

Designing a New Fiscal Framework: Understanding and Confronting Uncertainty

By Jagjit S. Chadha, Hande Küçük
and Adrian Pabst (Eds)



Designing a New Fiscal Framework: Understanding and Confronting Uncertainty

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THE NATIONAL INSTITUTE OF
ECONOMIC AND SOCIAL RESEARCH

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UNCERTAINTY**

Edited by Jagjit S. Chadha, Hande Küçük
and Adrian Pabst (eds.)

NATIONAL INSTITUTE OF
ECONOMIC AND SOCIAL RESEARCH

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Following the 2010 General Election, he was appointed to the role of Shadow Minister for Employment and in 2015 temporarily took over as Shadow Secretary for Work and Pensions. He is the current chair of the Work and Pensions Committee, and previously sat on the Public Accounts Committee, the Treasury Committee and the Committee on the Future Relationship with the European Union.

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He has a PhD in Economics from the University of Sheffield.

Prologue

Jagjit S. Chadha

The National Institute of Economic and Social Research has focussed on furthering our understanding of fiscal policy throughout most of its life. And so I was delighted when the Nuffield Foundation gave us the opportunity to ask some hard questions about our current fiscal settlement. With the Covid-19 pandemic continuing to throw much of our normal loci completely off beam, it is a good time to consider the role of fiscal policy. Our work has been motivated by the simple observation that we need to re-examine carefully the objectives, instruments and framework guiding fiscal policy.

Naturally, some aspects of our current fiscal settlement have involved worthwhile and probably enduring innovations, such as the establishment of the Office for Budget Responsibility in 2010. But it is abundantly clear that the fiscal settlement in the Long Expansion of 1992-2007 and in the period following the global financial crisis of 2007-8 need careful re-framing if we are to tackle the deep seated economic problems revealed by EU exit and the Covid-19 pandemic.

Fiscal policy represents a complex, multifaceted attempt by the state to fill gaps in the market economy and encourage the private sector to locate productive practices. But to meet those objectives fiscal policies have to be both sufficiently flexible to respond to changing circumstances but also be guided by some form of principles or rules that allow progress to be judged and expectations formed about the likely path of public expenditure, taxes and debt. Too much fiscal policy operates by the smoke and mirrors of political surprise and partial leak rather than the more sober manner of timetabled meetings and clear, minuted decisions that characterise monetary policy, to name but one example.

The large number of fiscal rules we have had to observe since 2010 alongside an increasing frustration with economic performance tell us that the post-2010 fiscal settlement has failed. It makes no sense to be in thrall to arbitrary rules that do not match society's broader demands for policy to be condoned by what I have called

“Budgetarians”, who think it is sufficient to assess fiscal policy in terms of whether that arbitrary target will or will not be hit at some equally arbitrary date coincidental with a parliamentary term. The sad but obvious fact is that the demands of the economy cannot be folded into political horizons.

In this Occasional Paper we have collected a number of views from a variety of experts. We have worked with two former central bankers to try and understand the meaning of fiscal space both from the supply side of debt issuance and the demand side of investment demand. Two former Chief Secretaries to the Treasury provide considerable details from their times in office. And a former Whitehall civil servant helps us understand the approaches to spending controls. We have commissioned an academic contribution on how to approach the current debt problem following Covid-19 but also an introspection from an academic-cum-market participant on the value of debt.

Original work from myself and colleagues at NIESR examines the political framework, the theory of monetary and fiscal interactions, how politicians seem to revise expenditure plans, how changes in economic prospects also matter for revision and then the case of issuing different types of debt. Finally, we are very grateful that two former Chancellors have agreed to write Forewords to this book and that the current Head of the Government Economic Service has supported our interest in developing more attention on fiscal policy. Obviously, none of them necessarily agree with any of the points made or conclusions drawn. It is our simple hope that our line of enquiry will motivate serious examination of our fiscal settlement. While what we say cannot necessarily be thought to be the Treasury View, it is certainly the view from Dean Trench Street.

Preface

Clare Lombardelli

In recent decades, macroeconomic research, analysis and debate has focussed more of its attention on monetary rather than fiscal economics. In UK and around the world that focus is now shifting back. Even prior to the Covid-19 pandemic, the economics underpinning fiscal policy was gaining significantly more attention as an area of research, study and discussion. Rightly so given its critical role in the economy and the focus the national debate places on it. In policy terms fiscal judgements have never left the main stage – throughout our economic history governments can be defined by their fiscal strategy and policy, stated or revealed.

In its practical operation, decisions on the macroeconomic choices for fiscal policy and the microeconomic choices cannot be separated. The fiscal stance, the amount borrowed from future generations or previous debts repaid, is the key macroeconomic lever the government has in affecting the level of demand in the economy. And is considered and decided in the context of the current understanding of and expectations for the economic cycle and fiscal metrics. The precise measures that make up that stance – the particular constellation of taxes and spending choices - determine the overall macroeconomic impact of that stance, as well as the efficiency and distributional consequences.

These interdependencies create complicated optimisation problems for the fiscal policy maker. They are why the operation of fiscal policy cannot and should not follow the prescriptions of economists alone. The distributional impacts of these choices make fiscal policy the most political area of economic policy. Policy makers are choosing between tax bases – income, consumption, wealth etc. and spending lines – health, education, infrastructure and so on. In doing so they are determining what mix of contributing to and receiving from the state different individuals and households face. Including choosing between current and future generations. These decisions are ones that only elected and accountable politicians can take.

The efficiency consequences further complicate fiscal choices. Fiscal levers affect economic outcomes over both the economic cycle and the longer term. Fiscal policy makers consider both. The balance between revenue and expenditure, and the components of those revenues and expenditures affect the potential growth rate of the economy, as well as its immediate prospects. What balance of incentives should the tax system provide between labour and capital, consumption and saving? How should government spending be allocated across current consumption and investment? These choices affect the long-term growth rate of the economy, which drives our prosperity. And they affect how the economy will respond to longer term changes such as ageing and climate change.

I am pleased to see that fiscal policy is once again gaining focus and attention as an area of economic research. It has arguably been neglected for too long. The economic implications and the extraordinary fiscal response to the Covid-19 pandemic have shown the power and importance of fiscal policy. This Occasional Paper provides ideas and insights from the theoretical to the practical and brings together academic expertise with first-hand policy making experience. It is a welcome addition to the discussion as we think about fiscal policy in the years ahead.

Foreword

The Rt. Hon. Alistair Darling

Nothing is certain in political or economic life. Yes, a government does need a clear sense of purpose and determination to deliver on its promises. But it also needs to be prepared for the unexpected. We should always expect the unexpected. It rarely disappoints. "Events" as Harold MacMillan put it are part and parcel of life. It is on how you respond you will be judged.

Central to that is how you see the role of Government. It is there in large part to do those things we cannot do as individuals. Or are better done when we work together. But there is something else too.

Twice in the last twelve years we have been reminded that when the chips are down, the State - the government of the day - is the lender, insurer and sometimes the provider of last resort.

In the 1980s the idea that strong government was always a hindrance became very fashionable. Today as we are hopefully emerging from the pandemic that view has been revisited. Governments shouldn't try to stand in the shoes of individuals, but they can provide an environment where we can thrive.

It is here that the role of policy, particularly fiscal and monetary, is essential. Taxation enables the public sector to provide that which markets cannot. Universal health care, education or defence or maintaining investment in infrastructure. We tax so we can run an effective welfare state that helps people into jobs. The role of government is crucial.

In this collection of paper authors set out and review approaches of different governments. What stands out is not just the need to have a credible approach but also the need for both fiscal and monetary policy to be adaptable to meet the circumstances of the day. It also needs to be transparent. The government needs to be open about what it is doing and why.

In 1997 the government had two fiscal rules. One was to ensure that over the economic cycle the books were balanced on current spending. The second was the sustainable investment rule: public debt should be kept at a prudent level, around 40 per cent.

But in 2008 faced with a global banking crisis with the inevitable recession to follow our approach had to change. We supported the economy, raising spending but we also set out to reduce the deficit gradually over a five-year period.

It was politically contentious at the time. Today such an approach is widely accepted in the UK and just about everywhere else. In particular our approach in 2008 was that you need to do more than expected and sooner than expected if you are to erect a firewall against a crisis and then recover.

Another essential lesson from that time was the need for international cooperation and the current pandemic demonstrates that starkly. Here too there has been a change in the politics: there is a chance that the protectionist and often nationalistic closing of doors is being replaced by a more enlightened view of the benefits of working together. Not just in sourcing vaccines but also in recovery. The US proposal for a minimum corporation tax rate which would in part fund recovery is a good example. Globalisation has been around for centuries so let's try to make it work for everyone.

There is a recognition too that things need to change here too in the UK. "Levelling up" won't happen on its own. Education, critical to tackle disadvantage, decent housing, properly funded health care and infrastructure all need investment. It is a twenty to thirty year programme. The pandemic has shown the appalling connection between deprivation and death.

So the role of government and its fiscal and monetary policy needs to be harnessed to support the people who elect it. Now is the time to reassess what we should expect from the governments we elect. Competence certainly but also a recognition that by acting together, we can often achieve far more than we can ever do alone.

Foreword

The Rt. Hon. Lord Lamont of Lerwick

The world economy in the last year has been through an almost unprecedented crisis - an administered recession caused by the partial shutdown of many national economies. One consequence has been a very sharp rise in government debt which in turn has led to a debate about the appropriate framework for fiscal policy.

This debate has been intensified by the phenomenon of very low interest rates by historical standards. In recent weeks at the time of writing market rates have begun to rise but it is not clear whether this is a minor correction or a reversal of the trend.

The interest-rate background today could not be more different to the one I faced when I became Chancellor of the Exchequer in Oct 1990. We had just joined the ERM and the base rate had just been cut to 14%. Inflation was around 10% so real rates were also dauntingly high while the economy was entering into a recession with unemployment, though we did not know it, heading towards 3 million.

Normally one might have expected to cut interest rates in these circumstances, but policy was now constrained by our membership of the ERM. For that reason, we had to reconsider carefully the role of fiscal policy and whether it might carry more weight in the policy mix. But here also the situation was not straightforward. In the 1991 budget I was expecting a public sector borrowing requirement of around 1.25% for the year 91-92. This may seem today a modest problem, but it was the first deficit for four years, 1990-1 had ended with a small surplus. Caution was well justified as the actual deficit for 91/2 as it turned out became 2.25% of GDP and the following year's forecast changed to a further eventual rise to nearly 5%. The trend was not reassuring.

The dilemma then was how to maintain a credible fiscal policy while at the same time not deepening the recession. In the early 1980s Geoffrey Howe had famously cut expenditure and put-up taxes despite a recession while simultaneously cutting interest rates. I decided the appropriate policy was to tolerate the deficits while we were in recession but to aim for balancing the budget

over the whole of the economic cycle. The cyclical swings in the budget – the so-called “automatic stabilisers” – play a useful role in offsetting the swings in private sector borrowing and in stabilising the economy.

A policy of balancing the budget over the cycle should mean that the sum of the deficits in the recession years would broadly equal those in the years of expansion. It was neither fiscal activism nor a Keynesian stimulus. It made sense to allow the nondiscretionary parts of Government spending such as unemployment costs to rise without offsetting cuts elsewhere. The corollary was that the deficit would correct itself as the economy recovered and the theory was that the underlying deficit would be close to zero.

The budget balance varies markedly over the economic cycle. When activity is growing tax revenues rise relative to income and lower unemployment brings lower government expenditure. These forces go into reverse when the economy slows down. A further point about the “automatic stabilisers” is that they come about automatically without the need for difficult judgements about the state of the economy.

One problem with this and some other rules for the public finances is the difficulty of separating the cyclical from the structural. The difficulty applies both at the discretionary individual departmental level as well as the macro policy making level. With the latter the longer a recession lasts the more difficult it becomes to identify the structural from the cyclical. In a short shallow recession unemployment costs will cancel themselves out as the economy recovers. But just as a business cannot go on year after year ignoring a prolonged fall in cash flow caused by recession, so too a government cannot continue running up debt in the hope the recovery will eventually sort out its problems. Even if the debt was originally caused by recession, the interest still has to be paid. What might start off as a cyclical deficit can morph over time into a structural deficit.

The recession of the early 90s proved greater than expected in both its depth and duration. By the time of the autumn statement of 1992, I was bracing myself for a public sector borrowing requirement for 93/4 equal to £50 billion, which was 7-8% of GDP and uncomfortably close to the size of deficit that drove Denis Healey into the arms of the IMF. It was now reckoned to include a structural element as well.

