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Contingent Keynesianism: The IMF's Model Answer to the Post-Crash Fiscal Policy Efficacy Question in Advanced Economies

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Abstract

Belying the IMF's reputation as a bastion of neo-liberal policy orthodoxy, this article analyses important yet *contingent* transformations in IMF fiscal policy thinking which constituted a key intervention in international austerity debates. Applying only to advanced economies, and in the specific post-crash conditions, the Fund came to champion fiscal policy as a more potent and effective counter-cyclical tool. Analysis focuses on alterations to modelling assumptions and analytical techniques, beginning before the crash but accelerating after it, which intellectually bolstered this view. It finds the Fund's rediscovery of some older (Keynesian) assumptions was both longer in germination and more enduring than some have recognised. It also charts the reconciliation of this contingent Keynesianism to 'congenital' IMF concerns for fiscal sustainability. It highlights the variety of economic insights, often

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with vastly differing policy implications, found within the Fund, and indeed within mainstream macroeconomics. It builds on work questioning the stability, consistency and coherence of economic ideas suggested by the paradigm framework, and identifies limitations of a paradigm lens for understanding incremental IMF ideational change. It contributes to politics of economic ideas scholarship in highlighting the importance of economic method and modelling assumptions as sites of contestation within gradual but meaningful ideational change.

Key words: IMF; economic ideas; global financial crisis; austerity; fiscal policy; economic modelling; Keynesianism; neo-liberalism; paradigm

Introduction

The Global Financial Crisis (GFC) and its aftermath reopened long-dormant debates, primarily in policy circles, over the conduct and efficacy of fiscal policy when faced with a deep recession and a financial crisis. The IMF's propagation and dissemination of its prescriptive policy discourse was central to this, and this analysis drills down into how modest but significant ideational change plays out within the Fund's interpretive framework. It finds that the IMF's 'mea culpa' moment in October 2012 where it recognised that fiscal multipliers were higher than the Fund had previously acknowledged, especially in a recession (IMF 2012: 43; Blanchard & Leigh 2013) was part of a longer process of re-evaluation of fiscal policy models and assumptions – tracing its roots back *before* the GFC. The Fund's rehabilitation of countercyclical fiscal policy as an economic stabilisation and crisis management tool was an important intervention within the acrimonious and drawn-out debates over the politics of austerity. The IMF, through its research on fiscal policy effects, became imbricated in the rethink of economic orthodoxy regarding post-crash macroeconomic policies (Clift 2018a). Revised Fund views of fiscal policy efficacy under the

specific GFC conditions facing the advanced economies ‘played outside’ less hawkish fiscal policy recommendations – yet crucially this policy advice was *contingent*, and only applied to *advanced* economies enjoying ‘fiscal space’ (not facing financing constraints).

This article complements, but is distinct from, the analysis presented in my recent book (Clift 2018a). The analytical focus and explanatory framework of this article are not the same as those developed in the book. This analysis zeroes in on how method and technique are key sites of contestation in a battle of economic ideas, charting the alterations of Fund analytical techniques underpinning fiscal policy analysis. Its focus is on how fresh insights are arrived at and substantiated using particular analytical techniques – processes crucial to understanding gradual but meaningful IMF ideational change. To map the landscape on which these discussions are conducted, we focus on two concepts in macroeconomics that capture the essence of the fiscal policy debate – crowding out and fiscal multipliers, as a precursor to exploring how the Fund approached and applied these concepts both before and after the GFC.

Crowding out assumes that government expenditure does more harm than good, impeding inherently more efficient private sector activity. Fiscal multipliers gauge the effects of fiscal policy on output, with high multiplier values indicating a significant beneficial effect of expansionary fiscal policy on economic activity. These apparently arcane, technical topics are in fact revealing of crucially important underlying principles of political economy, redolent of disputes between Keynesians and neo-classical economists about the appropriate role of the state. These long-debated ideas offer different visions of which economic policy levers governments can pull, and to what effect, when faced with a collapse of demand and/or a prolonged downturn. Although the Fund’s re-evaluation analysed here involved the technical recalibration of models, at root it was based on changing emphases vis-à-vis *a priori* normative assumptions about fiscal policy.

The significance and contribution of this article is fourfold. Firstly, the analysis contributes to the specific literature on the Fund and its evolving economic ideas, revealing the limitations of broad-brush characterisations such as the IMF as a ‘neoliberal’ institution (see e.g. Nelson 2014, 2017; Mueller 2011; Hernandez 2019). Such a characterisation tends to overlook significant ideational evolution. Furthermore it fails to appreciate varieties of economic insights, often with vastly differing policy implications and corollaries, which can be found within the relatively broad church of ‘mainstream’ macroeconomics, especially since the crash. We look beyond the ‘neoliberal’ label to unearth disputes, disagreements and divergences within conventional mainstream economics.

Nelson’s analysis, albeit focused on the period 1980-2000, sees neoliberal economic ideas as integral to the IMF’s organizational culture – entailing commitments to tight fiscal and monetary discipline and the free play of market forces, and built on rational expectations (2017: 5, 7-8). This is evidenced through the training of most IMF economists at ‘a handful of highly ranked American economics departments that serve as incubators for neoliberal ideas’ (Nelson 2014: 309). Yet Nelson presents a somewhat static and undifferentiated account of ‘neoliberal’ economic ideas, which may understate important different strands of economic thinking and evolutions in economic ideas which are the focus of this article.

Nelson offers an example of what Grabel calls the ‘continuity thesis’ which sees that little has really changed at the Fund (2017: 87; see also Vernengo & Ford 2014). Such a view masks the heterogeneity and capacity for innovation revealed in this analysis.

An alternative version of the ‘continuity thesis’ comes from Mark Blyth, who argued that the Fund had a lightning switch to Keynesian ideas, but that ‘the global return of Keynes was to last only a year from start to finish’ (2013a 54-6). The Fund supposedly ‘reverted to type’ and fell in lock step with the fiscal consolidation focus of the Toronto 2010 G20 (2013b: 206-210; see also Vernengo & Ford 2014; Fiebiger & Lavoie 2017). The story, this analysis

reveals, is more complicated and more interesting than that. As Blyth himself notes (2013a: 212-5), research inspired by Keynesian ideas was developed ‘inside the IMF’ that critiqued the expansionary austerity thesis (2013a: 206). Blyth concludes that the IMF had ‘lost faith with austerity’ (2013a: 216). The Fund’s research arm was by no means reproducing the old orthodoxies about fiscal policy and austerity that Blyth elsewhere implies characterised the IMF from 2010 onwards (2013b: 210).

As this suggests, there was a battle of ideas going on, in which the IMF was embroiled. Integral to this clash was the championing of opposing positions in the austerity debate by ‘star’ economists such as Alesina and Blanchard as identified by Farrell and Quiggin (2017). They rightly draw our attention to ‘dynamics of prestige and status within the profession of economics’ and ‘struggles between different groups within economics’ (Farrell & Quiggin 2017: 269). A lot hinges on ‘factions within both economics profession *and* policymaking’ (Farrell & Quiggin 2017: 279) and the IMF represents, in their account, an important interface between the academia and economic policy-making and a key conduit of the Keynesian thinking, albeit only in the early post-crash period (Farrell & Quiggin 2017: 273-4).

For Farrell and Quiggin ‘ideas and politics were inextricably intertwined’ (2017: 280), with the IMF imbricated in this evolving economic policy debate, and our account aligns with them and indeed Blyth (2013 a&b) on this point. Yet the analysis here provides more depth and detail on IMF ideational evolution. It suggests a different temporality and assigns greater significance to the Keynesian revival at the Fund, both longer in germination and more enduring than Farrell and Quiggin or Blyth indicate.

The nuances and differences in economic thinking central to this analysis of modest but significant IMF ideational change became more visible during and in the wake of the GFC.

