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Independent or lonely? Central banking in crisis

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Abstract: The financial crisis has called our understanding of central bank independence (CBI) into question. Central banks were praised for bold interventions but simultaneously criticized for overreaching their mandates. Central bankers themselves have complained that they are ‘the only game in town’. We develop the second generation theory of CBI to understand how independence can turn into loneliness when a financial crisis calls for cooperation between fiscal authorities and the central bank. Central banks are protected from interference when there are multiple political veto-players, but the latter can also block cooperation. Furthermore, central banks in multi-veto-player systems operate under legal constraints on their financial stabilization actions. They can circumvent these constraints, but this invites criticism and retribution. More surprisingly, central banks have strategically invoked their constraints in order to gain cooperation from political authorities.

Key words: central bank independence; delegation; financial crisis; monetary policy; veto-players; strategic agents

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1 Central bank independence in crisis

Crises not only stress-test the resilience of political and economic institutions but also our theories of these institutions. Few have been put more to the test by the financial crisis than central bank independence (CBI). While central banks have generally been praised for mitigating the effects of the crisis, the political verdict has been more critical (Fernández-Albertos 2015: 225-226). Central banks have been accused of overreaching their powers and underpinning the assets of the wealthy. Legislators have called for their powers to be reined in, and the merits of independence are openly debated.

Yet central bankers portray themselves as overburdened. When Raghuram Rajan claimed in 2013 that ‘central banks are now the only game in town’, he and his audience of central bankers viewed this with concern (Tucker 2014: 1). The head of the Bundesbank, Jens Weidmann, expressed similar unease: ‘The financial crisis and politicians’ indecisiveness have pushed us into a new role, and we allowed it to happen’ (Guardian 2016). Central bankers’ complaints about political inaction and the resulting pressure to overstretch their mandates echo an earlier warning by one of the architects of the European Central Bank (ECB), the late Tommaso Padoa-Schioppa (2004: 180), who remarked that ‘only superficial thinking could view the lack of political union as strengthening the central bank and making it freer to fulfil its mission. It would be unfortunate if independence were to be confused with loneliness.’

The standard economic account of CBI has no place for the tension between independence and loneliness: its principal concern is with the ever-present tendency of governments to interfere (Grilli et al 1991: 365-6, 375-6; Cukierman et al 1992: 354). This account defines independence as monetary dominance: an independent central bank can operate monetary policy to achieve price stability and is not pushed off course by pressure to finance the government. The relationship between monetary and fiscal authorities does not have to be cooperative.

But the crisis has brought home that cooperation between monetary and fiscal authorities is needed when financial stability is at stake. For Blinder (2012: 2), cooperation between central banks and governments is ‘both inevitable and desirable’ during a serious financial crisis and its aftermath. Meltzer (2014: 5) puts it more strongly: ‘[i]n a major crisis, independence vanishes’. These economists view crises as exceptions which call for *ad hoc* political arrangements which can readily be established and dispensed with. .

This article challenges this sanguine view. We demonstrate with reference to three major central banks - the Federal Reserve (Fed), the ECB and the Bank of England (BoE) - that cooperation is not inevitable: on the contrary, key episodes during the financial crisis arose from failures of cooperation. Furthermore, we advance a political account of independence which explains how the conditions that increase a central bank’s autonomy

from political control also increase the difficulties it will face in obtaining cooperation from fiscal authorities.

Our account begins with veto-player theory, which explains how a central bank might exercise wide discretion without being overruled by the government. This theory proposes that disagreement among political actors leaves space for the central bank to make decisions without being overridden by political authorities. It is consistent with lively criticism of the central bank by politicians: the key thing is that these politicians do not agree with each other. In political systems with multiple veto-players, the central bank enjoys discretion within the boundaries of the polarized preferences of presidents and legislatures, or states in a federation or monetary union (Tsebelis 1995: 307, Keefer and Stasavage 2003, Miller and Whitford 2016: 101-103).

We use veto-player theory to highlight the dilemma that arises when cooperation between monetary and fiscal authorities is needed for financial stabilization. The key implication of veto-player theory - that decisions to override the central bank may be blocked by the inability of the players to reach agreement - also implies that decisions to cooperate may be blocked. There can be no certainty that political authorities will put aside their differences and make (any) decisions. Specifically, ‘the presence of polarized veto-players can produce policy gridlock in responding to banking crises’ (Chwieroth and Walter 2015: 11). It follows that, the stronger the political-institutional basis of independence, the greater the likelihood of loneliness (non-cooperation) in a crisis.

We spell out below the reasons why central banks will seek cooperation from fiscal authorities. As the remarks (above) of Blinder and Meltzer attest, these reasons derive from well-established accounts of the respective roles of central banks and fiscal authorities in maintaining financial stability. Furthermore, these norms and practices have often been written into central banking laws, sometimes at the behest of central banks themselves, as they seek to enhance their credibility as guardians of monetary stability. In other words, the legal authority delegated to central banks to take financial stabilization actions represents the crystallization of past ideas about the boundaries of central bank independence (McNamara 2015: 38).

In the following discussion, we seek to show that the delegated authority of central banks varies significantly with the veto-player configuration of the political system. McCubbins, Noll and Weingast (‘McNollgast’ 1989: 432-3), argued that the principals in multiple veto-player settings will impose *ex ante* rules and procedures which limit agency discretion because they know that their difficulties in reaching agreements will give the agent latitude to drift from its remit. Conversely, politicians in systems with few effective veto points will delegate liberally, knowing that they can easily rein in any apparent agency drift.

Applied to central banking, this theory suggests that central banks in multi-veto-player systems will operate under more binding constraints than their single-player counterparts, limiting the stabilizing interventions they can undertake. If this is true, it follows that policy gridlock in responding to banking crises is doubly likely in multi-veto-player systems. Not only do the political authorities have difficulty making decisions, but also the central bank is more constrained than in a single-player system.

We seek not only to explain why policy gridlock may arise, but also to offer an account of how gridlock is broken – and why, in particular, it may be broken in ways which leave central banks complaining that they are overstretched and overburdened. If political authorities will not act, central banks may have to act, even if this means sailing close to the wind of their legal authority. But central banks are not passive in this situation: they may invoke their constraints in order to force political authorities to cooperate.

Our comparative research design allows us to explore whether periods of cooperation and non-cooperation between central banks and political authorities can be explained by the strength and configuration of political veto points and the ex ante constraints placed upon central banks' discretion. We examine the strategic interactions between three central banks and their political counterparts during the financial crisis, contrasting the Fed and the ECB, which faced multiple political veto-players, with the BoE, which did not. We analyze how central banks' actions were affected by political indecision, and whether they invoked constraints to insist that governments take action.

We make two main contributions. First, our analysis of delegation to central banks takes insights from principal-agent theory as its starting point, but, by focusing on the strategic behavior of the agent (the central bank), we draw conclusions that go against standard principal-agent assumptions and claims. Specifically, we show that central banks sometimes embraced constraints on their powers, rather than always seeking to enlarge their discretion and maximize the potential for 'drift'. They sought to limit the extent to which financial market panic could force their hands, suggesting that central banks concern themselves with independence from financial markets as well as independence from governments, and may see deviations from the latter as the lesser evil.