This problem had to be addressed in the 1993 budget in which I increased taxes up by over 1% of GDP more even than Geoffrey Howe's budget of 1981. It was effectively three budgets in one as the tax increases were announced for three years ahead but with only modest increases in the first year. The key point was that they were not just announced but legislated for immediately to make it clear they would definitely happen. The argument for phasing in the increases was that such large increases all at once would have hit confidence and aborted the recovery which was only just starting. The strategy was similar to that pursued by the present Chancellor when he announced freezes on personal allowances for the next three years but not for this year.

Balancing the budget over the cycle was not a policy that could be fully effective within the framework of a fixed exchange rate system. It was too much to expect the automatic stabilisers to compensate fully for the absence of flexibility of the exchange rate, or what we now call an independent monetary policy.

Outside of a fixed exchange rate system as the UK government was after September 1992 there was greater freedom in monetary policy, I cut interest rates aggressively (the Bank of England was not then operationally independent) and so it was less necessary to rely on fiscal policy. But it was remained necessary to offer reassurance to markets that the deficit still mattered.

Balancing the budget over the cycle is a more sensible policy than the rather rigid 3% rule of the Maastricht Treaty, made even more inflexible by the Stability and Growth pact.

Governments of different political persuasions have tried various fiscal rules to differentiate between current borrowing and borrowing for "investment". The problem with that is in defining what constitutes "investment". Politicians tend to use the word "investment" to cover a multitude of public expenditures favoured by themselves. It should always be open to question and examination how much a particular government investment really will increase growth. Many public-sector projects are also poorly implemented thus affecting their return to the wider economy.

Difficult as it is to formulate a perfect rule and notwithstanding current levels of interest rates it is only prudent to have some framework and discipline for government borrowing. The form of a particular rule may be less important than the actual fact of sticking to it.

No one can be sure what the future holds. If inflation increases, it is likely to result in higher interest rates not just nominal but possibly real as well. If growth accelerates, policy makers could increase nominal rates again with consequences for real rates depending on the consequences for inflation. Lastly it is possible that a temporary spike in inflation when Covid-19 restrictions end could then be followed by a period of falling prices which would increase the real value of debt. A framework will help support more general understanding of the fiscal choices and responses in these very differing circumstances.

In the 1990s when American 10-year bond yields rose sharply to 8% Bill Clinton's press spokesman famously declared that if there was such a thing as reincarnation, he wanted to come back as a bond trader because the bond markets could intimidate everyone.

The bond vigilantes have for the moment lost power as the market has taken its cue overwhelmingly from activist Central Banks. But we may be reaching the limits of what quantitative easing can achieve. There are many reasons why that might be so: the questionable effectiveness of further rate cuts, distorted valuations, and even bond markets rebelling. Mario Draghi when at the ECB was probably not the only Central Banker who thought it was time fiscal policy carried more of the weight of policy. If that happens the bond vigilantes could well return looking for victims.

Proposals for a New Fiscal Framework

Jagjit S. Chadha, Hande Küçük and Adrian Pabst

*"How did you go bankrupt?"
Two ways. Gradually, then suddenly."*

Ernest Hemingway, The Sun Also Rises (1926)

[P]ublic opinion requires, justly perhaps, that a deliberate plan, and particularly a new plan, should not merely be better than doing nothing, but much better. A new plan is required to meet objections, which apply equally to the old plan. But which in the case of the latter custom has caused us to forget. The new plan is required to satisfy ideals of social justice much higher than we have been attaining without it.

J. M. Keynes, How to Pay for the War, 1940.

I. Towards Better Fiscal Policies

Modern representative democracy is faced with the Whiggish directive to improve living standards with the main lever in possession of any government being its fiscal policy. That is its choice on how much to spend, tax and borrow and on what. The electorate is supposed to assess the alternate options offered by the political marketplace, and the set of offered policies that most closely match those of the electorate, or more precisely its median voter, will be the basis for the government's fiscal strategy (Persson and Tabellini, 1994). And yet once in office governments are not in control of events and must respond again and again to developments that cannot have been imagined only a few years earlier (e.g. Brittan, 1969). Our recent history alone has produced three extraordinary events in a dozen or so years that have in turn asked for flexibility, and then constrained the operation of fiscal

policy: the Global Financial Crisis (GFC), the Brexit vote and the Covid-19 pandemic. As much as a politician wants to be seen as the saviour of the nation, they also do not wish to be seen as the person who suddenly bankrupted the state.

There has repeatedly been a fine line between enabling those democratically elected to make a policy choice and the need to demonstrate a sound approach to the management of the fiscal purse strings (Blackaby, 1978; Britton, 1991; Thain and Wright, 1995; Chadha et al. 2016). Indeed, to support fiscal credibility in the aftermath of the 2008-09 GFC, the then Chancellor George Osborne implemented two key reforms for the setting of setting fiscal policy. First, in 2010 the OBR was established as a ‘fiscal watchdog’, which, inter alia, provides an independent assessment of the long-term sustainability of the public finances and forecasts of the economy and the public finances (Budget Responsibility and National Audit Act 2011). Second, in the post-election 2015 Summer Budget, Chancellor Osborne announced a Charter for Budgetary Responsibility (HM Treasury 2015).

That fiscal policy framework set two clear objectives for fiscal policy:

- i to achieve sustainable public finances; and,
- ii to support the effectiveness of monetary policy.

And in support of these objectives, new formal fiscal rules were adopted, which were to be assessed by the OBR but because of their transparency would drive the debate by the media and the public. But the rules were simply not timeless and were changed nearly every year as economic circumstances changed. In a manner reminiscent of the changing targets and measures for monetary aggregates in the 1980s, the variation undermines credibility. Table 1 shows the startling sequence of rules since 2010:

Table 1.1 Fiscal Rules Since 2010

Year	Fiscal Rules since 2010	Definition
2011	Fiscal mandate	Achieve cyclically-adjusted current balance by the end of forecast period (2015-16)
	Supplementary target	PSND as a % of GDP to be falling at a fixed date of 2015-16
2012	Fiscal mandate	Achieve cyclically-adjusted current balance at the end of the forecast period (2016-17)
	Supplementary target	PSND to fall as a % of GDP between 2014-15 and 2015-16
2013	Fiscal mandate	Achieve cyclically-adjusted current balance, five years ahead
	Supplementary target	Reduce PSND as a % of GDP in 2015-16
2014	Fiscal mandate	Achieve cyclically-adjusted current balance, five years ahead
	Supplementary target	Reduce PSND as a % of GDP in 2015-16
2015	Fiscal mandate	Borrow only to pay for investment- in the third year of the rolling five-year forecast period (2017-18)
	Supplementary target	Reduce PSND as a % of GDP in 2016-17
2016	Fiscal mandate	Achieve budget surplus in 2019-20 and beyond
	Supplementary target	PSND to fall as % of GDP each year
	Welfare cap	Spending below cash limits set in July 2015
2017	Fiscal mandate	Structural deficit below 2% of GDP in 2020-21
	Welfare cap	Spending below cash limit in 2021-22; welfare spending to be below a pre-defined cap by 2024-25
	Supplementary target	Public sector net debt to fall as a percentage of GDP in 2020-21
	Fiscal objective	Achieve fiscal balance ASAP in next parliament (then expected to be 2020 to 2025); overall borrowing to be zero or in surplus by 2025-26
2019	Fiscal mandate	Balancing the current account budget (i.e., excluding capital spending) within 3 years, and remain in balance.
	Supplementary target	A limit of 3% of GDP on net investment
	Supplementary target	A 6% of tax revenues trigger for debt interest costs beyond which government must reassess its borrowing plans with the goal of ensuring debt does not rise.

It is clear is that rules-based policy making may help stabilisation (Chadha and Nolan, 2007) and may support the achievement of meet internal adding-up constraints for expenditure across departments and setting the path for expenditures over time may support the drive for efficiency gains in the public sector. But strict adherence to self-imposed rules also implies that taxes and spending could be adjusted sharply, in response to minor changes in forecast assumptions or in the face of small shocks. Either way, the pursuit of arbitrary public debt and deficit targets can lead to adverse effects on the welfare of citizens and communities.

Besides, the adoption of rules that were subject to considerable year-to-year variance does not really provide the public with a sense of fiscal credibility. To borrow a phrase from monetary economics, policy makers cannot be thought to be working with a timeless rule when it might be expected to change with every new fiscal event (cf. Woodford, 2011 and Fetter, 1965).

So, despite elements of the framework succeeding, what are the key problems it faces? Fiscal policy is not a “one instrument-one objective problem” as it involves a complex constellation of choices over tax, spending and borrowing and the appropriate choice depends on our uncertain knowledge about the state of the economy (cf. Peden, 1988). This means it is both hard to write down a rule that encompasses the choices and the frequency at which those choices are subject to change. Such rules might thus be thought not to be especially binding on future Chancellors and therefore of limited value. Compare this to a simple exchange rate rule where we can say that sterling will equal so many dollars and that is it. Of course, such rules were also broken.

We believe that there are four types of problems with the current fiscal framework (for a summary see Box 1.1):

- First of all, the political and economic cycle simply do not coincide, so tying fiscal policy to a Parliamentary term is doomed to failure.
- Secondly, business cycles, like unhappy families, are each different in their own way. They do not operate on a systematically similar basis which means we cannot identify the economic cycle in real time and this creates complexity in understanding the underlying fiscal position.

- Thirdly, the Chancellor controls too much. There is power over fiscal instruments, messaging and timing in a manner that raises the concern that fiscal choices are unduly sensitive to political rather than economic criteria and may involve a trade-off between the two.
- Finally, there is no satisfactory definition of the objective of fiscal policy that meets a social welfare objective; at times the appropriate response might mean increases or decreases in public debt as a share of national income.

Box 1.1 The Fiscal Framework Failures

1. Fiscal policy rules are tied excessively to the parliamentary term, yet political and economic cycles simply do not coincide;
2. The headline fiscal position depends heavily on a business cycle that is not fully known or understood in real time;
3. Fiscal choices are unduly sensitive to political rather than economic criteria;
4. Fiscal policy has to be assessed in terms of a social welfare function not in terms of a deficit or debt position alone.

The information gaps are clear. Not only do we not know the future, but we also do not understand the present. There needs to be much more formal involvement of outside advice to ensure continuity in policy but also to support the reputation for fiscal sustainability when flexibility needs to be deployed. It is not wise to centralise power when information is partial (see Bhattacharjee and Holly, 2005; Lombardelli et al., 2005), and mechanisms to test ideas and assess the optimality of political choices must be developed. With the benefit of hindsight from this research, we find it odd that HM Treasury rather than the OBR or another independent body produced an analysis of the effects of Brexit prior to the 2016 referendum.

For all these reasons, the current system of fiscal rules simply does not work (Chadha 2020a). And in this chapter, we outline an approach to developing a new fiscal framework. We draw on the experience of fiscal policy under Covid-19 (see Box 1.2) but also on our own original work, and a range of external experts,

which examines the need for some change in political institutions, a recognition of the flexibility that events and politics will require but also the need to respond to shocks (section II).

Specifically, we develop five policy proposals (section III):

- 1 we argue for a new approach to fiscal events with a stricter timetable, greater parliamentary scrutiny, a clearer focus on the state of the economy and a more granular analysis of the socio-economic implications of policy choices;
- 2 we also suggest that the OBR publish pre-fiscal event reports with key issues to which the Budget and the Autumn Statement should respond;
- 3 in light of uncertain economic cycles, we argue that the Chancellor should outline government thinking about fundamental fiscal choices in different economic scenarios and the OBR should be encouraged to state whether the policies they condition on are reasonable and aligned with social welfare given the economic outlook;
- 4 we suggest that HM Treasury creates a new body of independent experts for ex ante advice and ex post evaluation of the key fiscal choices, that we move from descriptive fiscal policy to a formal assessment of normative choices;
- 5 we argue that fiscal strategy has to be joined up across the UK and all its constituent parts, with particular attention paid to distributional effects, productivity, well-being and ecological sustainability.

Box 1.2 Case Study: Guiding Principles for Fiscal Policy in Times of Covid-19

The economy has been used as an instrument to control the spread of Covid-19. Mass lockdowns across the world have been deployed as a way of limiting the spread of this virus and the UK started its first lockdown on 23 March 2020. The Covid-19 economic crisis introduces what has been called ‘radical uncertainty’ (Kay and King, 2020), as we do not have complete knowledge about its incidence or duration, but we assumed that it will be likely to be temporary but with more permanent effects. Unlike the ‘normal’ causes of economic fluctuations, this contraction does not result directly from monetary-fiscal-

regulatory laxity and so providing insurance by public policy is not subject to the problem of extensive moral hazard (Chadha 2020b). Indeed, in large part the economic crisis is the objective of policy in guarding the nation's health. The implication then is that large-scale temporary monetary and fiscal support should be supplied. But who should do what?

