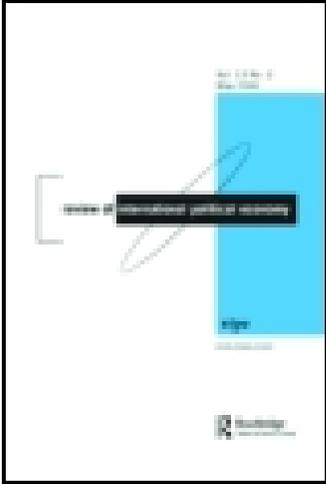


This article was downloaded by: [71.232.20.90]

On: 01 July 2014, At: 12:07

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954  
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH,  
UK



## Review of International Political Economy

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rrip20>

### Brave New World? Macro-prudential policy and the new political economy of the federal reserve

Lucy M. Goodhart<sup>a</sup>

<sup>a</sup> Weatherhead Center for International Affairs,  
Harvard University, USA

Published online: 22 May 2014.

To cite this article: Lucy M. Goodhart (2014): Brave New World? Macro-prudential policy and the new political economy of the federal reserve, Review of International Political Economy, DOI: [10.1080/09692290.2014.915578](https://doi.org/10.1080/09692290.2014.915578)

To link to this article: <http://dx.doi.org/10.1080/09692290.2014.915578>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

# **Brave New World? Macro-prudential policy and the new political economy of the federal reserve**

*Lucy M. Goodhart*

*Weatherhead Center for International Affairs, Harvard University, USA*

## **ABSTRACT**

The Financial Crisis that started in 2007 ushered in new responsibilities for central banks, particularly for what is termed ‘macro-prudential policy’, or MPP. The goal of this policy is to monitor and contain overall risk in the financial sector. Implementing MPP, however, carries the potential for distributional conflict with the largest financial firms and the politicization of central bank policy. In light of this risk, this essay analyses the institutional implications of MPP for a leading central bank, the US Federal Reserve. Specifically, how will MPP affect the autonomy of the Fed to set the policy it thinks right? The analysis is based on interviews with financial regulators, including Fed staffers and policymakers, and with journalists who report on financial regulation. It is also informed by a case study of the ‘Volcker Revolution’ in monetary policy. Based on these sources, I identify the factors that contributed to Fed autonomy in the conduct of monetary policy during the Volcker Revolution and assess the extent to which those same factors hold for MPP. I close with an assessment of what MPP means for the new political economy of the Fed in particular and developed world central banks more broadly.

## **KEYWORDS**

Macro-prudential policy; financial stability; central bank independence; delegation; lobbying; regulatory capture.

## **I. INTRODUCTION**

The financial crisis that began in 2007 brought about a strange and in some ways ironic shift in central bank powers and responsibilities, both for the Federal Reserve and for other central banks. While the Federal

Reserve was roundly criticized for not having foreseen the full costs associated with financial shocks, the key legislative response, the Dodd-Frank Act, assigned new powers and responsibilities to that agency.<sup>1</sup> Those powers lay in a policy area that was barely discussed in the US prior to the financial crisis. Macro-prudential policy (henceforth MPP) is intended to gauge the 'systemic risks' to overall financial stability (rather than the stability of individual firms) and to consider appropriate responses.

MPP, as Andrew Haldane (2009) has written, is 'a new ideology and a big idea'. It marks a profound shift because it assumes that financial sector decisions, even when they are individually rational, can result in excessive overall risk and financial crises. As such, MPP foresees tighter regulation of financial institutions and greater control over their operations. As Baker writes, 'macro-prudential regulation implies a return to regulators telling banks what they should do' (2013: 7). To date, however, there has been little assessment of the *institutional* impact of MPP on the Fed, or other central banks, despite the strong likelihood that regulated entities will resist tighter regulation and that conflicts over MPP will be politically mediated.<sup>2</sup>

Such an assessment is of obvious importance. The responsibilities for MPP that were incorporated in Dodd-Frank mark a major shift in the Fed's mandate. Further, and since this mandate could politicize the Fed's activities, it may also erode the institutional independence that has been held central to a credible low-inflation policy. In this manuscript I consider the effects of MPP on the political economy of the Federal Reserve. Simply put, how will the execution of MPP affect the Fed's overall independence and what does this tell us about the new political economy of central banks?

In examining the independence of the Federal Reserve I look at an attribute that, when applied to government agencies in general, is often termed 'autonomy'.<sup>3</sup> More autonomous agencies can move policy closer to their own preferences. Further, and when agencies internalize general welfare, more autonomous agencies can set policy that imposes costs on regulated entities and protects consumers.

Why might the Fed's autonomy in the new role of MPP be contested? The distributive import of MPP springs from the fact that systemic risk is 'pro-cyclical'.<sup>4</sup> As the value of assets rise, in what may later be termed a credit boom, the value placed on a firm's capital will also rise, permitting individual institutions to lend and borrow more, taking on additional risk, while appearing to maintain its capital ratio at benchmark levels. Because this will be true of all firms, the sector as a whole will add 'leverage', expanding its assets and liabilities relative to long-term levels of capital, in the upturn of a credit cycle and will deleverage during downturns.

Based on this insight, the first assumption of macro-prudential analysis is that policy-makers should add to capital ratios (thus reducing bank 'leverage') particularly during the growth phase of the cycle and ease during recessions.<sup>5</sup> MPP therefore means requiring large banks, and other financial firms, to hold additional capital, to safeguard against risk, just as the prospects for profit-making are greatest. Further, and following an increasing awareness of financial risk in the wake of the last crisis, many advocates of MPP have sought higher levels of capital and liquidity in general (Admati and Hellwig, 2013).

What does this mean for financial firms? Analysis of capital requirements is strongly influenced by the Modigliani-Miller theorem of finance, under which firms should be indifferent between financing their operations through debt or equity. The benefit of raising capital, within this framework, is that the risk of loss is spread over a larger capital base. However, and as Admati *et al.* (2013) also point out, if financial institutions expect that governments and regulators will intervene to prevent bank failure, then risk is less pertinent to financing decisions and capital becomes a pure cost. Raising capital means that resources must be directed away from paying dividends or investing in higher return assets. Further, and as new equity is issued, the return on existing equity is reduced. As a result, attempts to raise capital requirements, or to initiate more restrictive rules on leverage ratios, have met with strenuous objections from the financial sector.<sup>6</sup> Further, announcements of regulatory *loosening* have precipitated a rise in bank share prices, with this phenomenon seen most clearly in the recent decision by the Basel Committee on Banking Standards to reduce the types of assets against which banks would have to hold additional capital. The *Economist* magazine wrote of this decision, 'Shares in big European banks, such as Barclays and Deutsche Bank, surged to their highest level in nearly three years on this news.'<sup>7</sup> Market participants, in other words, clearly believe that raising capital ratios is costly to banks and that loosening prudential standards will increase their value.

Because the firms affected by MPP are well poised to mobilize political support, robust operation of the new mandate carries the potential for conflict with Congress and attempts at political control of Fed policy decisions. In assessing whether or not the Fed can be autonomous in MPP, therefore, I focus on the factors highlighted by work in American Politics on the degree to which Congress will defer to an agency. First, as an organization, does the Fed possess a recognized knowledge or expertise in MPP that would increase Congressional deference to its decisions and what precisely is the nature of that expertise? Second, considering the political context, will the affected interest group or groups be able to organize a Congressional coalition that works to oppose and overturn Fed actions?

The analysis proceeds in two separate steps. The first is a case study of the 1979 shift in monetary policy undertaken by the Volcker Fed. This episode is most akin to the current introduction of MPP because, while the Volcker Fed was not implementing a new mandate, it effected a dramatic change in the way that the Fed implemented its existing remit for monetary policy. Moreover, the Volcker ‘Revolution’ involved an implicit renegotiation of the relationship between the Fed, Congress and the Executive, on this occasion ushering in much greater operational independence for the Fed. It is thus an appropriate comparison for the contemporary case in which the Fed is charged with implementing a new policy that may, once again, bring into question the delegation relationship.

In the case study, I evaluate the degree to which the factors highlighted in the literature – agency expertise and the mobilization of opposition – affected the outcome in the 1979 policy shift. Next, I compare the case study to the contemporary case of MPP to assess the salience of those factors today. Does the Fed, in other words, possess the same advantages that it did in 1979? That comparison is informed by qualitative data from over 25 interviews with staff members at regulatory agencies, past Fed policy-makers, and a small group of journalists who focus on the Federal Reserve and/or financial regulation. These interviews were conducted from 2012 to 2014.<sup>8</sup> The contribution of the analysis is, at a minimum, to gauge whether the Fed can be an effective, independent, macro-prudential policy-maker. In addition, however, the analysis clarifies the political and organizational sources of Fed autonomy, both for monetary policy and in MPP. As such, the analysis is part of a broader scholarly effort to endogenize central bank independence and to consider the impact of the financial crisis on the new political economy of central banks.

