Given the resistance from the private sector, the supervisors would have needed endorsement and support from key actors in the Bank – particularly money market managers – to pursue their regulatory project. But the latter had become increasingly disengaged from prudential affairs. In the late 1980s, one member of the supervisory division noted with some frustration that "there was over a month ago a meeting between [the supervisors and the Money Market Division] at which several of the relevant questions were discussed, but not much seems to be clarified. That experience does not encourage me to think that it would be useful to institutionalise [meetings] at that level."<sup>28</sup>

#### 5.4. Path dependencies up until 2007

In the transition from a highly integrated financial governance regime, managed by the Discount Office, toward new divisions of policy tasks, different attempts at 'updating' the regulation of banks' liability management failed. Several proposals were made in the 1980s to address this gap, which primarily relied on the domain-specific expertise of money market managers at the central bank – their experience with liquidity crises and with banks' opportunistic behavior. But internal coordination problems, together with external lobbying pressure, contributed to the failure of these reregulation attempts. Organizational divisions and turf wars between money market managers and supervisors and a re-orientation toward increasingly narrow policy mandates (interest rate control vs. prudential regulation) played a decisive role. I have analyzed in detail the respective episodes because they foreshadow subsequent developments that deepened the divides. Without providing a full account of institutional reforms and organizational processes leading up the 2007–2008 crisis, I use more recent evidence to connect events from the 1970s and 1980s to the "structural secrecy" (Vaughan 1996) that subsequently emerged around liquidity risks.

First, in the decades following the 1980s episode, we observe further steps toward institutional closure in the domains of monetary policy and financial supervision, leading actors to abandon their concerns for regulatory problems that had still been recognized during the 1980s. In the area of financial supervision, its full articulation as a distinct governance practice was preliminarily completed when the Financial Services Authority (FSA) was founded in 1998, following another banking failure (of Barings) and New Labour's decision to grant operational independence to the central bank. The supervisors, who had previously been recruited from the central bank's general staff, thus collectively moved to a separate organizational entity located in London's financial district, Canary Wharf (Goodhart 2002, p. 2). Not just physically, but also institutionally, this move indicated a growing distance between central banking and financial regulation. As a separate organization, the FSA had its own mandate and operated within distinct frameworks of accountability. Its practices largely consisted of scheduled supervisory visits at domestic banks, monitoring of internal management systems, and close coordination with the audit process; foreign firms with exposures to London's money markets remained outside of the FSA's remit. If the assessment of risk management systems and accounting reports suggested that banks were solvent, according

to Basel's capital adequacy rules, the supervisors' job was properly done (Goodhart 2011b, p. 144). In accordance with this practice, the FSA staff profiles changed. Lawyers and accountants increasingly dominated the organization and personnel with a central banking background disappeared. These developments turned initial problems with regulating liquidity into entrenched institutional and organizational features. For instance, in 2003, "deficiencies in the existing liquidity regime" were noted, but the FSA "decided not to follow up" on this gap "because of the greater priority given to capital reform at that time" (FSA 2011, p. 23). This status quo prevailed until 2007.<sup>29</sup>

Simultaneously, with the full outsourcing of financial supervision to the FSA, and operational independence for monetary policy, the Bank of England developed an entrenched neglect for regulatory concerns. To the extent that the central bank maintained a weak mandate for systemic stability, this work remained an exercise in reporting without much policy impact (Davies & Green 2010).<sup>30</sup> The Bank's missing "culture of regulation" was associated with its inflation targeting mandate and the dominant role of macroeconomists.<sup>31</sup> It is important to note, though, that the Bank of England nonetheless, and by its very nature, remained an architect and active participant of money markets. This is reflected, for instance, in the Bank's key role in establishing a repo gilt market in London in the 1990s. Part of the central bank's power and expertise thus stayed within the tradition of the Discount Office. But what helped in neglecting the broader implications of this role was a disentanglement of operative considerations from policy decisions. In the words of Bill Allen,

"there was a kind of major re-organisation in which the Bank was really divided into two parts, a kind of thinking part and a doing part. And what once had been the Chief Cashier was part of doing, not part of thinking."<sup>32</sup>

Market managers were thus to optimize the central bank's control over short-term market rates (Tucker 2004), without any mechanism that allowed to channel market expertise back into the policy deliberation and formulation process.<sup>33</sup> In consequence, available but fragmented understandings of an increasingly fragile system of market-based liquidity caused little concern.

As a result of these further steps toward institutional closure, positive coordination (Scharpf 1994) – a prerequisite for addressing prudential concerns that required money market management expertise *and* supervisory competencies – became ever more important *and* difficult (Goodhart 2002). While *internal* cooperation inside the Bank of England had already been deficient during the 1980s in discussions over "The Measurement of Liquidity" (1980) and the "Sterling Primary Liquidity" proposal (1984), these problems grew with further bureaucratic fragmentation. One example – admittedly under specific circumstances – comes from the enactment of the *Tripartite Memorandum of Understanding* between HM Treasury, the Bank of England, and the FSA. While this *Memorandum* was supposed to formalize cooperation between the different actors involved in financial crisis management, it brought to light the boundaries that existed between them. In the crucial period before and during the transatlantic financial crisis, information exchange remained deficient and available insights were not brought together to develop a comprehensive understanding of risks.<sup>34</sup> Mervyn King, then Governor, claims that senior Bank officials "knew nothing of the liquidity situation of the banks we were likely to lend".<sup>35</sup> There also existed no clarity over responsibilities and procedures in a situation of acute crisis.<sup>36</sup> Members of the *Tripartite Committee* acted more in defense of their and their organizations' turf than addressing boundary-spanning problems. These deficiencies became particularly acute during the Northern Rock failure (Hutter & Lloyd-Bosstock 2017, p. 72). In summer 2007, the mortgage lender had warned policy makers about its difficulties with wholesale funding and a looming depletion of liquid means, but members of the *Tripartite Committee* could not agree on a common course.<sup>37</sup>

Lastly, isolated persons and certain groups of officials had demonstrated an acute understanding of the risks involved (Borio & White 2004; Large 2005). The proposals deliberated at the Bank of England ("The Measurement of Liquidity") and similar ideas articulated at the BSBC in Basel (Goodhart 2011a) are testament to this. The problem thus was not a lack of understanding *per se*. Rather, the problem was that the project of regulating the banks' liability management practices and wholesale market exposures lacked the necessary institutional and organizational support. As part of the problem, supervisors could not draw on the Bank of England's considerable influence over money market architectures or its role as lender of last resort in order to design and enforce rules. By implication, without the full power of central banking behind them, supervisors lacked capacities for withstanding deregulatory pressure from banks. For instance, while money market managers in the early 1980s had

still maintained an acute awareness for the existence of liquidity risks arising from new liability management techniques, in the subsequent years, claims made by “J.P. Morgan, Deutsche, Barclays” etc. about “vastly improved systems for monitoring and reacting to financial pressures” were not effectively questioned by supervisors, who accepted the idea of self-regulation in this domain.<sup>38</sup>