The Chancellor's fiscal policy had to decide upon the quantum of risk that the economy faced from which it cannot insure itself, and then the overall level of resources to be transferred across the private sector by taxes and to future generations by debt issuance. It was not so much a question of whether there ought to be a discretionary fiscal response but how much. The key point is that fiscal policy had to consider an actual transfer of resources across households and time that are backed by current and/or future taxes. NIESR's estimates in May 2020 suggested that around a quarter of the economic loss might be met by the immediate response by HM Treasury in March 2020 (Lenoël and Young, 2020). It was important to conserve some remaining space to deal with the high probability of future lockdowns. And accordingly, when the second lockdown (5 November – 2 December 2020) and the third lockdown (5 January – to be phased out on 12 April, 17 May and 21 June 2021) were declared, even though the economy proved to be increasingly resilient, fiscal policy was still asked to deal with the return of the virus and the mutated, highly infectious strain B117 of SARS-CoV-2.

It is then a question for the Bank of England to decide whether that quantum of risk and resource transfers undertaken by fiscal policy require any changes in the stance of monetary and financial policies (Tucker, 2018). To that there is the question of using short-run flexibility subject to the constraint of maintaining credibility, or reputation, which is a critical intangible public sector asset. Indeed, it is typically found that aligning policies to people's long-run expectations of that institution's behaviour make short-run policies more effective as they avoid problems associated with time inconsistency. Fiscal policy has not progressed in the same way as monetary policy in this regard.

In confronting economic risk and radical uncertainty, in the way Covid-19 has revealed itself, fiscal policy must be prepared to revise its plans regularly in light of news about the spread of the

virus and the economic impact here and overseas. It is also a sensible moment to establish more clearly a long-run objective to build up the net worth of public sector balance sheet, alongside a commitment to sustainable levels of public debt within an institutional structure that provides regular scheduled policy planning and projections on the path of the primary fiscal surplus and the debt stock (Chadha, 2021b).

In recent times, monetary policy has been the main lever to stabilise economic fluctuations and support the economy's adjustment to its long-run equilibrium. This has relied on deploying movements in Bank Rate or operations in the money market to influence longer-term interest rates to bring forward or defer expenditure. But the Covid-19 crisis has brought fiscal policy to the forefront of the policy imperative. There are broadly five reasons why we have focussed mainly on fiscal policy in the first instance and deployed it in an active manner:

1. Lockdowns are economic instruments directed at controlling the spread of Covid-19. A significant fraction of the market economy has thus been placed in a state of near suspended animation to prevent a rapid progression of the virus through the domestic and global population and maintain the provision of health care services;
2. Lockdowns reduce the overall labour supply but while there is excess labour supply in some areas such as the recreation, travel and restaurant sectors, there is a shortage in others, for example in healthcare, agriculture and childcare. The state, as in wartime, could help divert labour to areas where required and provide basic training for necessary skills development (Küçük, Lenoël and Macqueen, 2020);
3. The economic shock more obviously affects those households who cannot work remotely on a sustained basis, many of whom who are self-employed and those without sufficient savings to sustain expenditure patterns for necessities. This tends to affect those in the lower income deciles, and it is an argument for a considerable effort on re-distributive policies (Bhattacharjee and Lisauskaite, 2020);

4. Using the list of projects identified by the National Infrastructure Commission (NIC, 2018), we could be aiming to bring forward public investment as soon as lockdowns are eased (see Chapter 9). And a clear conception of ‘levelling up’ is needed to achieve its objectives (Besley, 2020). If we are heading for a sequence of lockdowns (or a gradual lifting of restrictions that might extend to the summer of 2022), then any projects that can be completed quickly, at the local authority level or for social housing, should be commenced; and
5. Finally, when the monetary policy space is constrained and demand falls so rapidly, it seems very likely that fiscal multipliers are quite large – that is for every pound spent the impact on the economy will not be crowding private sector activity out (Chadha, 2021b). Fiscal policy may be more effective in raising economic activity.

II. Constructing the Fiscal Jigsaw

The new fiscal framework must learn these lessons. That it is allowed sufficient flexibility to deal with the news and shocks that arise. Ensure that sufficient instruments are available in terms of debt issuance to allow expenditure to rise where required. Understand that detailed knowledge of localities and regions will best create the conditions for fostering confidence in policies and generating long term multipliers. It is possible to argue that it is because of the lack of formal scrutiny that fiscal policy has been too loose and then too tight over the past quarter of century and may have built up political tensions (see, for example, Fetzer, 2019).

The framework will thus have to generate beliefs, or credibility (cf. North and Weingast, 1989), that policy is forcing positive adjustment in the economy without creating unsustainable paths that will limit abilities to deal with future shocks. We summarise the main conclusions from our work under several headings.

Fiscal Policy Objectives

A robust fiscal framework requires a clear definition of the fundamental objective, targets and instruments of fiscal policy. The main objectives of fiscal policy are to manage society’s risks in the face of major socioeconomic shocks and to provide public goods

that would otherwise not be supplied to a sufficient degree by the market or the third sector (Rajan, 2015; Coyle, 2020). This implies the retention of some spare fiscal capacity - fiscal space - to deal with, as yet, unresolved future states of the economy (Chapter 13).

Fiscal policy objectives have varied significantly over time. Bill Allen provides a historical account of what fiscal policy tried to achieve in the post-war era (1945-1970) and how fiscal space was created to finance the ambitious spending plans of post-war governments (Chapter 2). Arno Hantzsche's chronological account of the changes in fiscal plans between 1970 and 2018 illustrates how governments' objectives shifted between achieving certain macroeconomic targets and debt stabilisation over past economic and political cycles (Chapter 11). This applies especially to fiscal consolidation after the end of the Great Moderation - the period of reduced volatility in the business cycle from the mid-1980s to 2007 (Chadha et al., 2016).

At the same time as variation, there has also been some continuity in terms of fiscal policy objectives, targets and instruments. Smoothing the economic cycle and stabilising debt have been the main drivers of fiscal policy (e.g. Chapter 9). One recurrent theme is the centrality of purpose - what exactly is the role of fiscal policy? Liam Byrne draws lessons from his 2009 experience of planning for fiscal consolidation and emphasises that the government needs to set clear objectives as to what it is trying to achieve when deciding about the right 'tax-spend' mix (Chapter 8).

Joe Grice stresses the importance of considering a more active use of fiscal policy in demand management and a shift towards a genuinely output/outcome focused spending control system when designing a new fiscal framework (Chapter 7). But because fiscal policy cannot deliver any given employment or growth target these are not sensible objectives per se. What fiscal policy can do is to evaluate notions of the appropriate quantity of public expenditure and make decisions on the mix of taxes and borrowing to match that. So some public debate on the path for expenditures and for borrowing is required year on year.

Expenditure Planning

A crucial part in the implementation of the fiscal framework is spending control/expenditure planning, which should support internal or cross departmental efficiency. The requirement to meet

socio-economic objectives while retaining fiscal credibility implies that the planning process can be subject to an “adding up constraint”. Stephen Timms’ account of his experience in preparing for the 2007 Comprehensive Spending Review highlights the practical difficulties of allocating a given level of public spending as a ratio to GDP across individual departments but also stresses the importance of designing mechanisms setting out how departments are expected to contribute to achieving goals set by the government (Chapter 4).

It is clear that public expenditure flexes in response to economic shocks and to changes in political hue or preferences. Our research shows that public expenditure tends to be revised up (down) following downward (upward) revisions to GDP growth dominated by the effect of automatic stabilisers (Chapters 8, 9, 11 and 12). This is because of both surprises in the evolution of demand in the short run and as a result of the difficulty of understanding long run trends in potential growth rate of the economy. Fiscal prudence in the form of spending controls or fiscal rules was often achieved by postponing and cutting capital expenditure rather than current spending, as governments generally found the former politically easier, even if it hits national output in times of sluggish economic growth. This long run trade-off needs more transparent exploration.

Expenditure is therefore not fixed and should not pretend to be so. More transparency about the need to respond to a fast-changing environment is required. This should be achieved by the establishment of a robust fiscal framework that combines clear principles for spending (and tax) with state-contingent adjustments. Such a framework has to adopt a medium-term horizon and should favour longer-term investment in physical, human and organizational capital to support the ultimate objectives of fiscal policy: more robust and inclusive growth.

Tax

The government will seek to raise a present value of taxes that retains the ability to respond to future shocks in a manner that minimises deadweight losses from taxation that distort the supply side.

This means that tax changes need to be smoothed over time and across different activities. This implies episodes of temporarily high public expenditure should be followed by a sequence of budget deficits rather than tax rises. As public expenditure returns to

normal, public indebtedness will gradually come down without requiring any adjustment to tax rates provided that the sequence of budget deficits is followed by a sequence of budget surpluses. However, if public expenditure is going to be permanently higher to meet the requirements of long-term structural issues such as aging population, climate change or infrastructure gaps, tax rates will need to be raised accordingly (Chapter 13).

Martin Ellison and Andrew Scott make these points very clearly in the context of the Covid-19 crisis, stressing that the appropriate response to the large temporary shock caused by the pandemic is to let government debt rise to absorb the shock and allow it to stay high for an extended period of time (Chapter 5). For the UK, risks associated with high debt are mitigated by the lack of a definitive ceiling to debt, the proven historical record of the UK in dealing with even higher levels of debt, the maturity profile of UK debt, the depth of liquidity and historically low rates of interest.

Another mitigating factor for the UK during the Covid-19 crisis has been that the rise in public deficit has been matched by a rise in private sector savings, which implies increased tax capacity that could be utilised if solvency were to become an issue (Lenoël, Macqueen and Young, 2020; Küçük, 2020). This is different to what would have happened if the rise in the deficit had been financed by borrowing abroad, which would have increased the sensitivity of government debt to external financing conditions. These helpful mitigating factors tend to mask the need to strengthen the long-term framework of fiscal policy which is crucial to limit future errors and manage solvency risk.

Monetary-Fiscal Interactions

In normal times monetary policy sets the total quantity of nominal expenditure in the economy consistent with price stability and fiscal policy re-distributes activity to meet objectives for the provision of public goods and to limit inequalities to some social norm.

In abnormal times, with monetary policy somewhat hampered at the zero or lower bound, there is a prima facie case for monetary and fiscal co-ordination jointly to support economic stability. In this case, it means monetary policy creating sufficient fiscal space for governments to be able to act decisively.

Gerald Holtham analyses how and why the conduct of monetary policy, balance sheet policies in particular, affect the size of government debt in the UK, focussing on possible implications of a rise in interest rates for government debt conditional on the Bank of England's preferred actions regarding its reserves and its holdings of government bonds (Chapter 6). Accordingly, it is economically justified for the Bank of England to extend its monetary policy instruments further to ensure the lowest possible cost on public finances and communicate this explicitly— as long as inflation control is not compromised. In particular, the significant transactions costs of implementing central bank purchases of government bonds through secondary markets can be reduced by direct operations between the Treasury and the central bank carried out at market prices (Breedon and Turner (2016)).

Thomas Lazarowicz also highlights the interactions between fiscal policy and monetary policy within the context of a simple model of monetary and fiscal policy coordination and suggests that optimal fiscal policy not only must flex in the changing economic conditions but also condition on monetary policy (Chapter 10).

Fiscal Rules

A reoccurring theme throughout our work is the requirement for fiscal policy to find a right balance between flexibility to respond to changing socioeconomic circumstances and the credibility to maintain control of debt. Rules-based policies matter for credibility as they impose both external and internal discipline and help ensure economic agents condition on the government's plans and allow us to understand progress relative to the plan.

But as our analysis based on interviews with politicians and policy-makers shows (Chapter 9), fiscal rules have limited use, both over time and across space, given the difficulties in setting rules that give enough flexibility to respond to unforeseen circumstances and given difficulties in meeting the pre-set targets due to uncertainties in the economic and political background.

Fiscal rules can neither be tied to an unmeasurable and unknown business cycle nor to a political cycle of Parliamentary terms. At some point in the economic and the political cycle, sticking to a set of fiscal rules is likely restrict the flexibility to respond appropriately to changing conditions and might introduce new

types of complexity for e.g. due to sanctions for overspend or due to problems of oversight in departmental budget accounting (Chadha, 2019b).

Rules would typically need to be very simple and have clear escape clauses that allow for flexibility in the face of shocks. At the same time as making ad hoc fiscal decisions in response to a fast-changing economic environment, there is also a strong case for a robust fiscal framework that combines clear principles (responsible tax and spend) with state-contingent adjustments (Chadha, 2020a). But given the failure to locate such a rule, we argue for developing the framework and for more explicit policy evaluation.