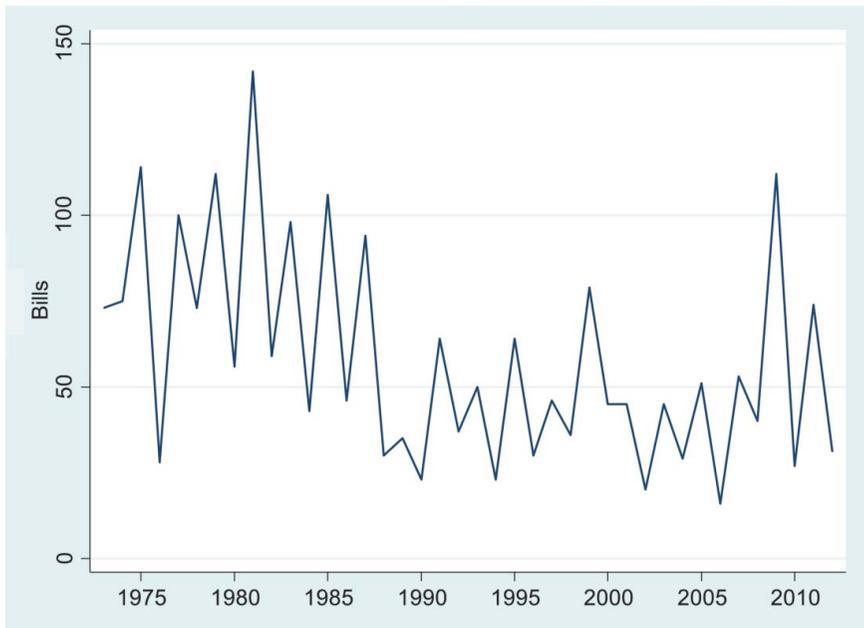
The remainder of the paper proceeds as follows. Section II summarizes the initial legislative response to the financial crisis. It relates how the criticism of the Fed, seen in 2009, contributed to the embrace of the new, macro-prudential mandate and how that mandate was legislated. Section III comprises the case study of the Volcker Revolution. Section IV focuses on the comparison of the organizational and political factors at work in the earlier episode to the current context of macro-prudential policymaking. Section V concludes.

## II. THE FED’S ROLE AFTER THE FINANCIAL CRISIS

The initial discussion of financial reform, after the crisis, came during a period that saw both direct challenge to the Fed’s mandate and the first, official mentions of MPP as an appropriate policy undertaking. One of main points made by a source with previous experience on Capitol Hill

was the extent to which the Fed, at this point, had provoked fury from all political quarters. On the right, Members of Congress were livid that the Fed had guaranteed counter-parties to the insurance giant AIG as part of its assistance to that institution under its Section 13(3) emergency powers. 'On the left, though, legislators were also angry because the Fed had not used its powers under HOEPA [the 1995 Home Owners Equity Protection Act] to protect borrowers from abusive lending practices. They didn't have friends. Everyone thought they were going to be punished.'

Early in 2009, at the start of the 111th Congress, Congressman Ron Paul introduced legislation that attacked Fed prerogatives (Blinder, 2010).<sup>9</sup> Moreover, and while Representative Paul's bill gained a high profile, he was not alone in criticizing the Fed. Figure 1 shows the number of bills introduced in Congress that were related to the Federal Reserve each year from 1973 to 2012 as an indicator of Congressional dissatisfaction with Fed actions. At 112 bills in 2009, legislative activity was higher than it was even in 1983 and 1985, after the interest rate hikes associated with the Volcker Revolution, and approached the maximum number seen, of 142 bills, in 1981. While this legislative activity might be dismissed as 'grandstanding' or cheap talk, the time costs involved in initiating bills imply that legislative activity is a meaningful indicator of Congressional



**Figure 1** Bills Introduced in Congress on the Federal Reserve 1973–2012.

interest in a subject area (Schiller, 1995, Wawro, 2001). In 2009, then, Members of Congress were directing greater attention to the Fed and becoming more combative towards the agency.

Actions taken in response, including congressional testimony and an op-ed piece in *The Washington Post* by Chairman Bernanke, in late November 2009, suggest that Fed leaders worked hard to forestall challenges to the Fed's role.<sup>10</sup> In his testimony in the early summer of 2009, Bernanke for the first time referenced the concept of MPP, suggesting that this framework should play a far larger role in the Fed's supervision and regulation of the financial system.

This new emphasis on MPP was in some ways ironic given the chilly reception shown to advocates of a macro-prudential approach under the Chairmanship of Bernanke's predecessor, Alan Greenspan (Baker, 2013). However, the adoption of macro-prudential concepts gave the Chairman a rhetorical advantage in the depiction of the Fed's policy record. Framing the crisis through the lens of an approach focused on overall risks deflected attention from the failings in 'micro-prudential' supervision of individual banks and bank holding companies. The Chairman's rhetoric implied that the Fed could have been more effective if it had possessed the tools and mandate for MPP at an earlier stage and justified a greater macro-prudential role for the Fed in the new legislation.<sup>11</sup>

The actions taken by the Fed may also have tempered the desire for radical change in Congress. Certainly, the legislation developed by the Chairs of the House and Senate Banking Committees (Congressman Barney Frank and Senator Chris Dodd respectively) was relatively moderate.<sup>12</sup> The observed outcomes for financial regulation under Dodd-Frank were incremental, retaining the existing division of institutional labor for US bank supervision (Maxfield, 2011).<sup>13</sup> In other words, financial regulation in the US remains extremely fractionalized. While Dodd-Frank creates a coordinating committee, the Financial Stability Oversight Council, or FSOC, no single financial regulator is responsible for MPP and the management of systemic risk overall.<sup>14</sup> The FSOC is responsible for aggregate oversight, and reports annually on risks to the financial sector, but the constituent agencies are charged with the response.<sup>15</sup> One regulatory source who attends FSOC meetings said of the committee, 'It doesn't really set policy or decide measures or metrics. It's too large and unwieldy to do that but the communication is better than you would expect.'

Dodd-Frank also followed the administration's plan to designate a category of 'systemically important financial institutions' (or SIFIs) that would receive additional supervision (US Department of Treasury, 2009).<sup>16</sup> The key decision-making role that is held by the FSOC is to determine which large, non-bank financial companies should be categorized as SIFIs while bank holding companies with over \$50 billion in assets are

automatically considered to be a SIFI.<sup>17</sup> The Federal Reserve's Board of Governors then has sole responsibility for 'heightened prudential supervision' of SIFIs, a set of firms that overlaps with the largest bank holding companies for which the Fed already has lead responsibility. While the FSOC may make recommendations to the Board of Governors concerning the establishment and refinement of prudential standards, it is expected that the Fed will take the lead on this role, which includes the setting of leverage limits and liquidity requirements that are more stringent than the requirements for companies that are not designated as systemically important. As one member of the regulatory community stated, 'It's the Fed that has the "big stick" on macro-prudential policymaking and systemic risk because of the heightened supervision of SIFIs. It's a micro-prudential solution to a macro-prudential problem.' What this source implied was that although the Fed was the key macro-prudential regulator this systemic responsibility was enacted through its traditional role of supervising individual institutions.

In light of the incremental nature of reforms enacted through Dodd-Frank, scholars have questioned whether the legislation truly marks a change in the conduct of financial regulation (and the quote above indicates some skepticism among regulators). Indeed, Baker (2013) describes the move to MPP as 'ideational' and characterized by a desire for change without operational consensus (see Borio and Drehmann, 2009 for a similar critique). Effective implementation of MPP, however, would mean requiring banks to take costly precautions against risk. Thus an important question is whether an 'ideational' attachment to MPP, within the Fed, in Congress, and among the wider 'epistemic community' of specialists, is sufficient to ensure the Fed's autonomy in this new mandate (Haas, 1992, see also Kapstein, 1992). I turn, next, to the determinants of agency autonomy and their role in the Volcker Revolution.

### III. THE VOLCKER REVOLUTION AND AGENCY AUTONOMY

#### A. Endogenizing Independence

One of the reasons frequently offered for delegating MPP to the Fed is the high-level of autonomy that the Fed currently enjoys (Mishkin, 2009). Only a very independent agency, it is argued, could undertake a policy role that will surely meet with political opposition. Yet, as with other agencies, the independence of the Fed is defined by law and can be *amended* by law (Posen, 1995; Keefer and Stasavage, 2003 see also Blinder, 1998). Within the existing legal framework, working independence is a function of how easily Congress and the Executive

can influence Fed policy actions.<sup>18</sup> Understanding the independence enjoyed by the Fed is thus analogous to understanding agency autonomy more generally. In both cases, that autonomy is defined by an agency's ability to manage the delegating relationship and thus to set the policy that it considers appropriate, despite potential or actual opposition from Congress and/or the President.

The potential determinants of autonomy have been extensively discussed within the American Politics literature on delegation. That literature focuses on two factors that can affect how much a legislature (Congress) will rationally delegate to an agency. The first factor is one of organizational expertise, operationalized either as the possession of salient information that is not known to the legislature in general (Gilligan and Krehbiel, 1987) or as a specialized understanding of the mechanisms by which to achieve a given outcome in different states of the world (Callander, 2008). Given this expertise, legislatures delegate to agencies for reasons of welfare maximization. Delegated policy achieves better outcomes.<sup>19</sup>

One of the key questions for contemporary accounts is what *constitutes* expertise. As Carpenter (2001) stresses, in a comparative study of growing bureaucratic autonomy during the Progressive era, an essential component of autonomy is 'reputational uniqueness' so that 'Autonomous agencies must demonstrate uniqueness and show that they can create solutions and provide services found nowhere else in the polity.'<sup>20</sup> This construction places weight on agency-specific tools and instruments (as 'solutions' and 'services') rather than on mastery of a broad intellectual framework. While such a framework is vital for legitimating a given type of policy action (and de-legitimizing others) it does not necessarily support claims for agency uniqueness. In looking at the Volcker episode, therefore, I examine whether the Fed could show expertise in the form of policy capacities that were highly specific and not available elsewhere.

The second factor highlighted in the extant scholarship is more distributional and refers to the desire of a legislature to delegate to an agency that shares its policy preferences. While this body of theoretical work shares the assumption of agency expertise, it highlights the potential trade-off between expertise and the content of desired outcomes, since agencies may also have their own biases or preferences. Ideological (or 'spatial') accounts examine distributional conflict between an agency and Congress or between the administration and Congress (Epstein and O'Halloran, 1999).<sup>21</sup> These distributional concerns can also be triggered for Congress by interest group action (McCubbins and Schwartz, 1984). Objections from interest groups, acting as 'fire alarms', alert Congress to the distributional consequences of agency policy and generate attempts to control the agency, and its policy actions, more closely.