Grabel identifies not a monolithic Fund, but rather ‘a dynamic layering process’ which ‘can sustain the myth of organizational cohesion in the face of division’ (Grabel 2017: 90). Her remarkable book highlights ‘subtle departures in IMF rhetoric and less subtle departures in IMF Research’ that highlight ‘tensions and ambiguities’ (2017: 125) in IMF economic thought. More broadly, macroeconomic thinking exhibited an ‘absence’ or ‘breakdown in the professional consensus’ about how to respond to the crisis (Grabel 2017: 90)

This analysis aligns substantially with Grabel’s account, which highlights ‘internal policy debates’ as well as ‘tensions’ and ‘contradictions’ in IMF thinking (2017: 91). The ‘new rhetoric and research mark important breaks with the past that legitimize a concern for the poor and for the social costs of inequality and austerity’ (2017: 132), and amounts to a ‘partial and inconsistent though meaningful change at the IMF’ (2017: 133). Grabel’s fresh insights into the Fund have pointed to a disjuncture between its research arm and operational side. This article shines the light on sinews which link the two – such as the amendments to the models which underpin some IMF operational work. Another example is the ‘bucket’ approach to assessing the size of fiscal multipliers, disseminated by the Fiscal Affairs Department to all IMF staff as a technical note to operationalize evolving IMF thinking about fiscal policy efficacy since the crash (Batini *et al* 2014). The meaningful change in research premises and findings may in time feed into practice through these and other mechanisms.

The second contribution of this article concerns the dynamics of IMF ideational change, raising questions about how far a paradigm change framework enhances our understanding. It connects to insights advanced by others questioning the stability, consistency and coherence of thinking suggested by the paradigm framework (Carstensen & Matthijs 2018; Grabel 2017: ch 1; Clift 2018b, 2019). This analysis highlights scope for discursive struggles within mainstream economics and the importance of ‘intersubjectively held conventions regarding

“the way the world works” among a given community at a given moment’ (Blyth 2013b: 200-3). Berman, for example, notes the importance of policy and political context and how ‘political space’ opens up which different ideas can fill, through shocks, crisis, or through processes of gradual dissatisfaction, and disillusionment with prior ideas. Thereafter, ‘political actors’, ‘carriers’ or ‘entrepreneurs’ work to ‘champion alternatives to the ideas being questioned and perhaps abandoned’ (2013: 227), with the fate of new thinking dependent partly on the ‘power positions’ of these actors.

The article’s third contribution adds to politics of economic ideas accounts through its focus on economic methods and techniques, and the central assumptions of IMF modelling. Method gets neglected as the technical realm within which economic ideas, once established, are implemented. In fact, economic modelling assumptions constitute a site for the contestation of these ideas (on this see also Robles 2018; Yarrow 2018). The Fund’s methods and models retained a commitment to micro-foundations characteristic of the prevailing ‘dynamic stochastic general equilibrium’ (DSGE) modelling approach of mainstream economics. Yet IMF work altered the assumptions and insights feeding into its fiscal modelling in ways which departed from a New Classical or ‘Ricardian’ world view. Rather than constituting a methodological challenge to mainstream academic macroeconomics – IMF modellers and a number of others outside the Fund were pursuing an alternative strand of micro-founded DSGE modelling. The IMF’s fiscal modelling revisions before and after the crash incorporated the rediscovery of some older (Keynesian) assumptions about how the macro economy works.² In addition, following the crash the IMF used non-linear, non-DSGE analytical techniques to gauge higher fiscal multipliers under recessionary and post-financial

² For a discussion of the understandings of the economy underpinning Keynesian, New Keynesian and New Classical economics see Clift (2018a: 65-74).

crisis conditions. The IMF's small modelling team and other IMF researchers re-thought the microfoundations of their models and analysis in a more Keynesian-compatible way.

The analysis explores under-appreciated processes of translation from the underlying positions in the fiscal policy debate, and their assumptive foundations operating at a high level of abstraction and generality, to their operationalization through particular methods and economic models, and more concrete, policy-oriented concepts. The IMF is an avowedly technocratic institution, but in their operational work Fund economists deal in contrasting normatively informed accounts of how the economy and policy work – built in via the assumptive foundations of the various models they operate with. All this is significant for characterisation of the IMF's political economy.

The fourth contribution of this article is to the wider political economy literature on austerity and advanced economy responses to the GFC, analysing how IMF analysis and commentary feeds into, and opens up possibilities within, broader international economic policy debates. As the Great Recession drew on, an influential group of New Classical economists around Alesina, termed by Blyth the 'Boccioni boys' (2013a: 165-70), and by Krugman the 'austerians' (2015), continued to embrace anti-Keynesian 'expansionary fiscal contraction' arguments, and crowding out views. Another group, which included IMF Chief Economist Blanchard as well as respected academics such as Auerbach, Summers, and De Long held Keynesian views about the increased potency of counter-cyclical fiscal policy in recessionary conditions –especially where monetary policy was constrained by the 'zero lower bound'. The IMF was central to bolstering the respectability of the positive views of fiscal policy's efficacy *for a particular group of countries under specific conditions*. Since 2008, the Fund

prescriptive economic policy discourse foregrounds the positive connection between public spending and activist fiscal policy on the one hand and economic growth on the other.

Through analysis of working papers and other Fund publications laying bare the assumptive foundations and ‘modelling philosophy’ (Laxton 2008) at the IMF, it is possible to analyse how particular economic concepts are understood and deployed within the Fund’s modelling, and how this can change. Whilst IMF researchers undertook the Keynesian recalibrations of its DSGE models detailed in this article, the ‘bulk of the articles published in the top journals continued to work with orthodox rational expectations-based models designed as if there had been no crisis’ (Ban 2018: 2; Ban & Patenaude 2018). The IMF’s altered model assumptions and foundations matter because they reflect different ideological pre-suppositions about how efficient markets are, and how and in what way agents are rational. This can entail very different policy ramifications and corollaries. For example, the representative agent of the New Classical Macroeconomics tradition, assuming perfect information and forward-looking constant optimisation, generates a *very* different set of policy recommendations, as compared to the heterogeneous agent approach including significant proportions of cash strapped ‘hand-to-mouth’ consumers and households. The latter increasingly came to underpin the IMF’s post-crash fiscal policy modelling.

We find the IMF’s fiscal policy thinking is built on a somewhat anachronistic amalgam. It assumes the non-applicability of Ricardian Equivalence, and the possibility of elevated fiscal multipliers in short-term - something the Fund uses unconventional non-linear techniques to analyse. At the same time, the Fund anticipates long-term crowding out effects, and takes a relatively hard line on fiscal sustainability in the long run. The economic ideas built into the Fund’s standard operating procedures, and policy frameworks are drawn from different paradigmatic homes. Such a position can be difficult to capture within a paradigm framework

for understanding economic ideas and how they inform policy work. Similar to Carstensen and Matthijs, this analysis is mindful not to present ideas as ideas as ‘too static’ and ‘too monolithic’, and alive to the flexibility and malleability of paradigms, and the importance of ‘gradual ideational change within a paradigm’, and how ‘new ideational elements may be affixed’ to existing paradigms (Carstensen & Matthijs 2018: 432, 433). The shifts ‘in relative weight of ideas within the paradigm’ (2018: 435) identified by Carstensen and Matthijs form a focal point for our analysis. This account points to how this flexibility and malleability extends to incorporating ideas from different paradigmatic homes (see also Clift 2019). This article therefore stresses a repertoire of acceptable, respectable economic ideas ‘in play’ within the Fund, and policy-makers’ tendency to move between and within, and to recombine ideational frameworks depending in part on economic conjuncture, time horizon, and upon who is the recipient of the policy advice, amongst other factors.

