

Introduction

1.1 Rules vs. Discretion Redivivus

On November 8, 2002, Ben Bernanke, then a member of the Federal Reserve's Board of Governors, gave a speech at a conference honoring Milton Friedman. Along with Anna Schwartz, Friedman's scholarship on the monetary history of the United States (Friedman and Schwartz 1963) was crucial in drawing the economics profession's attention to how monetary mismanagement helped put the "Great" in "Great Depression." Bernanke (2002) ended his speech with an institutional *mea culpa* and an important promise: "Let me end my talk by abusing slightly my status as an official representative of the Federal Reserve. I would like to say to Milton and Anna: Regarding the Great Depression. You're right, we did it. We're very sorry. But thanks to you, we won't do it again."

But the Fed did do it again. Although there was no dramatic collapse in narrow money in the early days of the 2007–2008 crisis as there was in the Great Depression, monetary mismanagement did bear a significant share of the blame for the severity of the financial crisis's effects. Part of this was before Bernanke's tenure as Fed Chairman, which began in early 2006. The inflated asset markets that began to collapse in 2007 were the responsibility of the then-Chairman Alan Greenspan's Fed (Taylor 2009; White 2012). The secondary consequences of financial collapse, however, did happen under Bernanke's watch. In key ways, the event bears an uncanny resemblance to its counterpart during the Great Depression, which Bernanke had vowed would not repeat itself. This is not an indictment of Ben Bernanke or Alan Greenspan. Bernanke and Greenspan are first-rate economists and, from what we can know from their tenures as public servants, men of integrity. The mistakes made by the Fed during the financial crisis demonstrate that it is not enough to get smart and well-intentioned

practitioners at the helm of central banks. The problem is *institutional*. Uncovering the institutional problems that plague contemporary central banking is our purpose in this book. Our thesis, in brief, is that *discretion* on the part of monetary policymakers is to blame. Discretion in monetary policy is the reason central banking fails to live up to its lofty promises of economic and financial stability.

Since the 2007–2008 financial crisis, scholars have increasingly paid attention to the relationship between monetary institutions and economic stability. While these discussions had some impact on internal operations, such as the Fed undertaking a systematic review of its strategy, tools, and communication practices (cf. Board of Governors of the Federal Reserve System 2018), the only proposals seriously considered are minor operational reforms. This is not to say monetary policy has not changed significantly. It has. The Fed's unprecedented monetary expansion and its transition from a corridor system to a floor system represent a radical break in monetary policy practice. What is curious is that this monumental shift has occurred with minimal reflection on central bank *governance*. Procedurally, little has changed.

In the academic literature, there has been an explosion of interest in topics related to unconventional monetary policy and expanded regulatory mandates for financial stability. Each of these discussions, while important, overlooks fundamental questions about central banking's institutional underpinnings. These institutional considerations are an essential part of any discussion of how central banks influence macroeconomic and financial conditions. If scholars of monetary policy want to make lasting progress, they must address these considerations head-on. We contend that existing monetary institutions have not delivered macroeconomic and financial stability because they are inherently incapable of achieving these ends. The dominant form of monetary institution in the world today is discretionary central banking. There are serious knowledge and incentive problems inherent in discretionary central banking that render it systematically unable to mitigate economic volatility, let alone stem a full-blown financial panic. In fact, we argue that discretionary central banking actually increases the likelihood that we will encounter financial instability in the first place. To put it more bluntly: The firefighters called upon to put out the fires are the very ones responsible for starting them.

Discretion on the part of monetary policymakers undermines the purposes for which we would want a central bank in the first place. We come down firmly on the side of rules in the ongoing (and seemingly interminable) debate between advocates of rules versus discretion in monetary

policy. The consensus among central bankers that discretion was preferable to a fixed rule, due chiefly to the complexities of monetary policy and the uniqueness of particular macroeconomic circumstances, was challenged by studies that recognized the strategic interaction between policymakers and market actors (Barro and Gordon 1983; Calvo 1978; Kydland and Prescott 1977). Time inconsistency emerges because monetary authorities have the incentive to deviate from nonbinding rules.¹

While macroeconomists and monetary economists came to appreciate the importance of rules, a full commitment to rules never became professional orthodoxy. Rather, the consensus that emerged was “constrained discretion” (Bernanke 2003; Bernanke and Mishkin 1997; Bianchi and Melosi 2018, p. 187; Friedman 2006). Under constrained discretion, “the central bank retains some flexibility in deemphasizing inflation stabilization so as to pursue alternative short-run objectives such as unemployment stabilization. However, such flexibility is constrained to the extent that the central bank should maintain a strong reputation for keeping inflation and inflation expectations firmly under control” (Bianchi and Melosi 2018, p. 187; see also Bernanke 2003).