## 6. Discussion and conclusion

The widespread success of central banks in fighting inflation has had a profound effect on how scholars and policy makers think about institutional design (Tucker 2018). The key to success, it seems, lies in resolving time-inconsistent preferences through delegation, by giving central banks “accountable independence” (Lastra 1996), and thereby making sure that monetary policy makers care about inflation, if only for promoting their personal careers (Rogoff 1985; Adolph 2013). This has reinforced an emphasis on commitment and accountability problems in broader literatures on governance and regulation, reflected in discussions on new regulatory states (Majone 1994). Many scholars rely on related ideas to study financial regulation and argue that it is better served by delegation to single-purpose agencies that act more consistently in the name of financial stability than regulating central banks, which run into conflicts of interest (Copelovitch & Singer 2008; Winecoff 2014).

There exists good evidence to support these positions. But the financial crisis of 2007–2009 raises fundamental questions about the weakness of regulation in important areas of finance (Carruthers 2013; Thiemann 2018), including the absence of effective rules to address aggressive liability management and fragile money markets. This suggests that institutional designs, which actually improve on commitment and accountability in some domains, may be deficient in other respects. The deficiency I have explored in this paper derives from the separation of monetary policy and financial regulation and the creation of ‘orphan problems’ as a result (Borio & White 2004; Borio 2005; Hellwig 2014). I have also explored weaknesses of financial regulation that derive from it being disconnected from expertise, sources of influence, and skills that reside in money market divisions of central banks (Mehrling 2011; Goodhart 2011b).

The approach chosen to study these deficiencies and weaknesses was historical institutionalist. I traced the formation of an increasingly formalized and professionalized financial governance apparatus in Britain and discussed the unintended consequences that this process has had. My story began with the post-war regime, in which money market managers were able to maintain a high degree of stability, mainly through a ‘financial repression’-type of regulation that foregrounded liquidity (rather than capital) (Turner 2014). There existed plausible reasons why money market managers lost this role, given the demand for more expansive regulation vis-à-vis an increasingly open financial system. Also, with the high political saliency of inflation during the 1970s and early 1980s, central bankers had to find new organizational procedures to reinstall “nominal expectational stability” (Hetzl 2008). However, the institutional and organizational solutions found to these problems also meant that the Bank of England’s monetary and financial operations were less and less recognized as providing critical resources for achieving macroeconomic *and* financial stability goals. By reducing such operations to the implementation of monetary policy – i.e. by disentangling the “doing” from the “thinking part” – a kind of central banking developed that simultaneously thrives on and black-boxes its “infrastructural entanglements” (Braun 2018) with finance. Also, by dissociating financial regulation from central banking, regulators were deprived of the expertise, skills, and means of influence that are associated with central banks’ active trading in and interaction with markets. Lack of direct access to these resources, as a result of organizational separations, could not be compensated by positive coordination. Turf wars between regulators and money market managers (in the early 1980s) and increasingly disparate policy orientations, objectives, and professional norms (from the late 1980s onwards) prevented such coordination to succeed. As a result, attempts by supervisors to address the gap in their regulatory approach never came to fruition.

Since I have provided a single case study here, the question arises to what extent similar processes could be observed in other contexts. In support of this, a large body of scholarship has shown how, in the course of the 1980s and 1990s, monetary policy and financial regulation were organized in convergent ways across a diversity of states (Briault 1999; Goodhart 2002; Polillo & Guillén 2005; Bodea & Hicks 2015). And even in those countries where central banks kept regulatory responsibilities, we can observe comparable transformations taking place *inside* the organizations. For instance, while the Federal Reserve has remained an ‘umbrella supervisor’ for



financial holding companies (Haubrich & Thomson 2008) (in an otherwise fragmented regulatory landscape), it has internally separated monetary from prudential policy. Historically, the Fed had regulated banking and credit by influencing available reserves and money market conditions. But this integrated approach to monetary and financial policy was suspended in the 1960s (Mehrling 2011; Rotemberg 2014). Subsequently, monetary and capital markets research was divided into two separate divisions during Greenspan's tenure (Axilrod 2009, p. 133). Indeed, one of the few countries with stronger control over banks' liability management and money markets until the late 1990s was Germany. The primary reason for this was that the Bundesbank had not yet fully dissociated monetary policy from a broader control over banking sector liquidity, due its particular version of monetary policy (i.e. monetary targeting) (Gabor 2016).

It is important to recognize that the divisions of policy tasks described in this paper were established within particular political economy contexts. These contexts go a long way in explaining why all states, including Germany (via eurozone governance), ultimately moved toward an institutional design according to which central banks limit themselves to inflation targeting; and that entails a financial regulation reliant on micro-prudential tools, which function in otherwise deregulated, liberalized contexts. This basic situation has *not* changed with the transatlantic financial crisis, which is why initiatives to address the gaps described in this paper have frequently been characterized as half-hearted and weak (Borio 2014; Helleiner 2014; Stellinga & Mügge 2017).

Looking ahead, I would suggest that the currently prevailing divisions of policy tasks – with monetary policy and prudential financial regulation (micro and macro) remaining separated – provide strong obstacles for more radical changes in the regulation of finance. It has been highly beneficial to the institutional status and legitimacy of policy makers – and particularly central bankers – that they can externalize and disambiguate 'entangled' problems, including those associated with banks' liabilities. It is, therefore, highly plausible that these policy makers resist any changes that require them to re-internalize these problems and recognize their interconnections. For instance, current divisions of labor allow central bankers to ignore the dilemma that (small, unequally distributed, short-term) macroeconomic gains from quantitative easing come at the cost of deepening the structural problem of over-sized finance (Arcand *et al.* 2015). A similar point can be made about liquidity regulation, where not just transitional costs for private firms, but also monetary policy interests in liquid markets (Braun 2018) stand in the way of more significant regulatory change (Stellinga & Mügge 2017). While some experts argue that monetary policy should internalize its destabilizing implications for finance, e.g. via more coordination (Smets 2014), incumbent policy makers and the majority of economists favor addressing these issues with a "modified Jackson Hole consensus" that puts the burden on macroprudential regulation as a separate policy making jurisdiction. The processes described in this paper, and my elaboration of critical views on new regulatory states, suggest some institutional and organizational mechanisms to explain the attractiveness of these status-quo approaches and their weakness in addressing structural problems in finance.