The next section explores the IMF’s economic ideas as deployed by ‘clinical’ economists in executing their operational remit, indicating the limits of a paradigm framing for understanding IMF ideational evolution. The following section sets out crowding out and fiscal multipliers, and how they are approached within the IMF in more detail. Thereafter, the analysis briefly charts the theoretical and methodological evolution of modern macroeconomics, highlighting important intellectual moves made in reshaping mainstream macroeconomics along ‘New Classical’ lines in the 1970s and 1980s. It focuses on the fiscal policy implications of the rise of DSGE modelling. The following sections delve into IMF thinking and modelling practice to reveal how some of these ‘New Classical’ assumptions were challenged in the 2000s as unrealistic and unhelpful for policy analysis. Since the crash, the assumptive foundations of Fund fiscal policy models were altered further. The alterations of technique and method reinforced the case for rehabilitating counter-cyclical fiscal policy as a stabilisation tool. This all underpins the IMF’s ‘contingent Keynesian’ approach to

advanced economy fiscal policy recommendations developed since 2008, which finds some echoes in Mario Seccareccia's 'new fiscalism' (2012).

Yet it is important to appreciate the limits of the ideational shift charted here. For all the Fund's nominal commitment to 'even-handedness' (IMF 2014a), the organization continues to approach fiscal issues differently for different kinds of countries. The content of the new thinking results both from the context of the crash, but also the fact that advanced economies were the ones primarily affected. The new analytical work by the Research department, indicating a more Keynesian disposition on fiscal policy, does not apply to all Fund members under all conditions. It is *contingent* – applying in the 'zero lower bound' economic context, but moreover to advanced economies, and only to those enjoying fiscal space (on this see Clift 2018a: 106-110). Thus the novel fiscal thinking pervades research, flagship publications, prescriptive discourse and some multilateral and bilateral surveillance, but it has not altered practice substantively where the Fund is dealing with countries lacking fiscal space, such as conditionality and programmes. There are, as Grabel points out, limits to how much coherence and consistency we should expect from a large complex bureaucratic international institution like the Fund (2017: chapter 5).

Economic Ideas and the IMF's 'Clinical Economists'

The paradigm view of how economic ideas underpin policy thinking, which is the default setting for many political scientists and political economists approaching these issues, sees a world of incommensurable economic ideas, and the embrace of one or rejection of the other in a Manichean struggle (see e.g. Hall 1993; Blyth 2002; Hay 2001). This familiar framing does not prove wholly persuasive in explaining the IMF ideational change detailed here. Our analysis finds limits to the stability, consistency and coherence of IMF thinking which jars with a paradigm framework. As well as flexibility and malleability of paradigms (Carstensen

& Matthijs 2018), we find evidence of ideas drawn from different paradigms being brought together (see also Clift 2019). In this our account follows Blyth in underlining the paradoxical difficulties paradigm thinking has dealing with combining supposedly incommensurable ideas (Blyth 2013b: 203-5, 211-3).

IMF staff, especially in the wake of the GFC, see themselves as pragmatic ‘clinical economists’ who have to address pressing policy questions on a daily basis, ‘trying to figure out what we think is the right policy recommendation ... We in essence approach policy recommendations from the standpoint of empiricism; of trying to figure out what makes sense in a given setting and make sure it’s right’.³ Fund economists’ self-image, then, is as non-doctrinaire and policy-oriented economists. This pragmatic self-image is not to be taken at face value. It underplays, for example, the IMF’s own Independent Evaluation Office findings of groupthink and intellectual capture in the pre-crash Fund (2011, 18-19). It can be criticised for overlooking how ideas about economic policy are always rooted in the principles of political economy, and are thus at some level inherently ideological. Nevertheless, it indicates Fund economists’ scope for anachronistic ‘inter-paradigm borrowing’ (Hay 2011), combining ideas from different paradigmatic homes into a pragmatic amalgam. This is difficult to reconcile to a standard paradigm framework.

Fund economists are willing to engage with somewhat heterogeneous schools of economic thought, and indeed entertain multiple modes of thinking about the economy. Whilst some Fund policy thinking is closely linked to economic modelling, many Fund economists in interview characterised their operational work as more empirical and ‘atheoretical’. This distinction between theoretical and empirical work gives Fund economists licence, in approaching policy challenges, to adjust theoretical beliefs to fit with empirical contexts. IMF

³ Interview with IMF Deputy Director, David Lipton, June 2013

economists appear comfortable operating with different and even incompatible economic world-views depending on the policy issue and economic conjuncture.

IMF working papers will often situate findings in relation to diametrically opposed theoretical positions within the repertoire of the IMF's economic ideas – from traditional Keynesianism to the radically anti-Keynesian New Classical School (see e.g. Batini *et al* 2012; Baum *et al* 2012) - and find some merit in each. Chwioroth's study found 'much more diversity of thought within the Fund than the conventional wisdom suggested' (Chwioroth 2010: xi; see also Ban 2015a&b), and that finding is reinforced here. The range of macroeconomic ideas IMF economists readily entertain all fall within the mainstream, but it extends across a repertoire which goes well beyond just New Classical 'representative agent with rational expectations' thinking. As detailed below, there is an openness to different analytical techniques and modelling assumptions.

The Fund's policy frameworks such as financial programming have been built up over many decades (see Polak 1957; de Vries 1987). The Fund's operational work was founded on a bedrock of Keynesian understandings of the economy, and Fund policy frameworks have evolved since the 1940s and sedimented economic ideas from different paradigmatic homes. IMF economists are influenced by the ebb and flow of the mainstream macroeconomic orthodoxy, and the Fund incorporated new economic ideas from the 1980s onwards, as new recruits trained after the heyday of Keynesianism joined the organisation (Chwioroth 2008). Fund staff have found some evolutions in academic economics more useful than others for fulfilling their role as 'clinical economists'. Due in part to the limits of their real world applicability, neither monetarism (Clift & Tomlinson 2012) nor some of the ideas of the New Classical School (Boughton 2004) wholly took hold within the organisation, such as the policy ineffectiveness proposition (see e.g. Hemming *et al* 2002a: 5). Nevertheless, numerous strands of neo-liberal economic thought were added to the spectrum of views within the Fund

(Chwieroth 2010). Hence talk of the IMF's policy paradigm as a singular, coherent entity (see e.g. David 1985 ; Mueller 2011; Grabel 2003), whilst an understandable shorthand, can be somewhat misleading.

Fund economists are more comfortable debating different methods and models than aligning with particular schools of economic thought, be it New Keynesian or New Classical. As Fund Deputy Director David Lipton put it, 'I think Keynesianism is a label that helps people classify economists into different categories, but I think you would not find people here describing themselves with any of those labels.'⁴ This reluctance explains why the Fund's internal struggle over fiscal policy ideas took place on the terrain of techniques and modelling assumptions. Focusing on such technical considerations side-steps the ideological character of economic discussion which jars with the Fund's technocratic 'clinical' economist self-image and credentials. IMF economists display a relative pluralism, within 'New Consensus' macroeconomics, willing to work with different economic models and analytical techniques, with different assumptions, structures and characteristics, to address a wide range of policy issues and conjunctures.

Fund clinical economists' flexibility should not be overstated. It operates within the parameters of a socially constructed and relatively limited range of acceptable or respectable economic ideas upon which the Fund is inclined to draw. This is shaped by 'internal dynamics of prestige and status within the profession of economics' (Farrell & Quiggin 2017: 1). The Fund also prides itself, in the interests of sustaining its intellectual authority, on the consistency of its policy message. 'Mea culpa' moments where the Fund admits an error and changes its view, as over fiscal multipliers in 2012, are relatively rare. When pushed, many Fund interviewees reflected that they and the institution operates with a broadly Keynesian

⁴ Interview with Fund Deputy Director David Lipton. June 2013

working model – especially for short-term policy analysis. Some variant of the neo-classical synthesis continues to provide the centre of gravity of much Fund thinking. This was often acknowledged by insiders as a combination of ‘short-term Keynesian’ thinking and ‘long-term neo-classical’ insights (see Chwieroth 2010: 72-9).