The literature above could imply that Congressional oversight brings democratic accountability to agency decisions and moves those decisions closer to the 'popular will'. Work on lobbying by special interests in the US case, however, argues that regulatory agencies, and/or Congressional oversight committees, are often 'captured' by the regulated sector, moving policy outcomes *away* from either the welfare optimum or the preferences of the median voter.<sup>22</sup> As such, the work on regulatory capture indicates that agency autonomy is endangered when sectors or industries that face concentrated regulatory costs are able to mobilize opposition in Congress. In considering the Volcker Revolution, therefore, I assess the potential role for interest group mobilization. I examine both whether regulatory costs were concentrated, creating the incentives for lobbying, and whether affected groups were able to enlist support in Congress. I turn next to the discussion of both organizational expertise and political factors in explaining the ultimate success of the Volcker Revolution.

### B. The Volcker Revolution

The Volcker 'revolution' is a particularly important period in the Fed's history because it marked a sea change in the Fed's conduct of monetary policy while the legal framework under which the Fed operated remained the same.<sup>23</sup> Until the 'Accord' of 1951 with the Treasury, the Fed often acted as a passive purchaser of Treasury bonds (Timberlake, 1993; Todd, 2012). Even after this date it frequently came under pressure from the administration to ease policy.<sup>24</sup> Yet under the Chairmanship of Paul Volcker (starting in the summer of 1979), the Federal Reserve implemented interest rate policies that, although extremely painful in the short term, ultimately reduced inflation and strengthened the Fed's reputation.<sup>25</sup> The fact that this change occurred independent of legislative action or institutional reform highlights that, under certain circumstances, agencies can cultivate greater political independence, conforming to Carpenter's (2001) concept of autonomy as the ability to affect the 'delegation relationship'. What is sought here is a finer understanding of the factors that contribute to the ability to announce and sustain a policy choice that is distinct from those of Congressional overseers, particularly in the period before an agency has been able to demonstrate the utility of that policy and to generate a reputation for effectiveness.

The bare bones of the 'Volcker Revolution' may be summarized thus. In the summer of 1979, and desperately attempting to gain a handle on mounting inflation, the Carter administration turned to Paul Volcker, then serving as the President of the Federal Reserve Bank of New York (FRBNY). Volcker was formally appointed as Fed Chairman in August 1979. Shortly thereafter, at a special press conference on 6 October

1979, Volcker announced a dramatic shift in policy, unanimously approved by the Federal Open Market Committee (FOMC), and which he termed ‘practical monetarism’ (Silber, 2012).<sup>26</sup> In that shift, open market operations would be conducted in response to monetary targets and Fed policy would no longer be directed to smoothing or containing the level of the interest rate. The federal funds rate (the key interest rate affected by Fed policy) quickly soared upward, reaching the unprecedented level of 20 percent in December 1980 and January 1981 (Timberlake, 1993: 353–4). Large increases in the real interest rate induced painful contractions in real activity and mounting unemployment. While the Fed was widely critiqued, and its capacity to implement monetary policy was questioned, inflation gradually declined and the recession eased in 1982.

### C. Expertise and Autonomy

I first consider the role played by organizational expertise and consider the content of that expertise. While later analysis has sometimes credited the success of the Volcker Revolution to the growing authority of monetary economics, the Fed’s ability to implement the new policy was not based on a party-line adherence to a strictly *monetarist* paradigm.<sup>27</sup> The FOMC held many diverse viewpoints, as did staff members. Indeed, the Fed had increased its hiring of economists from prominent academic departments in the 1960s just when those departments were dominated by Keynesian thinking (Woolley, 1984: 60, 100). For his part, Volcker took pains to describe himself as a ‘practical monetarist,’ mining the monetary tool box for new and useful approaches to combating inflation, but otherwise agnostic (Silber, 2012). The diversity of viewpoints within the Fed and the FOMC challenge explanations that are based on an adherence to an overarching intellectual framework. Moreover, Axilrod (2009: 102–4) recounts that prominent monetarists of the period publicly doubted the Fed’s ability to implement a monetarist approach, implying that the Fed was not perceived as a monetarist institution.

What was critical to the Fed’s ability to implement the Volcker Revolution, however, was that earlier Chairmen had worked to centralize control of monetary policy tools under the FOMC – particularly open market operations.<sup>28</sup> The key steps in achieving central control were taken during the Chairmanship of William McChesney Martin, from 1951 to 1970. The first was to abolish the Executive Committee, a group dominated by the FRBNY and which had previously decided the conduct of open market operations (Meltzer, 2009a). The second was to develop new documents for the FOMC (the Green and Blue books) that synthesized information and allowed for automatic transmission from FOMC

decisions to open market operations (Axilrod, 2009: 4–5). The third was the establishment of the Maisel Committee to consider how open market operations could be used to re-orient monetary policy (Meltzer, 2009a: 588). While the FOMC rejected the Maisel Report’s specific recommendations, these organizational reforms created a blueprint for using open market operations as a tool for effecting changes in money growth with the ultimate objection of lowering inflation.

As a result of this organizational groundwork, when Volcker asked Steven Axilrod (then serving as Staff Director of the Office for Monetary Policy) and Peter Sternlight (as the System Account Manager in New York) to prepare a memorandum on how the Fed might redirect policy to controlling money growth the practical and technical know-how was in place. Following Carpenter’s (2001) phrasing, the Fed was creating solutions and providing services that could not be provided elsewhere. Following the agreement of the FOMC, and after discussions based on the Axilrod-Sternlight memo, Chairman Volcker could announce that the Fed would control price inflation through the use of quantitative targets for money growth (Kettl, 1988: 176). Interest rates would then adjust to bring the supply of money that was delivered through Fed policy into line with demand.

#### D. The Mobilization of Opposition

Volcker’s presentation of the new policy approach as a technocratic exercise, directed at controlling measures of the money supply, also yielded a strategic advantage to the Fed. It redirected attention from the likely impact on real interest rates, whose immediate, redistributive effects were far more widely understood than the details of monetary aggregates and mitigated the potential for early objections.<sup>29</sup> Kettl (1988) cites Governor Henry Wallich ‘Basically we needed higher interest rates. I doubt they could have been achieved by decision. But by putting the decision in the hands of the market and allowing things to take their course – that was more acceptable.’

Given, however, that the real implications of the policy shift soon became apparent, the key question is how the Fed was able to maintain the new policy stance and avoid ex post, political reversal, even if that required an institutional overhaul of the Fed. In part, contemporary observers link the success of the Volcker chairmanship to changes in the external context which readied the public and administration for dramatic policy measures, even painful ones. As Axilrod (2009: 92) writes, ‘The costs of inflation had been becoming more and more evident to the public and, by extension, to politicians as the economy stagnated, jobs were lost to foreign competitors, and the real value of savings was

eroded.' The perception of these inflation costs was widespread. In October 1979, the month in which Volcker announced the policy shift, 55 percent of respondents to a Gallup poll described inflation (or the general price level) as the most important problem facing the US, with the next most frequently mentioned problem (the energy crisis) named by just 22 percent of Americans. Volcker's final decision to propose new policy targets was precipitated by signs of imminent panic in the gold markets, turmoil in currency markets and critical changes in inflationary expectations (Silber, 2012: 158), all producing a near crisis environment.

Despite its own, public commitments to controlling inflation, the Reagan administration was taken aback by the real costs of the Fed's monetary targeting approach when it came into office in 1981. Assistant Treasury Secretary Roberts (1984) wrote of economic conditions at that time, 'The administration had no idea that the Federal Reserve was about to slam on the brakes and throw us all through the windshield.' As the recession deepened, the Fed was attacked from all sides, with the strongest reactions from sectors exposed to interest rate hikes. Auto dealers sent coffins to the Fed with car keys attached (Yergin and Stanislaw, 1998, cited in Todd, 2012) while construction firms and workers addressed pieces of 2x4 lumber to Volcker and mailed them to the Fed (Silber, 2012).

The recession was so serious that, by 1982, members of the House and Senate suggested fundamental reform of the Fed. These included Henry Reuss, the Democratic Chairman of the Joint Economic Committee, who threatened 'political dismemberment of the Federal Reserve System' if the Fed did not back away from its 'super tight' monetary policy (Kettl, 1988: 181). Volcker was also opposed by supply-side economists at the Treasury, who argued that inflation could be addressed as part of general economic liberalization. That the supply-side alternative was attractive to the Reagan administration is shown in Reagan's appointment of several supply-siders as Governors of the Federal Reserve, including Preston Martin, Martha Seger, Manuel Johnson and Wayne Angell (Havrilesky, 1995) The pushback against Volcker's policy continued in June 1982 when, as Todd (2012) recounts, Don Regan, the Treasury Secretary, ordered his staff, the Council of Economic Advisors and the OMB to institute a wholesale review of monetary policy and the role of the Federal Reserve. The scene was set, in other words, for coordinated political action to change the institutional foundations of Fed policy-making.

The problem was that different opponents to Fed policy were strongly divided on the policy that the Fed should follow if and when it was placed under more direct political control (Kettl, 1988: 181). Senator Edward Kennedy, for example, like many Democrats, advocated credit controls and greater monetary easing, while the administration

maintained an attachment to lowering inflation, but insisted that the policy adopted by the Fed was an unnecessarily costly means of achieving that goal.

In other words, and while the real costs of the Volcker policy shift were visible and agonizing, the opposition was fractured. Existing partisan attachments to either employment or low inflation continued to divide Republicans and Democrats during this period (Hibbs, 1977, 1989). These attachments were dictated by the interests of broad electoral coalitions, with Democrats more likely to represent workers at greater risk of being laid off. Those differences were still apparent in the early 1980s, with Democrats more likely to use Congressional hearings on monetary policy to quiz the Chairman about the implications of monetary policy for output and employment (Schonhardt-Bailey, 2013: 239). These partisan attachments reduced the space for alternative proposals embodying direct political control of monetary policy, or at least for proposals that could receive majority support in a divided Congress and would not be vetoed by the President.