If the idea of accountable independence in monetary policy making was formative for regulation and governance scholarship in the 1990s until the early 2000s, bringing to light the advantages of credible commitment and delegation to specialized agencies, then we may use the very crisis of contemporary monetary and financial governance to think more generally about deficiencies in the organizing principles of new regulatory states. One proposition is that such state formations do not so much help resolve conflicts between policy objectives, as render invisible the hard choices that would be needed if policy makers had to internalize them and recognize their interrelations (Krippner 2011). Highly differentiated governance structures may even contribute to complacency because policy makers resist changing their frameworks of accountability if they are perceived as successful under the current regime and fear that changes will confront them with new dilemmas. For instance, since central bankers have found that inflation targeting provides a benign framework of accountability under contemporary political economy conditions, they resist rethinking more foundationally the functions and practices of central banking. These problems indicate that the possibilities of enhancing policy effectiveness and legitimacy by isolating objectives and policy instruments has its limits and costs.

Another key idea to emerge from this study is that financial governance is one instance of a broader tendency toward bureaucratic fragmentation, which exacerbates problems of coordination inside bureaucracies (Koop & Lodge 2014). Scholars should particularly pay attention to situations in which one group of officials is given formal regulatory responsibilities but is divorced from the skills, expertise, and sources of influence relevant to accomplish its tasks. Understanding these problems often requires unpacking governance as a *practice*, which

entails domain-specific resources that are essential for achieving meaningful, welfare-enhancing outcomes (Collins & Robert 2009).

Relatedly, the case of financial governance also makes evident that we need to analyze how regulators are positioned vis-à-vis those public institutions and actors that the private sector structurally depends on – as banks do, for instance, on central banks and the fiscal apparatus. Arguably, a dissociation of regulation from such institutions and actors can lead to an asymmetric constellation in which the private sector receives subsidies when needed, but cites the advantages and inevitable force of competitive markets when confronted with prudential regulatory demands.

## List with interviewees

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Bill Allen (interviewed by author in October 2018)	Bank of England staff in different positions (1972–2004): Deputy Director for Monetary Analysis (1994–1998); Deputy Director for Financial Market Operations (1999–2002), and Deputy Director for Financial Stability and Director for Europe (2002–2003)
Michael Foot (interviewed by author in March 2017)	Senior member of the Money Market, Foreign Exchange, European Affairs and Banking Supervision at Bank of England (1969–1997), Deputy Director of the Financial Services Authority (1997–2004)
Charles Goodhart (interviewed by author in May and July 2016)	Monetary policy adviser (1969–1980), chief adviser (1980–1985) and member of the Monetary Policy Committee (1997–2000) at the Bank of England
Anthony Hotson (interviewed by author in May 2016 and March 2017)	Member of Monetary Policy Group and the Money Market Division, Bank of England (1978–1988)
Andrew Large (interviewed by author in September 2017)	Chairman, Securities and Investments Board (1992–1997); Deputy chairman of Barclays Bank (1998–2002); Deputy Governor (responsible for Financial Stability), and member of Monetary Policy Committee, Bank of England (2002–2006)
Rachel Lomax (interviewed by author in March 2017)	Official and senior official at HM Treasury (1968–1994) and Deputy Governor of the Bank of England (2003–2008)
Mervyn King (interviewed by author in May 2020)	Non-executive Director (1990–1991) and chief economist at the Bank of England (1991–1998); subsequently, King was Bank of England's Deputy Governor (1998–2003) and Governor (2003–2013)
Ian Plenderleith (interviewed by author in May 2017)	Junior Assistant to the Governor (1968–1969), member of Foreign Exchange Division, Private Secretary to the Governor (1973–1976), senior member of Money Market Division, Head of Market Operations (1980–1994), Executive Director (Markets) (1994–1997, and Member of the Monetary Policy Committee (1997–2004) at the Bank of England
Ian Plenderleith (interviewed by author in May 2017)	Junior Assistant to the Governor (1968–1969), member of Foreign Exchange Division, Private Secretary to the Governor (1973–1976), senior member of Money Market Division, Head of Market Operations (1980–1994), Executive Director (Markets) (1994–1997, and Member of the Monetary Policy Committee (1997–2004) at the Bank of England
Paul Tucker (interviewed by author in December 2017)	Paul Tucker joined the Bank of England in 1980 and assumed various roles, including Personal Secretary to the Governor. He subsequently worked in the Bank's different markets divisions (foreign exchange, gilt, and money markets) before he became Executive Director for Markets (2002–2009) and the Bank's Deputy Governor (2009–2013).

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## Endnotes

<sup>1</sup>Supplementary memorandum by Peter Cooke, House of Lords, 1 February 2009, <https://publications.parliament.uk/pa/ld200809/ldselect/ldconaf/101/9021005.htm>, (last retrieved 1 October 2018).

<sup>2</sup>Interviews Tucker, Plenderleith. See also Proposal for a revised directing structure, 19th April 1979, BoE Archive 7A127-1. "One relic from the past has been a degree of ambiguity about the relationship between the Executive Directors of the Bank and the areas of the Bank whose policy work they coordinate; on some subject they have not been in the line of command between Heads of Department and the Governors." (Confidential letter by C. to the Governor, Deputy, MacMahon and Blunden, 02.11.1979, BoE Archive 6A262/1)

<sup>3</sup>"When the Discount Houses came in to borrow, and they had physically to come in to do this....there would be a message to go with it. And the message would say something like, 'we are not happy about ...' and then immediately they would go back and say, 'The Bank of England is insisting that...'. Because we could issue Treasury Bills effectively at any time, we could always manipulate that and make the discount market short of cash within 24 hours if we wanted to." Interview Michael Foot with author (March 2017); see also Bank of England, The Management of Money Day by Day, *BoE Quarterly Bulletin*, March 1963, pp. 15–21.

<sup>4</sup>Reserves included Treasury bills, 'call money' (wholesale accounts) with the Discount Houses, and central bank money. See Allen Allen, William A. 2015. "Asset choice in British central banking history, the myth of the safe asset, and bank regulation." *Journal of Banking and Financial Economics* 2(4), 18–31. for a detailed discussion of the Bank of England's asset choices.

<sup>5</sup>Lord Cromer, Governor of the Bank of England, 1957, BoE archive. See also Turner (2014, p. 181).

<sup>6</sup>"It remains to be considered whether or not the present techniques of market management used by the authorities need and can be adapted to work in conjunction with the use of ratio control. *No such adaptation is practicable in the Treasury Bill market without producing violently disruptive effects.* But it might be possible to derive at least some short-term benefit from an adaptation of the techniques in the gilt-edged market." (Bank of England, *A new approach to credit control and the banking system*, 30 March 1971, p. 22, BoE Archive 4A153/1, my emphasis)

<sup>7</sup>See Unnamed official, The structure of financial markets, 4.11.1983, BoE Archive 2A71-1.