This open-minded self-image finds expression in something of a mantra at the Fund ‘when the facts change, we are prepared to change’ (see e.g. Lagarde 2013). A stark example is provided by Carlo Cottarelli, Director of the Fiscal Affairs Department between 2008 and 2014. Under the specific conditions which swiftly followed the 2008 crash, namely ‘a demand-deficiency recession. Lack of demand, abetted by uncertainty and rising unemployment, was driving output further and further down.’, as Cottarelli *et al.* noted on the first page of their IMF volume *Post-Crisis Fiscal Policy*, ‘Keynes’ *General Theory* was the relevant textbook’ (Cottarelli *et al.* 2014: 1). In 2013, in light of the advanced economy policy context of the GFC and the Great Recession, Cottarelli confided that ‘there are no Ricardians at the Fund any more’. He tellingly added ‘I don’t know how long it will last, but for the moment ... it’s not that the world will never be Ricardian again, it’s that at the moment it is not.’⁵ The Ricardian and Keynesian views of the economy and fiscal policy are radically incommensurable, yet Fund staff are willing, it seems, take a theory of the economy off the peg when it looks likely to suit the policy conjuncture.

In addition to shifting between insights drawn from different paradigmatic homes, IMF economists also always attach caveats to how they use or interpret the findings from theoretically informed econometric modelling.⁶ The practical expediencies of econometric modelling mean that assumptions underpinning IMF models are at times made out of convenience, and are not necessarily a reflection of pure beliefs (Chwieroth 2010: 43). The

⁵ Interview with former Fiscal Affairs Department Director Carlo Cottarelli, June 2013.

⁶ Interview with IMF Modeller in Chief Doug Laxton September 2013

different models in play at the Fund, the caveats attached to each, and their coexistence alongside non-model based thinking underlines the point that ‘Fund thinking’ about the economy and economic policy is not fully reducible to the assumptions plugged into its econometric models. These are further reasons why paradigm thinking may be of limited use in interpreting IMF economic ideas.

IMF models remain extremely valued tools within the Fund, not least because of its scientific norms prioritising linking IMF research to academic macroeconomics (Momani 2010: 45; Chwioroth 2010: 33). The IMF prizes respectability within the economics profession as one source of its scientific and intellectual authority. Hence the consistent efforts, detailed below, to revise models to limit their shortcomings for fiscal policy analysis – yet to do so in a way that remains faithful to the commitment to ‘firm’ micro-foundations characteristic of mainstream macroeconomics. The caveats attached to models are a recognition that economic policy thinking outside of formal modelling is a burgeoning necessity for an organisation like the IMF. Its ‘clinical economists’, after all, are faced with policy scenarios not always readily captured by this form of econometric modelling.

‘Crowding Out’, Fiscal Multipliers and the Political Economy of Fiscal Policy

Crowding out assumes that government expenditure does more harm than good, impeding inherently more efficient private sector activity. Fiscal multipliers assess the potency of fiscal policy, and higher values refer to the more positive knock on effects on economic activity, through consumption and other channels, of increased public expenditure. These two important economic insights, each of which can operate at varying levels of generality, capture a spectrum of macroeconomic views about fiscal policy. There are processes of translation from the underlying positions in the fiscal policy debate, and their assumptive

foundations operating at a high level of abstraction, to their operationalization through particular methods and economic models, and more concrete, policy-oriented concepts.

The crowding out argument, a mainstay of the analysis of state/market relations, assumes increases in public spending will simply ‘crowd out’ (inherently more efficient) private consumption and investment. These arguments are built on ancillary assumptions about the efficiency of market mechanisms, for example Say’s Law; supply calls forth demand and markets tend inherently towards general equilibrium at full employment. Crowding out harks back to neo-classical economics, and specifically the UK ‘Treasury view’ of the 1920s and 1930s which Keynes was railing against. Partial or full crowding out assumptions reinforce an aversion to government intervention in the economy generally, and activist fiscal policy specifically.

One straightforward, context-specific, crowding out proposition is that government deficits resulting from fiscal expansion will require increased borrowing. This can raise interest rates – drawing funds towards government securities and away from more productive investments. Where fiscal expansion raises concerns about long-term fiscal sustainability, crowding out is exacerbated by the risk premia attached to government borrowing. A second dimension of crowding out is how fiscally conservative central banks committed to sound money respond to fiscal expansion by raising interest rates (see e.g. Arestis & Sawyer 2003: 8-9).

Particularly salient for the fiscal policy debate, the ‘Ricardian equivalence’ of debt and taxation is another channel for crowding out, occurring through a fall in consumption (Barro 1974; 1989). This prominent feature of the post-crash politics of austerity discussion brings the relationship to fiscal multipliers into focus. Ricardian equivalence, a position which, perhaps confusingly, David Ricardo did *not* agree with (see Quiggin 2012: 95-6), argues that rational, forward-looking actors alter consumption practices in anticipation of future rises in

taxation associated with debt-financed increased public expenditure. Economic agents thus offset the effects on aggregate demand of expansionary government fiscal policy; ‘the policy is totally frustrated, and the fiscal multiplier is zero’ (Arestis & Sawyer 2003: 12-13).

Ricardian equivalence arguments, just like the 100% crowding out arguments that are their close cousins, presume no positive effects of expansionary fiscal policy. The fiscal multiplier value may even be negative. These interpretations are the anti-thesis of the classic Keynesian view that fiscal expansion can boost employment and output.

The opposing, more Keynesian, view analyses fiscal policy in terms of positive fiscal multipliers, which gauge a beneficial effect on output of government fiscal activism (Keynes [1936]1964: 113-131; Backhouse 2006: 32). This recognition of the potentially beneficial effects of increased public spending and positive spillover effects of the aggregate demand boost on consumption, economic activity and confidence is important for the politics of fiscal policy. Once again it relies on ancillary assumptions, notably ‘the absence of some powerful automatic market forces’ ensuring ‘that the level of aggregate demand moves quickly to be consistent with the supply-side equilibrium’ (Arestis and Sawyer 2003: 12). Some recent studies suggest that, under certain conditions, for example in a recession, with a sizeable output gap and spare capacity in the economy, fiscal multipliers can be as high as 3 or even 5 (Auerbach and Gorodnichenko 2012; Christiano, Eichenbaum, and Rebelo 2011; Woodford 2011).

The Consensus in mainstream pre-crash macroeconomics viewed monetary policy as a more reliable and desirable tool for economic stabilisation than fiscal policy (Romer 2012; Blanchard *et al* 2010). As a result, the debate about fiscal policy efficacy was a sleepy backwater of macroeconomic theorising. That said, these starkly competing and conflicting interpretations of fiscal policy effects continue to find their advocates within macroeconomics, with no consensus emerging either empirically or theoretically. The IMF

takes a keen interest in theoretical evolutions and debates in academic macroeconomics. It is staffed by trained economists who were party to these debates, and many continue to publish in academic economics journals. These academic fiscal policy debates are vital context for the Fund's own thinking and practice because of the importance the IMF attaches to situating its own economic policy analysis in relation to prevailing thinking in mainstream economics (see e.g. Chwieroth 2010: 33; Ban 2015a & b; Boughton 2004).

The centre of gravity of the Fund's pre-crisis fiscal policy thinking remained broadly within the consensual mainstream view that fiscal multipliers are modest but positive, likely around 0.5, and probably less than 1. Multipliers varied according to countries' economic openness, whether monetary policy was accommodating, exchange regime and so on (Hemming, Kell & Mahfouz 2002, Hemming *et al* 2002a&b; Heller 2002). IMF studies reviewed the existing body of knowledge on fiscal policy's efficacy for advanced economies in the early 2000s, noting that, 'despite Keynesian orthodoxy, fiscal policy is only marginally effective in countering economic downturns' (Hemming *et al.* 2002b: 237). These studies include some recognition of the possibility that fiscal multipliers may be negative (Hemming *et al* 2002a&b), although doubt was cast on the empirical substantiation for that view; 'There is little evidence of direct crowding out or crowding out through interest rates and the exchange rate. Nor does full Ricardian equivalence or a significant partial Ricardian offset get much support from the evidence' (Hemming *et al* 2002a: 5). On balance the Fund's view was rather downbeat on both the Keynesian assessment of potent counter-cyclical fiscal policy, and on the New Classical assertion that fiscal policy is completely ineffective.