As stressed by Joe Grice, who provides a detailed account of current fiscal rules and spending controls (Chapter 7), the fiscal framework should evolve in a way to focus more on smoothing the economic cycle and on controlling spending with an aim to meet clearly set social and economic objectives. A wider approach to fiscal framework is required, where fiscal sustainability targets focus on public sector net worth – taking into account all of the government’s liabilities and assets.

Fiscal Consolidations

Following a large expenditure shock, tax smoothing implies some increase in public debt. Indeed, public debt shows very long swings in response to large temporary shocks, the effects of which have been manageable for the UK throughout its recent history owing to the favourable financing conditions including relatively low levels of interest rates and long maturity of debt (Chapter 5).

However, a persistent rise in public debt might leave public policy vulnerable to future shocks. We do not know what they will be, but we do know there will be such shocks. We therefore need to set a course that drives public debt relative to GDP.

Typically though, a large part of the adjustment arises from growth over time in nominal GDP (Chapters 2 and 5). Discretionary reductions in public expenditure are typically only a secondary part of the consolidation as the upturn in the economic cycle is a more dominant factor. Ultimately, of course a sequence of primary surpluses will provide a rapid reduction in debt to GDP. Setting the appropriate tax and spending composition without losing sight of the ultimate economic objectives is crucial in any consolidation (Chapter 8).

Instruments

The government decides on the path of public expenditure and tax revenues which then interact with the business cycle to determine the path of budget deficits (or surpluses) that ultimately determines the accumulation of public debt along with interest payments on debt. More focus needs to be placed on this choice as it reflects the ebb and flow of fiscal decisions. Our analysis shows there can be significant revisions in spending and revenue plans in relation to revisions to macroeconomic forecasts, change in the views about the economic cycle and changes in government's objectives in response to changing economic circumstances (Chapters 11 and 12).

The type of debt instruments issued, their maturity and how the costs of debt finance move with the economic cycle are also very important for the evolution of debt especially in periods of economic distress where budget deficits lead to a rise in public debt. The government's borrowing strategy should aim to contain risks in the future which are dependent on different states of the world. The government can also gain significant fiscal space by its choice of debt instrument and maturity.

There is a large international demand for sterling bonds issued by borrowers with high credit ratings. Swapan-Kumar Pradhan and Philip Turner therefore stress that the financing government debt depends on conditions in international bond markets, which reduces the sensitivity of the costs of financing new debt to purely local conditions (Chapter 3). When choosing the type and maturity of debt, the authorities also need to protect themselves against future changes in the preferences of global investors and in the behaviour of other major government issuers.

In similar vein, we explain that the government can choose and outline more clearly the composition of debt between nominal and index-linked debt, between short-run and long-run debt, and between foreign currency and domestic debt. Consideration should also be given to issuing GDP-linked debt, in order to limit payoffs from the bonds issued when the budget deficit is high and output is low (Chapter 13).

Therefore, a clear strategy is required on the optimal composition of debt across different instruments and markets alongside statements about current planned levels of expenditure as the former has

important implications about the level of fiscal adjustment (the size of future primary surpluses) that will be required to bring public debt to GDP under control. And may help the process of exiting from quantitative easing.

Uncertainty

Fiscal policy must confront uncertainty by presenting a central case for the path of both GDP growth and debt. Since uncertainty is a fundamental reality of the economy, politics and society, both policy makers and political decision-makers need narratives to make sense of numbers (Pabst, 2021). Amid the white noise of ever-more information (including new, real-time data), sound decision-making requires a robust conceptual framework in order to provide clear signals.

Credible, effective fiscal policy depends on the persuasive power of the underlying framework backed by sound theories and concepts as well as all the available empirical evidence (cf. Keynes, 1940 [2010]). Judgement is key as it allows informed decisions about rival models or sets of data based on both history and theory. And judgement requires more than a set of changing rules or targets. It involves a sense of how to go about making both economic and ethical choices in the face of pressing problems (2070 Commission, 2020).

III. Elements for a New Framework

In the 2021 Budget, the Chancellor Rishi Sunak postponed the adoption of new fiscal rules after effectively abandoning the previous set of rules in 2020 amid the response to the Covid-19 pandemic. While new fiscal rules are yet to be set formally, the following broad principles were announced in the 2021 Budget:

“First, while it is right to help people and businesses through an acute crisis like this one, in normal times the state should not be borrowing to pay for everyday public spending”.

“Second, over the medium term, we cannot allow our debt to keep rising, and, given how high our debt now is, we need to pay close attention to its affordability”.

“And third, it is sensible to take advantage of lower interest rates to invest in capital projects that can drive our future growth” (Sunak, 2021)

However, as already suggested, the very complexity of fiscal policy makes it fit uneasily with either simple rules or with a one-shot annual presentation of policy at a Budget; a future fiscal framework has to be more robust than past or present arrangements. It ought to be based on a combination of clear principles (a sustainable mix of tax and expenditure) alongside state-contingent adjustments, with a careful explanation of the underlying method of how sequences of primary surpluses or deficits will be managed and achieved. Over time this will lead to a more considered national and regional debate as to the implications of fiscal policy choices at every level. A broader approach to fiscal framework should then be adopted, where fiscal analysis ought to focus on the consequences for public sector net worth – taking into account all of the government’s liabilities and assets – of policy choices.

Any future fiscal framework has to recognize that radical uncertainty about the state of the economy and the underlying fiscal positions will require constant revisions to GDP forecasts and to spending.

Improvements on the current approach will have to resolve the key issues we have identified:

- Uncertainty is exacerbated by frequent variations in fiscal rules, targets, budget announcements and changes to spending reviews;
- Fiscal rules and targets that vary according to the electoral cycle rather than the economic cycle, which raises questions about whether fiscal decisions are taken in the light of political calculations and whether due attention is paid to any trade-off between the two cycles;
- Over-centralisation of decision-making, combined with fragmented institutions, implementation difficulties and near-permanent policy churn;
- Disconnect between the economic objective of fiscal policy and its social welfare function and a concern with public debt as a share of national income.

We propose five building blocks for a future fiscal framework that seeks to address these flaws in the current architecture. Figures 1.1 and 1.2 below outline the timeline for the new approach for fiscal policy:

1 The Chancellor should set out a structured timetable for fiscal events and deliver a Budget speech focused on the state of the economy and on the government’s socio-economic objectives that is more extensively debated and scrutinised by Parliament and by a fiscal council.

The Chancellor should adopt and keep to a structured timetable for fiscal events, so that they are not moved for political motives, real or imagined. At the very least, the dates of the two fiscal events per year must be set far in advance (6 to 12 months, as with the timetable of the Bank of England’s Monetary Policy Committee [MPC]) and planning should proceed to those dates, rather than the customary few weeks’ advance notice or cancellation altogether (see Figure 1).

A clear commitment to a timetable would help to ensure that fiscal policy is a source of stability and predictability rather than a further factor of uncertainty. This also applies to the Spending Review (SR) and the Comprehensive Spending Review (CSR). Such a timetable, of course, allows for emergency fiscal events in exceptional times such as the Covid-19 pandemic.

The Budget speech should be a speech on the state of the economy responding to the OBR forecast and should clearly lay out the socio-economic objectives of the government in the short and medium-term, explaining the government’s thinking on how to address the key economic challenges facing the country.

The government ought not to preview or leak policies before fiscal events to spin public opinion favourably through the media. Parliament is the appropriate place for the first announcement and for the full scrutiny of the budget and other fiscal policy initiatives. So, although the OBR has shed a welcome light on fiscal planning, accountability and transparency, the setting of fiscal policy can be improved through greater parliamentary oversight; as well as the Chancellor making more time to explain policy choices to the House of Commons Parliamentary Committees (see Figure 2).

2 The OBR, or a separate fiscal council, should publish pre-fiscal event reports with key issues to which the Budget and the Autumn Statement should respond.

The economic prospects are presented by OBR. But policy is set by the Chancellor and HM Treasury. The impact of fiscal policy has a longer duration than the typical term of Chancellors but can also

be immediate, e.g. the Coronavirus Job Retention Scheme (CJRS). National income is, of course, the outcome of shocks and policy responses, so we need a more considered and open presentation of economic prospects that outlines where there was news (relative to expectations) and in which areas we need to develop policy. This is a task that should fall to the OBR.

British economic history of the early 21st century, prior to Covid-19, can be characterised by two distinct periods when fiscal policy had been first too loose, prior to the GFC, and then too tight in the period since the GFC. One might even say that on a secular basis that policy has tended to be pro-cyclical.

We would recommend independent pre-fiscal event reports from the OBR that outlined the areas of focus for the Budget or Autumn Statement as a kick-off event for the purdah or budget period. The fiscal event itself would provide some answers to the issues raised by the OBR report. This would also apply to Spending Review/ Comprehensive Spending Review.

3 Given the uncertainty regarding the economic cycles, the Chancellor should provide more guidance as to how fiscal policy would respond if certain risks materialised and the OBR should produce economic forecasts and scenarios to inform government thinking about fundamental fiscal choices in different states of the world.

The OBR produces detailed forecasts of the UK economy over a five-year horizon, conditioning the forecasts on assumptions regarding the state of the economy and already announced policies that will be implemented by the HM Treasury. HM Treasury, in turn decides about the policies to be implemented based on OBR forecasts over the medium term. This partially incomplete, iterative process and the uncertainty around the shocks makes it difficult to track fiscal policy outcomes and gives little guidance as to how policy would respond to changing economic circumstances (see Figure 1).

One issue regarding OBR forecasts is that the announced policies that they condition on might be unrealistic. This might lead to public debt and deficit projections that seem in line with government's debt reduction targets even when government spending is unlikely to be

kept as low as announced. Hence, the OBR should be encouraged to state whether policies they condition on are reasonable and aligned with social welfare given the economic outlook.

By publishing economic forecasts conditional on a constant path of discretionary fiscal instruments, the OBR could contribute to the understanding of how any new discretionary fiscal policy choices and proposed policy changes relate to the socioeconomic objectives of the government. This exercise would be similar to the Bank of England publishing inflation forecasts conditional on a constant path of interest rates, which signals the adjustment in the interest rate or the overall monetary policy stance that would bring inflation back to the target within the policy horizon.

The fully endogenous forecasts that condition on fiscal policy choices should continue to be produced alongside various economic scenarios to give more guidance as to what the public should expect the Chancellor to do in case some of the risks materialise. Forecasts of the path of debt and deficits under alternative economic scenarios should incorporate not only the automatic stabiliser effects in response to changes in economic circumstances but also outline how certain discretionary fiscal instruments would evolve to achieve government's objectives in different states of the world.

The communication of the extent to which there is conditionality in fiscal instruments and the associated paths of deficit and debt would contribute a great deal to demonstrating that fiscal policy responds to events and implements state-contingent measures to smooth the economic cycle and maximise social welfare. For example, had the OBR explicitly factored in the extension of CJRS in a risk scenario where there was a second wave of the pandemic to last until the end of the associated lockdowns, and the Chancellor had communicated and committed to such a state-contingent job support scheme, the effectiveness of the scheme would have been amplified through reduced uncertainty and increased confidence.

Another example is how OBR forecasts and scenarios could guide the design of monetary and fiscal policy interaction going forward, given the recent rise in public debt and the significant share that is held by the Bank of England as a result of QE. It is important to examine funding costs of existing debt under various economic scenarios, taking into account general equilibrium effects of different economic shocks that could lead to a rise in borrowing costs of the government.

4 HM Treasury should create a new body of independent experts for ex ante advice and ex post evaluation of the key fiscal choices.

HM Treasury should start the process of budget planning by setting out issues and options for consideration by independent experts. They could be drawn from the National Audit Office or from a beefed-up version of the OBR's advisory panel. This group would form a formal body of policy advice prior to fiscal events and policy evaluation after fiscal events. A fiscal policy evaluation office would add a normative aspect to the watchdog element of the OBR's current role.

Such a new body could be analogous to the SAGE committee and could be modelled on the 'five sages' in the case of the German Council of Economic Experts or the US model of the Council of Economic Advisers appointed by the executive. Regular reports by a stronger fiscal council representing all four home nations would create the conditions for more impartial advice and more informed decision-making.

Concretely, the proposed council should include representation from devolved nations and public finance experts to inform decision-making and to improve the modelling of the implications of fiscal policy choices for the economies of devolved nations and for the public finances, as well as draw on the evaluation of existing policies in order to improve future policy making.

5 Fiscal strategy has to be joined up across the UK and all its constituent parts, with particular attention paid to distributional effects, productivity, well-being and ecological sustainability.