<sup>8</sup>Hollom to Richardson, *Cashier's Department. The Chief Cashier's note of 6 February*, 21 February 1974, BoE Archive 0A46/2, cited in Capie (2010, pp. 609–610).

<sup>9</sup>Unnamed author, The Bank of England: Proposal for a revised directing structure, 19 April 1979, 7A127-1, BoE Archive 7A152/1.

<sup>10</sup>Bank of England, The capital and liquidity adequacy of banks, *BoE Quarterly Bulletin*, September 1975.

<sup>11</sup>AR Latter, *Easing liquidity by abandoning the 12 1/2% Minimum Reserve Ratio*, 11th July 1980, BoE Archive 2A182/1. "It is tempting – having given the clearing banks due warning of the nature and extent of the expected problem, which I am sure they would not sufficiently heed – to leave them to stew in their own juice. But I think that course must be rejected." (Coleby, *money markets in the next weeks*, 16 February 1981, BoE Archive 2A182/2)

<sup>12</sup>Bank of England, The Measurement of Liquidity, March 1980. BoE Archive, 10A21 1/1.

<sup>13</sup>Capie (2010).

<sup>14</sup>WPC, *The Arrangements to follow the Reserve Asset Ratio*, 31 December 1980, p. 2 10A21 1/1. The clearing banks used the same reasoning: "The question of primary liquidity should be discussed separately and divorced from consideration of individual banks' functional need for liquidity." (The Committee London Clearing Bank, *The Measurement of Liquidity*, December 1980, p. 1, BoE Archive 10A21 1/1) A *Financial Times* journalist reiterated this point of view and described liquidity requirements as "an uneasy medley of monetary and prudential controls that obliged all banks, whatever their mix of business, to hold a certain proportion of assets in prescribed near-liquid form on each monthly balance sheet day" (More flexibility in the London money markets, *Financial Times*, 27 September 1982, p. 31)

<sup>15</sup>"They [the prudential side, lw] would deal with the question of the primary liquidity needs of individual banks in an ad hoc, responsive way which would reflect the position of that bank within the sterling system." (Coleby, *Primary liquidity in the context of monetary control*, 5 January 1981, p. 4, BoE Archive 10A21 1/1) See also George Blunden, The supervision of the UK banking system, *BoE Quarterly Bulletin*, June 1975.

<sup>16</sup>“It remains just as true as it always was that the *system* is stronger and more secure against shocks to its liquidity if it normally maintains a good stock of those assets for which we have established well tried methods of encashments” (Coleby, *Primary Liquidity*, 3 December 1980, p. 8, BoE Archive 10A21 1/1)

<sup>17</sup>The operational side...regards it as vital to the success of the new operational approach that it does not have to be substantially departed from at the first sign of pressure, and that there is accordingly a prudential problem...which it is doubtful could be adequately met by the ad hoc guidance suggested for individual banks.” (Coleby, *Primary liquidity in the context of monetary control*, 5 January 1981, p. 4, BoE Archive 10A21 1/1)

<sup>18</sup>“I suspect that we shall conclude that some reduction in the club money obligations should be made, as part of the longer-term process of removing institutional props.” (Coleby, *The Money Market, the Discount Houses and their Supervision*, 12 March 1982, BoE Archive 2A182/4)

<sup>19</sup>Bank of England, The Bank of England's operations in the sterling money markets, *Bank of England Quarterly Bulletin* March, 1997.

<sup>20</sup>AW Nicole, *Banking Supervision White Paper*, 17 December 1985, BoE archive AC13/1081. While personnel in the Banking Supervision Division had numbered 37 in 1974 and 77 in 1979, this number rose to 200 by 1989 Capie, Forrest H. 2010. *The Bank of England, 1950s to 1979*. Cambridge: Cambridge University Press.

<sup>21</sup>Bank of England, *Sterling liquidity*, 19 September 1984, BoE Archive 2A71-5.

<sup>22</sup>Interview Andrew Large with author (September 2017).

<sup>23</sup>John Townend, Supervision of the wholesale money markets, *BoE Quarterly Bulletin*, January 1988, p. 69.

<sup>24</sup>Bankers see snags in plan for liquidity requirements, *Financial Times*, 07 December 1988, p. 12.

<sup>25</sup>See, for instance, Gerald & National's letter to Coleby (head of money market division) 10 July 1986; LDMA, Response to the Paper entitled 'sterling liquidity for institutions authorised under the Banking Act 1979 submitted to Coleby, 14 July 1986 (both in BoE Archive, 10A21 1/2.)

<sup>26</sup>Report on a conversation with National Westminster on Primary Liquidity at the Bank, 13 August 1986, BoE Archive 10A21 1/2.

<sup>27</sup>Primary liquidity: meeting with the BBA 21 November 1986, internal report, BoE Archive 10A21 1/2.

<sup>28</sup>Unknown author, Potential regime for gilt-edged market makers, 10 September 1984, BoE Archive 2A71/5. Tucker recalls “a row” inside the Bank of England and that, as a result of these internal conflicts, the project was dropped (email exchange, April 2017).

<sup>29</sup>The only liquidity regulation in place in Britain at the outbreak of the crisis was the *Sterling Stock Regime*, which only included major UK retail banks. It was also deficient because, as the FSA later noted, it “did not protect against longer liquidity stresses due to it only capturing wholesale flows out to a five day period; did not capture non-sterling flows; excluded off balance sheet contingent liabilities; and assumed only 5 percent of retail deposits would be withdrawn over the five day period” – an amount exceeded in the Northern Rock case (FSA 2011). Willem Buiter concluded in a parliamentary hearing in 2007 that “the FSA is an institution that thinks more about capital adequacy and solvency issues than about liquidity issues”. House of Commons Treasury Committee: *The Run on the Rock*. Fifth Report of Session 2007–2008, p. 26.

<sup>30</sup>Plenderleith writes that, “whilst the Bank had the analytical capability to identify and assess macro-systemic threats to financial stability, it had no statutory responsibility in this area and no formal powers to act, other than to communicate its concerns” (Plenderleith, *Review of the Bank of England's Provision of Emergency Liquidity Assistance in 2008–2009*, Report to the Court of the Bank of England, October 2012, p. 25). The specific mandate of the Bank was to contribute “to the maintenance of the stability of the financial system as a whole.” (House of Commons Treasury Committee: *The Run on the Rock*. Fifth Report of Session 2007–2008, p. 105). Toward their own Court of Directors, senior Bank of England officials stated that, in central banking circles, there existed “two polar schools of thought: (i) central banks cannot do much about asset price booms but they should stand by to deal with the effects of a price bust, (ii) an alternative BIS led view is that asset price busts can be very messy so central banks should try and lean against the price increase whilst they are rising. *The Bank's view is that within an inflation targeting framework we can deal, through monetary policy decisions, with a messy unwinding of prices in the short term.*” Bank of England, Minutes of non-executive Directors Committee meeting, 12 September 2007, my emphasis.