Models, Assumptive Foundations, and Mainstream Economics

One crucially important level at which these fiscal debates are carried out is the technical discussion over which models, with which assumptions plugged into them, should be used to analyse macroeconomic policy questions. The way the IMF constructs its models and approaches method and technique issues mediate how these fiscal policy debates mattered for IMF policy thinking and practice. The Fund efforts to revise the premises of its models to make them more relevant for post-GFC policy analysis reflects, in part, the IMF's role as 'clinical' economists. Their operational remit sets them somewhat apart from academic economics, this distance rooted in differing modelling ambitions between academic and policy-oriented research (Blanchard 2018: 48; Ban & Patenaude 2018). As others have noted, traction over real-world policy issues is more important for policy economists in central banks or at the IMF than it is for academic career success (Ban 2018: 2-3; Thiemann 2018; Blyth 2013b: 209).

Within academic economics in the 1970s and 1980s, what has been termed the New Classical Counter-Revolution (NCCR), launched an assault on prevailing structural econometric models (SEM)s, and their Keynesian underpinnings (Wren-Lewis 2016). New Classical Macroeconomics was profoundly unsatisfied with the lack of coherence between the assumptions of macroeconomics underpinning the neo-classical synthesis (imperfect markets containing wage and price rigidities), and microeconomics' utility maximising, optimising and efficient understandings of how actors and market behave (see Skidelsky 2009: 104-9). This was at the core of the NCCR's animating desire to provide rigorous 'micro-foundations' (incorporating forward-looking, constantly optimising agents) for macroeconomic theorising and analysis (Lucas 1976, Lucas and Sargent 1981).

Central to the attack on how economics and modelling was being conducted was the 'Lucas critique', which pointed out methodological flaws of how Keynesian SEMs were used for policy analysis (Lucas 1976). These models sought to predict the effects of economic policy

on the basis of relationships observed using aggregate historical data. Key assumptions about behaviour - decision rules, such as the consumption function - treated as structural (and unchanging) aspects that would, in fact, be sensitive to alterations in policy. SEMs could therefore not capture how behaviours of individual economic actors would change in response to policy change. As Lucas & Sargent claimed starkly ‘without knowledge as to which structural parameters remain invariant as policy changes, and which change (and how), an econometric model is of *no* value in assessing alternative policies’ (1997 [1978]: 273). This logical problem constituted a rebuttal of all models not based on individual optimisation (the rigorous micro foundations which were the essence of the NCCR).

After the Lucas critique, which reverberated widely in macroeconomics, it became a benchmark of methodological respectability, both in academia and policy institutions, to embrace the ‘firm’ micro-foundations agenda. New techniques emerged, notably DSGE modelling, based on predicting the behaviour of these rational agents. This seemed to offer the potential for a macroeconomics built on NCCR’s firm micro-foundations. Real Business Cycle (RBC) theory, which advanced a distinctly anti-Keynesian approach to explain business cycles (see Backhouse 2002: 298-301), was the first to use DSGE modelling (Blanchard 2018: 44; Helgadottir 2018). RBC used the very exacting New Classical understanding of constant optimising rational expectations to account for the peaks and troughs of the economic cycle. Whilst the plausibility of RBC’s account of business cycles was questionable (Wren-Lewis 2016; Eatwell & Milgate 2011: xvi), the methodological advances of DSGE, micro-founded on rational expectations gained widespread assent.

The microfoundations move augured by Lucas and Sargent, and the trail blazed by RBC and its DSGE models, had deep and wide impacts on the economics profession (Blanchard 2018; Wren-Lewis 2018; Hendry & Muellbauer 2018; Helgadottir 2018). Whilst these lie beyond the ambit of this article, there are specific implications for the 21st Century fiscal policy

efficacy discussion, and the international economic policy debate. The innovative New Classical methods and techniques were not incorporated into macroeconomics in a way that was neutral regarding the principles of political economy themes that suffused the fiscal policy discussion. As Chwioroth notes, ‘even the most ostensibly positive models of economic behaviour are saturated with normative and ethical implications’ (Chwioroth 2010: 42; see also Dow 2015; Best & Widmaier 2006). The prevailing approach to DSGE modelling is built on the heroic assumption of a single representative agent. The way New Classical Macroeconomics and its DSGE modelling approached both the specific characteristics of the ‘representative agent’, and the particular nature of their ‘rational expectations’ made a series of important intellectual moves to entrench a distinctive view of the economy. Assuming constantly optimising forward looking agents, possessed of complete and perfect information, fuels a conviction that market mechanisms and the private sector will allocate resources optimally. These *a priori*-presumed efficient functioning markets, in this vision of the economy, can and should be left to their own devices to steer the economy back to (full employment) equilibrium (see e.g. Quiggin 2012: 80-4, 109-110; Backhouse 2002: 298-301; Stiglitz 2018: 75).

Crucially for the fiscal policy discussion, the apparently technical and methodological changes to economic analysis, inspired by New Classical Economics entrenched ‘crowding out’ and Ricardian equivalence assumptions. In an RBC world of rational expectations, the representative agent, and complete, efficiently operating markets - government stabilisation policy has no role to play (see Romer 2012; Quiggin 2012: 96). Robert Solow calls these the ‘Panglossian assumptions’ that underpin mainstream modern macroeconomics in the DSGE vein (2008: 243). As Best and Widmaier point out, New Classical economics makes a case against any kind of public intervention; ‘fiscal policy, - even discretionary monetary policy –

all were seen as inherently suspect. In a world of rational agents, the best thing that the state can do is to establish clear property laws and let the market sort things out' (2006: 623).

Bringing the normative theoretical moves and the methodological innovations together, the 'representative agent with rational expectations' (RARE) emerged as the fulcrum of state of the art macroeconomics. The need for solid micro-foundations, and the merits of DSGE became a point of methodological commonality, shared by disparate approaches to macroeconomics from RBC to New Keynesianism. Whilst some accepted the unrealistic assumptions of the 'complete markets paradigm' inspired by New Classical economics (Buiter 2009), New Keynesian economists swiftly retreated from some of the extreme assumptions of efficient markets. They added frictions and incorporated wage and price rigidities and other market imperfections into their micro-founded models. This provided the methodological lynch-pin of the 'New Consensus' in macroeconomics which emerged in the late 1990s and 2000s (Arestis 2009; Woodford 2009). Incorporating these market imperfections both rendered the models more useable for real-world policy analysis, and rehabilitated a role for government economic policy in stabilisation (Skidelsky 2009: 31).

Modelling Fiscal Policy Effects at the Fund Before and After the Crash

There was a tendency for both New Keynesian and RBC models in the pre-crash period to often implicitly assume something approaching perfect competition and complete markets, although New Keynesians incorporated more market imperfections, and how far models went in this direction did vary (Buiter 2009; Wren-Lewis 2016). The Fund took very seriously the insights about rational expectations, as well as those about rigorous microfoundations. RBC theorising became part of the range of economic ideas evoked in Fund publications and RBC models formed the basis on which the Fund built up its DSGE modelling (see e.g. Batini *et al* 2012: 7, 12-13; Blanchard 2018). Even before the GFC, the IMF modelling team was

recalibrating its DSGE modelling to incorporate a wider array of ‘New Keynesian’ market imperfections, revising their models to reduce the reliance on RBC and New Classical complete market and constant optimisation characteristics.

The rationale behind the revisions was to improve the ability of Fund models to explain real-world fiscal policy dynamics and effects (Botman *et al* 2006, 2007; Laxton 2008). IMF modellers, more than most academic economists, are keen to improve the fit between their data and their models, which can require ‘more flexible, less microfounded, lag structures’ (on this see Blanchard 2018: 48).⁷ The IMF developed a wider array of DSGE models, especially designed to address particular fiscal policy issues and effects. Regarding the IMF’s main ‘Global Economy Model’ (GEM) DSGE model, Fund modellers recognised that its representative agent ‘paradigm’ meant GEM was not useful for fiscal policy issues (Botman *et al* 2007: 1, 15; Laxton 2008). Fund discussions of GEM’s shortcomings noted it lacked ‘the departures from Ricardian equivalence necessary for realistic analysis of fiscal issues’ (Botman *et al* 2007: 4).