This explanation parallels that offered by Keefer and Stasavage (2003) for the choice of delegation to an independent central bank in a polity marked by multiple veto points. However, the account above underscores that the polarization of preferences across different actors arose because monetary policy, and attitudes to inflation, were not solely the province of specialized or concentrated interests. Rather, inflation had become an issue of such wide, popular concern that partisan interests on this issue were clearly structured.

Then, in July 1982, the recession bottomed out and Volcker felt able to ease monetary targets. As inflation declined, Volcker and his colleagues at the Fed saw increased credibility as an agency that could control inflation (Blinder, 1999). The Fed's actions were broadly popular, with 46 percent of individuals surveyed in a 1983 poll saying that the Fed had made a major contribution to lowering inflation and 64 percent willing to have the Fed tighten again, if needed to curb inflation, even if it meant slowing the economy (*National Journal*, 8 October 1983, cited in Kettl, 1988).

#### IV. THE MPP COMPARISON

In this section, I take up the comparison between the strategic advantages held by the Fed as it shifted policy and moved towards greater operational independence in 1979, and the context for MPP in the current era. As discussed earlier, one of the factors contributing to Fed independence has been its ability to show unique agency solutions and services (Carpenter, 2001). In this section, I expand upon this initial appraisal, examining whether the Fed has sole control, as a monopoly provider, of

the inputs into monetary policy and MPP. This assessment is based on secondary sources as well as qualitative evidence from multiple interviews. I then proceed to a consideration of the mobilization of opposition in both cases.

### A. Expertise and Autonomy

In [Figure 2](#), I set out the different inputs used in the production of monetary policy and MPP.

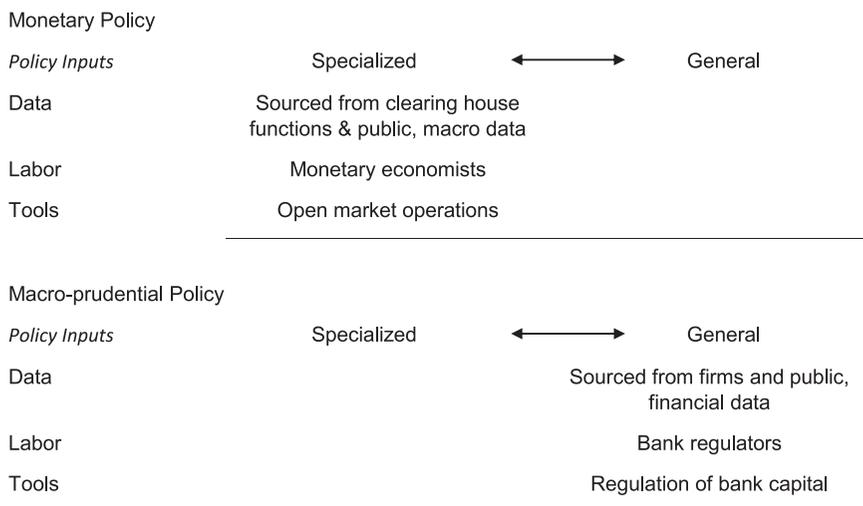
I look at three different categories of input: data, labor, and tools. The first category, data, refers to the information that is required to set policy. The second category indicates the labor services (e.g. expert staff) that are needed for policy decisions and implementation, while the category of tools includes, for instance, open market operations and credit ratios to buffer against risk. Thus, the discussion goes beyond that of Section III, which discussed the policy mechanisms developed by the Fed, particularly open market operations, and considers the broader set of resources that are needed for the agency to produce specialized agency 'solutions and services'. In each case, I assess whether these policy inputs are specialized to the Fed or whether they are general and could be provided by another agency.

In the case of monetary policy, inputs are and have been highly specific to the agency. One of the Fed's main sources of data on the money supply and financial market conditions comprises the information it receives in its role as a clearing house, settling trillions of dollars worth of monetary transactions each day between banks in the US and operating the dollar payment system.<sup>30</sup> The Fed is not reliant on any regulated body for that information, which banks freely supply as part of standard daily business practices. Further, and in forecasting the real economy, the Fed works from publicly available data that is not sourced from the regulated sector. In using data on labor markets, for instance, from the Bureau of Labor Statistics, the Fed is not dependent upon an information source with strategic interests over Fed decisions.

The main labor input into monetary policy is expert monetary economists, who are to be found in academic departments and at the Fed itself. While those monetary economists could presumably work for other agencies, the Fed does better than any other agency at attracting economists from top-rank departments.<sup>31</sup> So successful has the Fed been in leading the field of monetary economists that it has recently been accused of exploiting its monopoly role.<sup>32</sup>

With regards to tools, the Fed, once again, has a pure monopoly over open-market operations, which have never been conducted by another agency or department. Indeed, one of the gravest threats to Fed independence, in the 1930s, and one source of its subsequent acquiescence to

## GOODHART: BRAVE NEW WORLD?



**Figure 2** Comparison of specialization of inputs in monetary policy and MPP.

Treasury, was the development by the Treasury of separate, large accounts that were held after the Monetary Control Act of 1934 (Timberlake, 1993: 278). In 1936, and in response to an increase in the discount rate by the Fed, Treasury Secretary Henry Morgenthau threatened to use the government's new Exchange Stabilization Fund (developed from seigniorage on the gold that the administration had required individuals to lodge with the Fed) to conduct open market operations himself.<sup>33</sup> Since the 1930s, however, there has been no attempt to develop a separate capacity for the government to affect the federal funds rate and the Fed has retained monopoly control of this instrument. Thus, and in the case of monetary policy, the Fed is in a fortunate position. It oversees highly specialized inputs that cannot be easily replicated, and those inputs are under the sole control of the Fed, which does not have to coordinate with other actors in policy-making. It would be extremely difficult, in other words, for Congress or the Executive to circumvent the Fed and conduct monetary policy itself. The Fed, as the case study of 1979 indicated, can still face threats to its independence, but later attempts to control Fed operations have had to rely on strategic appointments, ex post pressure via Congressional oversight, or changes in the legal structure (signed by President and Congress).<sup>34</sup>

The Fed does not, however, enjoy the same control over policy inputs in the field of MPP. In particular, the Fed is reliant on the regulated entities for information that can help it to determine what the appropriate settings for policy should be. Many measures of risk require information

that is internal to individual firms. One source with whom I spoke had been heavily involved with the bank stress tests (the 2009 Supervisory Capital Assessment Program or SCAP and the 2011 Comprehensive Capital Analysis and Review or CCAR). That source highlighted that much of the information required to assess how robust each firm was to different risk scenarios came from confidential regulatory reports that were compiled with the coordination of the firm. While this source did not feel that the banks were ‘gaming the system’, the comments highlighted that, for her, such regulatory data was an essential part of prudential supervision. Firm-level information is also central to forecasting the effect of financial regulations on lending and other activities, a key part of the cost-benefit analysis of MPP.

Other staff members and policy-makers were less sanguine about the impact of strategic incentives on the content of regulatory data. As one individual with Fed policy-making experience said, ‘It’s a classic case of asymmetric information and when you are dealing with regulation it’s important to get the details right. You know that the banks have a strategic interest in not giving you the real information, but you need *some* information.’ Another individual said, ‘We all agree on the lack of data. If you want to find out about a given institution, you go to the examiners’ reports. They ask a bank about, for instance, their exposure to Europe, and then the bank says, “Oh we really have this under control, we have this exposure to...” and the reports are completely non-comparable.’ Thus, and in MPP, unlike for monetary policy, the Fed is heavily reliant upon data inputs from the regulated industry (see [McCarty, 2013](#) on the likely consequences for regulatory forbearance).<sup>35</sup>

For one journalist with whom I spoke, this information dependence helped explain the success of the financial sector in lobbying the Fed prior to the crisis, particularly in respect to consumer protection. ‘Data is a compelling form of argument for the Fed. During the housing bubble, consumer groups would regularly come to the Fed and give numbers of instances in which flawed mortgages were sold in violation of Fed lending laws. And the Fed would check this with the housing finance providers and they would say “here are the numbers on loan delinquencies and these are a few, isolated incidents” and the Fed would turn around and say “These are isolated incidents and here’s the data.” And the industry won that battle by seven touch downs.’ He said, ‘The Fed is disinclined to give any credence to anecdotes – thus they can write-off the London Whale.’

Next, and related to labor inputs, observers mentioned that the Fed has only since 2009 had an economist as the head of the Banking Supervision Division at the Board of Governors.<sup>36</sup> Prior to that time, the divisions within the Fed that dealt with regulation and supervision were far less prestigious, partly because they were not the province of top-flight

economists and were less connected to the Fed's main mission. Within those divisions, regulators were professionalized, but the professional background they had gained was one that was common to, and coordinated with, the broader set of banking sector regulators in the US.<sup>37</sup>

Moreover, and because macro-prudential policy is still an emerging body of knowledge, there is little sense in which the Fed can base claims for leadership on the kind of technocratic mastery that is more apparent in monetary policy. Regulators from other agencies were universally ready to acknowledge the intellectual prowess of the Fed: 'All the best people are there', said one. Yet those close to MPP were also ready to acknowledge the extent of scientific uncertainty. One source said as an aside 'It's a squishy science', while another estimated that 'It will take a whole generation to establish core models [of systemic risk]'. The Fed Governor most closely associated with Fed policy on financial regulation, and who was widely admired by different sources, is Daniel Tarullo, whose primary professional qualification is as a lawyer. In an environment of intellectual uncertainty, then, and in which economists do not have a monopoly on policy expertise, it is harder for the Fed, as a leading employer of research economists, to argue that it should be 'primer inter pares' among financial regulators.