Proponents of constrained discretion have a three-component solution to time inconsistency problems. First, appoint central bankers with the appropriate preexisting policy views (Herrendorf and Lockwood 1997; Lohmann 1992; Lossani et al. 1998; Persson 1993; Rogoff 1985; Romer and Romer 1997; Tillmann 2008; Waller and Walsh 1996; Walsh 1995). Second, grant appointed central bankers the necessary independence to exercise their discretion (Crowe and Meade 2007; Fischer 1995). Third, require central bank transparency (Blinder et al. 2001; Crowe and Meade 2007; Faust and Svensson 2001; Geraats 2002). Thus, constrained discretion offers the alluring promise of allowing monetary policymakers the best of both discretion and rules. It ensures the benefits of stable economic activity, especially price stability, while retaining the ability to veer from stability in the short run to combat financial turbulence. Ben Bernanke (2003), chairman of the Fed during the financial crisis, put it this way:

¹ Blinder (1998), a former governor of the Fed, argues that central bankers do not have time inconsistent incentives. Sargent (1999) provides a theoretical critique of Blinder (1998). Ireland (1999) and Berlemann (2005) empirically test for time inconsistency and find that the evidence suggests central bankers do behave in a time inconsistent fashion. McCallum (1995) argues that the government has a time inconsistency problem as well, and thus cannot be trusted to discipline the Fed.

Constrained discretion is an approach that allows monetary policymakers considerable leeway in responding to economic shocks, financial disturbances, and other unforeseen developments. Importantly, however, this discretion of policymakers is constrained by a strong commitment to keeping inflation low and stable. In practice . . . this approach has allowed central banks to achieve better outcomes in terms of *both* inflation and unemployment, confounding the traditional view that policymakers must necessarily trade-off between the important social goals of price stability and high employment.

If constrained discretion can be reasonably expected to work better than either fixed rules or complete discretion, and if many of the world's most important central banks have already adopted this operating regime, then our argument is dead before it even begins. We concede the second point but vehemently deny the first. Constrained discretion does *not* offer a viable middle ground between fixed rules and complete discretion. This is because constrained discretion is really just discretion, with all the attendant information and incentive problems therein.

Each part of the three-step solution to time inconsistency problems fails due to the epistemic limitations and misaligned incentives of central bankers. Knowledge problems render discretionary central banking not just difficult, but impossible. Discretionary central banks, as monopoly suppliers of (base) money, eliminate the market mechanisms that adjust the supply of money to changes in the demand for money. Monetary authorities, even with hundreds of Ph.D. economists at their disposal, do not have the real-time knowledge or prescience to measure and forecast changes in the demand for money in a dynamic world of macroeconomic shocks, financial innovations, and regulatory changes. This causes persistent disequilibrium in the money market; because money is one-half of all market exchanges, the result is general economic discoordination.

The knowledge problems inherent in discretionary central banking give rise to the incentive problems. If the ends and means of monetary policy are uncertain, then it gives more leeway for discretionary central bankers to adjust monetary policy to achieve other objectives. Even if the appropriate economists are appointed as central bankers, they must operate within the bureaucratic environment of a central bank, which can impel them to change their views. Central bank independence often fails in practice under pressure from executive, legislative, and special interest groups precisely because there is genuine uncertainty about the "correct" course for monetary policy. Central bank transparency, such as required testimonies, reports, and audits, often only open another channel for policymakers to exert pressure on discretionary central bankers.

We realize that this is a bold claim. It will take the rest of the book to convince our readers. In fact, it took notable scholars of monetary economics and macroeconomics, such as F. A. Hayek and Milton Friedman, nearly a lifetime of wrestling with these ideas to come to this conclusion at the end of their scholarly careers. The role of monetary policy in promulgating and then failing to stem the 2007–2008 financial crisis, however, makes a compelling case for undertaking this task.

