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The Hollowing out of Monetarism: the Rise of Rules-Based Monetary Policy-Making in the UK and US and Problems with the Paradigm Change Framework.

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> Inflation is always and everywhere a monetary phenomenon in the sense that it is and can be produced only by a more rapid increase in the quantity of money than in output. – Milton Friedman (1970, 24)

> The historical relationships between money and income, and between money and the price level have largely broken down, depriving the aggregates of much of their

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usefulness as guides to policy At least for the time being, M2 has been downgraded as a reliable indicator of financial conditions in the economy, and no single variable has yet been identified to take its place. – Alan Greenspan (1993)

Abstract

The demise of a postwar Keynesian policy paradigm of discretionary fiscal fine-tuning in pursuit of full employment is widely associated with the rise of a monetarist economic policy paradigm stressing fixed policy rules and money supply targets to secure price stability. Challenging these conventional wisdoms, and questioning the usefulness of the paradigm change framework, this article interrogates how far monetarism did replace Keynesian approaches to macroeconomic policy in the UK and US after the 1970s. Crucial aspects of monetarism – the commitment to abandon stabilisation policy and shift to fixed policy rules – were over-ridden shortly after brief, abortive attempts to use monetarism as a governing doctrine. A paradigm lens overstates the clarity of monetarist ideas, failing to acknowledge how these were reconciled to (New) Keynesian ideas by the end of the 1980s within a pragmatic composite (the Taylor Rule). The wider theoretical contribution of this article is to revisit understandings of paradigmatic change in political science and political economy. We argue that taking a paradigmatic view of economic ideas and their relationship policy orders can overstate change, overlook continuities and overrate the efficiency of punctuated change. It also under-appreciates scope to combine ideas from different paradigmatic homes.

Keywords: Monetarism; Keynesianism; Paradigm Change; Political Economy; Economic Policy; Constructivism; Historical Institutionalism

Introduction

From the Great Depression to the Global Financial Crisis, economic policy orders – defined with respect to ideas that shape interests and institutions – have been marked by recurring shifts from stability to instability and crisis (see Widmaier 2016). The Keynesianism of the Neoclassical Synthesis that enabled the fiscal activism of the mid-twentieth century was a relatively stable and enduring policy paradigm in the post-war period. In theoretical, historical, and policy works alike, the 1970s is widely cast as a period where policy failures associated with the Great Stagflation spurred the renunciation of Keynesian demand management foregrounding discretionary fine-tuning. Monetarism provided an alternative justification for policy restraint, and 'a new economic strategy that made neoliberal, anti-inflationary policies a priority rather than employment or growth' (McNamara 1998: 5-6, 64-5).

Such apparently self-reinforcing economic policy orders persist through 'path dependent cognitive locking' of ideas into institutional orders and regimes (Blyth 2002: 256, 261; Hall 1993: 291; McNamara 1998: 4-6; Hay 2001: 202, 2004), right up to the brink of crises that prompt renewed change. Historical Institutionalist (HI) (Hall 1986, 1989a & b, 1993) and Constructivist (McNamara 1998; Blyth 2002, Hay 2001, 2004) scholars alike have analysed the role of economic ideas to explain these dynamics of stability followed by dramatic change of economic policy regimes, focusing on policy paradigms as self-sustaining and stabilising institutional orders. This article's core theoretical contribution is to revisit and challenge important aspects of the relationship between ideas and policymaking underpinning the paradigm change framework. Its core empirical contribution is to illustrate this critique through a re-examination of what is, by general consent, one of the more dramatic transformations in economic ideas and economic policy orders - the mooted shift from Keynesianism to monetarism in the UK and the US.

In their different ways, these HI and Constructivist accounts view paradigm change as central to understanding how new sets of ideas reduce uncertainty and inform the creation of new or the alteration of old policy institutions and practices. Particularly important for this analysis is how economic ideas, as Blyth puts it 'propose particular solutions to a moment of crisis, and empower agents to resolve that crisis by constructing new institutions in line with these new ideas' (2002: 11). This article interrogates how far novel institutions are created 'in line with these news ideas' (Blyth 2002: 11). One of the central insights underpinning its theoretical contribution is to highlight the 'thwarted operationalisation' of economic ideas. This can result from the practical exigencies of economic management, the complexity of the policy process, or enactment by policy practitioners less convinced by the underpinning economic ideas, and leads to the development of policy mechanisms and models at odds with the original principles.

HI and Constructivist accounts of paradigm shift differ in important respects, for example in their understandings of the relationships between ideas, interests and institutions, and of uncertainty. Yet they use the paradigm framework in comparable ways to delineate relatively coherent but far from fully commensurable world-views of monetarism and Keynesianism. Each charts a relatively swift and decisive 'victory' of the former over the latter in a battle of ideas that dominated economic policy-making. Each identifies a clear break in the goals, rationale, instruments and mechanisms of policy-making accompanying the paradigm shift. It is the view of economic ideas as the 'blueprints' for new institutions that is revisited in this analysis.

The rise of monetarism is one of the more prominent applications of the paradigmatic change framework in political economy. As Hall puts it, 'not only did the policy prescriptions of monetarists diverge from those of the Keynesians, they were also based on a fundamentally different conception of how the economy itself worked' (1993: 284). The transformation in policy approach, in this interpretation, was profound;

'the British experience of 1970-89 was also marked by a radical shift from Keynesian to monetarist modes of macroeconomic regulation, which entailed simultaneous changes in all three components of policy: the instrument settings, the instruments themselves, and the hierarchy of goals behind policy. Such wholesale changes in policy occur relatively rarely, but when they do occur as a result of reflection on past experience, we can describe them as instances of third order change' (Hall 1993: 279)

Blyth (2002: 273) and Hay (2004) go even further than Hall, arguing that the paradigm shift to monetarism endures at least to the end of the 1990s. Acceptance of this monetarist paradigm shift view bestrides the fields of international and comparative political economy as a conventional wisdom (Galbraith 1958) – accepted but under-reflected upon (see Hall 1986: 93-9, 128-30; Hay 2001, 2004; Blyth 2002; McNamara 1998: 5-6, 64-71; Scharpf 1987: ch 11; Notermans 2000; Gamble 1988: 39-43, 90-3; 1990: 193-4; Crouch & Keune 2005: 86-91; Glyn, Hughes, Lipietz & Singh 1990: 110). Jacqueline Best argued that ambiguities in Keynesian economic management practices led to Keynesianism becoming 'hollowed out' in the 1960s (2005: 87-96). The analysis here rejects the prevailing view of monetarism's rise by identifying an analogous process of the hollowing out of monetarism in its enactment in the 1980s and 1990s through its 'thwarted operationalisation' within a fraught policy process.

The analysis focuses on the ideas of Milton Friedman as the foremost exemplar and most important exponent of monetarist thinking. Central to Friedman's monetarist world-view was the notion that policy-makers should retreat from active ‘Keynesian’ stabilisation policy, fine-tuning to secure employment and growth based on an assumed Phillips curve trade-off between inflation and unemployment. This article questions how far the active pursuit of stabilisation policy, and the Phillips curve, were abandoned in the UK and US in the 1980s and 1990s. Monetarism also sought to eradicate discretionary economic policy in favour of the introduction of fixed rules-based policy frameworks (Friedman 1959, 1962, 1969). On this monetarists to some extent aligned with Public Choice (Kydland & Prescott 1977) and New Classical Macroeconomics (NCM) (Sargent & Wallace 1975) perspectives. They all emphasised a key shift in the qualitative character of economic policy, with rules-based economic policy regimes in the ascendant (Gill 1998; Burnham 1999, 2001; Palley 2005: 23). This article interrogates the claim that rules-based approaches superseded discretionary policy-making by exploring the monetary policy-making regimes in the UK and US after monetarism’s star faded, notably Taylor Rule-inspired inflation targeting policies.