Finally, and while the policy tools that are available to the Fed, and are listed in Dodd-Frank, sound highly specialized (including loan to value ratios, capital buffers, contingent capital, and dynamic provisioning) they are all in essence a form of regulation. They prescribe for banks (and SIFIs) what kind of liquidity or capital ratios they should employ rather than enacting changes in the market directly, as with open market operations. Because those regulations must be enacted under the ambit of the original Dodd-Frank legislation, affected interest groups have a number of opportunities to study proposed regulations and prepare their opposition long before actual implementation, with comment periods prescribed under the Administrative Procedures Act. Thus the tools employed in MPP offer more opportunity for effective challenge.

Moreover, the other banking agencies, particularly the OCC, have also been involved in setting and implementing capital ratios as part of previous rounds of the Basel Accords. Because of this, the Fed is not the only institution involved in the debate about appropriate MPP and, as such, is not the only actor establishing what Carpenter (2010a) calls the moral and legislative understanding of MPP. Other financial regulators also affect public debate on the proper regulation of the largest financial institutions. For instance, and throughout 2013, Jeremiah Norton, one of the Directors of the FDIC, gave speeches and interviews in which he called for US financial regulators to adopt more 'robust' restrictions on leverage than those foreseen in Basel III and called on the Fed in particular to allow new regulations to be issued prior to the finalization of the Basel III agreements.<sup>38</sup>

To summarize, in implementing MPP, the Fed does not hold the advantage of mastery over specialized tools, for which it is the monopoly provider. In the regulatory realm, the Fed's activities are closer to ordinary agency politics. In the case of monetary policy, successful Chairmen have been able to construct reputations as an all-knowing seers. When in-coming Governor of the Bank of England, Mervyn King, asked Volcker if he had any advice for a new central banker, the Chair apparently whispered in his ear a one-word answer, 'Mystique' (see Lindsey *et al.*, 2005: 74). Chairman Greenspan was known as the 'maestro' with one former governor commenting that Congressional committees withheld tough questions because they were so awed by his reputation. In the case of MPP, there are many other agencies available to provide a counter-narrative to the Fed's version of events, reducing the extent to which it can project an esoteric authority.

Perhaps that is why regulators and policy-makers always distinguished the worlds of monetary policy and MPP, even though they could not always put a finger on why this should be so. One former Fed policy-maker said that he never felt, as a governor, that monetary policy was affected by the political process but he did feel that politics was more 'invasive' on the regulatory front. One staffer said of monetary policy (in comparison to MPP), 'it's more Olympian, detached.'

### B. The Mobilization of Opposition

In this section, I take up the comparison between the mobilization of the opposition to monetary policy and that seen, or likely to be seen, in MPP. Many interview subjects averred that MPP would meet with opposition from affected firms, particularly as the SIFI designation was applied to firms outside the small group of the largest bank holding companies, and that this opposition would exceed what could be expected from monetary policy. 'The financial utilities know they have to be part of the program,' said one, 'You wait until they start going after the insurance firms.' The role for political science, though, is to consider why this might be so and what factors can help us to predict the extent to which firms will be able to mobilize support in Congress and dilute the regulations that are issued under Dodd-Frank.

A first answer is that the costs of MPP are focused on a relatively small set of large and concentrated enterprises – even more so than with the construction and auto firms that protested high real interest rates in 1981 and 1982. Because the firms slated for categorization as SIFIs, and for heightened supervision under Dodd-Frank, are large and interconnected with the financial sector overall, the active use of MPP in the US means applying higher capital ratios to very large, concentrated entities, during

the upswing of the credit cycle.<sup>39</sup> The firms that face those costs are easily able to overcome the collective action issues in political mobilization. As such, and as Olson (1965) would predict, we should expect effective lobbying from regulated firms, either individually or severally. Many interview subjects, for instance, mentioned the potential role of the Clearing House. This trade association of 17 of the world's largest commercial banks was active in lobbying for delay of the Basel III accords, with the implementation of new Basel III capital ratios delayed from the proposed start of 1 January 2013 and threatened with a quantitative impact analysis by the US Congress.<sup>40</sup> Other interest groups that represent the largest financial firms include the Financial Services Forum (bringing together 18 CEOs from the largest and most integrated financial service companies), and the Financial Services Roundtable, representing 100 of the largest financial firms.

One indicator that the financial sector *has* mobilized to influence the shape of regulation that is issued under Dodd-Frank comes from data on lobbying expenditures. If the financial sector is threatened by the prudential supervision envisaged under Dodd-Frank, then we would expect lobbying expenditures to rise contemporaneous with and following the passage of that act. Second, we would expect that the largest financial firms (and the interest groups representing them) would play a predominant role in that lobbying. Using data from the Center for Responsive Politics (CRP), I ask how much overall lobbying expenditures have risen and whether the role of the largest firms has increased.<sup>41</sup> I look particularly at financial firms that are banks, asset managers or broker dealers. In 1998, the first full year for which data is available, those firms spent \$92 million annually on lobbying on financial sector issues. Expenditures rose strongly after 2000, reaching \$146 million in 2007, and continued rising following the passage of Dodd-Frank in 2010. Expenditures for 2012, the last full year for which data is currently available, were \$167 million, near the highest on record.<sup>42</sup>

Moreover, and although the number of companies lobbying also rose over time, the role of the largest companies and the interest groups that represent them remained central. Those companies with equity over \$5 billion, and groups representing larger financial firms, accounted for approximately half of all lobbying expenditures in 2012 even though there were just 43 such lobbying clients out of a total of 309 banking and financial firms and groups lobbying. Indeed, just six large companies and interest groups that all spent over \$5 million account for nearly *one-quarter* of all lobbying expenditure in 2012.<sup>43</sup> A very small group of large financial firms, in other words, and the interest groups allied with them, are a major force in lobbying on financial policy.

What if anything does this lobbying expenditure buy, since evidence of lobbying is not synonymous with evidence of influence? Certainly,

contributions from financial firms have been seen to influence Congressional votes in the past. Broz (2005) and Broz and Hawes (2006) show the significant role of contributions in explaining votes on financial rescues in Mexico and Asia in the 1990s while Mian *et al.* (2010) indicate the effect of contributions from the mortgage industry in votes on housing. Beyond this, though, the case of HR 992, the House of Representatives' 'Swaps Regulatory Improvement Act', indicates the openness of Congress, and particularly the House, to industry influence. The House Financial Services Committee (the House's banking committee) approved HR 992 in May 2013 (with all but six Democrats joining 31 Republicans in approving the text of the legislation). The bill relates to the 'swaps pushout' provision championed by Senator Blanche Lincoln as part of the original Dodd-Frank legislation. That provision required most derivatives activity to be quarantined in separate company units that did not benefit from the insurance offered to banking institutions holding customer deposits. General support for the bill in the House, however, ebbed when journalists for the *New York Times*, working on the basis of emails provided to them by an unnamed source, revealed that the recommendations of Citigroup lobbyists were reflected in more than 70 lines of the committee's 85-line bill. 'Two crucial paragraphs,' report the authors, 'prepared by Citigroup in conjunction with other Wall Street banks, were copied nearly word for word. (Lawmakers changed two words to make them plural).'<sup>44</sup>

HR 992 would have exempted many, if not most, derivatives transactions from the pushout rule. Partly related to the publicity received by the bill, a smaller percentage of Democrats supported the bill in the full house (along with almost all Republicans). A total of 70 Democrats did, however, vote in favor of HR 992, which passed the House by a vote of 292–122. The Senate has yet to vote the bill out of committee and, given Democratic leadership of the Senate, it seems unlikely that it will become law unless and until Senate leadership shifts.

I focus on the case of HR 992 for four reasons. First, and while the lead agency on regulating swap and derivative activities was not the Federal Reserve but the Commodity Futures Trading Commission (CFTC), the case is interesting in part because it indicates the risk of legislative override to activist agencies. The CFTC had been seen as robust in its implementation of Dodd-Frank but saw its budget cut by Congress far below the level that then CFTC Chairman Gary Gensler had requested in 2013 in order to undertake annual examinations of compliance with Dodd-Frank.<sup>45</sup> Second, the case indicates the influential role that lobbying can play in a setting in which legislators are under intense time pressures and are not always able to master the technical background of financial regulation. The same article that revealed the extent of paraphrasing from the Citigroup lobbyists' original text also quoted industry officials

as acknowledging their drafting role but adding that the practice is standard in Washington. 'We will provide input if we see a bill and it is something we have interest in', said Kenneth Bentsen, president of the Securities Industry and Financial Markets Association (SIFMA). Third, it underscores that the House Financial Services Committee is particularly receptive to industry representatives, in part because of its size and its large share of junior members who are reliant on the financial sector for campaign contributions (see Schonhardt-Bailey, 2013: 420–21)). Fourth, and finally, the story also indicates the role that exposure and publicity can play. As the original *New York Times* story on the sources of bill language was repeated elsewhere, support among Democrats declined. That is consistent with comments from journalists who said of the two 'public-interest' style interest groups for financial reform – Better Markets and Americans for Financial Reform – 'they don't usually have much influence but sometimes they yell and scream and shame the regulators'.

Can the kind of legislative over-ride exemplified by HR 992 affect regulatory outcomes and will agencies like the Fed be cowed? This question is particularly appropriate because sources placed the likelihood of HR 992 ultimately becoming law at virtually nil, at least for the foreseeable future. Despite the low likelihood of passage, journalists covering financial regulation said that it has a 'chilling' effect on regulators. I asked if that were true of the Fed, which is considered more independent than other financial regulators because of its separate and independent funding source. Even the Fed, said more than one source, was affected. 'It's a dynamic game... they're worried about tomorrow...' and 'Despite the funding they are still affected by the pressure and the rhetoric.'