1.2 Central Banking and Monetary Mismanagement

Our claim about the systematic inefficacy of discretionary central banking may appear outlandish. After all, the monetary economics profession regards the theory and practice of central banking as having markedly improved since the early twentieth century, and that the resulting knowledge and competence are largely responsible for increased macroeconomic stability. This narrative, while widely believed, is questionable at best. At least in the US context, recent works have called into question the supposed improvements in economic performance brought about by central banking. Although the National Banking System, which preceded the Fed, was highly flawed, we can justifiably suspect that the Fed did not improve things (Hogan 2015; Hogan et al. 2018; Selgin et al. 2012; White 2015). Economic outcomes under the classical gold standard, which prevailed internationally from 1879 to 1914, may very well have been “superior in some respects and no worse in others” (Cutsinger 2020, p. 1).

What about the Great Moderation? A case can be made that the reduction in economic volatility beginning in the mid-1980s and prevailing until the 2007–2008 crisis was due to central banking. But it is highly suspect to attribute it to *discretionary* central banking. This is because Fed policy during this era was at its most rule-like. Alan Meltzer (2014, p. 162) contends that the Great Moderation was due to the Fed’s “reliance on the Taylor rule to guide policy.”² Elsewhere Meltzer (2012, p. 630) claims that “Abandoning the rule in 2003 contributed to the housing and finance crisis that followed.” John Taylor, after whom the Taylor rule is named, concurs. Beginning in 2003, Fed policy deviated from Taylor rule-like behavior and as a result “macroeconomic policy became more interventionist, less rules

² There are studies suggesting that the Great Moderation was also caused by other factors, such as fewer destabilizing shocks (Clark 2009; Summers 2005). It is worth noting that the reduction in volatility during the Great Moderation was also accompanied by an increase in substantial economic contractions (Jenson et al. 2020; Jordà et al. 2017).

based, and less predictable” (Taylor 2010b, p. 1, emphasis removed; see also Taylor 2012, 2013). This was one of the many contributors to the 2007–2008 crisis.

Any account of this crisis must include misguided central bank policies. Those policies, in turn, resulted from central banks embracing constrained discretion. Adding the discretionary element does not improve monetary policy outcomes. Instead, it invites the kinds of mistakes that were made before, during, and after the crisis. In what follows, we briefly go over the mistakes made before the crisis, the mistakes made during and after the crisis, and what these mistakes tell us about the feasibility of central banking under constrained discretion.

1.2.1 Before the Crisis: First Too Loose

Prior to the 2007–2008 crisis, theories linking artificially low interest rates (induced by monetary policy) to the business cycle were held in low regard by the economics profession. They were endorsed by adherents of the “Austrian” school of economics (Hayek 1933 [2008], 1935 [2008]; Mises 1949, 1953), but few others.³ This has changed since the crisis. There is a growing body of literature that finds merit in the Mises–Hayek theory of the business cycle (e.g., Borio and Disyatat 2011; Caballero 2010; Calvo 2013; Diamond and Rajan 2012; Gjerstad and Smith 2014, ch. 6; Leijonhufvud 2009; Schwartz 2009; Taylor 2007, 2009, 2014; see Cachanosky and Salter 2017 for a summary and analysis). While sometimes disagreeing with specific components of the theory, belief in a link between artificially low interest rates and unsustainable economic activity is no longer untenable.

The Fed, under Alan Greenspan’s chairmanship, set the stage for the 2007–2008 financial crisis. It did so through excessively expansionary monetary policy in the years following the dot-com crash.⁴ At the start of 2001, the federal funds rate was 6.25 percent; by the end of the year, it had fallen to 1.75 percent. In 2003, the rate fell further to 1 percent. These rates were so low that *real* interest rates were negative. Furthermore, this was a significant deviation from previous rule-like behavior. This can be

³ The standard New Keynesian framework contains a link between low interest rates and a welfare-reducing expansion, but this is not a boom–bust cycle with investment errors driven by credit, as in the Austrian theory.

⁴ For a dissenting view, see Henderson and Hummel (2008). Horwitz and Luther (2011) offer a critique of that dissenting view. Also, see Taylor (2009, pp. 6–7) for an argument that a global “savings glut” cannot explain the low interest rates that preceded the crisis.

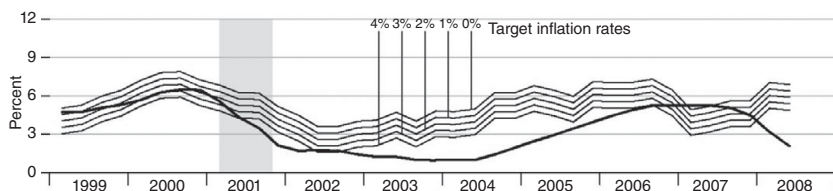


Figure 1.1. Federal funds rate and inflation targets.