The analysis takes care to draw extensively on the writings, reflections and memoirs of monetary policy insiders. The research aim is to come close to inhabiting lived in space of central bankers’ monetary policy thinking. The corollary of this focus on monetary policy practitioners is less discussion of the broader politics of monetarism and the rise of the New Right. In that wider context, political appointees were brought in to shape monetary policy-making in the UK and US and advance the case for doctrinaire monetarism amidst the savage recessions of the early 1980s. As Hall points out, Thatcher ‘packed the influential economic committees of the cabinet with [monetarism’s] supporters, appointed an outside monetarist to be chief economic advisor at the Treasury, and in conjunction with a few advisors, virtually dictated the outlines of macroeconomic policy for several years’ (1993: 287). Indeed, central banks were subject to political pressures that challenged central bankers’ independence and autonomy (Elgie & Thompson 1998). This broader politics of monetarism provides necessary context in which to interpret claims to pragmatism on the part of central bank practitioners at the heart of this analysis. Nevertheless, the core aim of our paper is to delineate the hollowing out of monetarism in the 1980s and 1990s through the thwarted operationalisation of monetarist precepts. Monetary policy in the UK and US did not strictly control the money supply, it retained a commitment to stabilisation policy (based around the New Keynesian Phillips Curve), and it involved significant discretion in the application of monetary policy rules. In order to achieve this aim, the focus hones in on monetary policy practitioners.

As this analysis makes clear, the understandings of trade-offs between unemployment and inflation evolved after the 1970s, but did not disappear from the minds and practices of economic policy-makers in the UK and the US. Crucial roles were played by a series of New Keynesian economists like John Taylor, Alan Blinder, and Janet Yellen at the Federal Reserve and the Council of Economic Advisers, as well as Mervyn King, Charles Goodhart, Charles Bean and Andrew Haldane at the Bank of England. In their different ways, these monetary policy practitioners made the case for, and put into practice, a practicable synthesis of Keynesian and monetarist priorities. This is decisively at odds with the battle and triumph of one set of economic ideas over another anticipated by a paradigm framework (Blyth 2002: 200, 258, 260; Hall 1993: 288; McNamara 1998: 64-71; Hay 2001: 193, 202).

An opening section explores the claims of paradigm theorising about ideational change relating to economic policy. This is followed by a definitional section on monetarism. Thereafter, the article examines the experiments in monetarist policy-making in the UK and US in the late 1970s and early 1980s. It questions how far monetarist understandings of the economy underpinned money supply targetry, and the economic management approaches which followed the downgrading of money supply targets. The analysis unearths considerable daylight between the conduct of what we might term 'practical monetarism' and the precepts of Friedmanite monetarist theory. The gap between theory and practice grew larger as attempts to apply monetarist theory as a governing doctrine drew on, until the disjuncture grew so great that policy-makers downgraded how far they presented monetarist ideas as the guideposts for their policy thinking and practice.

A second substantive empirical section analyses the conduct of macroeconomic policy in the 1990s in the UK and US to assess how far there was a retreat from active macroeconomic stabilisation, and from discretionary policy-making. Informed by first-hand accounts of policy practitioners, the analysis sets out how the rules-based monetary policy regimes introduced in the name of monetarism, in their enactment, proved highly discretionary. They relied in practice on the intuitions and judgements of monetary policy practitioners to a degree obfuscated by their ostensible automaticity. Furthermore, a close inspection of UK and US how monetary policy makers think and enact policy reveals that, far from monetarism's rise heralding the end of the Phillips Curve, fine-tuning and stabilisation, these remained central to monetary policy making. Yet there remains a view at large amongst political scientists and political economists that monetarism replaced Keynesianism.

Ideational Change in Political Economy

To explain shifts in economic policy orders, scholars of Comparative and International Political Economy have developed important insights into the sources of self-reinforcing stability in ways that chime with the paradigm change framework (Widmaier 2016: 6-9). In providing the most formal articulation of such insights, HI scholars have stressed the sequential dynamics that can see exogenous shocks act as 'critical junctures' which enable the ‘path-dependent’ construction of new ideas, institutions and interests. Where such arrangements come to exhibit early increasing returns, they ostensibly reduce the space for competitive challenges, giving rise to self-sustaining policy orders (Pierson 2000, 2004). To be sure, some HI scholars recognize the scope for subsequent adjustments – as structural shifts spur agents to adapt in ‘path-contingent’ ways that sustain prevailing orders (Johnson 2003). These analyses of incremental change have been significant in highlighting the role of varied mechanisms – as agents facilitate the conversion, displacement or layering of ideas and institutions over time (Streeck & Thelen 2005; Mahoney and Thelen 2011; Bell 2011; Bell and Feng 2013, 2014). Taken as a whole, such frameworks have offered important insight into recurring tendencies to sudden change followed by periods of relative prolonged stasis.

In its HI articulation, paradigm change makes bold assumptions about state capacity for the creation of new policy orders, and the use of economic ideas in transforming policy-making. Consider the following passage from Hall’s celebrated article; ‘policy paradigms are likely to have greatest impact in institutional settings where policy is superintended by experts or by administrators with long tenures in office. In such a context, policy paradigms are likely to become intertwined with firmly established operating procedures and departmental routines. The British civil service provides the acme of such settings, and we can expect to see some cross-national variation in the degree to which policy paradigms are embedded in institutional routines’ (Hall 1993: 291). Such assumptions of the state’s capacity to faithfully institutionalise paradigmatic economic ideas obscure the ways in which efforts to enact principles can be bedevilled by translation problems from theory to practice.

To be fair to Hall, his seminal article does recognise in passing some limits to the transformation of economic policy-making in the UK in the period under scrutiny. Hall notes the 'movement away from strict targets for monetary growth in 1981-83' (1993: 278). He also acknowledges that, whilst 'paradigms are by definition never fully commensurable in scientific or technical terms' (1993: 280), nevertheless 'something of a new synthesis between [Keynesianism and monetarism] has emerged in recent years' (1993: 284). The implications of these fleeting observations, and the limits they place on the extent of change in the theory and practice of UK economic policy, however, are not explored by Hall. These qualifications surely raise questions about how far the 'hierarchy of goals' underpinning UK macroeconomic policy shifted in a monetarist direction, as third order change would entail. With money supply targetry abandoned by 1983 – what remained of monetarism in the 1983-89 period?

Even Constructivist scholars, whose work highlights how crises must be interpreted in light of ideas, which are often ambiguous as they evolve, can overlook the problems facing efforts to align often-ambiguous principled priorities with policy-making practices. In its Constructivist articulation (see e.g. McNamara 1998), for all the appeal to contingency, uncertainty and imperfect knowledge, the paradigm change view risks over-stating transformations, under-reporting continuity, and presumes too linear and straightforward a relationship between the initial 'new' ideas and 'new' policy institutions and practices manifested supposedly to give life to them.

Hay's 'punctuated evolution' account entails 'policy evolving through the iterative unfolding and adaptation of a paradigm to changing circumstances, punctuated periodically by crisis and paradigm shift' (Hay 2001: 200). Hay argues that 'the institutional capacities of the state apparatus' and 'the resources at the disposal of policy makers' are important factors in assessing paradigm change (Hay 2001: 199), but these aspects rather fall from view in the discussion of the onset of monetarism. He posits the 1970s as a moment of ‘genuine crisis’, ‘announcing the obsolescence of the dominant paradigm… and heralding its replacement’ (2001: 202). Elsewhere he claims that monetarism continued to characterise UK policy making through to the late 1990s (2004).

One of Blyth’s many significant contributions has been to underscore how economic ideas are ‘vitally important components of institutional construction and change’ (2002: 7). Blyth incorporates Knightian uncertainty to add nuance to the relationship between interests and ideas, yet the relation between ideas and new institutional creation does not receive the same nuancing attention. He views economic ideas as ‘blueprints for new institutions’ and talks about processes of ‘constructing new institutions in line with these new ideas’ (Blyth 2002: 11, 35, 38, 40-1). Blyth argues that ‘‘ideas are the *predicates* of institutional construction’ (Blyth 2002: 37). In so doing, for all Blyth’s admirable commitment to ‘making institutional change dynamic, contingent, and political’ (2002: 11), he draws too neat a line from idea to policy order, under-stating a fraught process of institutional realisation.