Second, despite their undoubted ideological commonalities, even independent central banks are profoundly affected by the political environment in which they operate. The literature has been attentive to the unique political position of the ECB, but our analysis suggests that this is part of a wider pattern of differentiation. Specifically, we argue that the key to cooperation between monetary and fiscal authorities is the number of veto-players controlling access to fiscal resources, not the existence of a single fiscal counterpart, as emphasized by critics of the euro's 'incomplete union' (De Grauwe 2011). In this light, the US and the euro area appear more similar than is often assumed.

This is an exploratory study, and the case selection reflects our aim of examining the implications of the analysis across a range of cases. We recognize that there are many potential sources of differences in central banks' actions in the crisis that our case selection cannot rule out. In particular, we assume that all three central banks were similarly concerned to prevent an overexpansion of liquidity, which could jeopardize their monetary policy credibility. But it is likely that the three central banks each saw this issue somewhat differently. As the smallest of the three central banks, the BoE may have been more concerned about the risk of a run on the currency than its larger counterparts, although all three banks shared in swap arrangements that ensured that ample dollar liquidity was available (Tooze 2018: ch.8). Conversely, the 'exorbitant privilege' of issuing a global currency enjoyed by the Fed may have made its officials less concerned about the effects of liquidity expansion and more willing to deal with financial crisis pressures without government support. Nonetheless, we seek to demonstrate that substantial and salient differences between our three cases can be explained by differences in their political systems that we capture with veto-player theory. We have drawn freely on the rich descriptions now available of how events unfolded in the financial crisis to highlight how political blockages were important and how central banks acted strategically to deal with them.

The discussion is organized as follows. In the next section, we locate our theoretical framework in the literature and highlight why financial stabilization is a challenge for existing accounts of CBI. Section 3 examines whether the two central banks in multi-veto-player systems operate under more binding constraints than their single-player counterpart when it comes to financial stability actions. Section 4 provides analytical narratives of how the three central banks interacted with the political authorities during the financial crisis. The conclusion in section 5 draws out the implications of our argument for understanding CBI after the crisis.

2 The theoretical challenge of financial instability

Despite widespread acceptance that CBI exists and is important, its causes and consequences remain the subject of intense debate. The correlation between low inflation (price stability) and controls on government interference in central bank affairs has been explored in empirical studies, from which indicators of CBI have been derived (Grilli et al 1991; Cukierman et al 1992). But these indicators do not explain how CBI is really constituted. It is common to speak of the government 'giving independence' to the central bank by revising its statute, but *de jure* independence may not really bring a capacity to act against the government's wishes (Lohmann 2003: 95-6). A 'second generation' of research into CBI has examined how credible delegation is possible. It seeks explanations for delegation, and barriers to reversing delegation and reinstating political control, in factors which are endogenous to the political system (Goodhart 2015: 302).

Veto-player theory has made a central contribution to the second generation literature. In its most general form, it proposes that checks and balances within the system of government are likely to enhance the central bank's autonomy (Fernández-Albertos 2015: 220). The crucial condition is that the various political veto-players have divergent preferences, which may reflect their different political constituencies, time horizons, or institutional locations. The autonomy yielded by multiple political veto points is not absolute: if central bank actions are widely unpopular, veto points may be overcome.

The other main strand of second generation literature on CBI focuses on the strategies available to central banks themselves. A central bank can actively create resources, beyond those bestowed by delegation, to defend its autonomy. Such resources include expertise (Goodhart 2015: 287) and international networks (Johnson 2016: 3-14). Key audiences can protect a central bank from political interference (Lohmann 2003:103). The central bank can cultivate these and thereby ensure that the costs of political override exceed the benefits, assuming that political interference gives an adverse signal to financial markets and other audiences.

Our analysis draws on these two strands of research and develops them further. The second generation literature looks for endogenous factors that can explain how interference by governments is prevented. We use the same theoretical tenets to explain how cooperation between central banks and governments is enabled or blocked. We see all three of our central banks as independent in the sense that they can prevent government interference, within bounds. For the Fed and the ECB, that independence comes in large part from checks on executive power; for the BoE, the central bank's relationship with financial markets and other audiences is crucial. Where the three central banks differ is in their capacity to obtain cooperation and thus their susceptibility to loneliness.

We show that, paradoxically for accounts that emphasize the extent of their discretion, central banks may choose to insist on their narrow mandate. Their shackles are, at least in part, self-imposed. If forced to act alone to maintain financial stability, the central bank will be subject to adverse assessments from audiences which judge the expansion of liquidity excessive and criticise the apparent accommodation of the financial sector. Financial instability creates a changed political setting in which the legitimacy of CBI is open to new questions (Fernández-Albertos 2015: 228-231). By obtaining political cooperation and thereby roping in political actors, central banks seek to fend off, if not answer, these questions.

2.1 Strategic interactions in financial stabilization

Notoriously, non-cooperative behavior can give rise to a 'chicken game' between the monetary and fiscal authorities, putting the two sides on a collision path where each tries to make the other 'swerve' and adopt the policy it prefers. The chicken game is usually

analysed in a specific context, where the government is running an excessive budget deficit (Sargent and Wallace 1981). If the government sticks to its policy, the outcome is fiscal dominance with inflationary consequences (the central bank finances excessive deficits). If the central bank wins, there is monetary dominance, whereby the government is forced to change course and restrain its expenditure.

Our analysis of loneliness in the financial crisis centres on the strategic games that emerged because of pressure on the central bank to expand liquidity and on governments to engage in costly bailouts. In the context of financial system failure, the central bank is forced to expand liquidity not by the government’s profligate decisions but by the crisis in the financial system: thus fiscal dominance is replaced by ‘financial dominance’ in the case where the central bank gives way (Brunnermeier and Sannikov 2012: 334). We focus on how the decision-making procedures of the political authorities (the veto points) and the constraints on central banks’ actions could determine behavior. In the simple form, without strategic behavior, veto points and constraints could mean that neither party is able to act (‘swerve’) despite the apparent risk of a collision (a financial crash). Introducing strategic behavior, we consider whether a party might exaggerate the extent to which it is locked onto a straight line in order to induce the other to swerve (Henning 2016: 176). We describe a sequence of chicken games, in which strategies that have failed are changed.

Figure 1 maps out the possible outcomes of one round of the game. In a standard chicken game, there is no cooperation: ‘swerve, swerve’ is not the best outcome for either party. In our adaptation, the two parties may cooperate by each fulfilling well-defined financial stability functions - effectively driving on their respective sides of the road – and we assume that this produces the best outcome at A. The worst outcome for both sides is D, where they both fail to take action in a timely fashion and financial system failure ensues. Financial dominance arises when the central bank bears the brunt of maintaining financial stability by expanding liquidity (cell B). Cell C, where the fiscal authority bears the cost of financial stabilization, corresponds to the case of ‘monetary dominance’ in the standard analysis, as it allows the central bank to limit its creation of liquidity.