Source: Federal Reserve Bank of St. Louis, *Monetary Trends* (October 2008), p. 10. Available online: <https://s3.amazonaws.com/files.research.stlouisfed.org/datatrends/pdfs/mt/20081001/mtpub.pdf>

considered in the context of the Taylor rule. Figure 1.1, taken from the Federal Reserve Bank of St. Louis's *Monetary Trends* (October 2008), shows the actual federal funds rate compared to the path it ought to have followed, had the Fed been targeting the indicated inflation rate.

As Figure 1.1 shows, before 2001, the Fed kept the federal funds rate at a level consistent with approximately 2 percent inflation. After 2001, however, deviations arose between the rate consistent with 2 percent inflation and the actual market rate. The deviations were especially pronounced from 2003 through 2005.⁵ Excessively loose monetary policy contributed to excessively easy credit, which eventually found its way into the housing sector. To be clear, monetary policy alone cannot explain why unsustainable economic activity occurred in the housing market specifically. Other public policies for which the central bank was not responsible, such as various federal policies aimed at increasing homeownership, are viable candidates (Gjerstad and Smith 2014, ch. 6; Koppl 2014; Mueller 2019). But, excessively loose money can and does explain why there was a credit bubble in the first place.

1.2.2 During and After the Crisis: Now Too Tight

The Fed, now under Bernanke's chairmanship, made the opposite mistake once turmoil developed in financial markets and began spilling over into

⁵ Bernanke (2010, 2015), Kohn (2007), Mehra and Sawhney (2010), and Orphanides and Wieland (2008) argue that a modified Taylor rule, which adjusts for inflation using the forecasted PCE rather than the CPI, does justify the Fed's course of monetary policy during this period. Nikolsko-Rzhevskyy and Papell (2013) examine modified Taylor rules and conclude that, while varying the measure of inflation and the output gap can produce a Taylor rule consistent with monetary policy from 2003 to 2005, these assumptions are not consistent with historical experience. Taylor (2010a, 2012) argues that forecasted inflation is an inappropriate measure.

the real economy. When the housing bubble burst, the Fed began drastically expanding its balance sheet in an attempt to stabilize markets. The Fed's portfolio, which totaled \$900 billion in mid-2008, grew to nearly \$3 trillion by early 2012, and then grew again to \$4.5 trillion by mid-2016. This was accompanied by a significant change in the composition of the assets held by the Fed. The Fed no longer restricted its asset purchases to short-term government debt. It instead began to purchase longer-term government debt and in a "creative interpretation of the Fed's power" (Bernanke et al. 2019, p. 50), the now infamous mortgage-backed securities.

Normally, a monetary expansion as aggressive as this would significantly increase aggregate demand, putting upward pressure on employment, prices, and output. That did not occur. This can be attributed to the Fed policy, adopted in October 2008, of paying interest on excess reserves (additional reserves above the reserve requirement) held by financial institutions in their accounts at the Fed. This was done because Fed officials were worried that the expansion of the Fed's balance sheet would result in significant growth in broader monetary aggregates, which then would result in higher-than-desirable inflation (Selgin 2019). In April 2008, core inflation was above the Fed's implicit 2 percent target, and headline inflation was even higher. But, when the Fed began paying interest on excess reserves, it essentially sterilized its monetary expansion during the early days of the crisis, arguably when the economy most urgently needed the effects of such an expansion. As a result of its interest on excess reserves policy, financial institutions did not lend out or otherwise channel the monetary injections by the Fed into the broader economy. Rather, the money sat in banks' accounts at the Fed.

The result was a precipitous decline in aggregate demand. As Figure 1.2 shows, this decline in nominal gross domestic product (aggregate demand) began with a slowdown in growth in early 2008; by late 2008 total nominal spending started to contract. The Fed failed to act decisively at the necessary time to stabilize the nominal economy because it was unduly worried about inflation. Although the Fed eventually recognized the turmoil in financial markets, beginning the first round of its quantitative easing programs in November 2008, it maintained its policy of paying interest on excess reserves, which limited the efficacy of these programs' countercyclical effects. The unemployment rate stood at 6.8 percent in November 2008; it would climb as high as 10 percent in October 2009 before declining.