Blyth (2002: 15, 20) rightly focuses on the developing of state capacity to pilot policy using the new ideas (see also Hall 1989b: 363, 373). Ideas, in Blyth’s reading, must be ‘actionable’ within state institutions, ‘that is, the state must have the capacity to implement the policies stemming from these new ideas’ (Blyth 2002: 21; see also McNamara 1998: 4-6, 61-5). This, however, makes some fairly heroic assumptions about state capacity. This leads him to posit too clear and coherent a shift to monetarist monetary policy making in the US under Volcker (Blyth 2002: 169-71), and to overstate the durability of monetarism until the late 1990s (2002: 273). These Constructivist accounts underplay how the institutional realisation of monetarist ideas led to their dilution through thwarted operationalisation, such that the resultant policy regime failed to live up to the 'monetarist' billing in important respects.

Paradigmatic accounts overstate the congruence between the academic theories and the operationalisation of economic ideas, assuming too faithful realisation of monetarist principles as they are implemented in policy programmes and through policy instruments. This lies at the heart of our corrective to Constructivist and HI-inspired accounts of paradigm shift (see also Clift 2018a&b). This article asks how far were Friedman's calls to dramatically scale back the ambitions of stabilisation policy heeded? Was a fixed policy rule used to guide macroeconomic policy from the early 1980s onwards? Our analysis below indicates a hollowing out of monetarist principles in UK and US monetary policy practice. In addressing these questions, and to deliver on our broader argument about the hollowing out of monetarism, this article makes two moves in terms of its analytical strategy. Firstly, rather than talk in broad brush terms about 'neo-liberal' economics, it is more helpful to distinguish in fine-grained fashion between related but distinct intellectual inspirations – such as Friedmanite monetarism, Public Choice Theory, and NCM and the specific insights they offer. It is instructive to identify particular 'neo-liberal' economic policy ideas, such as monetarist money supply targetry, and consider the ebb and flow of their influence in and on the policy debate.

Secondly, this account underscores a distinction between economic ideas in academic theory and economic ideas as they get operationalised in policy terms. Mistakes made in telling of the story of monetarism – either over-stating its coherence, its 'rise' or 'victory', or mis-specifying its longevity, are caused by a failure to adequately delineate between the abstract theory of monetarism and actual policy conduct. Shortcomings within paradigm theorising outlined above tend to underestimate the translation problems between economic theory and policy practice. As Farrell and Quiggin have pointed out, much ideational scholarship posits one directional traffic from economic theory to policy-makers' minds, treating 'experts as "givers" and policymakers as "takers" of ideas'. This neglects how 'the relationship between expertise and policy implementation' is not 'one way' but rather 'reciprocal' (Farrell & Quiggin 2017: 11). They call for a move 'away from the reified accounts of expert ideas' (Farrell & Quiggin 2017: 272-3). This analysis problematises the expert idea / policy-maker relationship in a different but related way, highlighting 'thwarted operationalisation' in the use of economic ideas by policy practitioners and drawing a distinction between academic theorising about macroeconomic policy, and what Weaver, drawing on Argyris and Schon (1994), terms 'theories-in-use' (2008: 29-30).

A series of concepts such as conversion, displacement, drift and layering, have been developed to explain how, *over time* institutions evolve in ways which no longer fully reflect the original founding ideas (see e,g. Streeck & Thelen 2005). Thwarted operationalisation is distinct in focusing on dissonance between original ideas and institutional realisation during the period where a new policy regime is being developed and established. As such it links more closely to Constructivist insights into ambiguity within economic ideas (Best 2005) and the material and ideational constraints under which policy-makers operate (Hay 2001; Blyth 2002). To a greater extent than some of these studies, it foregrounds the difficulties of translating often ambiguous principled priorities into policy-making practices.

A focus on new economic ideas within the process of institutional creation or economic policy regime change can be too quick to assume a straight line, coherence, and correlation between the new ideas and the characteristics of the new institutions. Thwarted operationalisation can result from the practical exigencies of economic management, the complexity of the policy process, or enactment by policy practitioners less convinced by the underpinning economic ideas. One salient example of the complexity of the policy process are issues of the limits of knowledge about the economy and monetary policy. Specifically, how accurately can the various broad and narrow measures of the money supply actually capture the reality of a monetary system buffeted by advancing liberalisation and financial innovation in the period under scrutiny.

The practical exigencies of economic management 'bite' in our case where government agendas of monetarist control of the money supply and capital and financial market liberalisation pull in different directions. Full enactment of money supply targeting would require other policy changes (notably 100% reserve banking) at odds with other important economic policy priorities. So the prior assumptions on which Friedman's model was based were at odds with the policy situation in which the Thatcher Governments sought to enact monetarism. Policy practitioners inevitably have to deal with institutional arrangements that are never fully captured by economic theory. The influence of economic theory upon actual policy is always mediated, both by events, and by recognition of the material and ideational constraints under which policy-makers operate. As Watson observes, 'the policy-maker exercises influence over actual economies, while the modeller inhabits a world of abstract theory' (Watson 2004: 544).

It may also be that those enacting the policy do not embrace the underpinning economic ideas with the same fervour as its champions in the academic realm. For example, Volcker, despite being synonymous with US monetarist policy was far from a true believer in monetarist doctrine (Volcker 1992: 167, 174). This accounts in part for the dissonance between his 'practical monetarism' and Friedman's policy programme, and the short lifespan of the Fed's monetarism. Practitioners with a foot in both the policy and academic camps, discussing the period under scrutiny, were wont to bemoan a ‘divorce between theory and current practice’ in macroeconomics and a ‘gap between state-of-the- art macro-theory and practical policy analysis’ (Goodhart 1989a: 297, Mankiw 1988; Fischer 1988: 331). We explore the implications of this gap for using the paradigm framework to understand changing economic policy regimes below.

Defining Monetarism

In order to advance the argument, it is necessary to clarify how monetarism is being understood here. The essence of monetarism remains the subject of some dispute many decades after its emergence. Somewhat unhelpfully, the term monetarism gets evoked in somewhat loose and vague fashion to capture neo-liberal macroeconomic orthodoxy (Iversen & Pontusson 2000: 15-6; Iversen 2000; Ryner 1999: 46, 48-9; Scharpf 1987: 82; 1991). Here we find it useful to operate a tighter definition, derived from Milton Friedman as monetarism’s arch exponent. His writings distil the animating goals of a monetarist approach to macroeconomic policy (1953, 1968, 1970). His underlying presuppositions about the economy and policy provide much of the philosophical essence of monetarism, notably the antipathy towards active, discretionary stabilisation policy of the ‘fine tuning’ kind. At the core of this is the view that controlling and restricting the money supply using simple policy rules such as monetary aggregate targets is the key policy lever to reduce inflation (Friedman 1959). Given their import for the monetarist world-view, and for the argument below, we pay particular attention to what monetarism has to say about stabilisation policy (and its relationship to the Phillips curve), and also about the shift from discretionary to rules-based policy-making.

Bringing together earlier studies (Laidler 1981; Hoover 1984; Clift & Tomlinson 2012), we identify four core elements of Friedman's monetarism. First, the understanding of the economy as a self-equilibrating system. This is the most fundamental difference from a Keynesian worldview. Provided price stability has been secured, it is for monetarists a matter of *a priori* assumption that the private sector and the market economy will naturally tend towards full employment, without governmental interference. Thus, it is not the purview of the rules to act to restore the economy to full employment. For monetarists, the key role of the rules they advocate so fervently is to *sustain* economic stability.