Figure 1: The chicken game of financial stabilization

Government	Swerve	Straight
Central bank		
Swerve	A: Cooperation: Government addresses bank insolvency; central bank provides liquidity	B: Financial dominance: central bank expands liquidity indiscriminately and/or over an extended period
Straight	C: Monetary dominance: Government addresses both insolvency and liquidity	D: Crash: Government does not act because blocked by veto points and central bank

	issues	does not act because of constraints on its powers
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Buiter (2010: 3) suggested that the government will always win the chicken game eventually, because it has supreme authority: ‘when push comes to shove, the fiscal authority has the political clout to force the central bank to do its bidding’. For Buiter, the euro area was the exception to the rule: monetary dominance could prevail because multiple political veto points prevented the exercise of political authority. We argue the opposite: in a financial crisis, the chicken game is won not by the exercise of political authority, but by its abdication. Non-decision by fiscal authorities can force the central bank to act to avoid a crash. This is what produces loneliness: the outcome in cell B. The massive expansion of central bank balance sheets in the crisis might be taken to indicate that this was indeed the main outcome: we review the data on this below. But central bankers’ complaints about being ‘the only game in town’ suggest that they will resist this outcome and, as we will show, they had some success.

2.2 The central bank’s preferences and constraints

Analyses of delegation to independent central banks have focused on their monetary policy powers. The general pattern is that the central bank is mandated to pursue an outcome, such as an inflation target, but has wide discretion in choosing instruments to achieve this outcome. It is often argued that the normative basis of CBI lies in the clear specification and robust monitoring of outcomes, and we assume that an orientation to price stability is, therefore, embedded in the institution.

Central banks also have discretion in their financial stability actions. They have the crucial capacity to act as lenders of last resort to the financial system, and can contain a crisis by making liquidity generally available. But their primary mandate of price stability means that they have several reasons to want to place limits on their lending of last resort, whether temporal (ensuring that any support is short-term only), quantitative or qualitative. Their primary concern will be that liquidity creation stores up future inflationary pressures: thus the central bank may not be able to set monetary policy to fulfill its price stability mandate because of the imperative to maintain financial stability (Brunnermeier et al 2009: 13-24). Another set of concerns focuses on losses and profits: lending and asset purchases undertaken to stabilize markets can lead to losses, leading markets to expect that the central bank will pursue expansionary profit-protecting monetary policies in the future, reducing its credibility as an inflation-targeting agency (Reis 2015). Last but not least, central bank lending of last resort may cause moral hazard, whereby banks become more reckless in their lending and jeopardize future stability. This would show up in asset price inflation rather than ordinary price-wage spirals (Brunnermeier et al 2009: 57). These considerations suggest that a central bank will be reluctant to expand liquidity when there is a risk that this will be long-term and/or will accrue losses.

Limits on lending of last resort may be reinforced by provisions in the central bank statute. These provisions often reflect widely-held views about the proper conduct of central banking: views which central bankers themselves often invoke and promote, such as Bagehot's rule for the use of lender-of-last-resort facilities. But central bank statutes are also likely to reflect political concerns about central bank actions. These concerns may be hypothetical, but they may also derive from disapproval of a central bank's past actions ('retribution'). It follows that statutory constraints on central bank actions do not necessarily bite in ways that are anticipated, or even desired, by subsequent political players.

Where there is a unified political authority (a single veto-player system), constraints will not cause policy gridlock, as the government can revise the central bank statute. Furthermore, following the reasoning of McNollgast (1989) and Huber and Shipan (2002), we expect that, detailed rules and procedures to control agents will not be laid down in statutes in single player systems. Such provisions are unnecessary because the political authority can always intervene to steer or rein in its agencies. By contrast, where political authority is divided, we expect that political principals will adopt *ex ante* rules or procedures to control agents. When events do not unfold as expected, multiple veto points impede the capacity of the political system to make the decisions necessary to adjust the constraints.

Agencies do not necessarily comply with their constraints (Huber and Shipan 2002: 84), especially as these may be in ambiguous language, reflecting their politically-contested origins. It has been argued that the limited coverage and interpretative leeway of central bank statutes means that they 'inhabit a "world of policy"' (Lastra 2014: 78). Lending to insolvent entities is generally prohibited, but the boundary between illiquidity and insolvency is a matter of judgment (Brunnermeier et al 2009: 83). Another important source of discretion is the difficulty of making sharp distinctions between monetary and financial policy actions in practice. The instruments used for monetary policy directed at the wider economy overlap with instruments directed at financial stability (Padoa-Schioppa 2002: Table 1, 288). In the financial crisis, central bank liquidity operations vis-à-vis the banking sector were stepped up massively in response to the freezing of wholesale interbank markets. These were evidently financial stability measures, but they can also be seen as fending off the deflationary pressures that would arise from a contraction of the money supply. This overlap means that the central bank's wide discretion over monetary policy can spill over into financial stability actions. Finally, the central bank can also innovate, widening its discretion by introducing extraordinary measures that were not envisaged when the delegation contract was made.

It is tempting to conclude that a central bank can and will always act to maintain financial stability, regardless of the terms of its statute. A central bank has a strong interest in financial stability, since it cannot implement its monetary policy if the financial system

collapses. But the central bank's other institutional incentives suggest that it will want to avoid taking financial stability actions which it deems incompatible with its price stability mandate. In effect, constraints on the central bank's discretion serve to secure the legitimacy of its independence from political authority, as well as securing its reputation with financial market audiences. Constraints may be breached but deviation has costs: a measure may be challenged in court, or the political authorities may at a later stage engage in retribution, curtailing the bank's future discretion.

In short, central banks have their own reasons to uphold their constraints. As strategic actors, they may write relevant parts of their statutes themselves, and try to tie their own hands. By upholding their constraints, central banks preserve power resources that derive from other sources than the delegation contract. In a crisis, they have to weigh these concerns against the need to ensure the stability of the financial system.

3 Central banks' powers and constraints

We have argued, following McNollgast (1989), that central banks in multi-veto-player systems will have more detailed *ex ante* controls on their actions than central banks in single-player systems, because agency drift is a greater concern. The central bank can be constrained by rules on lending to the government, lending to individual distressed banks, and/or lending to non-banks. Constraints reflect salient political cleavages: in the following discussion we show that the tension of Wall Street versus Main Street finds expression in rules governing the Fed's lending to the private sector, while conflicting national interests are reflected in rules on the ECB's participation in sovereign debt markets in the euro area.

Independent central banks are generally not constrained in their conduct of general liquidity operations or market interventions (the sale and purchase of financial instruments), rather, they enjoy autonomy in operations directly connected to the conduct of monetary policy. The boundary between monetary and financial stability policy is usually drawn by imposing controls on lending to specific institutions, often termed Emergency Liquidity Assistance (ELA) to distinguish it from general operations.

Governments can impose constraints on central banks through procedures as well as rules. The central bank's governance may be structured in a way which imposes additional decision-making requirements on financial stability actions. These could take the form of supermajority requirements, or expanded representation, whereby the decision has to be taken by a full board rather than a subcommittee. The following discussion reviews the rules and procedures governing financial stability actions, starting with the case that we expect to be simplest, the BoE.

3.1 The Bank of England

The government that the BoE faces is typically free of parliamentary veto power, thanks to an electoral system that produces clear majorities for one of the two dominant parties in the House of Commons. The second chamber has delaying powers, but convention rules out their use on urgent economic matters. While the central bank statute has been revised and extended since the financial crisis, the provisions on the delegation relationship set out requirements to inform, consult and obtain authorization, rather than specifying *ex ante* controls (Bank of England 2015). There is legislative silence on the Bank's conduct of open market operations, provision of government overdraft facilities, and other forms of financing the government. The question of how decision-making powers are allocated in a financial crisis has been the subject of successive memoranda of understanding: the fact that the roles of the Bank and Treasury are left to memoranda rather than being written in legislation is itself indicative of a low veto-point environment.