Bernanke's Fed failed to live up to the promise made at the conference honoring Milton Friedman. The errors of the Great Depression-era Fed stemmed from a desire to protect external reserve drains and worries over

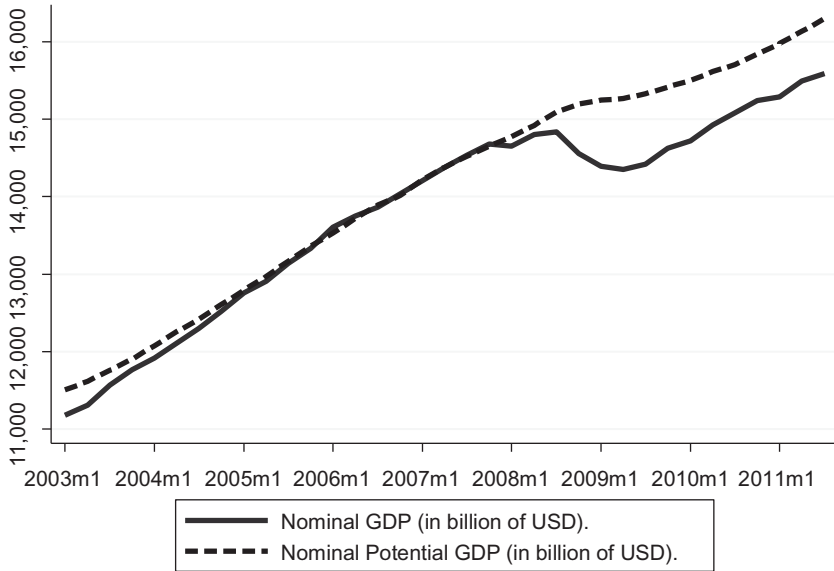


Figure 1.2. NGDP vs. potential.

Source: FRED, Federal Reserve Bank of St. Louis

excessive speculation in financial markets. In contrast, the errors of the Great Recession-era Fed stemmed from an excessive concern for inflationary trends during the early days of the crisis, followed by policies that ensured a breakdown between the Fed's monetary injections and overall economic stabilization. Although the circumstances were different, the result was the same. Once again, the Fed bears significant responsibility for the economic turmoil that developed on its watch.

1.2.3 What It All Means

The previous discussion is a very brief distillation of an incredibly complex event in recent economic history. We do not intend to "prove" that the Fed caused the initial credit bubble and the subsequent economic downturn. Instead, we use the 2007–2008 financial crisis as an illustration of the argument we make in this book: The Fed's modus operandi of constrained discretion prevents it from achieving macroeconomic and financial stability. This is essentially a means–ends argument: Constrained discretion is an inappropriate operating framework for securing broadly held goals about what we want central banks to do. Constrained discretion fails because it places insurmountable information and incentive burdens on

those whom we ask to run central banks and implement monetary policy. In terms of information, it is incredibly difficult in real time to maintain allocatively neutral demand stabilization at the macroeconomic level, which entails obtaining monetary equilibrium at the microeconomic level. It is equally difficult to ascertain the degree to which monetary factors spill over into financial markets, causing either asset bubbles or systemic illiquidity. Note that Bernanke, himself an expert on how credit and financial markets affect the macroeconomy, along with many other monetary and financial policymakers, failed to recognize the nascent economic turmoil as it developed.

In terms of incentives, we must remember that central banking is a bureaucracy. Even well-intentioned people can fall prey to problems stemming from poor incentives in nonmarket hierarchies (Niskanen 1968; Tullock 2005). Furthermore, money and finance is a highly political field and has been so throughout the entire history of the United States (Calomiris and Haber 2014). Despite the appearance of formal independence from politicians, there are many ways political pressure can be and is brought to bear on monetary policy decision-makers. These sources of incentive problems undermine central banks' ability to act in the public interest.