Second – and perhaps the most readily identifiable diagnostic feature of monetarist analysis – is that 'inflation is everywhere a monetary phenomenon' (Friedman 1970: 24, 1956). The long-run growth of the money supply is what determines the rate of inflation, and therefore macroeconomic stability. Thirdly, Friedman's adaptive expectations approach dismissed the idea that there was a long run Phillip's curve trade-off between inflation and unemployment. Friedman and Phelps (1967) between them are said to have exposed the shortcomings of the Phillip's curve in ways that rendered it no longer useful to guide policy (see e.g. Blyth 2002: 139-41; McNamara 1998: 62, 67; Hall 1993: 283-4).[2] Friedman put the case that lower unemployment could only be 'bought' at the price of accelerating unemployment (see e.g. Thompson 1990: 40-1; Friedman 1968; 1977).

The fourth key element is the belief that in pursuing monetary (and other) policies, the authorities should use fixed rules, not exercise discretion. Friedman made the case for a fixed money growth rule, and this is at the core of his policy engineering approach (see e.g. Friedman 1959, 1969). Automatic and fixed policy rules (notably for monetary aggregates) should supersede discretionary policy approaches to macroeconomic policy. As Hoover puts

[2] A view we critique below.

it, ‘authorities should not use money in an attempt to offset cyclical movements in economic activity’ (1984: 63), since the discretionary approach created its own additional instabilities, interfering with price’s ability to act as an efficient signal (Friedman, 1961, 1977). Friedman’s argument in favour of rules over discretion, according to Haldane, ‘had two legs. First, the economy is complicated and we know very little about how policy actions may affect it (the 'long and variable lags'). And second, given this ignorance, active policy is as likely to amplify as offset the effects of shocks upon the macroeconomy … if uncertainty is pervasive, then ignorance - and a little humility, via a simple rule - can be bliss’ (Haldane 1995: 6). Discretionary policies and fine-tuning presumed a level of understanding and knowledge about the economy and policy that was, Friedman argued, unrealistic (Laidler 1981: 19).

In Friedman’s monetarist account of the economy, stabilisation policy should no longer be the objective and everyday practice of macroeconomic policy-makers. For monetarists ‘the delicate trade-offs of Keynesian economic management, the careful adjustment of the fine tuners, were to be no more’ (Gamble 1990: 148). This was based on the assumption that the market contained inherent self-equilibriating properties which stabilisation-oriented ‘fine-tuning’ simply interfered with. This was why, ‘monetarists believed the full employment objective of the post-war stabilisation policy was fundamentally misconceived’ (Gamble 1988: 41). Friedman’s identification of a ‘natural’ rate of unemployment is significant partly in shifting the prioritisation of policy from reducing unemployment to tackling inflation, and downgrading a commitment to full employment.

Adaptive expectations retains the theoretical possibility of a short-term trade-off between unemployment and inflation. However, in Friedman’s view, the natural rate of unemployment was determined by the underlying economic fundamentals, and reflected assumptions of the equilibrating and efficient properties of markets and their ability to clear (1968, 1970, 1977;

Friedman & Schwartz 1982: 622). The natural rate of unemployment, according to Friedman, ‘is the level that would be ground out by the Walrasian system of general equilibrium equations’ (1968: 8). Thus it reflected his more fundamental underlying assumptions about the economy and policy, that the state *could* not helpfully intervene to reduce unemployment.

Friedman’s monetarism argues for a modesty of ambition amongst policy-makers because the economy is not sufficiently knowable to behave otherwise. Ironically, in the absence of Friedman’s wider monetarist programme of restrictive re-regulation of the banking system that was never enacted (see Delong 2000), monetarist zealots in the UK and the US discovered that Friedman’s recognition of the limits of knowledge also had implications for how far monetary aggregates could be determined, let alone controlled.

Monetarism in action? The UK Case

Monetarist ideas had been circulating amongst UK economic policy-makers during the 1970s (Clift & Tomlinson 2012; Needham 2014: ch 4), notably implementing Competition and Credit Control in a bid to control the money supply between 1971 and 1973 (Needham 2015; Copley 2017; Dutta 2018). Bank of England economists had explored the possibility of targeting various monetary aggregates, including ‘monetary base control’ in the late 1970s, and found them seriously wanting as a framework for piloting macroeconomic policy (Foot & Hotson 1979: 152-3). The key problem was that Bank of England economists had found, as Needham points out, ‘no causality running from the monetary base to the broader aggregates’ (2014: 119). After the Thatcher Government abandoned plans for monetary base control in October 1979, similar problems revealed themselves with subsequent attempts to pilot macroeconomic policy targeting monetary aggregates. Yet the Thatcher government’s doctrinaire commitment to monetarist ideas, as championed by influential advisors such as Alan Walters and Brian Griffith, and zealot ministers such as Keith Joseph and Nigel Lawson, gave short shrift to such reservations. Indeed, the distinction at the heart of our argument between academic theoreticians' understandings of monetary policy, and the policy practitioners is made flesh in the interactions between doctrinaire Thatcherite economic advisors and Bank of England career economists more focused on practicable policies.

1979-83 witnessed a macroeconomic 'experiment' in Great Britain. The steadfast commitment to monetarist principles was confidently asserted in the March 1981 *Financial Statement and Budget Report*; 'there would be no question of departing from the money supply policy, which is essential to the success of any anti-inflationary strategy' (quoted in Goodhart 1989a: 302). Convinced by monetarist understandings of the relationship between monetary growth and inflation, the means to achieve this was the money supply targetry at the heart of the Medium Term Financial Strategy (MTFS).

Although characterised by Hall somewhat confusingly as second order change (1993: 282), the MTFS was the flagship policy embarked upon by monetarists who had won the UK battle of economic ideas. It was the embodiment in macroeconomic policy of the third order paradigm shift from Keynesian to monetarism his article delineates. As Hall points out, this paradigm shift entailed a 'radical shift in the hierarchy of goals guiding policy', prioritising tackling inflation, primarily using monetary policy. This had at its core 'adhering to a strict target for the rate of growth of the money supply' (1993: 283-7). As such the MTFS was the central UK policy manifestation of the ascent of monetarism. It was, in Hall's terms, an alteration of 'the instruments of macroeconomic policy' designed to deliver the already radically altered 'hierarchy of goals of economic policy', which had come to prioritise securing low inflation through tight control of the money supply. The MTFS's key architect Lawson noted; 'Inflation was to be squeezed out of the system by a steady deceleration in the rate of monetary growth over a four-year period; this was to be accompanied by a gradual underlying reduction in the size of the Budget deficit' (Lawson 1981: 4). Yet how far, and for how long, did monetarist understandings of the economy underpin UK money supply targetry?

The sorry story of the UK monetarist experiment 1979-1983 was one of dogmatic monetarist advisors and ministers ignoring the tacit knowledge of civil servants and central bankers who had experienced first-hand the practical problems of targeting the money supply (Foot & Hotson 1979; Foot 1981; Fforde 1983). Their refusing to consult practitioners who had experienced the difficulties of enacting monetarist policy, of selecting and measuring a monetary aggregate, and attempting to use it pilot policy, proved deeply damaging for the UK economy (Needham 2014: ch 5). Sterling M3, a 'broad money' measure comprising 'notes and coins in circulation with the public, together with private sector sterling sight and time deposits with the banks and private sector holdings of sterling bank certificates in deposit' (Smith 1987: 176) was the money supply target chosen in 1979. Many Bank of England economists were deeply sceptical – with good reason as it turned out – about this choice, and more broadly about the causal relationships posited by monetarism. Failure to draw on Bank insights led Lawson and others to select, in £M3, arguably the wrong monetary target in 1979 (Needham 2014: 146-8; Smith 1987; Jackson 1992).

The contemporaneous liberalisation of the UK financial system made the money supply much harder to control or predict. The abolition of exchange controls in 1979, for example, rendered monetary base control unworkable (Goodhart 1989a: 298-9, 301; Smith 1987: 150; Needham 2014: 144). Reforms to UK capital and financial markets fuelled a growth of the UK financial services industry, and an expansion of credit. This ran counter to what Delong calls 'the Classic monetarist program for monetary stability' (including 100% reserve banking) which Friedman saw as a necessary corollary of his favoured policy (2000: 91). These financial deregulation policies undermined the monetarist assumption that government had the requisite policy levers to control the money supply. Pursuing the monetarist targeting of £M3 in this context did not really make sense. Increased interest rates in pursuit of tight monetary policy induced increased bank savings, and these were counted as part of broad money. Thus UK Government's tight monetary control 'caused a subsequent expansion in £M3 and targets were breached' (Jackson 1992: 18).