The governance of the BoE is also fairly straightforward, indicating a lack of political contestation about the decision-making procedures the agent should follow. The Governor is appointed by the government of the day but is not a partisan figure. Committees are constituted for monetary and, more recently, financial policy decisions, but their membership is based on expertise rather than interest representation, and decision-making is by simple majority, so no group of members has blocking powers.

The government exercises control over the central bank in regard to certain kinds of lending to the private sector: that is, where single identifiable institutions are supported through ELA. The Chancellor and the Treasury must be brought in whenever ELA is contemplated and public funds are at risk (Bank of England 2015: 108). The Bank has agenda-setting power in the use of ELA: the government has to wait for a request for authorization. However, in regard to general liquidity operations, the Bank has wide discretion and has resisted political interference. Since the financial crisis, the Bank has substantially revised the Sterling Monetary Framework (Winters 2012), partly in response to the parliamentary select committee report on the failure of Northern Rock (see below). Revisions include extending the range of counterparties eligible to draw on central bank liquidity and adjustments to collateral policy. These changes do not require legislation nor even approval from the Chancellor and government: indeed Winters (2012: 110) insisted that 'it would not be appropriate for them to be involved'. This is a striking example of the way in which the relationship between the government and the central bank draws on understandings of good practice which central bankers have themselves done much to develop.

3.2 The Federal Reserve

Political authority facing the Fed is divided between the Presidency and Congress. There is an ongoing, and often cooperative, relationship between the Fed and the executive arm,

specifically the Treasury. Congressional preferences have to be written into legislation if they are to shape agency policy. Despite their diverse preferences and the President's veto power, legislators have revised the Federal Reserve Act (FRA) frequently since the Fed was established in 1913,¹ putting through 2-3 amendments every decade except the 1940s. These amendments range widely over technical, symbolic (changes to the wording of the Fed's objectives), procedural (appearances before Congress, constitution of the governing board), and substantive policy matters. They have often been part of Acts covering a range of financial and monetary issues, including the Dodd-Frank Act of 2010. This capacity to legislate indicates that the Fed has to be cautious in evading its constraints, as retribution is a real possibility.

There is also scope for legislators to make their preferences felt by influencing the governance of the Fed. The President nominates the Chairman of the Federal Reserve Board and the seven members of the Board of Governors. The Senate can delay these appointments. After the financial crisis, critical political attention came to bear on the role of banks in electing directors to regional Fed boards. Changes were made in the Dodd-Frank Act that reflected concerns that the Fed had been unduly influenced by financial interests (Conti-Brown 2016: 105).

Certain powers in relation to the Fed have been delegated by Congress to the executive branch. In particular, the FRA contains specific provisions governing the Fed's powers to buy public debt, but reserve powers to vary these provisions are vested in the Secretary to the Treasury. Thus, in the area of lending to government, the central bank is ultimately under political control. Because Congress has delegated powers to the executive, potential legislative veto points are disabled. However, Fed financing of the government is subject to a long-standing Accord with the Treasury, and the executive might face high political costs if it entered open conflict with the Fed on public finance.

Lending to the private sector is a different matter. The Fed has wide powers to conduct general liquidity operations, in particular by lending to commercial banks through its discount window. However, only a small number of primary dealers have access to the discount facilities of the Fed, and there are legal restrictions on lending beyond this group (Lenza et al 2010: 307). ELA for distressed financial institutions other than the established counterparties is allowed only in 'unusual and exigent circumstances' under Article 13(3) of the FRA. This provision was heavily invoked in the Fed's crisis responses because many distressed institutions during the financial crisis were not commercial banks. The crisis also saw innovation in the instruments used by the Fed, extending its activities in ways which the legislation was silent on. For example, Art 13(3) envisaged lending by the Fed, but not asset purchases. As Buitert and Sibert (2008: 172-173) put it: 'while the FRA contains no language authorizing the Federal Reserve to

¹ The text of the Act, including dated amendments, is available on the Fed's website at <https://www.federalreserve.gov/aboutthefed/fract.htm>.

purchase corporate bonds, bank loans, mortgages, credit-card receivables or equities, it also does not forbid it.’ A similar observation applies to the swap lines that the Fed extended to other central banks, which indirectly supported European banks. These were highly controversial in Congress (Broz 2015: 2, 12).

Since the financial crisis, vocal political players have advocated reining in the Fed. Members of Congress have brought forward multiple proposals for reform (Goodhart 2015: fig.1), most of which have failed to get past other veto-players. However, ‘enacting coalitions’ have formed to protect public funds and, to some extent, to address concerns about distributional biases in access to Fed resources. Amendments to Article 13(3) in the Dodd Frank Act (2010) prohibit lending to single entities, requiring the Fed to create programs with ‘broad-based eligibility’. They also tightened the rules on collateral requirements, specifying that security must be ‘sufficient to protect taxpayers from losses’ and expressly prohibiting lending to insolvent borrowers. It is not certain how much these rules will constrain the Fed in the next crisis: the measures that have passed achieved a coalition of support with the aid of complexity and ambiguity, providing interpretative leeway. However, they had a distinct tenor of retribution by members of the legislature for the Fed’s perceived excesses in the use of its financial stability powers.

3.3 The European Central Bank

The ‘Treasury’ that the ECB faces is the Eurogroup, a sub-division of the EU’s Council of Economic and Finance Ministers representing the 19 member states of the euro area. Formal and informal rules put high hurdles on decision-making: while the standard decision rule is qualified majority rather than unanimity, it is also a convention that important decisions are not taken against strong minority opposition.

Provisions for the creation of the euro and the ECB, and the terms on which EU member states can adopt the euro, are set out in treaties. The Statute of the European System of Central Banks (ESCB) and of the ECB² can be amended by qualified majority voting by the member states, although not article 21 on lending to governments. Revisions can only be initiated on the unanimous recommendation of the ECB’s Governing Council: in other words, the agent is in a position to control the terms on which powers are delegated to it. The ECB statute has been revised several times, largely to deal with the enlargement of the euro area and consequent changes in governance. However, the most important changes that have occurred in the governance of the euro area have been achieved by creating new quasi-fiscal institutions, rather than by amending the central bank statute.

The ECB is highly constrained in its lending to governments, as standard indicators of CBI highlight. Article 21 prohibits lending to public authorities and the direct purchase of

² The text can be found at https://www.ecb.europa.eu/ecb/legal/pdf/c_32620121026en_protocol_4.pdf, and amendments are listed on the covering page (<https://www.ecb.europa.eu/ecb/legal/1341/1343/html/index.en.html>).

their debt instruments from issuing governments. This Article is evidence that the potential conflicts envisaged in the ECB's constitution are between member states: the central bank must not lend to some states and not others. By contrast, the ECB statute gives the central bank wide discretion over monetary policy and extensive powers to intervene in financial markets. Art 18.1 permits asset sales and purchases, repos and other forms of lending. Credit operations can be conducted with 'credit institutions and other market participants', backed by adequate collateral. The ECB's discretion in making changes to collateral policy is not constrained by rules, although it is constrained by procedural requirements in the Governing Council.