1.3 Real Monetary Rules: Still the Only Game in Town

Selgin (2016, p. 282) usefully distinguishes between pseudo- and real monetary rules. A pseudo-monetary rule "is one that is either not well enforced or not expected to last." Monetary rules that allow discretion, but do not specify conditions for when deviations are permitted, are "mere guidelines for monetary policy too vague to be operational" (Sevensson 2003, p. 3). A real monetary rule, in contrast, is both specified and enforced.⁶ There is some institutional technology that binds the hands of monetary policy-makers in such a way that they cannot deviate from the rule. In addition, a true monetary rule is also "robust," meaning that "it must be chosen so that its strict enforcement is not likely to be a cause of such regret as might lead to its frequent revision or abandonment" (Selgin 2016, p. 287). Selgin's analysis of what kinds of arrangements constitute real monetary rules considers several information and incentive frictions, which focus scholars'

⁶ See Drazen and Masson (1994), Florez-Jimenez and Parra-Polania (2016), and Obstfeld (1997) for the literature on formalizing escape clauses to specify when and how discretion is permitted.

attention on how actually existing discretion compares to actually existing rules. This is precisely the kind of institutional analysis we intend to conduct in our study, and it is something we believe should be much more common in contemporary monetary economics and macroeconomics.

In light of Selgin's analysis, when revisiting Bernanke's (2003) speech, we see that constrained discretion is not categorically distinct from discretion itself. Bernanke contends that, under constrained discretion,

the central bank is free to do its best to stabilize output and employment in the face of short-run disturbances, with the appropriate caution born of our imperfect knowledge of the economy and of the effects of policy. However, a critical proviso is that, in conducting stabilization policy, the central bank must also maintain a strong commitment to keeping inflation – and, hence, public *expectations* of inflation – firmly under control.

Here, Bernanke discusses inflation targeting (or price-level targeting) as an application of rule-like behavior. Ultimately, the choice of a nominal anchor is of secondary importance. What matters most is whether rule-like behavior is similar enough to true rules for rule-like behavior to enjoy the benefits of rules while avoiding the costs. The crucial issue, as Bernanke recognizes, is that of public expectations. Can monetary policymakers credibly commit to rule-like behavior, such that the public can form its plans as if monetary policy unfolds according to a rule? Recent monetary and financial history suggests a cautious optimism. In ordinary times, when the financial system is operating well enough, monetary policymakers can concern themselves exclusively with aggregate demand management. However, the troubling possibility of institutionalized moral hazard in the financial system throws the above into serious doubt. The Fed's history of bailouts – the Franklin National Bank in 1974, the First Pennsylvania Bank and Trust Company in 1980, the Continental Illinois in 1984, the Long-Term Capital Management in 1999, and several organizations during the most recent crisis – suggests credible commitment *in the other direction*: Because the Fed has a history of not allowing “important” financial institutions that became insolvent to fail, the public has a reasonable expectation that the Fed will not constrain itself to limited and predictable responses in the event of potential systemic events (e.g., Goodfriend and Lacker 1999; Hetzel 2012; Meltzer 2009, pp. 881, 1055n55; Miller et al. 2002; Salter 2016; White 2012).⁷

⁷ Many of these bailouts violate Bagehot's famous last-resort lending rules (Bernanke et al. 2019, p. 119; Hogan et al. 2015; Meltzer 2009, pp. 881, 1053n55, 1173–1174, 1248–1150). We explore this in greater detail in Chapter 4.

But wait. Have we moved the goalposts? After all, Bernanke was clearly discussing constrained discretion in the context of nominal stabilization policy. Financial crises are something else entirely. In fact, it is precisely the possibility of a financial crisis that makes the “discretion” part of constrained discretion valuable.⁸ Rule-like behavior during ordinary times, and discretion in the service of firefighting during turbulent times, is the best response. But this counterargument fails. It is the “discretionary” part of constrained discretion that increases the likelihood that we will find ourselves in turbulent times in the first place, as well as making those turbulent times more severe and prolonged. That is what the institutionalization of moral hazard (“too big to fail”) means.⁹

More broadly, we cannot neatly separate monetary policy from financial stability, because financial panics involve a crucial transition from systemic *illiquidity* to systemic *insolvency*, and the central bank has the monopoly on the economy’s most liquid asset: the supply of narrow money. To be clear, we also contend that there are serious information and incentive problems with discretionary monetary policy even during ordinary times. Detailing those problems and their consequences will be a large part of our argument. But when push comes to shove, the ultimate breakdown point for constrained discretion is that it does not allow monetary policymakers to commit themselves, effectively and robustly, to responses to financial turbulence such that market actors are disincentivized from engaging in reckless behavior in the first place. Part of the problem is that there is no enforcement mechanism for making central bankers adhere to the kinds of responses that can achieve stability. Another part is that the implicit self-adopted framework is not robust: it breaks down when stressed. Our larger argument is a plea for monetary economists and macroeconomists to take these problems seriously and to reallocate their substantial intellectual capital toward discovering effective alternatives. These alternatives must include meaningful enforcement mechanisms and exhibit robustness in the face of challenges.