New fiscal policies must carefully outline the aggregate and distributional effects, and the impact on regions and the devolved nations. The constituency level impact of policy ought to be presented as part of the Budget or Autumn Statement report. In practice this means that both HM Treasury and the new fiscal council must pay particular attention to a joined-up approach that takes into account regional, sectoral and household implications of fiscal measures rather than the current approach of over-centralisation combined with fragmented policy- and decision-making.

Over time, the fiscal position also affects the potential growth rate of the economy for better or for worse, and it has important implications for productivity. Therefore, a stronger fiscal council should also analyse and assess the long-term drivers of growth, competitiveness with a special focus on access to finance, dissemination of innovation and its absorption by businesses, as well as the provision of education, skills and training.

Crucially, fiscal targets should not be limited to the pursuit of higher growth but they should also include measures of well-being (as in the case of the 2015 Well-being of Future Generations Act adopted by the Welsh Senedd) and the impact on climate change and bio-diversity.

For a summary of our policy proposals, see Box 1.3 below:

Box 1.3 A New Fiscal Framework

1. The Chancellor should set out a structured timetable for fiscal events and deliver a Budget speech focused on the state of the economy and the government's socio-economic objectives that is more extensively debated and scrutinised by Parliament and a Fiscal Council;
2. The OBR should publish pre-fiscal event reports with key issues to which the Budget and the Autumn Statement should respond;
3. The Chancellor should provide more guidance as to how fiscal policy would respond if certain risks materialise and the OBR should produce economic forecasts and scenarios to inform government on fiscal choices;
4. HM Treasury should create a new body of independent experts for ex ante advice and ex post evaluation of the key fiscal choices;
5. Fiscal strategy has to be joined-up across the UK and all its constituent parts, with particular attention paid to distributional effects, productivity, well-being and ecological sustainability.

Figure 1.1 provides an overview of the current process and Figure 1.2 maps the new process we are proposing:

Figure 1.1 Current Schemata of Fiscal Events

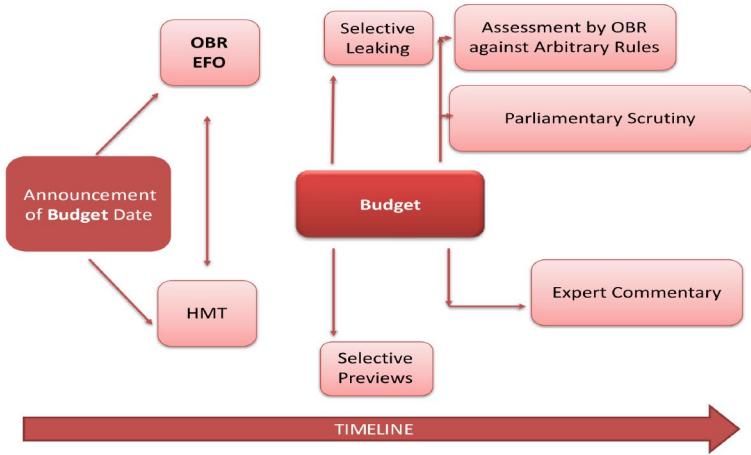
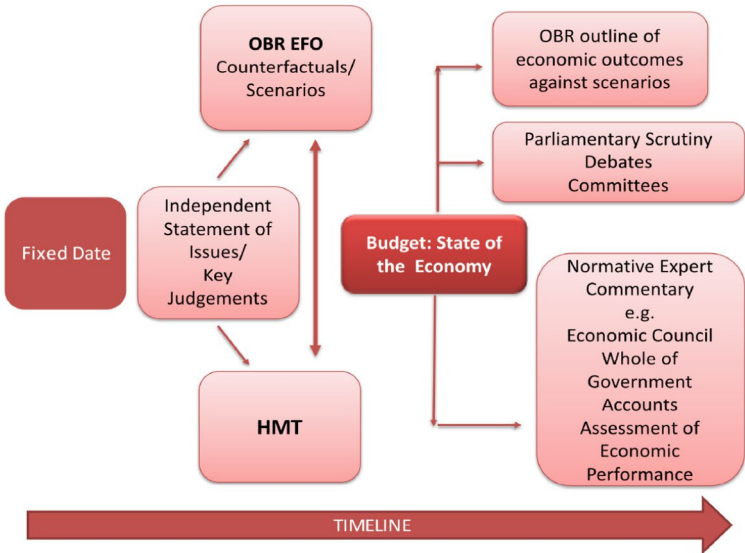


Figure 1.2 Proposed Schemata of Fiscal Events



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I

Historical and International Context

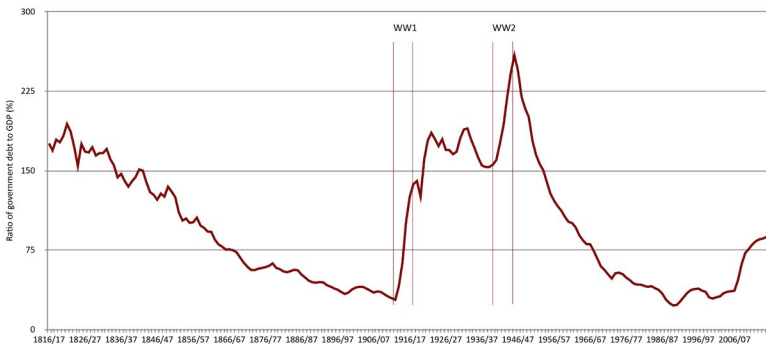
Fiscal Space in the Quarter Century After 1945

William A. Allen

This chapter discusses how highly indebted British governments were able to finance ambitious spending plans after the Second World War.

At the end of the war, the United Kingdom had used up nearly all of its external financial assets and incurred enormous external and domestic debts. The ratio of government debt to GDP, which was not widely calculated in those days, was 259% in 1946. This is the highest ratio on record, though of course the pre-Second World War figures are based on estimates of GDP made long after the event, often on the basis of scanty data (Figure 1).

Figure 2.1 The National Debt/GDP Ratio, 1816 – 2013 (%)



Source: Bank of England, 'A millennium of macroeconomic data', table A29.

Despite all this, post-war governments embarked on a range of expensive spending projects, including:

- i An extensive programme of nationalisations, including coal, transport, power and steel, which amounted to about 20% of GDP.¹
- ii The National Health Service, established in 1948. Its initial cost was about 3.5% of GDP, and the percentage remained about the same until the 1970s.²
- iii A rearmament programme embarked on in 1951 after the outbreak of the Korean War; its initial cost was about 4% of GDP.
- iv Large investment programmes by nationalised industries, notably fuel and power.

The nationalisation programme, large though it was, consisted of a change in the ownership of existing assets – coal mines, railways, etc. Shareholders and holders of debt securities issued by companies in these industries were required by law to exchange them for newly-created government securities, at prices determined by the government. There were no payments of cash by the government, and no immediate effect on aggregate demand, but nationalisations did add to the government debt/GDP ratio.

Despite the government's spending programmes, the ratio of government debt to GDP fell steadily, reaching 106% in 1960 and 60% in 1970 (Figure 1). The first part of this paper decomposes the reduction in the debt/GDP ratio so as to identify separately the contributions of fiscal policy, interest rates, and economic growth. This is a matter of accounting rather than economics. The second part explores the developments and policy measures which enabled the debt/GDP ratio to fall as it did.

1 For a concise yet comprehensive account of the nationalisation programme, see Howson (1993, pp 199 - 208).

2 Hawe and Cockroft (2013, table 2.5).

1. Decomposing the fall in the debt/GDP ratio

Changes in the debt/GDP ratio can be decomposed into three components:

- i The effects of the primary budget balance;
- ii The effects of real interest payments on the outstanding debt; and
- iii The effects of real income growth on the ratio.

The decomposition is a matter of arithmetic, and the details of the calculation are set out in the appendix. The second component, which measures the effect of real interest rates, is positive if real interest rates were positive, even if they were lower than some notional equilibrium level of real interest rates. In the decades immediately after the Second World War, equilibrium real interest rates would have been relatively high, because of the demand for capital for post-war reconstruction and infrastructure investment. If the second component were recalculated to show the effects of maintaining interest rates below a notional equilibrium level, then the figures would show a larger negative real interest rate effect on the debt/GDP ratio, and a correspondingly smaller real income growth effect.³

The calculation is far from exact in practice, partly because it is based on an approximation, as the appendix explains, but much more importantly because it takes no account of the distinction between sterling and foreign currency liabilities, and of fluctuations in foreign currency assets, and because the data do not relate to precisely the time periods that the decomposition requires. Nevertheless, the decomposition tells a fairly clear story, as follows:

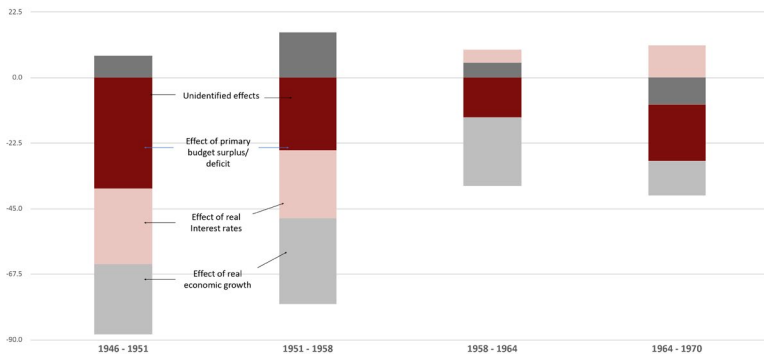
- i Between 1946 and 1951, the debt/GDP ratio fell from 259% to 179% (80 percentage points). About half of the fall is explained by primary budget surpluses, especially in 1948 – 1950, and roughly equal parts by negative real interest rates on outstanding debt (inflation exceeded nominal interest rates), and, after 1948, by real income growth.

3 Because it would be logical also to measure real income growth relative to the notional equilibrium level of real interest rates.

- ii From 1951 – 1958, the debt ratio fell from 179% to 117% (62 percentage points). The reduction was explained in roughly equal parts by primary surpluses, negative real interest rates and real income growth.
- iii In 1958 – 1964, the debt ratio fell more slowly, from 117% to 89% (28 percentage points). Real interest rates on public sector debt became persistently positive for the first time after the Bank rate increase of 1957: over the period, they averaged 1.2%. Most of the reduction in the debt ratio was explained by real income growth.
- iv In 1964 – 1970, the debt ratio fell from 89% to 60% (29 percentage points). There were substantial primary budget surpluses in 1969 and 1970 after devaluation. Real income growth had less effect on the ratio than in earlier periods.

Large primary surpluses played an important role in 1948 – 1951, 1955 – 1958 and 1969 – 1970; negative real interest rates were very important until 1957, and real economic growth was important until 1964.

Figure 2.2 Decomposing Changes in the Debt/GDP Ratio, 1946 – 1970 (percentage points)



Sources: Bank of England, 'A millennium of macroeconomic data for the U.K.' tables A11, A12, A28, A29; author's calculations.

Note: Nominal interest rates on public sector debt are calculated by dividing interest payments by public sector debt outstanding. Real interest rates are calculated by subtracting the rate of change of the GDP(E) deflator from the rate of change of nominal GDP(E). The decomposition is explained in the appendix.

2. Economic and financial policies.

The decomposition illustrated in Figure 2 is a matter of arithmetic. This section describes the developments and economic policies that made it possible for the debt ratio to fall as it did.

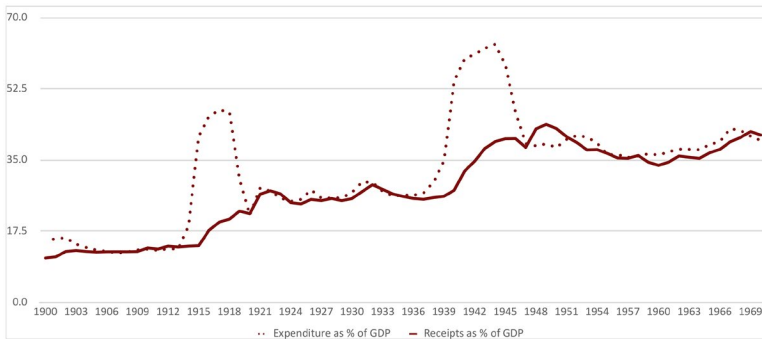
i Economic growth

After the war, much of the world enjoyed three decades of steady economic growth. It is beyond the scope of this paper to discuss why this happened, but its overwhelming importance is beyond doubt.

ii Taxation

After the Second World War, as after the First, tax receipts were higher relative to GDP (Figure 3).