By 2006 the IMF had developed the Global Fiscal Model (GFM), designed specifically to contain features recognising a range of market imperfections in order to handle fiscal policy issues. The ‘Keynesian’ qualities of GFM are limited, since Botman *et al* (2007) make the case that fiscal consolidation is beneficial, even if there are negative short-run effects.

Nevertheless the changed assumptive foundations of the model are significant. Crucially, this more fiscally-attuned IMF DSGE model disaggregated between ‘consumption of optimizing agents’ and ‘consumption by rule-of-thumb consumers’ (Botman *et al* 2006: 9). The inclusion of the latter meant this was a non-Ricardian model. It stood outside the New Classical conception of the economy. Fund modellers seeking to develop and recalibrate

⁷ Interview with Senior IMF modeller Doug Laxton, September 2013.

DSGE models were, however, attentive to retain their commitment to ‘rigorous microfoundations’ (Botman *et al* 2006: 3). IMF modellers framed their revisions using techniques that were most likely to convince within the economics profession and amongst their peers at the Fund.

When the GFC hit, the limitations of standard, off the peg mainstream DSGE models for understanding the fiscal policy discussion became more keenly felt (see e.g. Krugman 2018). The crash presented a world that DSGE modelling underpinned by the optimising rational expectations of a representative agent struggled to explain or account for. A range of leading economists, including Krugman, Stiglitz, Mankiw and Solow raised questions about mainstream DSGE’s foundations. As Eatwell and Milgate put it tartly, ‘they note the patent absurdity of assuming that representative agent models can capture the complicated interactions of very many heterogeneous agents’ (2011: 15).

The range of problems raised with DSGE after the crash is wide and deep (see e.g. Stiglitz 2018), with Paul Romer arguing that DSGE models do not qualify as scientific work (2016). The specific focus here is on limitations pertinent to the fiscal policy discussion. The models did not accommodate, for example, involuntary unemployment, or banks and the financial sector, or default. A crucial limitation was the linearity of DSGE models, and their blindness to the economic cycle. A Keynesian-style multiplier varies according to the output gap, and is larger in recessions. This, as Parker notes, is ‘ruled out in the dynamics of any DSGE model linearized around a single point ... in almost every DSGE model ... fiscal policy is as effective in a roaring boom as a deep recession.’ (Parker 2011: 2).

The IMF moved to revisit and recalibrate the foundations and application of its DSGE modelling, focusing on the RARE assumptive foundations, Ricardian equivalence, and the ‘complete markets paradigm’ underpinning the whole edifice (see e.g. Buiters 2009; Solow

2008; Eatwell & Milgate 2011: xvi-xviii). Such models and such thinking were of limited use for the IMF in conducting its surveillance and policy recommendations amidst the GFC and the Great Recession. David Romer, the Berkeley Economist then working within the IMF Research Department, noted ‘the workhorse new Keynesian dynamic stochastic general equilibrium (DSGE) models on which we were concentrating so much of our attention have been of minimal value in addressing the greatest macro-economic crisis in three quarters of a century’ (2012: 57). The impetus for revisiting the modelling techniques and assumptions (notably about fiscal policy inefficacy) underpinning DSGE modelling grew within the Fund (Blanchard 2014, Anderson *et al* 2013).

Highlighting the Fund’s relative methodological pluralism, Blanchard noted in September 2014, ‘the message should be to let a hundred flowers bloom. Now that we are more aware of nonlinearities [revealed by the financial crisis and its aftermath] and the dangers they pose, we should explore them further theoretically and empirically—and in all sorts of models’ (Blanchard 2014: 28). Whilst remaining committed to revise and improve DSGE models, Blanchard noted how the ‘current core’ of DSGE, ‘roughly an RBC structure with one main distortion, nominal rigidities’ was ‘too much at odds with reality to be the best starting point.’ More specifically, the understanding of the dynamics of consumption and price-setting (based around perfectly competitive markets), ‘in combination with rational expectations’ leads to assumptions of ‘too much forward-lookingness on the part of economic agents’ (2018: 52). The implications of these shortcomings for how the models assess macroeconomic and fiscal policy effects are crucially important. The recognition of more market imperfections, and greater impediments to markets clearing, points to a profoundly different conception of policy efficacy. Such insights about the limits of agents’ optimisation sparked off, both within the Fund and outside it, further rethinking of the agents who constituted the micro-foundations of macroeconomic theorising. One thing the New Classical and RBC-inspired

representative agent approach fails to acknowledge is how different groups within the economy exhibit differing marginal propensities to consume (Stiglitz 2018: 84; Haldane & Turrell 2018: 231, 238). The move to incorporate *heterogenous* agents into the models is of particular relevance to the fiscal policy discussion.

IMF work outlining the structure of their fiscal models had already noted a range of reasons why Ricardian Equivalence does not hold (Botman et al 2006: 3-4; Botman et al 2007; Laxton 2008).⁸ These views became more firmly held following the crash as Fund modellers redoubled their efforts to address the limitations of their pre-crisis models. Specifically, they further revisited and relaxed the unhelpful Ricardian and complete, efficient market assumptions on which earlier models had been based (see Laxton 2008, Botman *et al* 2007). The Fund goes beyond a standard New Classical ‘representative agent’ worldview to envisage a more differentiated economy, including cash-strapped households and ‘hand-to-mouth’ consumers. The move in this direction began before the GFC (Botman *et al* 2006), but has been accelerated since (Anderson *et al* 2013). Crucially for understandings of fiscal policy efficacy, credit-constrained or ‘rule of thumb’ consumers are ‘non-Ricardian’, reacting differently to rises in public expenditure by fully consuming additional income. This technical alteration unpicks some of the intellectual moves made by the NCCR. Agent heterogeneity challenges Ricardian Equivalence and crowding out assumptions, and so resurrects the possibility of a positive impact of public intervention in the economy. The potency of counter-cyclical fiscal policy increases in models based on these assumptions.

Fund flagship publications (IMF 2013: 17-21) point to how, in academic economics as well as at the Fund, Keynesian features have been brought into DSGE modelling (e.g., Christiano, Eichenbaum, and Rebelo 2011; Woodford 2011). The Keynesian economists at Berkeley,

⁸ Interviews with Senior Fund modellers and economists, June & September 2013.

Auerbach and Gorodnichenko, oft-cited in Fund publications, note how the binding zero lower bound on interest rates means ‘increases in government spending’ have ‘no crowding out of investment or consumption, which leads to large multipliers’ that ‘in recessionary times’ could be ‘between 3 and 5’ (2012: 8). Thus the Fund’s somewhat Keynesian recalibration of its DSGE models finds succour from similar work by a group of respected economists. Within the Fund, the revisionist view of DSGE modelling predominated.

IMF Post-Crash Modelling, Fiscal Efficacy, and the Economic Cycle

The IMF’s post-crash models became more sophisticated, incorporating more rigidities and market imperfections highlighted by Keynesian and New Keynesian theory (Anderson *et al* 2013). Yet *as DSGE models* they retained a number of in-built linear assumptions of a return to full employment (Parker 2011). The Fund’s Global Integrated Monetary and Fiscal Model (GIMF), despite being specifically designed to address fiscal policy efficacy questions, faces limitations inherent in its design and structure. It is, after all, a general equilibrium model where all markets clear. As one Staff Discussion Note underlined, GIMF retains a crucial flaw ‘the model does not allow for involuntary unemployment and the analysis is conducted around an initial steady state that does not account for different cyclical or competitiveness positions’ (Barkbu *et al* 2012: 14-15; see also Riera-Crichton, Vegh & Vuletin 2014).

Another Fund study of post-crash fiscal policy bemoaned the over-reliance in the literature on ‘linearized dynamic stochastic general equilibrium (DSGE) models which by construction rule out state-dependent multipliers.’ (Batini *et al* 2012: 5; Corsetti, Meier & Muller 2012: 9; Auerbach & Gorodnichenko 2012: 2). State (of the economy)-dependent fiscal multipliers fall outside GIMF’s worldview.