The concentration of the regulated industry, and the number of entry points by which financial firms may lobby to impede or reverse financial regulations helps to explain why the mobilization of opposition should be more sustained in the case of MPP than it was for monetary policy. Yet, and even in the monetary case, the distributive effects of monetary policy ultimately gave rise to organized opposition from affected interest groups, with this diminishing only when the effectiveness of the policy tools was proved. What was also important in the earlier case, however, was that the broadly diffused costs of inflation had become an electoral issue, acting as a counterweight to the protests, and contributions, of affected industries. Further, partisan interests in monetary policy were well-defined, reducing the potential for bi-partisan congressional coalitions in favor of political control of the Fed. Given the lobbying influence of the banking sector in the US, the prospects for implementation of MPP are likely to depend on the same factors. In other words, are there existing partisan or electoral commitments to financial sector regulation that structure the legislative environment and

impede the formation of a congressional coalition that pushes back on the Fed?<sup>46</sup>

It is here that the lack of a fully developed intellectual understanding of MPP as a new paradigm could be the most telling. In the absence of a fully-fleshed out causal account of risk and financial crises, groups or individuals may not yet be able to identify their preferences over MPP quickly or easily. Members of Congress have clearly been able to identify their constituent interests, with members from districts with a heavy bank presence more likely to sit on the House or Senate banking committees, and members with a high proportion of sub-prime borrowers more likely to vote to ease sub-prime borrowing (Schonhardt-Bailey, 2013; Igan *et al.*, 2011). Yet analysis of voting over different legislative acts that bear on financial regulation shows no clear, consistent partisan or ideological coalition on systemic risk. Broz (2005, 2012) finds that conservatism is associated with votes against assistance under the Troubled Asset Relief Program (TARP) to foreign banks and against the international rescues of the 1990s that aided money-center banks. On the other hand, Republican members in the House were nearly completely unified in their support of the Swaps Regulatory Improvement Act, which clearly aided banks and increased the leeway for more speculative transactions. Earlier landmark acts on financial *deregulation* (such as 1999's Gramm-Leach-Bliley Act that reversed Glass-Steagall) were passed with broad bipartisan support. It does not appear, in other words, as though there is a consistent partisan or ideological cleavage that has formed in Congress around issues of financial risk or in support of or opposition to the financial sector. As such, there are fewer veto points to prevent legislative over-ride of financial regulations.<sup>47</sup>

Where does this leave the Fed in its interactions with the financial sector and its ability to carry out the charge for MPP that was laid at its door by the Dodd-Frank Act? Every source with whom I spoke noted that the Fed was, truly, in a different setting following the crisis. This was true intellectually, in that the Fed no longer hewed to a worldview of self-correcting financial markets, and thus politically, 'A decade ago, at the Fed', said one journalist, 'the [banking] CEOs were friends and collaborators. Now they are problems that need to be managed.' Yet in carrying out its mandate, the Fed confronts two forces. The first is consistent industry pressure to weaken financial regulation, lessen industry costs and reduce restrictions on financial transactions. The second is an intermittent and unpredictable populist reaction to financial scandals that calls for decisive reform. This populist reaction, embodied in legislative proposals like the 2013 Brown-Vitter bill, is unlikely to culminate in any, imminent legislation but it serves to bring issues of financial risk and regulatory responsibility back into the limelight.<sup>48</sup> In response, the Fed has to balance the competing risks of two sources of potential legislative challenge,

with Congressional action potentially triggered by contributions from the regulated industry or by populist responses to apparent instances of regulatory failure. ‘The Fed wants to act by its own stars’, said one source, ‘It does not want other rules to be imposed on it. Thus, the Fed has to avoid making Congress so angry that it will impose new rules.’ Last, and given the political challenges outlined above, it might be thought that a central bank would segment the policy area of MPP from that of its ‘core business’ of monetary policy. In so doing, it could limit any ill-effects to its reputation from the implementation of MPP. A key point to consider, however, for the future structuring of central bank operations, is that monetary policy and financial risk are increasingly seen as inter-related. An emerging field of study within monetary economics highlights the transmission mechanism from monetary policy to real outcomes through credit risk (Borio and Zhu, 2012). As interest rates fall, individuals undertake a ‘search for yield.’ The sources of that yield may contribute to risk in ways that are not visible to market participants and not priced into assets, setting the scene for higher overall risk and financial crises. Given the potential link between interest rates and systemic risk, the Fed cannot operate monetary policy solely with an eye on inflation. Instead, the Fed will have to care about the management of risk in the financial sector and the indicators of systemic risk, even when deciding monetary policy. There is little potential, in other words, for segregating monetary policy actions from considerations of MPP and thereby shielding central banks from political conflicts over appropriate macro-prudential policy.

## V. CONCLUSION

The recent, great financial crisis of 2007–8 could have been a body blow to the reputation and powers of the Fed and other central banks. Instead, and fascinatingly, it was not. Given the lack of alternative actors who could have played an equivalent role in maintaining liquidity (and confidence) in the financial sector, the Fed gained a pre-eminent position, often referenced as a fourth branch of government. An extension to that role came with new responsibilities for defending overall financial stability. The relevant targets for MPP, however, include a set of financial institutions that are already well-poised to press their arguments in the halls of Congress. The actions that the Fed could take to preserve financial stability would have direct costs to those actors. The connection to Fed independence is obvious.

The literature that advocates for greater central bank independence has often treated that independence as following fairly easily from initial legislative changes. A second generation of scholarship has made independence endogenous, highlighting the institutional factors that increase the incentives to delegate and inhibit attempts at subsequent

political control (Posen, 1995; Keefer and Stasavage, 2003). That analysis is particularly important as central banks take on new mandates. In this essay, I have treated Fed independence as a specific instance of the more general phenomenon of agency autonomy and have clarified the political and organizational factors that enabled the Fed to act more autonomously and implement tough anti-inflation policy under Volcker's leadership. I have done so in order to conduct a more considered appraisal of the Fed's potential autonomy in the operation of MPP. That assessment is sobering. The Fed possesses no macro-prudential analog to open market operations and no monopoly control over the policy instruments of MPP. Moreover, there is little evidence to date of structured ideological coalitions, or partisan attachments, on issues of financial sector risk that could act as a countervailing force to mobilization by regulated firms. The analysis, then, casts doubt on whether macro-prudential regulation, by the Fed or others, can meet the expectations raised by Dodd-Frank. That analysis also highlights, however, that the impact of the financial crisis on the Fed was not limited to MPP. The experience of crisis has also altered intellectual understandings of monetary policy. Because of the links that are increasingly drawn between monetary policy and risk, the Fed is unlikely to retain the role of a technocratic agency, guided by a relatively narrow concern with price stability. It has been relatively easy for the Fed, given this role, to maintain its independence, at least after the success of the Volcker Revolution brought credibility to the Fed's policies.

The final point made in this paper is that the assumption that MPP should be given to the Fed because of its existing reputation is flawed – the new mandate can in turn affect the reputation. The point, however, may be moot. If the shifting understanding of monetary policy holds, and becomes authoritative, then the prior quarter-century of experience of a highly independent, and seemingly technocratic Fed may come to seem more the exception than the rule. Macro-prudential policy, then, rather than standing as a new and radical departure for the Fed's policy model, would herald a turn 'back to the future', of more contested policy-making for the Fed and a more fractious relationship with its political masters.

### ACKNOWLEDGEMENTS

An earlier version of this paper was presented at the conference on 'Governing the Fed: The Politics of Economic Policy', Oxford University, 5 October 2012. I am grateful to Mark Schneider, Akshay Menon and Long Tran for research assistance and to Alexandra Cirone, Desmond King, Matias Mednik, Guillermo Rosas, David Rueda, Hugh Sansom,

Cheryl Schonhardt-Bailey, Michael Schwam-Baird, Meredith Wilf, conference participants and others for their comments and suggestions.

## NOTES

- 1 From this point on, the phrase ‘the Federal Reserve’ or ‘the Fed’ will be used to refer to the Federal Reserve System comprising the Board of Governors and regional Reserve Banks.
- 2 For an explanation of the diffusion of MPP concepts, see Baker (2013). For a discussion of changing mandates at the Fed and the need for new policy tools, see Reinhart and Rogoff (2013).
- 3 This attribute is distinct from the concept of bureaucratic discretion, see Carpenter (2001).
- 4 See Adrian and Shin (2010), Borio (2011), Goodhart (2010).
- 5 This is analogous to what Elliott *et al.* (2013) refer to as ‘cyclical MPP.’
- 6 See joint comments from the American Bankers’ Association, the Financial Services Round Table and the Securities Industry and Financial Markets Association (SIFMA) on ‘Proposed Supervisory Guidance on Regulatory Capital,’ at: <[http://www.federalreserve.gov/SECRS/2013/October/20131030/R-1460/R-1460\\_102113\\_111426\\_419056220901\\_1.pdf](http://www.federalreserve.gov/SECRS/2013/October/20131030/R-1460/R-1460_102113_111426_419056220901_1.pdf)>.
- 7 Leverage Ratios – Leavened: Regulators go easy on Europe’s Overstretched Banks,’ *The Economist*, 18 January 2014.
- 8 These interviews were anonymous and designed to yield personal rather than official views. In order to maintain anonymity, I do not include identifying descriptions, including agency of employment. I spoke with staff members at the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC) in addition to staffers at the Board of Governors, two of the Regional Reserve Banks of the Federal Reserve System and the Office of Financial Research. I also spoke with a number of former Fed Governors.
- 9 See Ron Paul’s bill, HR 1207, the Federal Reserve Transparency Act introduced in February 2009. The bill threatened Fed independence through its provisions for wider monitoring and oversight.
- 10 See <<http://www.federalreserve.gov/newsevents/testimony/bernanke20090724a.htm>> for Chairman Bernanke’s testimony and ‘The Right Reform for the Fed,’ by Ben Bernanke, *Washington Post*, 29 November 2009.
- 11 This argument also assumes that the Fed is the appropriate macro-prudential supervisor. For discussions of the institutional location for macro-prudential policy, see Blinder (2010), Feldstein (2010) and Goodhart (2012).
- 12 The House Committee is formally the House Financial Services Committee while its Senate analog is the Committee for Banking, Housing and Urban Affairs but both are informally described as banking committees. Dodd-Frank was ultimately passed in July 2010.
- 13 The only institutional change for *banking* regulation with Dodd–Frank was the formal closure of the Office of Thrift Supervision (OTS) and the roll-in of its functions and personnel into the OCC. The largest general institutional change within Dodd-Frank was the creation of the Consumer Financial Protection Bureau.
- 14 The Dodd-Frank Act of 2010 did, however, create a new agency, the Office of Financial Research (or OFR), as a bureau of the Treasury, charged with data collection and analysis for the financial system as a whole.