<sup>31</sup>“The Bank did not now have a culture of regulation [...] In view of these considerations, the Bank had concluded that where statutory regulation was required it should fall to the existing regulator, namely the FSA.” Bank of England, Minutes of non-executive Directors Committee meeting, 13 June 2007; see also Willem Buiter, The unfortunate uselessness of most ‘state of the art’ academic monetary economics, *Financial Times*, 3 March 2009.

<sup>32</sup>Interview Bill Allen with author (October 2018). Bindseil explains the associated dogma in the following words: “In principle, monetary macroeconomists in central banks do not need to understand monetary policy implementation and,

symmetrically, implementation experts do not need to understand much about monetary policy strategy and the transmission mechanism” (2014, p. 12).

<sup>33</sup>These problems became evident in 2007–2008, because the Bank of England’s emergency liquidity measures required coordination between money market managers and those managing relations with banks. As Plenderleith documents, the separation of these two functions provided obstacles for lender and market maker of last resort operations (emergency liquidity assistance, ELA); see Ian Plenderleith, *Review of the Bank of England’s Provision of Emergency Liquidity Assistance in 2008–2009*, Report to the Court of the Bank of England, October 2012, p. 64.

<sup>34</sup>For instance, it is documented that Bank officials identified liquidity risks before summer 2007, but this information provoked no policy response. “In its April 2007 Financial Stability Report, Sir John Gieve told us that the Bank of England had “identified the increasing wholesale funding of banks as a potential risk if markets became less liquid”. (House of Commons Treasury Committee: *The Run on the Rock*, Fifth Report of Session 2007–2008, p. 14) One specific area of failed cooperation concerned data exchange between the Bank and FSA.

<sup>35</sup>See interview with Mervyn King, <https://som.yale.edu/blog/interview-with-sir-mervyn-king> (last retrieved 20 January 2020).

<sup>36</sup>It was noted that... there was a significant gap between the Bank’s perceived responsibilities and its powers. The Memorandum of Understanding (MoU) did not provide a clear definition of the Bank’s role, for example on why and how it should undertake payment systems oversight, and the Bank had no statutory powers to deliver its responsibilities.” Bank of England, Minutes of non-executive Directors Committee meeting, 13 June 2007.

<sup>37</sup>“My frustration was that I could not in practice order the Bank to do what I wanted. Only the Bank of England can put the necessary funds into the banking system; indeed that is one of the core purposes of a central bank. The Bank was independent and the Governor knew it. We did not agree on what to do.” (account in the memoirs of the Chancellor of the Exchequer; Darling 2011, 23; see also Tucker 2018, p. 41).

<sup>38</sup>“Whether it was J.P. Morgan, Deutsche, Barclays or whoever, they were all saying to their home regulators: ‘We now have vastly improved systems for monitoring and reacting to financial pressures, and vastly new and improved ways of tapping money when we need it. But’ – this was the key part – ‘if you do not give us further concessions, the shadow banking sector will take even more of our business than it is already doing. You would not want that, would you?’” Testimony by Michael Foot, Parliamentary Commission on Banking Standards – Minutes of Evidence HL Paper 144/HC 705, 23 November 2012.

## References

- Abolafia MY (2012) Central Banking and the Triumph of Technical Rationality. In: Cetina KK, Preda A (eds) *Handbook of the Sociology of Finance*, pp. 94–112. Oxford University Press, Oxford.
- Adolph C (2013) *Bankers, Bureaucrats, and Central Bank Politics. The Myth of Neutrality*. Cambridge University Press, Cambridge.
- Adrian T, Liang N. (2016) Monetary Policy, Financial Conditions, and Financial Stability. *FRBNY Staff Reports* New York, NY.
- Adrian T, Shin HS. (2008) Financial Intermediaries, Financial Stability, and Monetary Policy. *FRBNY Staff Report* New York, NY.
- Adrian T, Shin HS (2010) Liquidity and Leverage. *Journal of Financial Intermediation* 19(3), 418–437.
- Alesina A, Tabellini G (2008) Bureaucrats or Politicians? Part II: Multiple Policy Tasks. *Journal of Public Economics* 92(3), 426–447.
- Alessandri P, Haldane AG (2009) *Banking on the State*. Bank of England, London.
- Allen F, & Carletti E (2008). *The Role of Liquidity in Financial Crises*. Jackson Hole Economic Policy Symposium. [Last accessed 20 May 2019.] Available from URL: [http://repository.upenn.edu/fnce\\_papers/48](http://repository.upenn.edu/fnce_papers/48).
- Allen WA (2013) *International Liquidity and the Financial Crisis*. Cambridge University Press, Cambridge; New York, NY.
- Allen WA (2014) *Monetary Policy and Financial Repression in Britain*, pp. 1951–1959. Palgrave Macmillan, Basingstoke.
- Allen WA (2015) Asset Choice in British Central Banking History, the Myth of the Safe Asset, and Bank Regulation. *Journal of Banking and Financial Economics* 2(4), 18–31.
- Allison GT, Halperin MH (1972) Bureaucratic Politics: A Paradigm and some Policy Implications. *World Politics* 24, 40–79.
- Arcand JL, Berkes E, Panizza U (2015) Too Much Finance? *Journal of Economic Growth* 20(2), 105–148.
- Axilrod SH (2009) *Inside the Fed: Monetary Policy and its Management*. MIT Press, Cambridge, MA.
- Bagehot W (1873) *Lombard Street: A Description of the Money Market*. H. S. King & co., London.
- Barro RJ, Gordon DB (1983) Rules, Discretion and Reputation in a Model of Monetary Policy. *Journal of Monetary Economics* 12, 101–121.
- Battilossi S (2010) The Eurodollar Revolution in Financial Technology: Deregulation, Innovation and Structural Change in Western Banking. In: Kyrtis A-A (ed) *Financial Markets 3and Organizational Technologies. System Architectures, Practices and Risks in the Era of Deregulation*, pp. 29–63. Palgrave Macmillan, Basingstoke.
- Bernanke B, Laubach T, Mishkin FS, Posen AS (2001) *Inflation Targeting: Lessons from the International Experience*. Princeton, NJ: Princeton University Press.