The MTFS presumed, erroneously, that there was a stable relationship between £M3 and inflation. Goodhart later reflected how monetarist targetry was 'predicated on the existence of a predictable, and preferably stable, relationship between monetary growth and (subsequent) growth of nominal incomes' yet these posited relationships 'came apart at the seams in the 1980s' (1989: 298; see also Needham 2014: 133). Targeting the money supply did not prove a practicable approach to managing inflation. Contrary to monetarist predictions, inflation was falling whilst the money supply was out of control, such that 'it became increasingly difficult for the authorities to believe that they fully understood, or could predict, the path of velocity, and/or the demand for money' (Goodhart 1989a: 306). Another senior official noted 'the apparent relationship between M3 and nominal incomes, in the shorter term, began to display alarming properties.' (Fforde 1983: 204). This led to monetary policy in 1980 being 'unintentionally tight' (Smith 1987: 150), with very damaging implications for the economy.

In 1980, the Downing Street Policy Unit commissioned a study by the economist Jurg Niehans on UK monetary policy under Thatcher. It found that the unnecessarily abrupt and dramatic tightening had been excessive, had led to sterling appreciation, and the combination had caused a needlessly severe recession. Policy advisor John Hoskyns' summary tried to put a positive gloss on the report for Thatcher, noting 'the principle of British monetary policy during the last two years were sound … [but] if the present rigidity of monetary policy is maintained, there is a serious danger that the principles themselves may be irreparably compromised' (Hoskyns

1981: 2). According to Walters' diary, when Thatcher was informed of the findings she insisted that no-one must know about it, especially in the Bank of England (Needham 2014: 156).

Bedevilled by these theoretical and practical problems, the UK's experiment with monetarism proved very short-lived. The retreat from money supply targeting began as early as June 1980 as the full adverse impact of the abrupt and dramatic tightening of monetary policy became clear. By autumn 1980, with the recession deepening and high interest rates and the high exchange rates crippling the UK economy, contrary to monetarist logic, interest rates were brought *down* even though £M3 greatly exceeded its target (Gamble 1988: 100-1; Goodhart 1989a: 303). As Fforde put it 'Pressing policy to the point where the monetary target might have been achieved would seemingly have risked unacceptably severe and immediate consequences for the real economy, consequences that were unintended and strategically damaging.' (Fforde 1983: 204).

This illustrates a broader theoretical point of this paper, that rules-based economic policy regimes, in their enactment, proved highly discretionary. It is telling that the Bank of England Governor criticised the MTFS to the Chancellor for being 'undesirably dogmatic, mechanical and rigid' (quoted in Needham 2014: 149). To mitigate the adverse effects of what the Bank of England deemed excessive rigidity, the practice of rules-based monetary targeting was infused with significant discretion. Problems pursuing a narrow monetary aggregate led the Bank of England, by 1982 to take a 'relatively pragmatic' approach to the 'practical application' of money supply targets (Fforde 1983: 200; see also Goodhart & Needham 2018). Former Bank of England Governor Leigh-Pemberton observed of operationalising concepts like broad money or narrow money that, 'any precise definition involves drawing an arbitrary dividing line across a virtual continuum of financial assets'. Financial liberalisation and innovation in the early 1980s only exacerbated these 'acute' problems of definition. The upshot of these, and the failure of the economic variables in question to display the posited inter-relationships, was that ‘in practice our ability to use an estimate of that relationship for target setting, and to meet those targets, has, quite frankly, been less than impressive’ (Leigh-Pemberton 1986: 500).

Underlining the de facto discretionary character the conduct of UK monetary policy in the early 1980s, and the role of judgement and intuition, the former Bank of England governor noted; ‘deviations of monetary growth from target have not provided a simple automatic policy rule’, because ‘a whole range of indicators, including the targeted aggregates, need to be taken into account in forming a judgement’ (Leigh-Pemberton 1986: 506). After experiments with other monetary measures, notably £M0 from 1984 onwards, money supply targets and the MTFS were gradually downgraded (Smith 1987: 120-6). Targets for both broad and narrow money, and seeking to exert tight control the money supply as the means to tackle inflation, were effectively abandoned.

The Volcker Shock and US Monetarism

A broadly similar story of disjuncture between monetarism in academic theory and its discretionary application in short-lived policy practice is in evidence in the US case. In 1979, the Volcker Fed initially seemed to embrace monetarist principles to anchor their policy choices, a shift subsequently known as the ‘Volcker shock’. The Fed’s unflinching acceptance of punitively high interest rates, a corollary of this new approach, had a powerful effect on inflationary expectations is the US economy. The embrace of monetary base control by controlling non-borrowed reserves entailed interests rates varying much more widely than previously, as market forces dictated (see De Long 2000; Goodhart 1989a: 301; Axilrod 2011; Volcker 1992: 169).

Volcker’s use of monetarist ideas to underpin this, he later reflected, was because the economy needed ‘a convincing demonstration that monetary restraint would be maintained’ (Volcker

1992: 165; Goodhart 1989a: 304-5). Key to this, Volcker recalled, was the Fed not only 'publicly announcing the target', but 'actually changing its operating techniques to increase the chances of actually hitting it' (Volcker 1992: 167). The Volcker shock, however, was not borne out of a profound doctrinal commitment. Indeed, the Fed Governor distanced himself from what he called 'Friedman and the extreme monetarists' (1992: 174). Volcker declared himself 'skeptical of the extreme claims of that [monetarist] school about the virtues of constant money growth'. But, he felt, 'shorn of some of those extreme claims, the approaches that had been debated (and half forgotten) within the Fed seemed worth looking at again' (Volcker 1992: 167). His number two at the Fed, Stephen Axilrod, noted that the new approach 'required a willingness, in practice, to bow more strongly than the system ever had in the direction of the monetarists'. In the process, the Fed surrendered 'a substantial degree of control over money-market interest rates in the course of its day-to-day operations' (2011: 91). For Volcker, monetarist theory was a means to an end. As Axilrod recalls, the 'money supply was a practical target that would achieve the objective of raising interest rates with minimal delay' (Axilrod 2011: 109). This was the essence of Volcker's 'practical monetarism'.

Targeting monetary aggregates would, Volcker realised in advance, prove very difficult to achieve. He never shared the doctrinaire monetarists' conviction that money growth could be 'predictably and assuredly' reduced by 1% a year, accepting instead that 'such precision would be impossible to achieve in the real world' (Volcker 1992: 175). A sharp recession triggered by Carter's unexpected imposition of credit controls in 1980 did little to smooth the path. As in the UK case, and as Volcker had anticipated, the actual evolutions of the money supply and inflation saw the practice diverge from monetarist theory. Indeed, the Fed's record on achieving targets for M1, M2 or other money supply targets was poor (see Alt 1990: 46-8, fig 2.2).

At first glance, the economic pain inflicted by the Volcker Fed might appear to be the result of rule-bound policy-makers tied to an anti-inflationary mast. However, enacting the piloting of macroeconomic policy using monetary base control involved significant discretion. As Axilrod recalls, ‘the statistical basis for determining the target’ at the heart of the new regime ‘entailed considerable leeway for staff judgement’, and ‘implied policy discretion’ which ‘was necessarily required by the ongoing statistical adjustments as new data became available’ (2011: 91). Indeed the new policy mechanism relied upon the elements that were ‘rather more judgements than purely mechanical’ (Axilrod 2011: 104; Volcker 1992; Goodhart 1989a).