In recognition of the limitations of DSGE's linear, equilibrating assumptive foundations, IMF economists used other techniques alongside DSGE models to tackle post-crash fiscal policy issues. Some of these were better able to capture cycle-dependent fiscal multipliers and other aspects of fiscal policy efficacy in the extra-ordinary post-crash conditions. Using non-linear techniques emulating Auerbach and Gorodnichenko (2012), IMF research found considerably higher multipliers during recessions (Batini *et al* 2012: 5). Similarly, the IMF's *Fiscal Monitor* used a 'a regime-switching VAR to control for differences in the impacts of fiscal shocks during periods of positive and negative output gaps and find multipliers of up to 1.3 during downturns.' (IMF 2012: xi, 15, 33-9; Batini *et al* 2012: 11). This important asymmetric multipliers finding was corroborated in a range of other IMF research avoiding linear approaches (see e.g. Corsetti, *et al* 2012: 2-5, 24-5; Baum *et al* 2012: 13, 17).

The specific conditions presented by the crash raised the likelihood of what Keynesians called the 'liquidity trap' in advanced economies indicating both higher fiscal multipliers, and a reduced risk of crowding out effects. As Baum *et al* summarise the thinking, 'In times of a negative output gap, the traditional crowding-out argument—that higher government spending displaces private spending—is generally less applicable since excess capacities are available in the economy. In addition, the proportion of credit-constrained households and firms, which adjust spending in response to a change in disposable income, is higher' (Baum *et al* 2012: 5, 6). As post-GFC Fund research and other studies have consistently found that fiscal policy potency varies according to cycle, affecting both the size of fiscal multipliers and the likelihood of crowding out effects (IMF 2017b: 189-90), it is important not to always assume away the cycle in their thinking, for example through over-reliance on DSGE modelling.

Since the crash, IMF advanced economy fiscal policy commentary thus places the findings from DSGE analysis in a wider, more cyclically attuned, context. DSGE models 'suggest that

the size of multipliers tends to be modest (between zero and one over the first year) in “normal times” ... in which the economy does not have a significant output gap’. However, outside normal times, and indeed outside the purview of DSGE modelling, the Fund appreciates that ‘multipliers can vary with the state of the business cycle (generally larger in a downturn than in an expansion, although the empirical evidence is not conclusive) or the degree of monetary accommodation (larger when monetary policy is unresponsive, such as at the effective lower bound)’ (IMF 2017b: 187-8).

Another reason to limit the reliance on DSGE is their ability to capture non-linear economic policy dynamics which the Fund saw as increasing pertinent in the post-crash context (see Spilimbergo et al. 2008; Freedman et al. 2009: 3; Blanchard & Cottarelli 2008; Blanchard 2011, 2014). The economy can get ‘stuck’ below potential output levels for a prolonged period, due to non-linear dynamics such as secular stagnation, hysteresis, or deflation (Decressin & Laxton 2009). Discussions of GIMF simulations of the 2009 global fiscal stimulus note ‘The 2009 stimulus, for example, was likely instrumental in averting a potential deflationary spiral and protracted period of exceedingly high unemployment, macroeconomic conditions that general equilibrium models such as the GIMF are not well suited to capture’ (IMF 2012b: 17-18). Non-linearities are notoriously difficult to accommodate within DSGE models. The same problems apply to capturing ‘bad debt equilibria’ flowing from doubts about fiscal sustainability, ‘vicious cycles of falling activity and rising debt ratios’ or indeed between sovereigns and banks adverse feedback loops (IMF 2012b: 12. 18-19). Integral to the rehabilitation of fiscal policy is the recognition and greater appreciation by Fund economists of non-linear fiscal policy and financial system dynamics. This underscores the importance both of the caveats attached to DSGE models (what they can and cannot explain), and of different analytical techniques and ways of thinking about the economy in use within the Fund.

The IMF's Contingent Keynesianism

The IMF, then, revisited its fiscal policy premises and the assumptive foundations of some of its econometric models. The Fund's resultant reassessment of short-term fiscal policy efficacy *for advanced economies* was an important move within the politics of austerity debate. The IMF's new fiscal policy prescriptions which followed from this rethink and remodelling jar with the Fund's reputation for austerity and fiscal conservatism (see also Clift 2018a). The IMF's latest fiscal policy models contain more 'New Keynesian' characteristics and features, and a wider array of market imperfections than their predecessors. GIMF incorporates further important departures from the pure rational expectations, representative agent' (RARE) assumptions of New Classical economics (Anderson *et al* 2013: 8-17). It includes non-Ricardian consumers, as well as incomplete asset markets and 'frictions in the form of sticky prices and wages, real adjustment costs, liquidity-constrained households, along with finite-planning horizons of households'. Each of these features, hard-wired into the assumptive foundations of the model, reflect how the GIMF model constitutes a much less 'anti-Keynesian' view of the economy than in earlier DSGE models. The policy corollaries of all these features 'imply an important role for monetary and fiscal policy in economic stabilization.' (Anderson *et al* 2013: 4; Barkbu *et al* 2012: 14-15). This is reinforced by the view, developed at the Fund since 2008 outside a DSGE framework, that fiscal multipliers are higher during recessions, and especially those following financial crises.

The essence of the IMF's post-crash fiscal policy understandings are captured in the assumptions of its GIMF model, the 'non-Ricardian features of the model', the 'non-neutrality in both spending-based and revenue-based fiscal measures' and its central policy corollary that 'fiscal policy can stimulate the level of economic activity in the short run' (Anderson *et al* 2013: 5). Government interventions through monetary and fiscal policy have

real, potentially potent, effects on the economic growth and stability that are at the core of the Fund's mandate. A consistent feature of post-crash fiscal policy recommendations for advanced economies are targeted social transfers to benefit lower earners and poor and vulnerable social groups with a higher propensity to spend, and thus where the multipliers are higher, especially when the output gap is large (Freedman *et al* 2009: 7-9; IMF 2008: 181) than other transfers (see also IMF 2009: xiii-xiv, 26, 42-3; IMF 2016, p 12-14; IMF 2017a: x). This focus on lower earners continues in the vein of heterogeneous and liquidity-constrained agents, illustrating how the model tweaks and the policy recommendation 'outputs' link together.

A further indication of the Keynesian flavour of the rehabilitation of fiscal policy within the IMF, reflected in the assumptive foundations of the new GIMF model, is greater recognition of the positive impact of government investment on the long run productivity of the economy. Thus 'a temporary increase in government investment will raise the economy's productive capacity for many years to come' (Anderson *et al* 2013: 10; see also Kumhof *et al* 2010). This has become a recurrent IMF clarion call; in the current low interest rate context, such measures will *pay for themselves* and indeed *bring down debt* through their positive growth effects (IMF 2014b: ch 3, IMF 2015: xi; IMF 2016: 12-14; IMF 2017a: x, 2-3, 17-20).

The crash heightened awareness within the Fund of the adverse pro-cyclical propensities of financial markets, and their potential impacts on demand, confidence and the real economy. The IMF has been mindful of the need to incorporate them into DSGE modelling, recognising this was a shortcoming of its earlier DSGE models (Laxton 2008: 239). Moves to incorporate the financial / real sector interactions into IMF models progressed with GIMF. Addressing these 'macro- financial linkages' in the post-crash GIMF model is achieved

through the incorporation of ‘a financial accelerator’ (Kumhof *et al* 2010: 4) which recognises the pro-cyclical dynamics of the financial system (Anderson *et al* 2013: 5, 7). The potentially deleterious pro-cyclical effect on demand and confidence of these financial / real sector interactions is another facet of the case for heightened potency of counter-cyclical fiscal policy.

Summing up the Fund’s post-crash views on advanced economy fiscal policy, the April 2017 *Fiscal Monitor* noted, ‘The greater role of fiscal policy for stabilization has also been supported by academic research showing that discretionary fiscal policy can have a strong effect on output (reflected in high fiscal multipliers) when monetary policy is constrained, the financial sector is weak, and there is significant and protracted slack in the economy’ (IMF 2017a: ix-x, 1-2). Important though it is, this is a context-specific and thus contingent revision of the IMF’s fiscal policy thinking. It applies *to advanced economies and in the context of the post-GFC recessionary conditions*.