Figure 2.3 Public Sector Expenditure and Receipts as a Percentage of GDP, 1900 - 1970



Sources: Bank of England, 'A millennium of macroeconomic data for the U.K.' tables A11, A28; author's calculations.

iii Monetary policy and financial repression

The contribution of monetary policy to the post-war fall in the debt/GDP ratio began at the outbreak of war in 1939, when comprehensive controls on borrowing and on external financial transactions were introduced. The intention was to prevent funds flowing abroad except with the government's approval, to prevent private borrowing, except with the government's approval, and thus keep interest rates down. In 1940, the government introduced yield curve control. It determined maximum yields for government securities: from 1% for short-term assets (Treasury bills) to 3% for long-term bonds (up to 30 years). The policy succeeded, and much of the government's domestic borrowing was in long-term form: between the end of March 1938 and the end of March 1946, the amount of gilts with more than 5 years to maturity held by the public had risen from £5.3 billion to £9.7 billion – the latter figure being a bit less than a year's GDP.⁴

The average interest paid on government debt in 1946 was 2.3%, less than the rate of inflation. The average real interest rate paid by the government was thus negative, and, with inflation persisting, it remained generally negative until 1956, for the following reasons:

- a The large proportion of long-term fixed-interest debt.
- b The maintenance of low interest rates after the war. Initially, the government attempted to continue strict yield curve control. In doing so, it followed the advice of the National Debt Enquiry of 1945, which was heavily influenced by J.M. Keynes.⁵ Indeed, interest rates were cut by ½% at all maturities late in 1945. Treasury bill rates remained at ½% until 1951, but the attempt to keep bond yields at ½% below their wartime levels failed and was abandoned in 1947.⁶ Even after short-term interest rates were increased from ½% as part of the 'reactivation of monetary policy' in 1951, they were below the rate of inflation for most of the time until 1957.

4 Sayers (1956), Howson (1975, Appendix 2 table 1 and 1993, table 3.6), Allen (2019, ch 6).

5 Howson (1993, pp 45 – 54).

6 Howson (1993, chs 3 and 4, Allen (2019, ch 7).

- c There is no way of being sure, but it seems unlikely that inflationary expectations were important during or immediately after the war; to the contrary, there were widespread fears that the unemployment of the 1930s would re-emerge after a temporary post-war boom. For example, Teupe (2020) argues that Keynes ‘never expected Treasury officials to be able to actually “cheat” the public over longer periods of time through a steady dosage of inflation.’ However, the failure to keep long-term interest rates down to 2½% in 1947 can be attributed in some degree to inflationary expectations, as can ‘the cult of the equity’ which developed among fund managers in the 1950s.⁷

It was possible to keep market interest rates relatively low because the extensive controls on financial transactions that had been introduced when war broke out were retained for a long time after the war ended, and because the United Kingdom was able to borrow externally to finance persistent balance of payments deficits. There were controls on exports of capital (lifted only in 1979), controls on private borrowing, and ‘minimum liquidity ratios’ were imposed on banks which in practice compelled them to hold large amounts of government securities. Bank credit to private borrowers was subject to controls of various sorts at various times. These controls may be regarded both as a necessary means of containing aggregate demand after the war and as a means of ensuring that the government could collect the ‘inflation tax’ that it levied on its creditors.⁸

3. Conclusion

Post-war governments were able to increase public spending while bringing the government debt/GDP ratio down from its peak of 259% by a combination of higher explicit taxation, exploitation of the long average maturity of government debt and the use of financial repression to impose an inflation tax on its creditors, and because they enjoyed the benefit of economic growth.

Government debt management during the Second World War was conducted in a consciously different way from that of the First World War. The financing of the First World War had been very expensive, and interest payments on public sector debt rose from

7 Howson (1993, p 181), Allen (2014, pp 84 - 85).

8 Allen (2014, ch 14).

1.9% of GDP in 1913 to 8.5% in 1923.⁹ The struggle to restore the gold standard and repay debts - regarded at the time as two aspects of the same objective – involved immense macro-economic and social costs in the 1920s and 1930s. The First World War was followed by stagnation and deflation; the Second by growth and inflation.

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9 Wormell (1999), Bank of England, ‘A millennium of macroeconomic data for the U.K.’ tables A11, A28; author’s calculations.

Appendix

Decomposing changes in the debt/GDP ratio

The familiar formula relating changes in the debt ratio to budget balances, interest rates, income growth and inflation is:

$$d_t - d_{t-1} = -ps_t + d_{t-1} (i_t - rg_t - inf_t) / (1 + rg_t + inf_t) \quad (1)$$

in which:

d_t = debt/GDP ratio at the end of period t

ps_t = primary budget surplus relative to GDP during period t

i_t = average interest rate on government debt during period t

rg_t = real income growth during period t

inf_t = inflation during period t .

Equation (1) may be approximated (using the Taylor expansion) and recast as follows:

$$\begin{aligned} d_t - d_{t-1} &= ps_t \\ &\text{effect of primary budget balance} \\ &+ d_{t-1} (i_t - inf_t) (1 - rg_t - inf_t + rg_t^2 + 2 rg_t inf_t + inf_t^2) \\ &\text{effect of real interest rates} \\ &+ d_{t-1} rg_t (1 - rg_t - inf_t + rg_t^2 + 2 rg_t inf_t + inf_t^2) \\ &\text{effect of real income growth.} \end{aligned}$$

This formula underlies the decomposition in Figure 2.

The UK's Fiscal Deficit: an international perspective on financing

Swapan-Kumar Pradhan and Philip Turner¹⁰

Fiscal deficits in all advanced economies have risen dramatically as governments responded to the Covid-19 pandemic and the associated shutdowns. Public debt will rise sharply. There have been no immediate financing problems because long-term interest rates on government bonds fell in 2020 as aggregate demand collapsed and central banks bought bonds. But financing constraints on the capacity of governments to develop new spending programmes (e.g. on infrastructure) have been tightened by rising levels of public debt. This note explores this question from a global perspective by quantifying the international demand for sterling assets.

The fiscal sustainability condition

A necessary (but not sufficient) condition for fiscal sustainability comes from debt dynamics - that the ratio public debt/GDP (labelled D below) is not on an explosive path. This will depend on the difference between the interest rate and the growth of GDP ($r - g$). The condition for stabilising D is that the primary balance ($PBAL$) equals this difference times D :

$$PBAL = (r - g) \times D$$

Historically, in advanced economies as a whole ($r - g$) has been negative more often than it has been positive. That is, the interest rate has been less than the rate of GDP growth. A recent IMF

¹⁰ The views expressed in this article are those of the authors and do not necessarily reflect the views of the Bank for International Settlements.

estimate put the 1871-2019 average interest rate/growth differential at -3% . From the debt dynamics equation, a primary deficit of 2.4% of GDP would stabilize a public debt at 80% of GDP.

The IMF estimates that $r - g$ in the advanced economies as a whole has been in the range -2% to -3% during the past 5 years or so. Recent and likely future trends, however, could increase $r - g$ and worsen fiscal dynamics. A shrinking working-age population would gradually lower g . A more immediate threat may come from the beginnings of a global saving shortage. This would drive up the natural rate of interest, with major implications for monetary policy (Schäublin and Turner (2021)). Private sector borrowing has been growing strongly since 2019: The private sector debt-to-GDP ratio rose by 17% of GDP between the third quarter of 2019 and the third quarter of 2020.

Fiscal policy worldwide will also be an important influence. The IMF's April 2021 World Economic Outlook (WEO) puts the fiscal deficit for major advanced economies in 2020 at 13.2% of GDP, up from the forecast of 3.6% of GDP made in their October 2019 WEO. The deficit is expected to remain high (11.9% of GDP) in 2021, and then fall sharply in 2022. Given the unprecedented (and hopefully temporary) nature of this shock, a short-lived jump in budget deficits in a weak economy would present no immediate issue of fiscal sustainability. What happens in the future is still open, and this needs to be analysed.

The world long-term interest rate

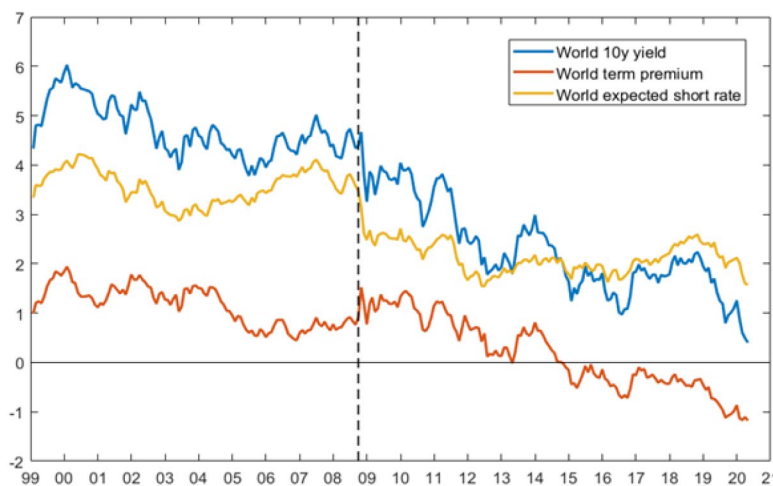
A key question is: how will r develop in the years ahead? The current environment of low interest rates, long and short, is exceptional. How will benchmark long-term rates on government bonds develop in the years ahead? There can be no purely local answer to this question: bonds in major currencies are priced in global markets. Interest rate expectations in dollar markets – and of future Fed monetary policy – exert a fundamental influence.

The portfolios of institutional and other investors worldwide have significant shares of international bonds denominated in foreign currencies. Such portfolios have grown enormously over the past 20 years thanks in part to the increased wealth of Asian investors. The

preference of many Asian investors (especially those in the official sector) for “safe” bonds denominated in the major international currencies has been a major driving force.

With the globalisation of bond markets, the influence of local fiscal or monetary policies on long-term rates in the local currency has become weaker. Increased convergence means that yields on dollar, euro or sterling bonds tend to move very closely together.¹¹ Such strong correlation means that it makes sense, at least as a first approximation, to talk about a “world” long-term rate which reflects global, not local factors. Figure 3.1 below shows an update of the calculation reported in Hördahl et al (2016).

Figure 3.1 Decomposition of 10-Year World Bond Yield



This calculation is based on a principal components measure using small macrofinancial models for the key currencies. Not surprisingly, it is dominated by dollar and euro yields.¹² The long-term rate can be decomposed into two components – the long-run expectation of future short-term rates (that is, the average expected over the life of the bond) and a term premium. The term premium is a risk premium related to the risk of holding a bond compared

11 Divergent local factors (and especially monetary policy) prevent the full convergence of levels, however.

12 In this estimation, French bonds are used as the proxy for the euro area, largely because of their longer and continuous history of inflation-linked issuance.

with rolling over a series short-term papers (e.g. Treasury bills) of the same issuer. It depends on a model-based calculation of expected future short rates.¹³

Note how these two components diverged at the time of the Lehman bankruptcy in mid-September 2008. Before Lehman, markets expected the short-term rate to average in the range 3½% to 4%. After Lehman, this fell to the range 2% to 2½%. But the term premium rose and remained high until early 2011. The term premium can be further broken down into an inflation-risk premium and a real interest rate risk premium.¹⁴

The dislocation in 2020 caused by Covid-19 and strong monetary expansion (especially through massive bond purchases by central banks) had a dramatic effect on bond markets. By late-2020, the world long-term rate had been reduced to 0.5% (compared with just over 1.1% in late-2019), with the average expected short-term rate down to 1.7% (2.2% in late-2019) and the term premium falling to minus 1.2%.

The underlying decline in the long-term interest rate is not of recent origin but a continuation of a trend that had started by 2000. Box 3.1 summarises the main causes: structural excess saving; shortage of safe assets; regulatory; and monetary policy-related. In any event, there is little doubt that large-scale purchases of bonds by all the major advanced economy central banks after 2009 played a major role.

13 The term premium is not to be confused with the term spread which is just the difference between actual market yields (e.g. the difference between the 10-year yield and the three-month yield).

14 Changes in the term premium in recent years have mainly reflected changes in the real interest rate risk premium.

Box 3.1 Trend Decline in the Long-term Rate and a Negative Term Premium

There are wide disagreements on the relative importance of the four factors commonly cited -- structural excess saving, shortage of safe assets; regulation; and central bank balance sheet policy:

- *Structural excess saving.* Saving for a longer retirement and perhaps greater inequality have raised the propensity to save. Changes in technology have reduced the demand for long-lived assets. Governments have reduced public investment in infrastructure. Accordingly, a global saving glut has depressed the long-term rate.
- *Shortage of safe assets.* “Safe” assets are bonds of governments of major advanced economies. As the rise of developing Asia’s global wealth has led to an increased demand for safe assets that exceeded the increase in government bond issuance of major advanced economies.
- *Regulation* has increased the demand for bonds (Ramaswamy and Turner (2018)). Basel III, Solvency II and accounting rules have driven banks, insurance companies and pension funds in many countries to hold more government bonds. Such rules may have made regulated firms act in a procyclical way, increasing bond duration in response to a fall in the long-term rate (e.g., to maintain yield or to lengthen the maturity of assets as the present discounted value of long-dated liabilities rise).
- Finally, the expansion in, and longer duration of, central bank balance sheets in all the reserves-issuing countries has depressed benchmark long-term rates worldwide.