⁸ One of the primary alternative monetary institutions to discretionary central banking, the gold standard, is often rejected because it cannot be used to mitigate short- and medium-run fluctuations (Bernanke 2013; Hogan et al. 2018; Kydland and Wynne 2002). However, the gold standard has a better record of generating long-term price stability.

⁹ As Meltzer (2009, p. 1250) explains, “Banks and financial firms should not have incentives to become so large that they cannot fail. ‘Too big to fail’ encourages excessive risk taking and imposes costs on the taxpayers.”

1.4 Rediscovered Country: The Classically Liberal Perspective

There is another reason that constrained discretion is objectionable as a central bank operating framework, one that most monetary economists and macroeconomists do not consider. Constrained discretion is problematic not just on positive, but normative, grounds. In brief, discretion on the part of monetary policymakers is inconsistent with basic jurisprudential tenets of post-Enlightenment political thought. It is worth quoting at length Robert Hetzel (1997, pp. 45–46), a monetary economist who has seriously grappled with the political economy issues inherent in central banking:

Constitutional democracy protects individual liberty. It does so by placing restraints on the arbitrary exercise of power by government. A primary restraint is the constitutional protection of property rights. The monetary arrangements of a country either promote or undermine that protection.

Money is unique in that its value in exchange far exceeds the cost of producing an additional unit. On the one hand, governments have an incentive to print additional money to gain “free” resources, or seigniorage revenues. On the other hand, the central bank must limit the quantity of money in circulation to control prices.

Through its influence on seigniorage, money creation affects how government raises revenue. It can also affect who within government decides how that revenue is spent. Through its influence on fluctuations in the price level, money creation influences the extent of arbitrary redistributions of wealth among individuals. The institutional arrangements that govern the creation of money then bear on two aspects of the protection of property rights: the taking and disposition of wealth from the public and the distribution of wealth by government between individuals.

A legislative mandate from Congress requiring the Federal Reserve (the Fed) to stabilize the price level and to hold only government securities in its portfolio would complement the rules in a constitutional democracy that protect property rights.

Hetzel makes a simple but profound point: In a constitutional democracy, the *rule of law* is the standard to which self-governing citizens demand that a public institution conform itself. This includes central banks such as the Fed. These institutions are ultimately created and justified by the consent of citizens and are chartered to serve their interests. They also must be accountable to the citizenry. Central banking by discretion, constrained or otherwise, violates these basic norms of modern politics.

Our concerns differ somewhat from Hetzel’s. We will not pay much attention to the temptation to generate seigniorage, and we are not as convinced of the desirability of a price-level target as he. We are much more concerned with instances where politics impinged on Fed operations,

especially the de facto politicization of money and credit that has followed from the Fed's expansive new powers acquired during the darkest days of the financial crisis (Meltzer 2011). But our basic perspective on the desirability of true rules for monetary policy is the same as his.

One of our objectives in this study is to (re-)introduce classically liberal political economy to monetary economics and macroeconomics scholarship. Classically liberal political economy refers to the "mainline" of economic thought proceeding in an unbroken line since Adam Smith (Boettke 2012). As the mainstream of contemporary economics, this kind of political economy recognizes that how economies work and how they ought to work are different questions. But it also insists that the second question is just as much a concern for scholarly inquiry as the first. The hallmark of classically liberal political economy is using the core tools of the economic way of thinking, namely price-theoretic reasoning, to conduct comparative institutional analyses for ascertaining what kinds of rules best contribute to human flourishing. James Buchanan, the 1986 Nobel laureate in economics, offers the best summary of this approach:

Political economists stress the technical economic principles that one must understand in order to assess alternative arrangements for promoting peaceful cooperation and productive specialization among free men. Yet political economists go further and frankly try to bring out into the open the philosophical issues that necessarily underlie all discussions of the appropriate functions of government and all proposed policy measures. They examine philosophical values for consistency among themselves and with the ideal of human freedom. (Buchanan 1958, p. 5)

Currently, the mainstream of the profession in monetary economics and macroeconomics only tangentially engages the mainline. This is unfortunate. It is the scholarly equivalent to \$20 bills laying on the sidewalk. However, this by necessity implies an opportunity for intellectual arbitrage – one we are happy to exploit! Informed by classically liberal political economy, our argument will contain both positive and normative components. The positive component will resemble the kind of economics practiced by Ronald Coase, Douglass North, and Elinor Ostrom: comparative institutional analysis grounded in the rationality postulate, to demonstrate that constrained discretion is means–ends inconsistent as a central bank operating framework. It will also draw on the three great classically liberal political economists of the twentieth century, Friedrich von Hayek, Milton Friedman, and James M. Buchanan, each of whom devoted significant scholarly attention to monetary institutions and policy. Our normative component is grounded in the fact that money and its attendant

operating system are institutions of public importance, implying that the same justificatory standards that apply to other institutions of public importance apply to the monetary system as well.