- 15 The 10 voting members of the FSOC (there are five non-voting members) are the Secretary of the Treasury, who chairs the Council, the Comptroller of the Currency, the chairs of the Federal Reserve, the Securities and Exchange Commission (SEC), the FDIC, the Commodity Futures Trading Commission (CFTC), and the National Credit Union Administration Board, and the Directors of the Bureau of Consumer Financial Protection and the Federal Housing Finance Agency, plus an independent member with insurance expertise.
- 16 The Treasury's 'Green Book' report of 2009 describes SIFI's as 'Tier 1 Financial Holding Companies' or FHCs, but the import is equivalent.
- 17 See Section 113, Dodd-Frank Act.
- 18 The broader literature on delegation and autonomy stresses both ex ante and ex post political control, with ex ante influence via the appointment of personnel and ex post control exercised through oversight and the potential for legislative override.
- 19 See Carpenter (2010a) for a deep, qualitative account of the development of expertise at the FDA, and Kiewiet and McCubbins (1991) on different aspects of the delegation decision. Huber and McCarty (2004) and Gailmard and Patty (2007) consider the incentives for agencies to invest in expertise in order to increase their autonomy.
- 20 Carpenter (2001: 5).
- 21 In the latter case, divided government increases the attractiveness of agency independence for Congress because it ensures that the administration cannot directly control policy.
- 22 See canonical work by Stigler (1971) and Peltzman (1976).
- 23 The primary legislative acts governing the Fed are the Federal Reserve Act of 1913 and the Banking Acts of 1933 and 1935, the last of which was particularly important for the composition of the Federal Open Market Committee.
- 24 There is an extensive political science literature on political influences in Fed policy-making. See Mayer (1990) for references and Todd (2012) and Meltzer (2009b) for examples of different types of pressure.
- 25 That the Volcker Chairmanship marked a distinct break in Fed policy is confirmed by econometric analyses of structural breaks in monetary policy, see Duffy and Engle-Warnick (2006) and references therein.
- 26 The FOMC is the key decision-making body on monetary policy in the Fed and is composed of the seven members of the Federal Reserve Board of Governors (including the Chair) and all 12 Presidents of the Federal Reserve Banks. Only five of those Presidents have voting rights at any time, with the President of the FRBNY having one vote and the four remaining votes rotating among the other Presidents.
- 27 Bailey and Schonhardt-Bailey (2008) and Silber (2012) separately describe how Volcker presented the switch in policy to FOMC members as an instance of 'credible commitment' rather than as a monetarist approach per se. In achieving agreement on a new approach, Volcker was, however, aided by a growing consensus within the economics discipline that inflation should be viewed as a monetary phenomenon. Meltzer (2009b) suggests that Modigliani's address to the 1976 AEA meetings marked the emergence of this new consensus.
- 28 The Fed had conducted 'open market operations' since 1922, when it was first used as a means of maintaining asset levels at Reserve Banks (Timberlake, 1993: 261).

- 29 See Woolley (1984: 104) on the political arguments for adopting the aggregates approach.
- 30 See Vincent Reinhart, 'Geithner and Bernanke are Wrong About the Fed', *The American*, 31 March 2010. Available at [http://www.american.com/archive/2010/march/geithner-and-bernanke-are-wrong-about-fed-power/article\\_print](http://www.american.com/archive/2010/march/geithner-and-bernanke-are-wrong-about-fed-power/article_print), accessed 20 August 2012.
- 31 One individual indicated that this was because a post at the Fed enabled a young economist to maintain the option of returning to academia whereas employment at other banking agencies generally precluded any such return.
- 32 Ryan Grim, 'Priceless: How the Federal Reserve Bought the Economics Profession', *Huffington Post*, first posted 23 October 2009, accessed at [http://www.huffingtonpost.com/2009/09/07/priceless-how-the-federal\\_n\\_278805.html](http://www.huffingtonpost.com/2009/09/07/priceless-how-the-federal_n_278805.html) on 22 February 2013.
- 33 Kettl (1988: 55) describes how Secretary Morgenthau attended a meeting of the FOMC and said, 'Now I never threaten', but added that he hoped the FOMC would 'use the mechanisms which you have and give us an orderly market, or the government will and that's the whole story'.
- 34 See Schonhardt-Bailey (2013) who emphasizes that criticism of the Fed has been reflected in Congressional language about the *institutional* structure of the Fed and changes to it. More dependent central banks have been characterized by political quiescence (and direct political control) but rarely if ever do governments seek to undertake monetary operations themselves.
- 35 The OFR was established specifically to collect and analyze data on the financial sector but has faced delays in its operation with its Director confirmed only in early 2013.
- 36 This was Patrick Parkinson, who was appointed in October 2009.
- 37 For example, the Federal Financial Institutions Examination Council works to ensure that bank exams are consistent across the examining bodies.
- 38 See Shahien Nasiripour, 'US Regulator Demands Stricter Bank Loan Ratio', *Financial Times*, 5 February 2013 and Gretchen Morgenson, 'A Roadblock to Brawny Bank Reform', *New York Times*, 4 January 2014.
- 39 Carpenter (2011) also points to the role of a small number of financial firms that dominate the sector.
- 40 Lobbying was also seen from the American Bankers Association, the Securities Industry and Financial Markets Association (SIFMA) and the Financial Services Roundtable, see Jesse Hamilton, 'Basel III Start Delayed as Bank Regulators Review Comments', *Bloomberg*, 9 November 2012.
- 41 See opensecrets.org. In order to identify large firms, I use data from Compustat to isolate the financial sector companies that are 'large' using different metrics, either having a value of equity of more than \$5 billion (the criteria used by Acharya *et al.*, 2012), having total assets of more than \$50 billion (the threshold used by the FSOC to determine whether a bank holding company is a SIFI), or having total assets of more than \$100 billion (which was the threshold used for the original round of SCAP stress tests). Under the broadest criteria, there are approximately 100 US companies that can be described as large financial firms, and about another 20–30 foreign firms with operations in the US. In identifying the interest groups that represent the largest firms, I rely on interview sources and the record of comments made from different interest groups.
- 42 Lobbying amounts are given in real, US Dollars with 2009 as the base year.
- 43 Those firms and groups are the American Banking Association, Citigroup, the Financial Services Roundtable, J.P. Morgan Chase, SIFMA, and Wells Fargo.

- 44 Eric Lipton and Ben Protess, 'Banks' Lobbyists Help in Drafting Financial Bills', *New York Times*, 23 May 2013.
- 45 Sarah N. Lynch, 'Wall Street Regulators face budget crunch under new spending deal', *Reuters*, 14 January 2014.
- 46 In the language of Kalt and Zupan (1984), will Members of Congress vote on ideological grounds rather than as pure representatives of concentrated, constituent interests or campaign contributors?
- 47 Thus this account differs in a key respect from Carpenter's (2010b) portrayal of strategic industry reaction to the financial crisis. Whereas Carpenter stresses the role of partisan veto points in obstructing more radical reform, I highlight the absence of meaningful partisan or ideological divide on financial risk as a factor contributing to vulnerability to industry capture following the enactment of Dodd-Frank.
- 48 The Terminating Bailouts for Taxpayer Fairness (or TBTF) Act.

### NOTES ON CONTRIBUTOR

**Lucy M. Goodhart** is a visiting scholar at the Weatherhead Center for International Affairs, Harvard University. Her research spans issues within international and comparative political economy with a focus on the role of central banks and banking regulation within the advanced, industrial economies.

### REFERENCES

- Acharya, Viral V., Lasse H. Pedersen, Thomas Philippon, and Matthew Richardson (2012) 'Measuring Systemic Risk', CEPR Discussion Paper No. DP8824.
- Admati, Anat R. and Martin F. Hellwig (2013) *The Bankers' New Clothes: What's Wrong with Banking and What to Do about It*, Princeton, NJ: Princeton University Press.
- Admati, Anat R., Peter M. DeMarzo, Martin F. Hellwig, and Paul Pfleiderer (2013) 'The Leverage Ratchet Effect', Mimeo.
- Adrian, Tobias, and Hyun Song Shin (2010) 'Liquidity and Leverage', *Journal of Financial Intermediation* 19(3), 418–37.
- Axilrod, Stephen H. (2009) *Inside the Fed: Monetary Policy and its Management, Martin through Greenspan to Bernanke*. Cambridge, MA: MIT Press.
- Bailey, Andrew J. and Cheryl Schonhardt-Bailey (2008) 'Does Deliberation Matter in FOMC Monetary Policymaking? The Volcker Revolution of 1979', *Political Analysis* 16(4), 404–27.
- Baker, Andrew (2013) 'The New Political Economy of the Macro-prudential Ideational Shift', *New Political Economy*, 18(1): 112–39.
- Blinder, Alan (1998) *The Theory and Practice of Central Banking*, Cambridge, MA: MIT Press.
- Blinder, Alan (1999) 'Central Bank Credibility: Why Do We Care? How Do We Build It?' NBER Working Paper Number 7161.
- Blinder, Alan (2010) 'How Central should the Central Bank Be?' *Journal of Economic Literature*, 48(1): 123–33.
- Borio, Claudio E.V. and Mathias Drehmann (2009) 'Towards an Operational Framework for Financial Stability: 'Fuzzy' Measurement and Its Consequences', Bank for International Settlements, Working Paper No. 284.