The Governing Council is made up of the members of the Executive Board and central bank governors from the member states. The presence of member state representatives on the Governing Council allows this body to act as a procedural control on decisions with national salience. Simple majority votes suffice for standard operational decisions. Article 20 allows the Governing Council to adopt nonstandard instruments - 'such other operational measures of monetary control as it sees fit' – but for this it requires a two-thirds majority. This is a potentially significant veto point since there has been dissent in the Governing Council on some innovations, such as Outright Monetary Transactions (OMT).

The ECB enjoys more flexibility in lending to the banking system than the Fed, as, 'fortunately' in Buiter and Sibert's (2008: 174) view, 'the list of eligible counterparties and eligible instruments for the ECB and the ESCB is not fixed by law.' By contrast with the Fed, the ECB lends to a large number of counterparties (up to 2000 banks), reflecting the importance of banks in European financial systems (Lenza et al 2010: 298). This means that its lending policies, particularly its policy on the collateral accepted at the discount window, have considerable leverage (Schelkle 2017: 145-8).

In contrast to the BoE and the Fed, there were no euro-level political controls over transactions with non-banks and ELA to specific institutions when the financial crisis broke. Instead, control over ELA was vested in the national central banks (NCBs), which were subject to national laws on political authorization of exceptional lending (Lastra 2014: 87). Losses on ELA accrued to the treasury of the national government that owned the NCB, whereas profits and losses on ECB activities are allocated across treasuries according to a key based on their ECB shareholding. In the aftermath of the crisis, ELA lending was suspected of serving as a way for member states to keep insolvent banks afloat (Whelan 2014). A substantial reconfiguration of ELA governance has followed from the creation of the Banking Union.

3.4 Hypotheses

This evidence on veto points and constraints suggests the following expectations about how the chicken game will play out in each of our three cases. No veto points disable

action by the government in the UK. The BoE has, however, some resources with which to defend its independence and ensure that political override is costly. Without those resources, we would expect that the central bank would bear the brunt of responding to the financial crisis (cell B in Figure 1), but instead it is able to insist on fiscal resolution actions. Thus the expected outcome is cell A: cooperation.

In the case of the Fed, some financial stability actions are constrained, so there is the risk of a crash if the fiscal authorities do not act. Some relevant fiscal powers are delegated to the executive arm, which facilitates cooperation (A), but congressional approval is required for other actions. If this is blocked, the Fed faces a dilemma: breach its constraints and expand liquidity (B) or allow a crash (D). The one outcome we do not expect to see is C: monetary dominance, because multiple veto points make it difficult to get political agreement to undertake fiscal actions to stabilize the financial system. This is the opposite of the standard expectation that multiple veto points protect CBI.

For the ECB, non-systemic financial instability, confined to one member state, would see monetary dominance (C), because national authorities are obliged to act (alone). However, in a systemic crisis, the central bank extends liquidity widely and may not be able to force national authorities to act (B). Veto points come into play when the central bank seeks to end emergency liquidity provision and supranational fiscal cooperation is needed to address the sovereign debt crisis created by the demands of financial stabilization on national authorities. If the ECB's stringent constraints prevent sovereign debt purchases, and, if supranational fiscal action cannot be taken, a crash threatens (D). A cooperative outcome (A) would require surmounting veto points to create new fiscal institutions.

4 Central banking in the heat of crisis

We can get a preliminary sense of how the task of responding to the financial crisis was allocated between central banks and governments by examining the composition of central bank balance sheets. Figures 1-3 show how all three central banks expanded their balance sheets massively in response to the crisis. For our purposes, the different patterns of evolution of the three main kinds of measure - lending to banks, private sector financial asset purchases, and government bond purchases – are of interest because they illustrate differences between the central banks in their available policies and their relationship with governments.

There are pronounced differences between the three central banks in the role and timing of each type of measure. The figures are updated versions of an IMF blog³ that summarized them as follows: the BoE purchased government securities; the Fed bought

³ We are grateful to Ricardo Davico from the IMF Statistics Department who sent us an update of the original blog (URL: <http://www.imf.org/external/pubs/ft/fandd/2012/12/dataspot.htm>) with additional information. The ECB has revised its data since the blog was published but this did not change the gist of the time series.

government bonds and mortgage-backed securities (MBS, which are counted in ‘claims on private sector’, including wholesale financial institutions); and the ECB provided more credit to deposit-taking banks (‘other depository corporations’ in the IMF’s terminology). Note that the figures omit various ‘off balance sheet’ central bank measures and do not tell us about actions simultaneously being taken by governments to support the banking system.