There is clear empirical evidence that central bank balance sheet policies (or similar action by Treasuries) can affect the long-term interest rate in the local currency:

- Even before the global financial crisis, a shortening the average maturity of US Treasuries drove yields down (Chadha et al (2013)).

- Emerging market central banks successfully used balance sheet policies during the early part of the GFC and to limit the impact of the dollar “taper tantrum” of 2013 on their bond yields.
- Central bank purchases of government bonds under QE had a substantial effect in lowering long-term interest rates (Gagnon et al (2010)). Several emerging market central banks in 2020 supported demand by purchasing government bonds while keeping the policy rate above zero in order to support the exchange rate.

These recent policy successes vindicate Keynes' analysis on how to influence long-term interest rates.

Management of money and the long-term interest rate

An important but much-neglected of Keynes' economics was the management of money at a low long-term rate of interest.¹⁵ In the *Treatise on Money* he clearly saw that the maturity of government debt issuance was a monetary policy decision. Whether the Treasury shortened the maturity of government debt issuance or the central bank bought long-term government bonds (using short-term liabilities) made no difference to the maturity of bonds the market would have to absorb. In the National Debt Enquiry (HM Treasury (1945)), he argued (as he had in the 1930s) against the “dogma” of financing government debt at long maturities.

The specific recommendation from the report of the Treasury's NDE was that the government should determine the yield curve. This expedient did not endure beyond the immediate post-war period. But the more general argument of Keynes has stood the test of time. This was that the authorities responsible for the issuance of government debt can be more effective if they adapt to the changing preferences of investor.

Later generations of economists would express this idea in terms of sensitivity to changing liquidity and other risk premia. By issuing paper with lower liquidity or other risk premia, borrowing costs are

¹⁵ The discussion in this section is drawn from Turner (2011).

reduced.¹⁶ And such a policy often makes the financial system safer. A flight to short-term liquid assets in a crisis when bond markets become illiquid, Keynes argued, should be met issuing more short-term debt. Similarly, when inflation risk premia are high, it makes sense to issue inflation-linked debt.¹⁷

An additional consideration for Keynes was “social considerations of a wide sort”. It was desirable on social grounds to offer a low, but safe return to pension funds. Such a consideration has influenced HM Treasury policy in the past. When a 2005 reform of pension funds led to severe shortage of gilts, for instance, HM Treasury increased their issuance of very long-term paper.¹⁸

Under current arrangements, the maturity of government debt is not managed as the instrument of macroeconomic policy. Issuance tends to be guided by some (usually unstated) average maturity objective, and the aim of avoiding any bunching of maturity dates. Governments do not take full advantage of the great latitude they enjoy to determine the terms on which they borrow. This freedom comes because governments do not usually face refinancing risks – thanks to their sovereign power to tax and the fact that central banks can issue money.

The structure of the UK's debt differs from that of other large advanced economies in two ways that could give it more flexibility in managing its public debt. The first is that inflation-linked debt accounts for about one-quarter of total issuance. Its substantial size virtually ensures the inclusion of UK paper in international bond funds of inflation-linked debt. The second is that remaining maturity unusually long at over 15 years (Figure 3.2). Hence the UK has more room to cut the maturity of its debt than most other countries.

16 See for example Kroszner (1998): “An optimising independent debt management authority will tend to issue the debt instruments enjoying the greatest liquidity premium since these are the instruments that will require the lowest pecuniary return.”

17 It was Margaret Thatcher's fury at the Bank of England's judgement that the market would require a yield of nearly 16% on conventional bonds that led her to order the introduction of inflation-linked debt against strong Bank of England objections.

18 Tirole (2008). At the time of the NDE, HM Treasury believed that an elastic supply of 10-year bonds at 2% would allow insurance companies to offer annuities on joint lives.

Figure 3.2 Central Government Debt Securities at End-2019 Amounts Outstanding, in Billions of US Dollars

Country	Fixed rate	Floating rate	Inflation-linked	Average remaining maturity in years
Germany	1,173.2	13.8	81.4	6.9
United Kingdom	1,538.0	0.0	595.6	15.3
United States	12,308.3	440.8	1,507.4	5.7

Source: BIS Debt Securities Statistics (Table C2 at <http://stats.bis.org/statx/toc/SEC.html>).

Private borrowers dominate bond markets

For much of the period after the Second World War, capital controls and tight regulations ensured it was government borrowers who dominated bond markets in the major currencies. Hence there was a strong link between government borrowing requirements and the yield on government bonds.

But nowadays it is private sector issuance which dominates global bond markets.¹⁹ Large international companies borrow primarily in bond markets, not through banks. They issue bonds in many currencies, a decision influenced by yield differentials across the major currencies.²⁰ This tends to mitigate how far domestic shocks in the country of the bond's currency will *ultimately* affect bond yields. For instance, stepped-up bond purchases by the ECB (with no change in Fed policy) would have the initial effect of lowering yields on euro-denominated bonds relative to dollar bonds. But the story does not end there. International companies will react to the

19 Including issuance by State-owned companies (or similar), which has also risen especially from China.

20 The full picture is more complicated. Companies may use forex swaps written by banks to change the currency exposures resulting from such borrowing. This has a (changeable) cost because covered interest parity has broken down for some currency pairs.

new interest rate configuration by issuing more euro-denominated bonds (and fewer dollar-denominated bonds). This would tend to partially reverse the initial effect.

This has one very important implication. Bond yields have become more and more driven by how international asset managers and large bond-issuing companies arbitrage across bonds in dollars, in euros or in sterling – and local factors now count for less.

Measuring the global market for sterling bonds

A convenient starting point to measure the global market is the BIS's aggregate for international bonds outstanding. To this must be added local currency domestic issuance in the United States, the euro area and the United Kingdom.²¹ By end-2019, this aggregate had grown to \$90 trillion (\$26 trillion in at end-2000) spurred by the strong demand by international investors for debt securities (Figure 3.3). The dollar has become more dominant, and its share is 60% about double that of the euro. The share of sterling is around 6%.

Figure 3.3 Bonds Outstanding: Total and Currency Composition*

Period ending	Total amount ²	Share in % of total		
		US dollar	euro	Pound sterling
2000	26.0	61.5	29.8	5.6
2005	44.1	55.0	36.7	5.5
2010	69.1	49.8	41.4	5.4
2015	72.1	58.6	32.3	6.7
2019	83.7	60.3	31.5	6.1
2020Q2	90.1	61.2	31.0	5.8

* Comprise international debt securities in all currencies (dollar, euro and sterling together comprise about 85% to 93% of total outstanding), domestic dollar debt securities in the US, domestic euro debt securities in the euro area and domestic

²¹ Domestic issuance of yen is huge but is not included because Japanese bond markets are dominated by special local influences.

sterling debt securities in the UK. Instruments such as bonds, medium-term notes and money market instruments are included.

2 Amounts outstanding in trillions of US dollars.

Sources: BIS Debt Securities Statistics; ECB statistics on euro area debt securities statistics; authors' calculations.

The boom in global bond issuance during the past 20 years means that debt securities outstanding in each of the major currencies has risen sharply as a percentage of GDP of the issuing countries or areas. Outstanding sterling bonds (all issuers) have risen by the equivalent of about 100% of UK GDP (that is, 190% at mid-2020 minus 88% at end-2000 from Figure 3.4). Such a strong rise in the demand for bonds has in some sense created “space” for increased bond issuance of the UK government. The rise in UK government debt securities over this period had, by mid-2020, used more than four-fifths of this “space” (that is, 119% minus 30% from Table 3).

Figure 3.4 Debt Securities Outstanding in Sterling*

Period ending	All issuers		UK government	
	Amount (in \$ trillion)	As % of UK GDP	Amount (in \$ trillion)	As % of UK GDP
2000	1.5	87.5	0.5	29.9
2005	2.4	96.0	0.8	31.5
2010	3.7	151.3	1.7	67.6
2015	4.9	166.3	2.6	89.4
2019	5.1	180.6	2.9	102.8
2020Q2	5.2	190.3	3.1	119.2

* Government's international issuance in sterling is negligible (\$18 billion only). Domestic issuances in non-sterling are assumed negligible.

Sources: BIS Debt securities statistics; IMF World Economic Outlook (October 2020); authors' calculations.

Similar calculations for the United States and the euro area provide illuminating benchmarks. Outstanding dollar bonds (all issues) have risen by 100% of US GDP, broadly comparable to

that of sterling relative to UK GDP (Figure 3.5). But the increase in US government securities over this period has been smaller --- amounting to about 68% of US GDP.

Figure 3.5 Debt Securities Outstanding in Dollars*

Period ending	All issuers		US government	
	Amount (in \$ trillion)	As % of US GDP	Amount (in \$ trillion)	As % of US GDP
2000	16.0	156.0	4.2	40.6
2005	24.2	185.9	6.8	52.2
2010	34.4	229.5	12.0	80.3
2015	42.2	231.9	16.3	89.3
2019	50.5	235.6	19.7	92.0
2020Q2	55.2	258.4	23.0	108.8

* Government international issuance in dollars (\$4 billion only) is negligible. Domestic issuance in non-dollar is assumed negligible.

Sources: BIS Debt securities statistics; IMF World Economic Outlook (October 2020); authors' calculations.

Much more marked is the difference between the UK and the euro area. The rise in outstanding euro area bonds (all issuers) has been a somewhat smaller proportion of euro area GDP – about 85% of GDP (Figure 3.6). The most striking difference is that the rise in euro area government securities has amounted to only 25% of euro area GDP.

Figure 3.6 Debt Securities Outstanding in Euro

Period ending	All issuers		US government	
	Amount (in \$ trillion)	As % of EA GDP	Amount (in \$ trillion)	As % of EA GDP
2000	7.8	119.5	3.3	50.8
2005	16.2	154.0	5.3	50.5
2010	28.6	226.1	8.5	67.0
2015	23.3	199.4	8.1	69.4
2019	26.3	196.9	9.1	67.9
2020Q2	28.0	205.2	9.9	76.1

Sources: ECB statistics on euro area debt securities statistics; BIS international debt securities statistics; IMF World Economic Outlook (October 2020); authors' calculations.

By the metrics of this paper, then, the UK government has fiscal space – but had by mid-2020 already used more of it than had the euro area or the United States. The euro area, however, is something of an outlier, and the ECB has noted that a larger supply of safe assets (perhaps through the issuance of common euro area securities) would promote the greater international use of the euro (ECB (2019)).

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Preparing for the 2007 Comprehensive Spending Review

The Rt. Hon. Stephen Timms MP

I was the last Chief Secretary to the Treasury appointed by Tony Blair, before he stepped down as Prime Minister in 2007. I was appointed just after local council elections, on 5 May 2006, and continued until Gordon Brown appointed his first cabinet – from which I was omitted! – on 27 June 2007.

The 2007 Comprehensive Spending Review (CSR) was announced by my predecessor, Des Browne, in Summer 2006. By the time it was published, in October 2007, I had been replaced by my successor, Andy Burnham. But my year in the job was dominated by the preparations. “*Much of this your work!!*”, wrote my former private secretary thoughtfully in a note when the Review was published, acknowledging “*all the effort on your part in conditioning expectations among some of the trickier customers*”.

It wasn't the only thing I worked on in that year. I signed off the budget for the 2012 Olympic and Paralympic Games, announced in March 2007 – after an exhaustive budgeting exercise – as £9.325 billion. I attended Cabinet each Tuesday morning, and, over coffee outside the Cabinet Room beforehand, was often accosted by a Cabinet member about a spending issue in their department. Usually, Treasury officials had briefed me on the issue beforehand, so it didn't come as a surprise. I worried about the spiralling costs of the NHS IT project. I met bank executives to discuss taxation. I visited Bangladesh to look at how UK development funding was helping extend primary education, and to announce additional help. But preparing for the CSR was the task which occupied the largest part of my time.

I had been Financial Secretary to the Treasury twice previously, in 1999-2001, when my brief covered the various duties levied by HM Customs and Excise, and in 2004-5, when I was responsible for the City. When I became Chief Secretary, an official commented that

it was unusual for a Minister to return to the Treasury three times, but it wasn't a record, as Gladstone had come back four! I went back again, as Financial Secretary in 2008-10.