- Borio, Claudio (2011) 'Implementing the Macro-Prudential Approach to Financial Regulation and Supervision', in Christopher J. Green *et al.* (eds) *The Financial Crisis and the Regulation of Finance*, Cheltenham, UK: Edward Elgar.
- Borio, Claudio and Haibin Zhu (2012) 'Capital Regulation, Risk-Taking and Monetary Policy: A Missing Link in the Transmission Mechanism?' *Journal of Financial Stability*, 8(4): 236–51.
- Broz, J. Lawrence (2005) 'Congressional Politics of International Financial Rescues', *American Journal of Political Science* 49(3): 479–96.
- Broz, J. Lawrence and Michael B. Hawes (2006) 'US Domestic Politics and International Monetary Fund Policy', in Darren G. Hawkins (ed.) *Delegation and Agency in International Organizations*, Cambridge: Cambridge University Press.
- Broz, J. Lawrence (2012) 'The Federal Reserve as Lender of Last Resort: 2007–2010', Paper prepared for the Annual Meetings of the International Political Economy Society.
- Callander, Steven (2008) 'A Theory of Policy Expertise', *Quarterly Journal of Political Science*, 3(2): 139–69.
- Carpenter, Daniel P. (2001) *The Forging of Bureaucratic Autonomy: Reputations, Networks, and Policy Innovation in Executive Agencies, 1862–1928*, Princeton, NJ: Princeton University Press.
- Carpenter, Daniel P. (2010a) *Reputation and Power: Organizational Image and Pharmaceutical Regulation at the FDA*. Princeton, NJ: Princeton University Press.
- Carpenter, Daniel P. (2010b) 'Institutional Strangulation: Bureaucratic Politics and Financial Reform in the Obama Administration', *Perspectives on Politics*, 8(3): 825–46.
- Carpenter, Daniel P. (2011) 'The Contest of Lobbies and Disciplines: Financial Politics and Regulatory Reform', in Theda Skocpol and Lawrence R. Jacobs (eds) *Reaching for a New Deal: Ambitious Governance, Economic Meltdown, and Polarized Politics in Obama's First Two Years*, New York: Russell Sage Foundation.
- Duffy, John and Jim Engle-Warnick (2006) 'Multiple Regimes in US Monetary Policy? A Nonparametric Approach', *Journal of Money, Credit and Banking*, 38 (5): 1363–77.
- Elliott, Douglas J., Greg Feldberg and Andreas Lehnert (2013) 'The History of Cyclical Macroprudential Policy in the United States,' Finance and Economics Discussion Series Staff Paper 2013-29, Divisions of Research and Statistics and Monetary Affairs, Washington DC: Federal Reserve Board.
- Epstein, David and Sharyn O'Halloran (1999) *Delegating Powers: A Transaction-Cost Perspective on Policy Making Under Separate Powers*, New York: Cambridge University Press.
- Feldstein, Martin (2010) 'What Powers for the Federal Reserve?' *Journal of Economic Literature*, 48 (March): 134–45.
- Gailmard, Sean and John Patty (2007) 'Slackers and Zealots: Civil Service, Policy Discretion and Bureaucratic Expertise', *American Journal of Political Science*, 51 (4): 873–89.
- Gilligan, Thomas W. and Krehbiel, Keith (1987) 'Collective Decision-Making and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures', *Journal of Law, Economics and Organization*, 3(2): 287–335.
- Goodhart, Charles Albert Eric, (2010) 'Is a Less Pro-Cyclical Financial System an Achievable Goal?' *National Institute Economic Review*, 211(1): 81–90.
- Goodhart, Charles Albert Eric (2012) 'The Macro-Prudential Authority: Powers, Scope and Accountability', Mimeo.
- Haas, Peter M. (1992) 'Epistemic Communities and International Policy Coordination', *International Organization*, 46(1): 1–35.

- Haldane, Andrew G. (2009) 'Small Lessons from a Big Crisis', Remarks at the Federal Reserve Bank of Chicago 45th Annual Conference, Chicago, May 2009, see <http://www.bankofengland.co.uk/publications/Documents/speeches/2009/speech397.pdf>.
- Havrilesky, Thomas (1995) *The Pressures on American Monetary Policy*, 2nd ed., Norwell, MA: Springer.
- Hibbs, Douglas A. (1977) 'Political Parties and Macroeconomic Policy', *American Political Science Review*, 71(4): 1467–87.
- Hibbs, Douglas A. (1989) *The American Political Economy: Macroeconomics and Electoral Politics*, Cambridge, MA: Harvard University Press.
- Huber, John and Nolan McCarty (2004) 'Bureaucratic Capacity, Delegation and Political Reform', *American Political Science Review*, 98(3): 481–94.
- Igan, Deniz, Prachi Mishra and Thierry Tiesel (2011) 'A Fistful of Dollars: Lobbying and the Financial Crisis', NBER Working Paper No. 17076.
- Kalt, Joseph P. and Mark A. Zupan (1984) 'Capture and Ideology in the Economic Theory of Politics', *American Economic Review*, 74(3): 279–300.
- Kapstein, Ethan B. (1992) 'Between Power and Purpose: Central Bankers and the Politics of Regulatory Convergence', *International Organization*, 46(1): 265–87.
- Keefer, Philip and David Stasavage (2003) 'The Limits of Delegation: Veto Players, Central Bank Independence, and the Credibility of Monetary Policy', *American Political Science Review*, 97(3): 407–23.
- Kettl, Donald (1988) *Leadership at the Fed*, New Haven, CT: Yale University Press.
- Kiewiet, D. Roderick and Mathew D. McCubbins (1991) *The Logic of Delegation: Congressional Parties and the Appropriations Process*, Chicago: University of Chicago Press.
- Lindsey, David E., Athanasios Orphanides, and Robert H. Rasche (2005) 'The Reform of October 1979: How it Happened and Why' Finance and Economics Discussion Series Staff Paper 2005-2, Divisions of Research and Statistics and Monetary Affairs, Federal Reserve Board, Washington, DC.
- McCarty, Nolan (2013) 'Complexity, Capacity, and Capture', in Daniel Carpenter and David Moss (eds) *Preventing Regulatory Capture: Special Interest Influence and How to Limit It*, Cambridge: Cambridge University Press.
- McCubbins, Mathew D. and Thomas Schwartz (1984) 'Congressional Oversight Overlooked: Police Patrols versus Fire Alarms', *American Journal of Political Science* 28(1): 165–79.
- Mayer, Thomas (ed.) (1990) *The Political Economy of American Monetary Policy*, Cambridge: Cambridge University Press.
- Maxfield, Sylvia (2011) 'US Financial Regulations circa 2010: The Coup de Grace of Dodd and Frank's Legislative Careers?' *European Political Science*, 10: 393–401.
- Meltzer, Allan H. (2009a) *A History of the Federal Reserve, Volume 2, Book 1, 1951–1969*, Chicago, IL: University of Chicago Press.
- Meltzer, Allan H. (2009b) *A History of the Federal Reserve, Volume 2, Book 2, 1970–1985*, Chicago, IL: University of Chicago Press.
- Mian, Atif, Amir Sufi and Francesco Trebbi (2010). 'The Political Economy of the Subprime Mortgage Credit Expansion', NBER Working Paper No. 16107.
- Mishkin, Frederic A. (2009) 'The Financial Crisis and the Federal Reserve', Mimeo.
- Olson, Mancur (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge: Harvard University Press.
- Peltzman, Sam, (1976) 'Toward a More General Theory of Regulation', *Journal of Law and Economics*, 19(3): 211–40.

- Posen, Adam (1995) 'Declarations are Not Enough: Financial Sector Sources of Central Bank Independence', reprinted in *NBER Macro-Economic Annual*, 10: 253–74.
- Reinhart, Carmen M. and Kenneth S. Rogoff (2013) 'Shifting Mandates: The Federal Reserve's First Centennial', Paper prepared for the Annual Meeting of the American Economic Association.
- Roberts, Paul C. (1984) *The Supply-Side Revolution: An Insider's Account of Policy-making in Washington*. Cambridge: Harvard University Press.
- Schiller, Wendy (1995) 'Senators as Policy Entrepreneurs: Using Bill Sponsorship to Shape Legislative Agendas', *American Journal of Political Science*, 39(1): 186–203.
- Schonhardt-Bailey, Cheryl (2013) *Deliberating American Monetary Policy: A Textual Analysis*, Cambridge, MA: MIT Press.
- Silber, William L. (2012) *Volcker: The Power of Persistence*, London: Bloomsbury Press.
- Stigler, George J. (1971) 'The Theory of Economic Regulation', *The Bell Journal of Economics and Management*, 2(1): 3–21.
- Timberlake, Richard H. (1993) *Monetary Policy in the United States: An Intellectual and Institutional History*, Chicago and London: University of Chicago Press.
- Todd, Tim (2012) *The Balance of Power: The Political Fight for an Independent Central Bank, 1790 – Present*, Kansas City: Federal Reserve Bank of Kansas City.
- US Department of Treasury (2009) 'Financial Regulatory Reform: A New Foundation', Mimeo.
- Wawro, Gregory (2001) *Legislative Entrepreneurship in the US House of Representatives*, Ann Arbor, MI: University of Michigan Press.
- Woolley, John T. (1984) *Monetary Politics: The Federal Reserve and the Politics of Monetary Policy*, Cambridge: Cambridge University Press.
- Yergin, Daniel and Joseph Stanislaw (1998) *The Commanding Heights: The Battle for the World Economy*. New York: Simon & Schuster.