- Bezes P, Le Lidec P (2016) The Politics of Organization. The New Divisions of Labor in State Bureaucracies. *Revue française de science politique* 66, 407–433.
- Bindseil U (2014) *Monetary Policy Operations and the Financial System*. Oxford University Press, Oxford; New York, NY.
- Bodea C, Hicks R (2015) International Finance and Central Bank Independence: Institutional Diffusion and the Flow and Cost of Capital. *The Journal of Politics* 77(1), 268–284.
- Bonner, Clemens, and Paul Hilbers. 2015. Global Liquidity Regulation – Why Did it Take So Long? DNB Working Papers. De Nederlandsche Bank, Amsterdam.
- Borio C (2005) Monetary and Financial Stability: So Close and Yet So Far? *National Institute Economic Review* 192(1), 84–101.
- Borio, Claudio. 2011. Central Banking Post-Crisis: What Compass for Uncharted Waters? BIS Working Papers. Bank for International Settlements, Basle.
- Borio C (2014) Macroprudential Frameworks: (Too) Great Expectations? In: Schoenmaker D (ed) *Macroprudentialism*, pp. 29–45. VoxEU.org, London.
- Borio, Claudio, and William White. 2004. Whither Monetary and Financial Stability? The Implications of Evolving Policy Regimes. BIS Working Papers. Bank for International Settlements, Basle.
- Braun B (2018) Central Banking and the Infrastructural Power of Finance: The Case of ECB Support for Repo and Securitization Markets. *Socio-Economic Review*, mw008–mw008.
- Braun B, Downey L (2020) *Against Amnesia: Re-Imagining Central Banking*. Zurich, Switzerland: Council on Economic Policies.
- Briault C (1999) The Rationale for a Single National Financial Services Regulator. *Occasional Paper Series*. Financial Services Authority, London.
- Brunnermeier MK, Pedersen LH (2009) Market Liquidity and Funding Liquidity. *The Review of Financial Studies* 22(6), 2201–2238.
- Burn G (1999) The State, the City and the Euromarkets. *Review of International Political Economy* 6(2), 225–261.
- Capie FH (2010) *The Bank of England, 1950s to 1979*. Cambridge University Press, Cambridge.
- Capie FH, Goodhart CAE, Schadt N (1994) The Development of Central Banking. In: Capie FH, Fischer S, Goodhart CAE, Schadt N (eds) *The Future of Central Banking: The Tercentenary Symposium of the Bank of England*, pp. 1–112. Cambridge University Press, Cambridge, England; New York, NY.
- Carruthers BG (2013) Diverging Derivatives: Law, Governance and Modern Financial Markets. *Journal of Comparative Economics* 41(2), 386–400.
- Cecchetti SG, Disyatat P (2010) Central Bank Tools and Liquidity Shortages. *FRBNY Economic Policy Review* 16(1), 29–42.
- Christensen T, Laegreid P (2011) The New Orthodoxy: A Critical Assessment. In: Levi-Faur D (ed) *Handbook on the Politics of Regulation*, pp. 361–372. Edward Elgar, Cheltenham.
- Collins HM, Robert E (2009) *Rethinking Expertise*. University of Chicago Press, Chicago, IL.
- Copelovitch MS, Singer DA (2008) Financial Regulation, Monetary Policy, and Inflation in the Industrialized World. *The Journal of Politics* 70(3), 663–680.
- Cukierman A (1994) Central Bank Independence and Monetary Control. *The Economic Journal* 104(427), 1437–1448.
- Davies H, Green D (2010) *Banking on the Future: The Fall and Rise of Central Banking*. Princeton University Press, Princeton, NJ.
- Dewatripont M, Jewitt I, Tirole J (2000) Multitask Agency Problems: Focus and Task Clustering. *European Economic Review* 44(4), 869–877.
- Di Noia C, Di Giorgio G (1999) Should Banking Supervision and Monetary Policy Tasks Be Given to Different Agencies? *International Finance* 2(3), 361–378.
- Diamond DW, Dybvig PH (1983) Bank Runs, Deposit Insurance, and Liquidity. *Journal of Political Economy* 91(3), 401–419.
- Diamond DW, Rajan RG (2001) Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking. *Journal of Political Economy* 109(2), 287–327.
- Espeland WN, Sauder M (2007) Rankings and Reactivity: How Public Measures Recreate Social Worlds. *American Journal of Sociology* 113(1), 1–40.
- Fletcher GA (1976) *The Discount Houses in London: Principles, Operations and Change*. Macmillan, London.
- Fligstein N, Stuart Brundage J, Schultz M (2017) Seeing Like the Fed: Culture, Cognition, and Framing in the Failure to Anticipate the Financial Crisis of 2008. *American Sociological Review* 82(5), 879–909.
- Fourcade-Gourinchas M, Babb S (2002) The Rebirth of the Liberal Creed: Paths to Neoliberalism in Four Countries. *American Journal of Sociology* 108(3), 533–579.
- FSA (2011) The Failure of the Royal Bank of Scotland. *Financial Services Authority Board Report*. England: Financial Services Authority.
- Gabor D (2016) The (Impossible) Repo Trinity: The Political Economy of Repo Markets. *Review of International Political Economy* 23(6), 967–1000.
- Gabor D, Vestergaard J (2016) *Towards a Theory of Shadow Money*. Denmark, UWE Bristol/DIIS.
- George AL, Bennett A (2004) *Case Studies and Theory Development in the Social Sciences*. MIT Press, Cambridge, MA; London.
- Gilardi F (2005) The Institutional Foundations of Regulatory Capitalism: The Diffusion of Independent Regulatory Agencies in Western Europe. *Annals of the American Academy of Political and Social Science* 598, 84–101.
- Goodfriend M, Hargraves M (1983) In: Federal Reserve Bank of Richmond (ed) *A Historical Assessment of the Rationales and Functions of Reserve Requirements*, pp. 3–21. Federal Reserve Bank of Richmond, Richmond, IL.
- Goodhart CAE (1986) Financial Innovation and Monetary Control. *Oxford Review of Economic Policy* 2(4), 79–102.
- Goodhart CAE (1988) *The Evolution of Central Banks*. MIT Press, Cambridge MA; London.