Figure 1: Bank of England balance sheet, 2007- mid 2014

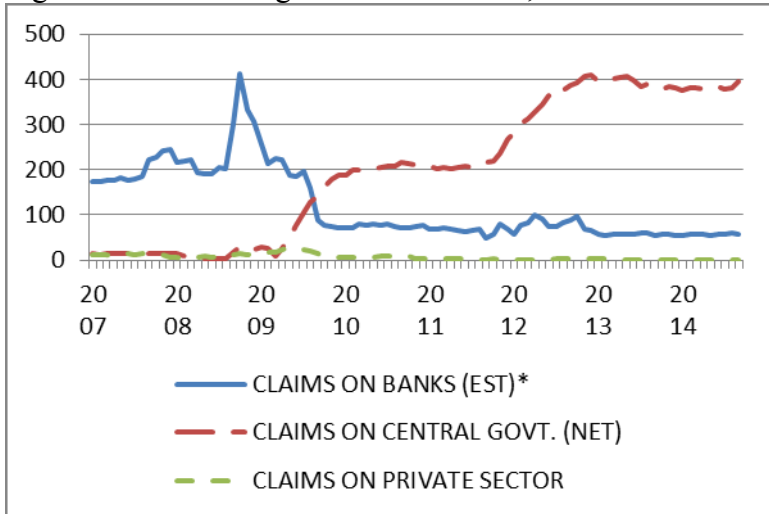


Figure 2: Federal Reserve System balance sheet, 2007- mid 2015

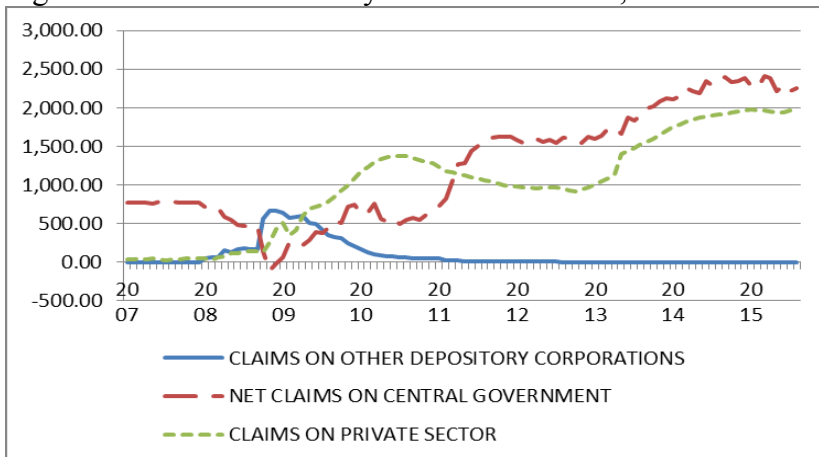
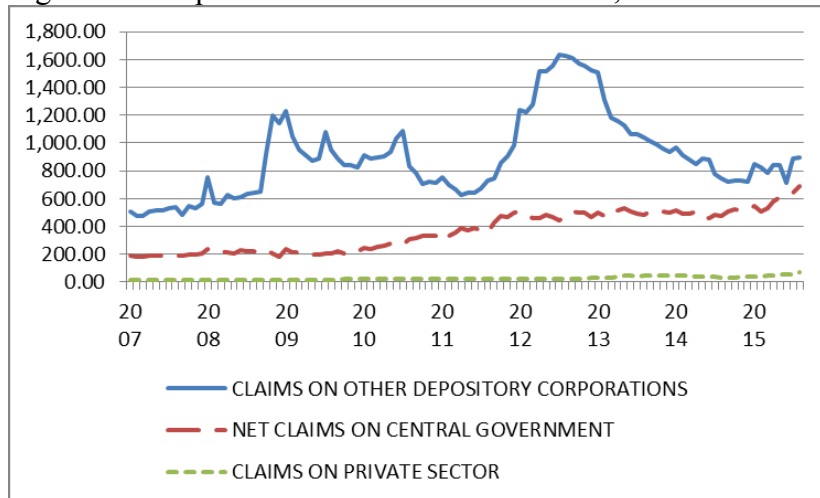


Figure 3: European Central Bank balance sheet, 2007- mid 2015



Source: IMF International Financial Statistics, end-of-month values, in billions of local currency.

*The data provided by the IMF do not include claims on banks for the UK: we have constructed our estimate from data on short and long-term repos and the residual ‘other assets’ category in the BoE’s balance sheet. The time series for the BoE is shorter than for others because the BoE stopped providing data allowing the calculation of ‘other assets’ in September 2014, as part of a revision of practices intended to prevent disclosure when banks received ELA.

We can see that both the BoE and the Fed provided substantial liquidity to banks in the initial phase of the financial crisis, but most of this support had disappeared by 2010. By contrast, support for banks from the ECB was more enduring than in the UK or US, and we see a second hump in 2012 as the sovereign debt crisis escalated. Obviously the low level and slow growth of ECB government bond holdings reflects the legal and political constraints on entering sovereign debt markets. Neither the Fed nor the BoE were constrained in this way. Furthermore, by buying government bonds as a macroeconomic stimulus measure (‘quantitative easing’, QE), these central banks flooded the banking system with reserves, which allowed lending to banks to be scaled back rapidly. The ECB also reduced its lending to banks in 2011 but, as the impact of the crisis on government finances materialized, it responded with further liquidity creation to the tune of over one trillion euros, in the form of the Long-Term Refinancing Operation (LTRO). The program allowed banks to keep on buying government bonds, which they could use as LTRO collateral, raising concern that ECB lending was near to breaching the prohibition of monetary financing of governments (Reichlin 2013: 136).

The Fed bought private sector as well as government bonds, whereas the BoE largely avoided this. The BoE took the view that support for private sector entities fell outside the boundaries of the proper conduct of monetary policy, drawing the central bank into making decisions about credit allocation (Conaghan 2012: 201-204). The Fed was less squeamish in its implementation of QE, which was in any case an unconventional monetary policy. It was criticized for this: Broadbudd and Goodfriend (2001/2012: 12)

argued that credit allocation should be done under conditions of ‘full public disclosure and discussion of the expenditure of public funds’. The Fed should not abuse its exemption from the congressional appropriations process by taking actions that could not be justified by the need to act quickly and without public debate.

4.1 The Bank of England

Our framework suggests that cooperation between the central bank and the government in supporting the financial system in a crisis is likely when each is a unitary actor without decision-making blockages. In the UK, the government led the task of recapitalizing the banking system, while the BoE financed the government. The surprise in this outcome is that we might expect that the government would have preferred to moderate the fiscal burden by having the central bank play a larger role, particularly by providing more general liquidity support, which would have allowed more banks to manage without recapitalization.

The case of Northern Rock exemplifies this issue. Timely provision of liquidity by the BoE might have prevented the saga that unfolded, which included a ‘run’ when depositors queued to take their money out. Northern Rock got into difficulties because it had funded rapid growth in its mortgage book with short-term borrowing on wholesale money markets. When these froze in August 2007, the bank was unable to refinance. At this point, the BoE could have provided liquidity, either to Northern Rock specifically or by creating a general facility. The former course of action would have required the Chancellor to give his approval, but the Bank did not request this (Treasury Committee 2011: 50).

Critics of the BoE have argued that it was unduly reluctant to provide general liquidity support to the financial system. The Bank’s initial stand against making liquidity available had to be reversed as the financial crisis deepened, and all banks faced frozen wholesale markets. Nonetheless, the Governor, Mervyn King, defended the Bank’s actions strongly, arguing that lending at longer maturities, removing penalty rates and/or increasing the range of collateral accepted at the Bank’s discount window would create future difficulties for sound monetary policy due to moral hazard. ‘[T]he markets would take it as a signal that the central bank would always rescue them should they take excessive risk and get into difficulties.’ (Treasury Committee 2008: 39).

By refusing to extend its regular discount facilities beyond limits that it defined for itself, the BoE forced the government to step in with capital injections, along with guarantees for ELA provided by the Bank. After the adverse public reaction to the announcement of the Northern Rock support operation, further ELA to HBOS and the Royal Bank of Scotland (RBS) was provided in secret. This was done under Treasury authorization, and only after government-funded arrangements for the recapitalization of these distressed institutions had been put in place (Conaghan 2012: 175-7). The UK government made a

heavy commitment, injecting the largest volume of capital among EU countries (Stolz and Wedow 2010: Table 1).

Legally, the government could have ordered the BoE to make low-cost liquidity available to Northern Rock and other financial institutions, and to support rescues of struggling banks by healthy ones. But successive chancellors refrained from making such orders. An explicit instruction to the Bank was seen as a ‘nuclear option’ that would trigger an adverse market reaction (Treasury Committee 2011: 50). We suggested above that the BoE defines its own interpretation of its appropriate role, and promotes this to an attentive financial market audience. This put it in a strong position to force the government to act.

4.2 The Federal Reserve

The policies adopted by the Fed with the onset of the financial crisis could not have been more different. Not only was it liberal in the supply of credit to the market generally, but also it pushed to the limits of its discretion – and, in the view of some critics, beyond – to arrange rescues of distressed financial institutions on its own account. This seems to confirm the hypothesis that a central bank in a multiple veto-player setting has wide discretion, and refute the argument that *ex ante* controls will operate. However, we will show that the Fed was constrained at crucial moments.

A signal example of the Fed’s capacity to act alone came in March 2008 when the investment bank Bear Stearns failed, principally due to overexposure to low quality MBS. The Fed arranged the takeover of Bear by JP Morgan. To facilitate this, it had to find a way to shift some of the potential losses faced by JP Morgan onto the public sector. Initially, the Fed sought to tap an emergency stabilization fund managed by the Treasury, but this was not legally possible. The Fed then sought an indemnity from the Treasury for potential losses, but, while Treasury was willing in principle, this could not be given without Congressional approval, and it was expected that Congress would block the rescue. In the end, the Fed settled for a Treasury letter acknowledging the risk that the Fed might incur losses which would in turn reduce central bank profits accruing to the Treasury. In effect, the Fed had taken risk onto its own balance sheet in the course of rescuing a single financial institution (Wessel 2009: ch 9). It was immediately called to account in the Senate for its actions, with both the Finance Committee and the Banking Committee seeking details of the deal, signaling that retribution might be forthcoming.