The Federal Open Markets Committee (FOMC) trusted the chairman, given his expertise in finance and technical knowhow, to use this discretion wisely. In a statement that is anathema to Friedman’s fixed policy rule, Volcker noted, ‘the art of central banking lies in large part in approaching the right answer from a sense of experience and successive approximation’ (Volcker 1992: 166). Similarly, Axilrod reflected upon the ‘capacity for artistry’ of Fed economists, who unlike academic economists are immersed in ‘the practical aspects of economics’ such as interactions between monetary policy and ‘the behaviour of often skittish and unpredictable market participants’ (2011: 21).

The conviction that monetarist theory could provide a practicable guide to policy was always limited within the Fed. As in the UK, financial innovation meant that ‘a satisfactory measure of money to guide policy’ proved extremely elusive, so too did a ‘reasonably consistent and predictable relationship’ between any target for the money supply and the evolution of economic activity and prices (Axilrod 2011: 94). As a result, ‘support for a monetarist or even quasi-monetarist approach to policy eroded’ (Axilrod 2011: 94). Such targetry was predicated upon predictable, stable relationships between monetary growth and other key economic variables. The absence of these led to the ‘progressive withdrawal of the monetary authorities from a public commitment to a pre-set monetary target' (Goodhart 1989a: 298). Volcker's policy, adopted so dramatically in 1979, was 'effectively abandoned in the fall of 1982' (Axilrod 2011: 91).

The US embrace of monetarist doctrine was short-lived; 'once the Fed had broken the back of inflation, it retreated from practical monetarism and returned, in effect, to close control of the federal funds rate' (Axilrod 2011: 94). After this brief flirtation with monetarism, the Fed shifted its policy regime 'widening the range of monetary targets/ indicators, and returning to a more discretionary and pragmatic mode of determining money market rates' (Goodhart 1989a: 307). The focus on the money supply and monetary aggregates, briefly so all-encompassing, soon dwindled during Volcker's tenure, and 'just about faded out of the picture entirely by Greenspan's' (Axilrod 2011: 94-5). In February 1987, the Fed announced that it would no longer set M1 targets, and in July 1993 Chairman Greenspan testified that the Fed would 'downgrade' the use of M2 'as a reliable indicator of financial conditions in the economy' (quoted in Kahn 2012: 66).

The New Keynesian Phillips Curve & Stabilisation Policy since the 1970s

The hollowing out of monetarism thus began surprisingly early in the 1980s, through the execution money supply targeting in the UK and US in ways that fell well short of a faithful realisation of monetarist principles. This hollowing out process progressed much further in the late 1980s and 1990s with the construction of the monetary policy regimes that replaced efforts at formal targeting of the money supply.

One thing which marks out Friedman's monetarism is a conviction that attempts to fine tune the economy, even if honourable in intent, will end up doing more harm than good (Hoover

1984; Gamble 1990: 148; Laidler 1981). Given monetarist assumptions about the economy as a self-equilibriating system, keeping inflation low would, in the long run, be all that would be required to ensure socially optimal employment levels. Fine-tuning to target output was not only unnecessary, the monetarists argued, it was also unhelpful. The uncertainties surrounding the policy process and transmission mechanisms, the leads and lags, the lack of adequate knowledge about the state of the economy or the effects of policy reinforced this monetarist view. The conventional wisdom discussed in the opening sections holds that, partly for these reasons, the Phillips Curve was abandoned as a guide to policy in the 1970s. Yet if we look closely at monetary policy practice in the UK and the US in the 1990s, we find such monetarist nostrums to be a poor guide to actual policy conduct.

Keynesian political economy was not wholly de-legitimised by the crisis of the 1970s. The 'victory' of monetarism over Keynesianism was far from total. Lucas and Sargent's obituary for Keynesianism (Lucas and Sargent 1979) proved premature, as indicated by the rise of various strands of New Keynesian economic thinking. New Keynesianism is a spectrum of economic thinking, embracing non-Walrasian assumptions (about the limits of market efficiency) to varying degrees at macro and micro levels, wherein some manifestations retaining closer connection to post-war Keynesian economic management than others. More orthodox versions accept certain central tenets of monetarism, notably about inflation as a monetary phenomenon (see Delong 2000 for a discussion). Yet other iterations retain more of the 'Keynesian' connection between aggregate demand and macroeconomic policy on the one hand, and the level of employment on the other (Colander 1992; Blanchard & Summers 1986; Blinder 1988). These strands of New Keynesianism readily admit the possibility of 'under-employment equilibria' which may persist because the 'forces acting to return output to its initial level are weak' (Romer 1993: 16). Such thinking opens the door to a role for stabilisation policy.

New Keynesian influence over monetary policy-making was pervasive in the US and UK in the 1990s. Characterising New Keynesian views, subsequent George W. Bush administration Council of Economic Advisers Chair Gregory Mankiw argued that, unlike NCM economists who 'deny the existence of any trade-off over any time horizon', the New Keynesians 'are the keepers of the faith that policymakers face a *short-run trade-off* between inflation and unemployment' (1992: 449). Crucially, the New Keynesian premises of monetary policy practitioners retained a central role for stabilisation policy, and indeed for fine-tuning in pursuit of *both* output/employment *and* low inflation. Both of these ideas and their policy corollaries were anathema to Friedmanite monetarism.

The interpretation suggesting that the monetarist paradigm defeated Keynesianism posits a rather dichotomous opposition whereby *either* policy-makers targeted full employment *or* their central policy goal was low inflation (McNamara 1998: 5-6, 65-7; Blyth 2002: 171-2, 179-82; Hall 1993: 279-80, 283-4). John Gray refers to 'the monetarist commitment to price stability achieved at any social and economic cost', and charts the 'explicit abandonment under Thatcher of a government responsibility for full employment' which marked 'a change in economic doctrine from Keynes to Friedman' (1998: 28). One of the significant shortcomings of this interpretation is its difficulty dealing with the reality that controlling inflation *and* sustaining output/employment levels *both* remained important macroeconomic goals in the minds and monetary policy practitioners. The degree and extent of prioritisation of output and full employment was, admittedly, on a lesser scale than the 'Keynesian' economic management of earlier decades. These monetary policy practitioners were operating within a political settlement shaped by the New Right and tolerant of higher levels of unemployment than had been deemed acceptable in the 1960s, Their approach did not betray the activist and vigorous pursuit of full employment of that era. Nevertheless, the economic policy authorities had by no means retreated from the goals of managing and stabilising output and reducing unemployment, as the monetarist vision deemed they should. It was all a far cry from the monetary policy premises dictated by monetarist theory.

What replaced the monetarist experiment was, ultimately, the Greenspan Federal Reserve's *ad hoc* fine tuning in the early 1990s, and something similar pursued by the Bank of England under Governor Eddie George from 1993 onwards. Both of these approaches actively targeted output and employment as well as low inflation. Stabilisation policy remained the order of the day 20 years after many accounts claim it had been consigned to history by the monetarist revolution. New Keynesians, according to Mankiw, 'accept the view of the world summarized by the Neoclassical Synthesis: the economy can deviate in the short term from its equilibrium level, and monetary and fiscal policy have important influences on real economic activity' (1992: 449). The 1960s Neoclassical Synthesis and 1990s New Keynesianism may have rested on different foundations, but they enable similar conclusions regarding macroeconomic fine-tuning in various guises.

Stanford economist John Taylor's influential argument that monetary policymakers should strike a balance between promoting growth and price stability took inspiration from both New Keynesian and monetarist ideas. Indeed, the US and UK monetary policy regimes of the 1990s were based on a pragmatic amalgam of some Keynesian and some monetarist insights (Asso & Leeson 2012: 4-7, 42; Delong 2000). This is difficult to reconcile to a paradigm framework which accentuates sharp divergences between these worldviews (cf. Blyth 2002; Hall 1993; McNamara 1998; Hay 2001).