- Goodhart CAE (1994) What Should Central Banks Do? What Should be Their Macroeconomic Objectives and Operations? *The Economic Journal* 104(427), 1424.
- Goodhart CAE (2002) The Organizational Structure of Banking Supervision. *Economic Notes* 31(1), 1–32.
- Goodhart CAE (2009) Liquidity Management. In: Federal Reserve Bank of Kansas (ed) *Economic Policy Symposium*, pp. 157–168. Federal Reserve Bank of Kansas, Jackson Hole.
- Goodhart CAE (2011a) *The Basel Committee on Banking Supervision: A History of the Early Years, 1974–1997*. Cambridge University Press, Cambridge.
- Goodhart CAE (2011b) The Changing Role of Central Banks. *Financial History Review* 18(2), 135–154.
- Goodhart CAE, Needham DJ (2018) Historical Reasons for the Focus on Broad Monetary Aggregates in Post-World War II Britain and the ‘Seven Years War’ with the IMF. *Financial History Review* 24(3), 331–356.
- Goodhart CAE, Schoenmaker D (1992) Institutional Separation between Supervisory and Regulatory Agencies. *Giornale degli Economisti e Annali di Economia* 51(9), 353–439.
- Gorton G, Huang L (2002) *Banking Panics and the Origin of Central Banking*. Cambridge, MA: NBER: National Bureau of Economic Research.
- Gorton G, Metrick A (2012) Securitized Banking and the Run on Repo. *Journal of Financial Economics* 104(3), 425–451.
- Graeber D (2011) *Debt: The First 5,000 Years*. Melville House, Brooklyn, NY.
- Green J (2015) Anglo-American Development, the Euromarkets, and the Deeper Origins of Neoliberal Deregulation. *Review of International Studies* 42(3), 425–449.
- Haldane AG (2009) *Rethinking the Financial Network*. Bank of England, London.
- Haldane AG, Madouros V (2012) The Dog and the Frisbee. In: Federal Reserve Bank of Kansas (ed) *Economic Policy Symposium*, pp. 109–159. Federal Reserve Bank of Kansas, Jackson Hole.
- Hall PA (1986) *Governing the Economy: The Politics of State Intervention in Britain and France*. Polity Press, Cambridge.
- Hardie I, Howarth D, Maxfield S, Verdun A (2013) Banks and the False Dichotomy in the Comparative Political Economy of Finance. *World Politics* 65(4), 691–728.
- Hardie I, Maxfield S (2013) Market-Based Banking as the Worst of all Worlds: Illustrations from the United States and United Kingdom. In: Hardie I, Howarth D (eds) *Market-Based Banking and the International Financial Crisis*, pp. 56–76. Oxford University Press, Oxford; New York, NY.
- Haubrich JG, Thomson JB (2008) Umbrella Supervision and the Role of the Central Bank. *Journal of Banking Regulation* 10(1), 17–27.
- Helleiner E (2014) *The Status Quo Crisis: Global Financial Governance after the 2008 Financial Meltdown*. Oxford University Press, Oxford.
- Hellwig MF (2014) Financial Stability, Monetary Policy, Banking Supervision, and Central Banking. *Preprints of the Max Planck Institute for Research on Collective Goods*. Max Planck Institute for Research on Collective Goods, Bonn.
- Héritier A, Lehmkuhl D (2008) Introduction: The Shadow of Hierarchy and New Modes of Governance. *Journal of Public Policy* 28(1), 1–17.
- Hetzel RL (2008) *The Monetary Policy of the Federal Reserve: A History*. Cambridge University Press, New York, NY; Cambridge.
- Holmes DR (2013) *Economy of Words: Communicative Imperatives in Central Banks*. University of Chicago Press, Chicago, IL.
- Hood C (2012) Public Management by Numbers as a Performance-Enhancing Drug: Two Hypotheses. *Public Administration Review* 72(s1), S85–S92.
- Hood C, Dixon R (2015) *A Government that Worked Better and Cost less? Evaluating Three Decades of Reform and Change in UK Central Government*. Oxford University Press, Oxford.
- Hördahl P, King MR (2008) Developments in Repo Markets during the Financial Turmoil. *BIS Quarterly Review*. Bank for International Settlements, Basel.
- Hotson A (2017) *Respectable Banking: The Search for Stability in London’s Money and Credit Markets since 1695*. Cambridge University Press, Cambridge.
- Hutter BM, Lloyd-Bostock SM (2017) *Regulatory Crisis: Negotiating the Consequences of Risk, Disasters and Crises*. Cambridge University Press, Cambridge.
- Ingham GK (2004) *The Nature of Money*. Polity, Cambridge.
- Innes, A. Mitchell. 2004[1913]. “What Is Money?” Pp. 14–49 in *Credit and State Theories of Money*, edited by L Randall Wray. Cheltenham: Elgar.
- Johnson S, Kwak J (2010) *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown*, p. 2011. Vintage Books, New York, NY.
- Jordà, Òscar, Björn Richter, Moritz Schularick, and Alan M. Taylor. 2017. Bank Capital Redux: Solvency, Liquidity, and Crisis. Federal Reserve Bank of San Francisco Working Paper.
- Jordana J, Levi-Faur D, i Marín XF (2011) The Global Diffusion of Regulatory Agencies: Channels of Transfer and Stages of Diffusion. *Comparative Political Studies* 44(10), 1343–1369.
- Kneeshaw JT, Van den Bergh P (1989) Changes in Central Bank Money Market Operating Procedures in the 1980s. *BIS Economic Papers*. Bank for International Settlements, Basel.
- Konings M (2011) *The Development of American Finance*. Cambridge University Press, New York, NY.
- Koop C, Lodge M (2014) Exploring the Co-Ordination of Economic Regulation. *Journal of European Public Policy* 21(9), 1311–1329.
- Krippner GR (2011) *Capitalizing on Crisis: The Political Origins of the Rise of Finance*. Harvard University Press, Cambridge, MA.