The alternative to the Fed stretching its competence in this way, in effect submitting to financial dominance, was to obtain Congressional support for rescue measures. A well-prepared executive arm led by a President skilled in coalition-formation could get measures through Congress. This was demonstrated in July 2008, when problems with the solvency of government-sponsored enterprises (GSEs) in the housing sector came to the surface. Fannie Mae and Freddie Mac underpinned retail housing finance through

large-scale purchases of mortgages and MBSs. As foreclosures mounted, insolvency threatened. The solution had to involve Congress, which was persuaded to grant the Treasury standby authority to inject capital into the GSEs (Wessel 2009: ch 10). Persuasion called for emphasizing the special position of the GSEs: their particular exposure to the housing market and their public policy functions (Paulson 2008).

In the 2008 presidential election campaign, public feeling against taxpayer-funded rescues of Wall Street ran high. The effect was to entrench the non-cooperative positions of relevant veto-players. As concern grew about the soundness of Lehman Brothers, Paulson made a number of statements indicating opposition to taxpayer-funded bailouts of financial institutions generally and Lehman in particular (Ferguson and Johnson 2009: 19; Geithner 2014: 178-9). Furthermore, Paulson effectively reduced the Fed's room for maneuver. The Fed could not take on risk, as it had done for Bear Stearns, without Treasury approval, and Paulson had publicly ruled this out. So the hands of both sides were tied. The worst outcome of a chicken game ensued, as Lehman's failure turned out to be disastrous for financial stability.

When AIG looked like failing soon after Lehman, the Fed managed to convince itself that the company could meet the requirement that the Fed lend against good collateral. As James (2013: 38) put it, 'the US administration and the Congress were paralyzed by the upcoming presidential election, and consequently the government lacked the authority to act. But the Federal Reserve System could be very decisive [...intervening] in a very unorthodox way'. The rescue of AIG was 'criticized immediately by some prominent members of Congress as a questionable commitment of taxpayer funds' (Goodfriend 2011: 7). In effect, members of Congress noticed agency drift. Legislators could not immediately rein in the Fed, but ultimately they could exact retribution.

The Chair of the Federal Reserve Board, Ben Bernanke, indicated his unease with the expansion of the Fed's role, and pressed the Treasury to bring forward a package of measures to Congress. He is quoted as saying in 2008: 'Both because we at the Fed don't have the necessary resources and for reasons of democratic legitimacy, it's important that Congress come in and take control of the situation.' (Woll 2014: 88). This was strategic and somewhat disingenuous: the Fed did have the resources, but it wanted to reduce the risk of retribution by forcing Congress to grapple with the seriousness of the crisis (Wessel 2009: 189, 204-5). In October 2008, the Treasury moved to take on the main task of dealing with bad bank assets by introducing the Troubled Assets Relief Program (TARP). But to the consternation of financial markets, the House of Representatives rejected the first version of TARP on 29 September, 2008, and passed the package only two days and 300 pages of additional legislative text later (Woll 2014: 89).

This sequence of events highlights the role of veto-players, both in blocking fiscal measures and in imposing constraints on the agent. As Tsebelis (1995: 307-308) emphasized, the Fed enjoys independence because it can act quickly, safe in the

knowledge that the Congressional decision-making process will take some time to respond. However, the measures taken by the Fed stretched its legal authority to limits, and some claimed beyond. The Fed needed the (full) government to authorize fiscal resources; it got this decision, but only with difficulty. Some retribution has occurred, although the most radical attempts to ‘audit the Fed’ and prevent future bailouts have failed.

4.3 The European Central Bank

The ECB was as resolute as the Fed in providing liquidity but insisted, like the BoE, on the limits of what a central bank can do. In summer 2007, when liquidity dried up in financial markets, the ECB was the first of the major central banks to step in. It enjoyed the advantage over the Fed and the BoE that the provision of liquidity to banks was already part of its regular operations, so it did not have to introduce new facilities. The ECB ‘fine-tuned’ its operations by accepting collateral of lower quality and offering extended terms on loans.

At the same time as the ECB expanded general liquidity, national authorities identified and rescued some distressed banks. This seemed to be the ideal cooperative division of labor, allowing the ECB to stick to its remit, undertaking monetary policy measures clearly separated from financial stability interventions which required fiscal backing. The European Commission suspended restrictive state aid rules soon after the Lehman crash to encourage governments to act. But as the crisis lingered on, overextended governments preferred that their banks continue to draw on ECB funds, reducing the daunting task of recapitalization and resolution (Hellwig 2014: 26). Because it did not have a bank supervisory role at the time, the ECB was poorly placed to ensure that banks did not make undue claims on liquidity facilities.

Over the next five years, a sequence of events unfolded whereby the ECB periodically endeavored to rein in its liquidity creation, banking and sovereign debt problems predictably ensued, and national governments struggled to agree on supranational fiscal measures. The ECB was very active in pressing governments to overcome their differences and create stabilization funds. There was a lot at stake for the central bank: in the absence of agreement between governments, it would have to keep up its lending to banks, jeopardizing its reputation for monetary stability. It could also be forced to stretch its legal authority, specifically by purchasing government bonds. At the same time, the ECB had some bargaining power: it could offer limited programs of bond-buying in exchange for fiscal measures. It was a credible player in a chicken game, due to the reputation of its President and the presence of hawks on its Governing Council. Furthermore, the limits of its legal authority were patrolled by judicial challenges.

The first moves came in December 2009, when the ECB announced that extraordinary measures would soon be phased out as the euro area economy was on the way to

recovery. Specifically, there would be an end to ‘qualitative easing’, which allowed low rated bonds to be posted as collateral in repo transactions. This helped to trigger the Greek sovereign debt crisis because Greek debt was downgraded at that time, and contagion soon affected other sovereign debt. The ECB came under pressure from governments to intervene: notably France’s President Sarkozy held that stability in bond markets would not be achieved without using the deep pockets of the central bank to purchase sovereign debt. But the ECB made the creation of an emergency fund for sovereign lending a precondition for further action (Barber 2010).

There were widely divergent national preferences over the creation of supranational funds, between those who expected to be contributors and those who were beneficiaries. For a perilously long time, multiple veto-players blocked fiscal cooperation. However, the emergence of a full-fledged sovereign debt crisis reduced the preference divergence: the guarantor countries were keen to stop contagion with a ‘firewall’ (Schelkle 2017: 212-3). Arguably, preference divergence was lowered by negotiating in venues away from national politics; however, participants still had to defend their decisions at home.

Member states overcame their differences to create a fund (the European Financial Stability Fund (EFSF)), and, as part of the package of crisis measures agreed in May 2010, the ECB launched the Securities Market Program, whereby it bought sovereign bonds from banks and held them to maturity. The ECB sought to justify this unconventional measure as falling within its monetary policy remit: it argued that it had to ‘safeguard the monetary policy transmission mechanism’ and ‘preserve the singleness of the ECB’s monetary policy’ (quoted in Lastra 2014: 86). Thus it exploited the overlap between monetary policy and financial stability actions (outlined in s.2 above) to give itself room to maneuver.