New Keynesians like Taylor continued to think about the economy it terms of a short run Phillips curve. Taylor had long appreciated the need for monetary policy to respond to both inflation and real GDP. Phillips' work, and his famous curve, had been influential in Taylor's intellectual development (Asso & Leeson 2012: 27-36). The Taylor Rule provided a practicable anchor for interested parties to make sense of monetary policy-making. Taylor defined a rule describing how central bankers 'should set the short-term interest rate,' as they would 'raise the interest rate when inflation increases and lower it when GDP declines' (Taylor 2009: 67). The positing of a 'Taylor rule' placed 'a positive weight on both the price level and real output in the interest-rate rule' (1993: 201-2; 2007). This was a crucial conceptual and theoretical lynch pin for the stabilisation policies of the 1990s and thereafter (see e.g. Taylor ed 1999; Koenig *et al* 2012; Woodford 2001).

Taylor took a non-doctrinaire approach to economic theorising, informed by his background as both academic economist and policy advisor at the Council of Economic Advisors, and the Federal Reserve Bank of Philadelphia in the 1970s and 1980s. He appreciated the need to operationalize theoretical insights in a way that would guide policymakers, and he understood the policy constraints they worked under (Asso & Leeson 2012: 5-7). His penchant was for a practicable amalgam of monetarist insights (that there should be no accommodation of inflation), and Keynesian ones (that countercyclical macroeconomic policy can be effective) (Asso & Leeson 2012: 42). This compromise assumed that 'a classic countercyclical monetary policy combined with no accommodation of inflation is efficient' (Taylor 1981: 145).

At the heart of the Taylor Rule is a reaction function wherein the 'nominal level of interest rates is determined by the current level of two variables, the rate of inflation and an (inherently somewhat uncertain) measure of the output gap, the deviation of actual output from potential' (Goodhart 1999: 102). UK and US monetary policy entailed forms of fine-tuning guided by the New Keynesian Phillips Curve trade-off central to the Taylor rule. Short run policy activism targeting output and inflation in response to shocks was still a mainstay of monetary policy. The goal of using monetary policy for stabilisation of both employment and inflation, so derided by Friedman and other monetarists, was at the heart of how New Keynesian monetary policy practitioners in the UK and US viewed the economy and policy.

At the Bank of England, there was interest in the Taylor rule (see e.g. Haldane 1995; King 1999), but it was not formally adopted as a guide to policy. King noted the Bank's embrace of 'rule-like behaviour' that 'introduces predictability, and helps to ensure that expectations are consistent with the objective of price stability' (King 1997b: 13). Akin in some ways to the Taylor rule, targeting both inflation and output pervaded the new UK monetary policy framework adopted in the wake of the ERM crisis of the early 1990s. As Haldane notes 'most central banks condition their inflation projections on measures of the output gap - which means that output enters their reaction function explicitly' (Haldane 1995: 26; see also Goodhart 1999: 103).

This approach recognised Friedman's warnings regarding how data inadequacies, leads and lags, and inadequate knowledge about the economy place limits on counter-cyclical policy. King even stated explicitly that the Monetary Policy Committee (MPC) 'cannot fine tune output, and it would be a mistake try to do so' (King 1997b: 9). That said, the Bank's policy approach also drew on New Keynesian insights that 'in the short-run, there is a trade-off between inflation and output' and took account of the 'trade-off between output volatility and inflation volatility' that 'has been popularised by the work of Taylor' (King 1997b: 7-8). This amended Phillips's curve trade-off remained a central part of the mental universe of monetary policy makers in the UK and US (see e.g. Haldane 1995: 25). The Bank of England published a book explaining its macroeconomic model which noted 'we can think of inflation … in the context of a New Keynesian Phillips Curve' (Scott *et al* 2005: 47). King noted that having an inflation target does not remove the scope to try and stabilise output and employment, nor require authorities to behave like an 'inflation nutter' (Dale 2013; King 1997a; Vickers 1998).

A range of monetary policy makers have identified what they term a 'rectangular' policy frontier (Batini & Haldane 1998, 1999; Bean 1998; Goodhart 1999), which is how they conceptualise the interaction of – and a trade-off between - output volatility and inflation volatility.

> 'The existence of a Phillips curve, albeit unstable, leads to a long-run trade-off between the volatility of inflation and the volatility of output. A central bank can take countercyclical actions to reduce fluctuations in output, at the cost of accepting slightly higher volatility of inflation, provided that such actions do not alter inflationary expectations and hence build in a potential inflationary bias.' (King 1997a: 95)

Mervyn King observed in 1999 'There is now a widespread intellectual consensus- almost a conventional wisdom' that central banks should use "constrained discretion" to 'respond to shocks in order to stabilise inflation and output' (King 1999: 2, 3). The key parameter in all this is ‘how active monetary policy is in responding to deviations of output from trend and inflation from its target level’ (King 1999: 8). How much a shock leads to reduction in interest rates ‘depends on the coefficients in the Taylor rule’. The hollowing out of monetarism had, by the mid-to-late 1990s, reached an advanced stage. Both the Fed and the Bank of England consciously and explicitly targeted both inflation and output, positing a trade-off between them. The active pursuit of stabilisation of output *and* inflation using macroeconomic policy, which Friedman and the monetarists had sought to banish, were at the heart of policy thinking in the UK and US.

(Taylor) Rules Rule: The End of Discretionary Policy-Making?

It has been shown that the degree and durability of change heralded by the onset of monetarism are seriously over-stated in the paradigm change account. The last aspect of the hollowing out of monetarism, which further undermines the interpretation positing a paradigm shift in economic policy-making in the 1970s, relates to the purported replacement of discretionary approaches with fixed policy rules. The limits of policy-makers’ knowledge about the economy, and the leads and lags of policy implementation, informed Friedman’s attachment to fixed policy rules (Friedman 1959, 1968, 1970; Laidler 1981, Hoover 1984). Yet in both the theory and the practice monetary policy-making in the UK and US in the 1980s and 1990s, the mechanical application of fixed policy rules was *not* how practitioners in central banks understood either the monetary policy process or their role within it.

In practice, the embrace of monetarist rules was never as rigid as Friedman had hoped. Even at the height of doctrinaire monetarism, piloted by believing monetarists at the beginning of the Thatcher era, the implementation of rules left significant enduring scope for discretion.

The same was true at the Volcker Fed. Discretion surrounded how to choose money supply targets, the selection of measures of these targets, how to enact and operationalise money supply targets, and how far to adjust policy in light of economic outcomes suggesting deviations from targets. Monetary policy displayed nothing like the automaticity of Friedman's fixed policy rules and his hoped-for policy engineering approach (1959). With the retreat from 'practical monetarism' as the 1980s drew on, the fixity of the rules associated with monetary policy was hollowed out further.

In terms of the theory, the New Keynesian policy practitioners at the heart of UK and US monetary policy explicitly rejected the fixed rules approach. Taylor served on the US council of economic advisors, and noted in the February 1990 Economic Report of the President which he co-authored that that the 'simple' (Friedman-style) monetary growth rule had become 'unworkable'; it was 'inappropriate' to follow 'rigid monetary targeting' (1990: 64-5, 84-6,107). Similarly, Mervyn King notes a counter-intuitive relationship between such discretion and the credibility of a rules-based regime. This goes against the spirit of Kydland and Prescott's famous time inconsistency argument (1977); 'mechanical policy rules are not credible – in the literal sense that no-one will believe that a central bank will adhere rigidly … irrespective of circumstances.' Therefore, in King's view, 'some discretion is inevitable. But that discretion must be constrained by a clear objective to which policy is directed and by which performance against the objective can be assessed' (King 1999: 2).

King characterised the evolution towards inflation targeting in the 1990s as 'part of a recent trend away from mechanistic rules for monetary policy, toward careful design of a framework within which discretion is exercised' (1995: 394). Policy conduct was based on a composite of monetarist and New Keynesian insights. Highlighting the role of interpretive leeway, King notes; ‘Although inflation is assuredly a monetary phenomenon in the medium term’, it is important to consider ‘other indicators’, and ‘to listen to a variety of views. One of the contributions of the new Monetary Policy Committee is to provide a forum in which ideas and information can be pooled’ (King 1997b: 18; King *et al* 2010: 16).