- Laffont J-J, Tirole J (1991) The Politics of Government Decision-Making: A Theory of Regulatory Capture. *The Quarterly Journal of Economics* 106(4), 1089–1127.
- Large A (2005) *Financial Stability – Managing Liquidity Risk in a Global System*. Bank of England, London.
- Lastra RM (1996) *Central Banking and Banking Regulation*. Financial Markets Group, London School of Economics and Political Science, London.
- Majone G (1994) The Rise of the Regulatory State in Europe. *West European Politics* 17(3), 77–101.
- Majone G (1999) The Regulatory State and its Legitimacy Problems. *West European Politics* 22(1), 1–24.
- Marcussen M (2009) Scientization of Central Banking: The Politics of A-Politicization. In: Dyson K, Marcussen M (eds) *Central Banks in the Age of the Euro*, pp. 373–390. Oxford University Press, Oxford; New York, NY.
- Mehrling P (2011) *The New Lombard Street: How the Fed Became the Dealer of Last Resort*. Princeton University Press, Princeton, N.J.
- Mehrling P (2014) Why Central Banking Should Be Re-Imagined. *BIS Papers*, pp. 108–118. Bank for International Settlements, Basle.
- Merton RK (1968) *Social Theory and Social Structure*. Free press, Glencoe, IL.
- Minsky HP (1975) *John Maynard Keynes*. London. Macmillan, Basingstoke.
- Moran M (1984) *The Politics of Banking: The Strange Case of Competition and Credit Control*. Macmillan, London.
- Moran M (1991) *The Politics of the Financial Services Revolution: The USA, UK and Japan*. Macmillan, London.
- Moran M (2003) *The British Regulatory State: High Modernism and Hyper-Innovation*. Oxford University Press, Oxford.
- Needham D (2014) *UK Monetary Policy from Devaluation to Thatcher, 1967–1982*. Palgrave Macmillan, Basingstoke.
- Needham D, Hotson A (2018) *The Changing Risk Culture of UK Banks*. University of Cambridge, Cambridge.
- Oatley T, Nabors R (1998) Redistributive Cooperation: Market Failure, Wealth Transfers, and the Basle Accord. *International Organization* 52(1), 35–54.
- Pierson P (2004) *Politics in Time: History, Institutions, and Social Analysis*. Princeton University Press, Princeton, NJ.
- Pistor K (2013) A Legal Theory of Finance. *Journal of Comparative Economics* 41(2), 315–330.
- Polillo S, Guillén MF (2005) Globalization Pressures and the State: The Worldwide Spread of Central Bank Independence. *American Journal of Sociology* 110(6), 1764–1802.
- Power M (1997) *The Audit Society: Rituals of Verification*. Clarendon Press, Oxford.
- Pozsar Z, Adrian T, Ashcraft A, Boesky H (2010) Shadow banking. *Staff Report*. Federal Reserve Bank of New York, New York, NY.
- Pozsar, Zoltan, and Manmohan Singh. 2011. The Nonbank-Bank Nexus and the Shadow Banking System. IMF Working Papers. International Monetary Fund, Washington.
- Priore MJ, Schrank A (2018) *Root-Cause Regulation. Protecting Work and Workers in the Twenty-First Century*. Harvard University Press, Cambridge, MA.
- Reid MI (1982) *The Secondary Banking Crisis, 1973–75: Its Causes and Course*. Macmillan, London.
- Reinicke WH (1995) *Banking, Politics and Global Finance: American Commercial Banks and Regulatory Change, 1980–1990*. Edward Elgar Publishing, Aldershot.
- Ricks M (2016) *The Money Problem: Rethinking Financial Regulation*. The University of Chicago Press, Chicago, IL.
- Riles A (2018) *Financial Citizenship. Experts, Publics, and the Politics of Central Banking*. Cornell University Press, Ithaca, NY.
- Roberts A (2011) *The Logic of Discipline: Global Capitalism and the Architecture of Government*. Oxford University Press, Oxford; New York, NY.
- Rogoff K (1985) The Optimal Degree of Commitment to an Intermediate Monetary Target. *Quarterly Journal of Economics* 100, 1169–1190.
- Ross DM (2004) Domestic Monetary Policy 1945–1971. In: Michie RC, Williamson P (eds) *The British Government and the City of London in the Twentieth Century*, pp. 298–321. Cambridge University Press, Cambridge.
- Rotemberg, Julio J. 2014. The Federal Reserve's Abandonment of its 1923 Principles. NBER Working Paper Series. National Bureau of Economic Research, Cambridge, MA.
- Sayers RS (1976) *The Bank of England 1891–1944, Volume 1*. Cambridge University Press, Cambridge.
- Scharpf FW (1976) *Does Organization Matter? Task Structure and Interaction in the Ministerial Bureaucracy*. Wissenschaftszentrum Berlin, Berlin.
- Scharpf FW (1994) Games Real Actors Could Play. *Journal of Theoretical Politics* 6(1), 27–53.
- Schenk CR (2004) The New City and the State in the 1960s. In: Michie RC, Williamson P (eds) *The British Government and the City of London in the Twentieth Century*, pp. 322–339. Cambridge University Press, Cambridge.
- Schneiberg M, Bartley T (2008) Organizations, Regulation, and Economic Behavior: Regulatory Dynamics and Forms from the Nineteenth to Twenty-First Century. *Annual Review of Law and Social Science* 4(1), 31–61.
- Seabrooke L, Tsingou E (2014) Distinctions, Affiliations, and Professional Knowledge in Financial Reform Expert Groups. *Journal of European Public Policy* 21(3), 389–407.
- Shin HS (2009) Reflections on Northern Rock: The Bank Run that Heralded the Global Financial Crisis. *Journal of Economic Perspectives* 23(1), 101–119.
- Smets F (2014) Financial Stability and Monetary Policy: How Closely Interlinked? *International Journal of Central Banking* June. 10(2), 263–300.
- Stellinga B, Mügge D (2017) The regulator's Conundrum. How Market Reflexivity Limits Fundamental Financial Reform. *Review of International Political Economy* 24(3), 393–423.
- Thiemann M (2014) In the Shadow of Basel: How Competitive Politics Bred the Crisis. *Review of International Political Economy* 21(6), 1203–1239.
- Thiemann M (2018) *The Growth of Shadow Banking: A Comparative Institutional Analysis*. Cambridge University Press, Cambridge.



- Thiemann M, Lepoutre J (2017) Stitched on the Edge: Rule Evasion, Embedded Regulators, and the Evolution of Markets. *American Journal of Sociology* 122(6), 1775–1821.
- Toniolo G (2005) *Central Bank Cooperation at the Bank for International Settlements*, pp. 1930–1973. Cambridge University Press, Cambridge.
- Tooze JA (2018) *Crashed: How a Decade of Financial Crises Changed the World*. Penguin Random House, New York, NY.
- Tucker P (2004) Managing the Central bank's Balance Sheet: Where Monetary Policy Meets Financial Stability. *Bank of England Quarterly Bulletin, Autumn*, 359–382.
- Tucker P (2009) *Regimes for Handling Bank Failures: Redrawing the Banking the Banking Social Contract*. Bank of England, London.
- Tucker P (2018) *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State*. Princeton University Press, Princeton, NJ.
- Turner JD (2014) *Banking in Crisis: The Rise and Fall of British Banking Stability, 1800 to the Present*. Cambridge University Press, Cambridge.
- Unger, Robert. 2016. Traditional Banks, Shadow Banks and the US Credit Boom – Credit Origination Versus Financing. Discussion Paper. Deutsche Bundesbank.
- Vaughan D (1992) Theory Elaboration: The Heuristics of Case Analysis. In: Ragin CC, Becker HS (eds) *What Is a Case? Exploring the Foundations of Social Inquiry*, pp. 173–2002. Cambridge University Press, Cambridge.
- Vaughan D (1996) *The Challenger Launch Decision: Risky Technology, Culture, and Deviance at NASA*. University of Chicago Press, Chicago, IL; London.
- Vogel SK (1996) *Freer Markets, More Rules: Regulatory Reform in Advanced Industrial Countries*. Cornell University Press, Ithaca, NY; London.
- Winecoff WK (2014) Bank Regulation, Macroeconomic Management, and Monetary Incentives in OECD Economies<sup>1</sup>. *International Studies Quarterly* 58(3), 448–461.
- Woll C (2014) *The Power of Inaction: Bank Bailouts in Comparison*. Cornell University Press, Ithaca, NY.
- Wray, L. Randall. 2011. "Understanding Modern Money. How a Sovereign Currency Works." Pp. 158–70 in *New Approaches to Monetary Theory. Interdisciplinary Perspectives*, edited by Heiner Ganssmann. London: Routledge.