1.5 The Map and the Territory

Readers familiar with mainstream monetary economics and macroeconomics may find our methods and arguments unusual. We will not construct any mathematical models nor test econometrically any hypotheses. Instead, we will explicate, using simple verbal logic grounded in the economic way of thinking, why we believe constrained discretion cannot be adopted by central banks if their goal is economic stability, as well as why discretion is incompatible with the justificatory tenets of constitutional democracy. Furthermore, we will support our arguments by drawing on the history of the Fed. We firmly reject the standard rejoinder that our approach is “unscientific” or “unrigorous.” The questions we address are the foundational ones about what monetary policy is, what we want it to achieve, what institutions we construct to help us achieve it, and whether those institutions are morally commensurate with self-governance. The methods we adopt are those we believe are best suited to answer the questions, as with any scientific study. Our goal is to persuade monetary economists and macroeconomists as well as those conducting scholarship on the relationship between institutions and human flourishing in political science, philosophy, and other subfields of economics.

We close this introductory chapter by offering a brief outline of the remainder of the book. Chapter 2 argues that there is an insuperable knowledge problem with discretionary monetary policy. It is not merely difficult for central bankers to maintain aggregate nominal stability (which implies monetary equilibrium at the micro-level) by discretionary means. It is impossible. Our arguments mirror many of those made by Mises, Hayek, and others on the impossibility of rational economic calculation under socialism. Discretionary monetary policy thus is systematically unlikely to achieve economic stability.

Chapter 3 focuses on incentive problems with discretionary monetary policy. Central bankers are bureaucrats, and thus confront the standard range of peculiar nonmarket incentives that result in phenomena such as status quo bias and “mission creep.” Furthermore, central banks are susceptible to political interference. The widespread perception that the Fed is politically independent is unjustified. Taken collectively, these

incentive problems prevent us from uncritically assuming that central banks can advance the public interest so long as they retain discretion.

Chapter 4 focuses on financial crises. Fighting such crises and preventing them from toppling the financial system is one of the strongest arguments for a degree of discretion in monetary policy. We will show this “challenge of the extraordinary” does not weaken the case for true rules. Drawing on the literature on last-resort lending, we will argue that true rules can deal not just with nominal instability as is typically assumed, but financial insolvency as well. The first four chapters establish the problems with discretion, including constrained discretion. The remainder of the book considers potential solutions.

Chapter 5 explores the monetary economics of Friedrich von Hayek, Milton Friedman, and James M. Buchanan. Each of these Nobel laureates devoted significant attention to the problem of how we can establish monetary institutions that are both effective and accountable. They came to different solutions, but reasoned in similar ways. We will argue it is not their specific recommendations, but their way of thinking, that monetary economists and macroeconomists must recover if they hope to make progress.

Chapter 6 is normatively focused. We introduce the ideal of the rule of law, detail its pedigree in classically liberal political economy, and show why monetary economists and macroeconomists should pay attention to it. We argue that this tenet underlies the justification for all institutions of public importance in constitutional democracies and that central banks cannot meet this standard so long as it retains discretion in its operations. If we want lawful monetary institutions, we must embrace true rules.

Chapter 7, the concluding chapter, explores the relationship between monetary institutions and the liberal project of creating a society of free and equal persons. This project has important implications for the structure of public institutions, including monetary institutions. We also discuss a global crisis that unfolded just as we finished this manuscript: the COVID-19 pandemic and the economic fallout it created. We survey the Fed’s response to the pandemic, focusing on how monetary institutions can help us respond to crises without undermining self-governance. Our takeaway message is that if monetary economists and macroeconomists want to make lasting contributions to the quest for economic stability in a self-governing society, they must think “constitutionally.” Calibrating formal models and studying policy effects econometrically, while valuable, are of secondary importance. Fundamental institutional considerations come first.

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