Financial stability did not return, however, as the task of bank resolution and recapitalization had not been fully addressed. Immediate pressures were eased in 2011-12 with the LTRO program (see Fig 3 above and accompanying discussion). But the ECB was concerned to ensure that further liquidity expansion did not support failing banks indefinitely. If the ECB was to be able to end its extraordinary measures without causing disruptive bank failures, it needed governments to take steps to recapitalize and resolve banks. But the pressure on sovereign debt made some governments not only unwilling, but also unable, to resolve the problems in their banking systems. National governments did not have the backing of a central bank that would buy government bonds directly from the issuer, as the BoE had done (De Grauwe 2011).

Once again, the ECB’s preferred solution was coordinated action by the multiple political veto-players: they should create a joint fund which could support bank restructuring. Due to the entanglement of sovereign debt and bank capital (the so-called ‘doom loop’), further support for sovereigns was part of the solution. Member states did agree to strengthen their fiscal cooperation: the temporary EFSF became the permanent European

Stability Mechanism (ESM). But regulatory measures were also needed to ensure that ‘zombie’ banks did not live on ECB liquidity forever. In mid-2012, the ECB finally got agreement on the creation of a banking union. In return, the ECB announced an open-ended bond-buying program called Outright Monetary Transactions (OMT) (Véron 2015).

As noted in section 3, the ECB’s original contract placed not only rules but also procedural hurdles in the way of unconventional monetary policies. A supermajority in the Governing Council was formally required for the OMT. ECB President Draghi bypassed this blockage by obtaining the backing of key governments. In the side rooms of the June 2012 European Council summit, the leaders of the four largest member states gave Draghi the green light to announce OMT before he asked the Governing Council for endorsement. The dissenting voice of the Bundesbank was overridden by the German government’s acceptance of Draghi’s plan (Steen 2012).

In all these processes, Germany played a pivotal role but is itself not a unitary actor. This delayed decision-making but left space for compromises. The Merkel administration was constrained by its own central bank and a constitutional court with a proven willingness to review the terms of European integration. The Bundesbank could be outmaneuvered, as above. The Constitutional Court refrained from ruling against ECB actions, but it inserted another veto-player into domestic political processes by insisting that the German parliament should give its approval to any measures involving potential fiscal obligations.

By 2013, the euro area authorities had succeeded in establishing the ESM, with a lending capacity that dwarfs the IMF. Henning (2016: 192) argues that, by withholding support for bond markets until the member states agreed to build a collective fiscal counterpart, the ECB won the chicken game with national authorities. It achieved monetary dominance in the sense that indebted governments were forced to adopt austere fiscal policies. However, it also gave way by stabilizing sovereign debt markets through the OMT. Furthermore, if we bear in mind that the pressure for provision of exceptional liquidity stemmed from banking sector problems as well as government indebtedness, we can see that the ECB was pushed into accepting a degree of *financial* dominance. For the ECB, the key strategy was to press for the creation of a supranational agency with delegated authority over the disposition of fiscal resources to resolve banking problems, thereby ensuring that future resolution actions would not be blocked by multiple national veto points.

5. Conclusions

Veto-player theory has made a central contribution to second generation scholarship on CBI by locating the basis of independence in the properties of the political system. The theory proposes that impediments to political action are a blessing for CBI, but our

analysis has shown that political veto points can be a curse. The central bank may have to act alone to secure financial stability, creating exceptional amounts of liquidity with the risks this brings. This is the predicament of the lonely central bank. The outcome resembles fiscal dominance, because the central bank is forced to be accommodating. But it is better described as financial dominance, because the need for accommodation originates with the banks. Without support from government, the lonely central bank may damage its reputation for non-inflationary monetary policy and appear to be captured by the necessity to support the financial sector.

Our qualification of the second generation literature draws on insights of delegation theory in the tradition of McNollgast (1989) and Huber and Shipan (2002).. This body of theory suggests that central banks' discretion in pursuing financial stability is likely to be constrained by rules and procedural requirements imposed by the original coalition of veto-players. In this paper, we have shown that there is a real possibility that political action is blocked by veto points while central bank action is blocked by constraints on its delegated powers. If political authorities cannot overcome their differences and the central bank cannot escape its constraints, then a crash is possible. This is the lesson we draw from the collapse of Lehman and the European sovereign debt crisis. We have also shown that central banks may use their constraints as strategic resources in a game of chicken, knowing that there are ways to evade constraints and 'swerve'. We interpret the Fed's rescue of AIG and Draghi's belated commitment to 'do whatever it takes' as swerves that occurred as crashes were unfolding.

We have argued that central banks acted strategically to obtain cooperation from governments. Competing interpretations emphasize the ideational foundations of independent central banking. One view is that there has been a sudden and substantial ideational shift, so central bankers 'are all Keynesians now' (cf. McNamara 2015: 39-40). Another popular view attaches ideas to bodies: thus the Northern Rock debacle is explained by Governor King's particular obsession with financial sector moral hazard (Conaghan 2012: 136-8), while Trichet's intractability stemmed from his focus on the fiscal moral hazard that could stem from monetary financing of governments.

We do not deny that central bankers uphold deep-rooted and influential ideas. But these explanations lack a convincing account of the incremental and pragmatic adjustment that central banks engaged in, which reflected political opportunities and constraints. Our account points to a high level of ideational continuity, in that we argue that central banks sought to protect their reputations in the conduct of non-inflationary monetary policy, while adapting to a radically different environment. The claim of a complete ideational shift explains too much, while the personality-based argument explains too little, as key actors shifted their ground.

Will we see more chicken games in the future? The risk of political blockages can be reduced if disposition over some fiscal resources is delegated to an agency. In the US, the

Federal Deposit Insurance Corporation (FDIC) played a key role at various points in the crisis, by facilitating restructuring that, in turn, allowed the Fed to extend liquidity. In the euro area, the creation of a common fund, the ESM, has the potential to facilitate monetary-fiscal cooperation, and a European Single Resolution Mechanism is also being built up. However, the decision-making arrangements for access to these fiscal resources still have some potential blockages. The British case presents a striking contrast. There is no pressure to create separate funds for resolution or deposit insurance as the Treasury would always make the decisions in any case. The lesson we draw from this is that it is not the existence of a fiscal counterpart as such that matters to financial stabilization. Rather, the decision-making processes governing the disposition of fiscal resources are critical for the central bank.

We have emphasized how barriers to decision-making impeded cooperation, but, repeatedly, veto points were overcome and decisions were made. These moments of agreement were simultaneously opportunities for politicians to rewrite central banks' delegation arrangements. In our three cases and beyond, they bestowed on central banks more financial regulatory powers and extended their mandates. This is a 'paradoxical trend' in that central banks were heavily criticized but also 'asked to do more rather than less' (Johnson 2016: 227). It is a question for further research how these new powers will affect cooperation and loneliness. More powers may make it harder for central banks to invoke their constraints to induce political cooperation, in which case they will become lonelier. What we can say is that the rewriting of their statutes is evidence that the financial crisis had enduring effects on the relationship between governments and central banks. We conclude that the financial crisis marked the end of an era of CBI, and a different approach to analyzing monetary-fiscal interaction is now needed.

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