Crucially, monetary policy, normally the preferred economic stabilisation tool, had reached its ‘zero lower bound’. The interaction of fiscal and monetary policy affected fiscal policy efficacy. Fiscal multipliers, the Fund’s post-crash modelling indicated, were considerably higher when there is monetary accommodation, as in the case of sustained very low interest rates (Anderson *et al* 2013: 17). Fund flagships recurrently noted how, under conditions of low interest rates and where the economy was operating below full employment, crowding out was much less likely (IMF 2017b: 185-7)

This ‘special case’ argument had the merit of down-playing any disjuncture with pre-GFC Fund pronouncements on fiscal policy, or indeed fiscal policy views articulated about other kinds of countries. It also opened up scope for Fund staff to consider a more positive attitude towards counter-cyclical fiscal activism without dislodging baseline predispositions- *under*

normal conditions to prioritise long-term fiscal sustainability. The post-crash IMF became more positive about the short-term potency of fiscal policy as a counter-cyclical tool. Yet the Fund has not lost its reservations about deficit bias and expansionary fiscal policy, described variously by insiders as ‘innate’ and ‘congenital’. Reluctance to advocate increasing public expenditure due to concerns of long-term fiscal sustainability has always been an element of its views on sound fiscal policy (see e.g. Heller 2002, 2005; Kumar & Ter-Minassian 2007).

These pre-dispositions influence the way the Fund advises countries to engage in stabilisation using counter-cyclical fiscal policy. There is a preference for expenditure reductions rather than revenue increases to address fiscal adjustment problems (see Baum *et al* 2012: 17-18). Fiscal sustainability is seen as a ‘crucial precondition’ of finding higher fiscal multipliers at times of financial crisis, the policy implications being ‘This clearly underscores the case for preserving and strengthening fiscal buffers in good times’ (Corsetti, Meier & Muller 2012: 24-5), since one can never predict accurately when a financial crisis may hit.

The long-term properties of GIMF assume that ‘sustained government deficits crowd out private investment and net foreign assets in the long run.’ (Anderson *et al* 2013: 5). Ricardian equivalence does not hold in the short-term, but in the long-term crowding out is anticipated. The two positions are reconciled through a disjuncture between the short-term and long-term premises of its GIMF model. This is a post-crash refresh of the amalgamation of short-term Keynesian, long-term neo-classical view, a take on the neo-classical synthesis which has long found favour within the Fund (see Chwioroth 2010).⁹ It indicates that *under the specific post-crash conditions* fiscal policy is more effective, whilst retaining Fund concerns about fiscal

⁹ Endorsement of the view was a feature of numerous interviews with IMF economists, including Olivier Blanchard, David Lipton, and Paolo Mauro.

sustainability in the long-term through its recognition of the dangers of crowding out on that timescale.

Conclusion

The IMF undertook a significant yet *contingent* re-assessment of fiscal policy – applying to *advanced* economies, specifically those enjoying ‘fiscal space’, and under the particular post-GFC macroeconomic conditions. Nevertheless, this constitutes meaningful change, and in recognition of that this article offers four main contributions to nuance our understanding of the IMF and its economic ideas. Firstly, to the specific literature on IMF economic ideas, we find evidence of gradual but significant ideational change. In the early to mid 2000s, IMF modellers found that the Ricardian assumptions arising out of New Classical Economics did not prove helpful in modelling real world fiscal policy outcomes. The Fund began altering its model assumptions to admit more Keynesian insights, developing new non-Ricardian fiscal policy models. The IMF’s fiscal modelling revisions, which began before the crash, accelerated after it as Fund economists developed more New Keynesian conceptions of rational expectations and revised its models further. Thus we find the Keynesian revival at the Fund being both longer in germination and more enduring than some have recognised. Our analysis also underlines the range of economic ideas on which the IMF are ready to draw is, perhaps, wider than commonly understood. The range of operational ideas informing Fund thinking and practice extends from New Classical and RBC to ‘New Keynesian’ and indeed ‘Keynesian’ economic thinking. This variety of economic insights, often with vastly differing policy implications and corollaries, remains in play within the Fund and reconcilable to the relatively broad church of New Consensus macroeconomics.

Secondly, the article adds to a body of ideational scholarship questioning the stability, consistency and coherence of thinking suggested by the paradigm framework by highlighting

limitations of a paradigm change framework for understanding the post-crash evolution of IMF fiscal policy thinking. The coexistence within IMF operational work of different ways of thinking about the economy has been underlined. We have identified a malleable, flexible approach to the evolution of the Fund's fiscal policy thinking which has sought to incorporate ideas from different paradigms - notably radically incommensurable Keynesian and New Classical understandings of the economy - in a pragmatic amalgam according to policy context. Pushback against some of the anti-Keynesian assumptions associated with a New Classical world-view in the wake of the GFC generated much more favourable assessments of fiscal policy potency and efficacy. IMF economists see themselves as 'pragmatic' and 'non-doctrinaire' 'clinical' economists, ready to take a theory of the economy off the peg when it looks germane to the economic policy discussion at hand. Whilst this self-image jars with assessments of earlier IMF 'groupthink' and 'intellectual capture', and fails to recognise the ideological character of *all* economic ideas, it is consistent with the Fund's anachronistic 'inter-paradigm' borrowing detailed here.

Thirdly, we add to the politics of economic ideas approach a greater focus on economic method and technique. Modelling assumptions have been identified as an important site of contestation over between New Classical and New Keynesian views of the economy and policy. There was increased awareness at the Fund of the limitations of DSGE models, notably their inability to capture higher fiscal multipliers during a recession. Openness to different kinds of models was championed from on high by the Chief economist (Blanchard 2014: 28). The IMF's small modelling team have re-thought the micro-foundations of the models, and other analytical techniques in a more Keynesian-compatible way. An important aspect of this was IMF economists thinking outside the DSGE box, using non-linear analytical techniques to incorporate the rediscovery of some older (Keynesian) assumptions about economic policy. A key specific shift in Fund fiscal policy thinking is greater

recognition of more Keynesian insights about the size of fiscal multipliers depending on the state of the economy (higher in a recession following a financial crisis). Such an insights cannot be captured with DSGE modelling which ‘rule out’ such state (of the economy) dependent multipliers ‘by construction’ (Batini *et al* 2012: 5; Corsetti, Meier & Muller 2012: 9). Thus this important revision required the use of non-linear methods. Drilling down into models and their assumptions in this way enables close inspection of how the IMF have incrementally moved the goalposts economic policy rectitude.

Fourthly, in relation to the politics of austerity, we have laid bare some of the underpinnings of the Fund’s key interventions within international economic policy debates, wherein the IMF was central to bolstering the respectability of the positive views of fiscal policy’s efficacy *for a particular group of countries under specific conditions*. There was, within the assumptive foundations of post-crash Fund modelling, a clear rejection of the New Classical and RBC assertions that public intervention in the economy always does more harm than good. This had significant implications for the international economic policy debate about policies being pursued amidst the Great Recession. Fund post-crash fiscal policy modelling and analysis increased the confidence with which the Fund threw its weight behind its decisive debunking of the expansionary fiscal contraction thesis (IMF 2010), underpinned and reinforced its assessment of higher fiscal multipliers in the post-crash context (IMF 2012b), and reinforced its more positive view of public infrastructure investment (IMF 2014b). In this way these apparently technical recalibrations of Fund methods and models hard-wired a more positive assessment of fiscal policy potency into Fund thinking, and were an important intervention in the politics of austerity. Analysing how the politics of economic ideas plays out in this level of granular detail demonstrates how modelling revisions and analytical techniques bolstered the IMF’s contingent Keynesian post-crash fiscal policy assessment for advanced economies. Rethinking the micro-foundations of IMF models

helped reconnect to some older, Keynesian assumptions about how the macro economy works.

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