Monetary policy practitioners on the MPC or FOMC are reflexive, intuitive actors. They are not the automata that public choice theorists who initially advocated the shift to rules presumed them to be (Kydland & Prescott 1977). As Blinder notes, ‘if every member of an MPC behaves like *homo economicus* … every member of a committee of well informed *homines economici* will see the same data and process it in the same way, they will all reach the same conclusion’ (Blinder 2006: 3). In the real world, things are not so straightforward. A great many variables and aspects of economic performance are considered in slightly different ways by each MPC member in formulating their views. Each committee member attaches different significance to these variables, and each has their own modes of thinking, and ‘different personal judgements’ about the ‘social costs of inflation versus unemployment’. MPC and FOMC members incorporate a vast array of information into their deliberations, each has their own ‘personal judgements’, attaching different ‘relative weights of inflation and output’. Indeed, monetary policy-makers even have different models of the economy, and a diversity of ‘decision-making heuristics’ (Blinder 2006: 4-8; see also 1998: 46).

This is a further departure from the paradigmatic worldview presupposing one way of thinking about the economy that follows from the theoretical premises of one paradigm. Interpreting the character of monetary policy solely in light of the central bank’s models can lead to a mis-characterisation, because model-based thinking coexists with multiple other modes of thought in the minds of monetary policy practitioners (see also Seabrooke *et al* 2015). This degree of 'daylight' between the pre-suppositions of models, and policy-makers' thinking about how the economy actually works is something which paradigmatic theorising and interpretation tends not to recognise or appreciate. Haldane notes the importance of including 'off model information' in the process of developing inflation forecasts, most crucially 'policymakers' judgment' because 'while macro-model forecasts are hamstrung by degrees of freedom, there is a premium on using all useful information variables' (Haldane 1995: 13; King 1997b: 18; King *et al* 2010: 16; see also Blinder 2006). The inevitable variety of assessment practices, judgements, intuitions and 'decision-making heuristics' is an important source of the discretionary character of all monetary policy-making.

The scope for discretion and interpretive leeway is expanded due to the conditions of uncertainty under which monetary policy is made (see also Nelson 2017; Nelson & Katzenstein 2014; Goodhart 1989b). The key parameters of monetary policy-makers' models are unknown and ultimately unknowable. What is the output gap? What is the real interest rate? What is the non-accelerating inflation rate of unemployment (NAIRU)? The Taylor Rule cannot be operationalised without coming to some determination on these issues – but these identities are in important respects artificial constructs. There is no uncontested way to adjudicate on such questions, or arrive at undisputed values for these elusive variables. This is one reason why, in the enactment of rules-based based monetary policy-making that superseded the demise of money supply targets, central bankers have always practiced discretion. Interpretation, judgement and a significant degree of intuition inevitably comes into play in operationalising the central banks' rules (Blinder 1998: 46; Goodhart 1999; Haldane 1995; King 1997b; 1999; Axilrod 2011; Volcker 1992).

The actual conduct of monetary policy by key practitioners within central banks reveals that the rules versus discretion distinction, seen as one of the key sea changes heralded by a mooted paradigm shift to monetarism, is a somewhat false dichotomy. As Batini and Haldane put it, 'there is ample scope for discretionary input into any rule' (1999: 159). Indeed, monetary policy practitioners argue that such rules regimes are themselves inherently discretionary (Goodhart 1999; King 1999: 2). In practice, as our analysis demonstrates, all monetary policy-makers recognise that they are working under conditions of uncertainty, and of 'constrained discretion' (Bernanke & Mishkin 1997; see also King 1997 a&b; 1999), making extensive use of 'off model information' (Haldane 1995: 13**)**. This leaves very significant scope to impart their own interpretation and accentuation of their own policy concerns in their deliberations. Illustrating this point, the actual conduct of monetary policy in the UK and the US in the 1990s diverged from a pure application of Taylor Rule as modelled by e.g. Bean (1998) Goodhart (1999) and Ball (1999). Both the MPC and the FOMC often make policy decisions which do not conform to the policy suggested to be optimal by their models. This shows how what matters is not just the models, but also the judgements and intuitions exercised by policy-makers on what comes out of the models.

Conclusion

Comparative and International Political Economy scholars have often analysed ideational change through the lens of paradigm change. This foregrounds recurring tendencies to sudden change caused by battles of radically opposing ideas, followed by periods of prolonged stasis. The new economic ideas are seen to determine the creation of policy orders, and thereafter 'cognitive locking' mechanisms generate self-reinforcing stability. The paradigm framing sees a struggle between starkly opposing world views (Hall 1993: 280), in this case regarding the intrinsic properties (and tendencies towards stability and full employment) of the market economy left to its own devices. The transformation of UK economic policy, Hall argues, 'was accompanied by a wholesale shift in policy paradigms', with monetarism based on a 'fundamentally different conception of how the economy itself worked' (1993: 284) as compared to Keynesianism.

Yet the paradigm change lens leads scholars such as McNamara, Blyth, Hay and Hall to search for a battle of ideas at too grandiose a level. Blyth talks about 'ideational failure', 'ideological capitulation' (Blyth 2002: 200), and how 'to beat an idea, one needs another' (2002: 190; see also Hall 1989a: 15). This article has argued that paradigm theorising assumes these policy ideas to be more internally coherent, and more incompatible with previous ideas, than may in fact be the case. It can overstate the efficacy of ideas in determining the pattern of institutional change, and the stability of the new policy order, overlooking how new ideas were swiftly downgraded in favour of a revived institutional and intellectual pragmatism.

As this analysis has demonstrated, the paradigm framework over-states the shift in ideas underpinning macroeconomic policy-making since the 1970s, and under-reports continuities. There are grounds to question some of the state capacity assumptions underpinning HI articulations of this framework, and Constructivist assumptions about how far, and how faithfully, new institutions reflect the principles of new economic ideas. A key contribution here is underlining the importance of drawing sufficient distinction between economic ideas as developed by academic theoreticians, and economic ideas as they operate in the minds of, and get operationalised by, policy practitioners. These bear some resemblances – but they are not the same thing.

The construction of policy orders is marked by the pervasive difficulties of translating often-ambiguous principled priorities into policy instruments and frameworks within a fraught policy process. The enactment of new economic policy rules is complicated, given the ambiguities inherent in the rules themselves and the complexities of the policy process. This can lead to 'thwarted operationalisation' of economic ideas into policy instruments at odds with the original principles. This limited congruence between economic ideas as they originate in academic research and their operationalisation in policy programmes has been illustrated through our delineation of the hollowing out of monetarist principles in their enactment in economic policy UK and US in the 1980s and 1990s.

Attempts at tight control of the money supply, the core of the monetarist programme, were aborted shortly after they began. For all the commitments to monetary policy rules and 'rule-like' behaviour, policy practitioners in the central banks in the UK and the US operationalised rules in a way that retained significant scope for discretion. This transgressed another core tenet of monetarism. Policy-makers used their intuitions, judgements and a variety of heuristics in coming to a view about key variables – such as the output gap. This is part of the inherent ambiguity of technocratic economic models. Finally, far from monetarism sounding the death knell for stabilisation policy, our analysis reveals the Phillips curve trade-off, in amended New Keynesian form, was alive and well and at the core of monetary policy practitioners' thinking and policy conduct at the end of the 1990s. Monetary policy was still focused on economic stabilisation. Built on New Keynesian foundations, amalgamated with elements of monetarist thinking, the Taylor Rule inspired a form of fine-tuning targeting *both* output *and* low inflation.

Ideas are adapted by reflexive central bankers, able to reconcile multiple ways of thinking about the economy within what Blinder calls their 'different 'decision-making heuristics' (2006: 4-8). The reason this hollowing out of monetarism goes unappreciated in the political science and political economy literatures is the blinkers that the paradigm change framework impose on analysis. This starting point makes it harder to discern how pushback against monetarism came in a pragmatic amalgam, not a Keynesian resurgence.

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