The 2007 Review was the first to be designated "Comprehensive" since the first three-year spending review, initiated by Gordon Brown in 1998. The commitment to three-year spending plans was a crucial, modernising innovation. The pattern after that first one had been that a Spending Review was published every two years – in July of 2000, 2002 and 2004 – with the last year of the preceding review being the first year of the new one. Des Browne's announcement in 2006 therefore marked a delay compared to the usual pattern. That was in part justified on the basis that this Review would be "Comprehensive".

Our aim was to continue to improve public services while also continuing to reduce child poverty.²² Gordon Brown – then still Chancellor – announced the overall spending envelope ahead of the Review and made it clear that the rate of increase in public spending would be less in the CSR period, 2008-11, than in the previous few years, and that public spending as a proportion of national income would have to be less at the end of the period than at the beginning. It was clear that constraining departmental plans within this envelope was going to be difficult, and that some departments would struggle with the spending limits that the envelope implied. As a briefing note from the Institute for Fiscal Studies put it the day before the CSR was published in October 2007, "*the CSR looks set to be tight for many government departments.*"

Treasury officials, led by a senior official with overall responsibility for the spending review, took an early view – given the envelope – of roughly what each department could expect from the review. Individual departmental budgets were then hammered out through investment of enormous effort on the part of the Treasury's spending team, responsible for that department's budget, and the

²² The decisions being made in the CSR were significant decisions. It may, however, be overstating it to describe the framework within which those decisions were being made as "an overall plan for the provision of public goods." At the outset, the Chancellor had determined the overall public spending envelope for the period, and there were some new commitments which we knew had to be accommodated. Subtracting the latter from the former provided the envelope within which overall departmental spending had to be accommodated. This was the "framework" within which the spending decisions were made.

department's finance team. The aim was to resolve as much as possible at official level. That was followed by a meeting in the Treasury, around a large table in my office alongside a window looking out over St James' Park, between me and the Secretary of State. Each of us was accompanied by four or five officials. We pored over outstanding issues and attempted to resolve them.

These meetings were always difficult, but they weren't impossible. Departments often felt that the Treasury didn't understand their unique challenges, and worried that Treasury inflexibility posed a major threat to their being able to fulfil the important tasks the Government had assigned to them. It wasn't unusual for officials to feel quite emotional about the demands being made of them. On the other hand, everyone understood that the task in hand was unavoidable and difficult, and wanted the review to be concluded in an orderly way. The upshot was that reaching a satisfactory outcome was not as elusive as might initially be supposed. It was possible to reach outcomes which were largely accepted by departments.

Of course, my word was not final. Any Minister who felt hard done by after meeting me could make an appeal to the Chancellor. However, I don't remember anyone concluding that they stood a better chance of a fair hearing with Gordon Brown than they had had from me.

The Gershon Review to identify efficiency savings had been published alongside the 2004 Spending Review, and we were keen to maintain the momentum that work established on identifying efficiency savings and bearing down on administration costs. We committed to delivering at least 3% net, cash-releasing value for money savings per year across the board and reducing administration budgets by 5% per year in real terms in all departments. We were also looking for asset sales – for example of unnecessarily grandiose residences for diplomats overseas – to help fund new investment.

The Treasury was keen to reach early settlements with as many departments as possible, before announcement of the overall Review. Attractive incentives encouraged this. Simply having a firm budget earlier than would otherwise have been the case was a significant incentive. In addition, departments reaching early settlements were permitted to use some of the savings they identified to re-invest in their own priorities. The incentives were enough to reach an early settlement, announced before the CSR

announcement, with the Home Office, Ministry of Justice – newly established in May 2007 – and Law Officers’ Departments which accepted an average annual real terms spending reduction of 0.7% over the Spending Review Period. Nine small departments accepted settlements with a larger reduction, and early settlements were also reached with Department of Education, representing an average annual real terms spending increase of 2.2% over the spending period – compared with an average annual 4.5% increase in Education spending previously since 1997-8 – and the Ministry of Defence, with average 1.5% per year real terms growth.

A major focus of the Review was streamlining the system of Public Service Agreements. Introduced alongside the 1998 Comprehensive Spending Review, they were designed to secure buy-in for the Government’s overall high-level objectives from the departments charged with delivering them, reflecting the spending decisions intended to underpin them. The number of PSAs was reduced to thirty in the 2007 Review. Several departments were expected to contribute to each of them, but one Secretary of State had the lead responsibility. For each of them, a PSA Delivery Agreement was published alongside the CSR, setting out how the goal would be reached and how progress towards it would be measured.

For example, PSA 9 was: “*Halve the number of children in poverty by 2010-11, on the way to eradicating child poverty by 2020*”. Three indicators were set out in the CSR document: the number of children in absolute low-income households; the number of children in relative low-income households; and the number of children in relative low income households and in material deprivation. The lead department was the Treasury. The PSA Delivery Agreement set out over 32 pages how the goal would be achieved by “Reducing Poverty through Employment” and “Reducing Poverty by Raising Income”. Similar documents were published for all of the thirty PSAs.

The Review published in 2007 reflected an optimistic assessment of the potential for Government to improve life in Britain. In compiling it, we knew that tight constraints on how much we could spend would limit our ambitions. But we believed that maximising efficiency – particularly reducing the costs of administration – would free up resources to enable real progress.

In my fourth stint at the Treasury, I took the Child Poverty Act 2010 through Parliament. The commitment to eradicate child poverty, announced by Tony Blair in 1999 just before I was first appointed Financial Secretary, animated a lot of Government policy between 1997 and 2010. We didn't manage to halve child poverty by 2010. But we did substantially reduce it. The lives of millions were improved as a result.

Today, child poverty is going up. The process of the Comprehensive Spending Review 2007, and the mechanisms used to deliver it, show how a future Government can, again, put the country on course for the improvements which I and my colleagues were committed to.

II

The Conjunctural Question

The Debt Vaccine

*Martin Ellison and Andrew Scott*²³

The coronavirus pandemic has led to a tragic loss of life. It has also acted as a major shock to the economy. In 2020 the UK experienced its worst recession since the Great Frost of 1707. Its public finances have been hit especially hard, with the National Debt now exceeding £2 trillion in response to record levels of borrowing. Whether the statistics reflect mortality or macroeconomics, 2020 makes for grim reading.

However, whilst we would undoubtedly be better off without this terrible pandemic, given it has happened we should welcome the increase in government debt. Debt has done exactly what economic theory tells us it should do – act as a buffer in response to unexpected negative shocks. In a sense, government debt acts as an economic vaccine – protecting a weakened economy from shocks to economic health that higher taxes or expenditure would bring about. Just as the UK is celebrating its success at creating, producing and rolling out medical vaccines, so it should also celebrate its success at being able to increase its government debt. A world without Covid-19 is best but, in a world where it exists, we should celebrate both medical and economic vaccines.

Of course, the debt ‘vaccine’ doesn’t work forever. The pandemic has permanently lowered wealth and a cost has to be paid. What debt issuance does is provide time to pay it. Covid-19 will surely become a textbook example of a temporary shock to finances. Further, the textbooks make the point that in response to large temporary fiscal shocks, government debt should show long term swings. That of course raises a multitude of concerns including how, when and if that cost will be met, the danger of inflation, and worries of future government debt crises.

²³ The views expressed in this article are those of the authors and do not necessarily represent those of their employers.

Reasons to be cheerful

These are serious issues, and we can turn to past UK government experience²⁴ as well as theory for guidance. Both provide reassurance that the current situation is not an economic catastrophe but, if managed appropriately, represents yet another episode in the story of long-run swings in UK government debt. Of course, past success is never a guarantee of future success but for a number of factors provides reassurance.

#1 – There is no firm limit to the size of government debt

Debt is Janus like – looking both backwards and forwards. It reflects the whole historical path of shocks to the UK public finances and the government. It is also forward looking in that, assuming no default, the current market value of government debt equals the present discounted value of future primary surpluses. The result is that when bad shocks occur debt rises, which requires future action to bring it down again. Whether debt is too high depends on the sequence of past events and the path of future actions. Further, the longer the horizon over which governments can borrow, the easier it is for future actions to finance bad shocks. That in turn depends on the government's track record of not defaulting. Moreover, the more it is that the bad shocks pushing debt up are beyond government control rather than due to poor fiscal policy, the easier it is to finance a rise in debt.

Economics therefore provides no simple answer to the question of what the optimal level of government debt is. It really does depend. Other things being equal lower debt is a good thing, but in the world of public finances other things are rarely equal. In the midst of a pandemic even less so.

This explains why Macauley wrote that “at every stage in the growth of debt it has been seriously asserted by wise men that bankruptcy and ruin were at hand. Yet still the debt went on growing, and still bankruptcy and ruin were as remote as ever”. It also accounts for why Adam Smith, whilst warning of the dangers of government

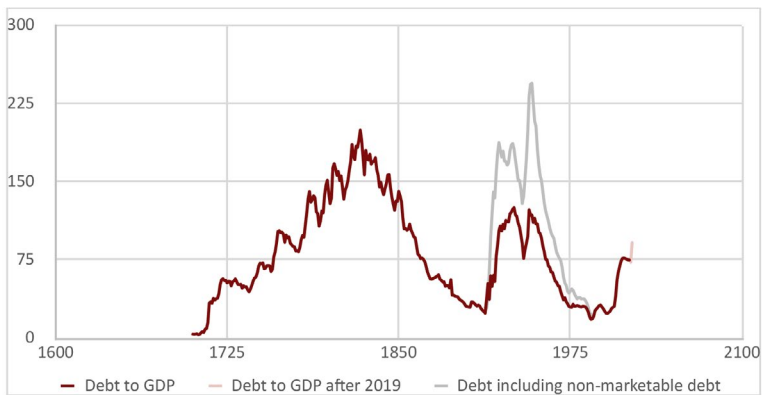
24 Ellison, M. and A. J. Scott (2020), “Managing the UK National Debt 1694-2018”, *American Economic Journal: Macroeconomics*, Vol. 12(3), 227-257

debt, remarked in 1776 that “Great Britain seems to support with ease a debt burden which, half a century ago, nobody believed her capable of supporting”.

#2 – The data has been much higher

The history of UK National Debt reflects the changing fortunes of Britain and its empire. The debt-to-GDP ratio in Figure 1 rises from the beginning of the 18th century through a series of conflicts, peaking in 1815 at the end of the Napoleonic Wars (going even higher than the level Smith noted in 1776). Debt then falls for close to a century, before increasing abruptly in World War I (WWI) and World War II (WWII), after which the fall continues until the global financial crisis of 2007-8. The red line on the right of the figure shows developments since the beginning of 2019, with the increased borrowing due to the Covid-19 pandemic apparent in the final uptick in the debt-to-GDP ratio to the end of December 2020.

Figure 5.1 Face Value of Debt Outstanding as a Percentage of GDP



When seen in the light of long history, the effect of Covid-19 on the National Debt is discernible yet small. The debt-to-GDP ratio at the end of 2020 is still less than 40% of what it was at the end of WWII. Instrumental in this is the (hopefully) temporary nature of the pandemic, vaccines permitting. This contrasts with wars, which last several years, see productive capacity destroyed, and create demobilization costs for years even after they have ended.

#3 – Long swings

As Figure 5.1 shows, government debt shows very long run swings in response to large temporary shocks. In fact, theory predicts that debt is the last macroeconomic variable to recover from major shocks.²⁵ Whilst the worst health impacts of a pandemic may end after a few years and the economy take a few more years after that to fully recover, it is government debt that should take the longest time to revert. In the face of a one in fifty year shock to public finances it is entirely appropriate to spread the adjustment over fifty years.

#4 – The reproduction number R for government debt is low

As epidemiological statistics push macroeconomic data off the front pages, attention has been focused on R – the rate at which the virus reproduces. Government debt has its own R , which depends on the primary surplus (revenue less non-interest government expenditure) and $r-g$, the growth-adjusted real interest rate. If the primary surplus is in balance, then the behaviour of the debt-to-GDP ratio depends only on $r-g$. If r (the real interest rate) is high, then debt will reproduce rapidly. If g (the growth of real GDP) is high, then the debt-to-GDP ratio declines sharply.

Right now, the government is benefiting from very low real interest rates. In May 2020 the UK debt management office even managed to issue three-year gilts at a negative yield. The debt dynamics are also likely to be boosted by favourable g . Whilst there are concerns about the low level of UK trend growth in the aftermath of Covid-19, the economy is likely to see a sharp increase in GDP as the effects of lockdown are unwound (even if this is only partial).

The fact that the UK has experienced the worst recession since the Great Frost means it has the potential for a sharp recovery. For instance, in 2009 the UK government debt/GDP ratio rose from 55.2% to 69.7%. Of this increase 10.2% was due to new borrowing and 2.3% from a fall in GDP. Further recoveries from financial crises tend to be drawn out processes. By contrast, in 2020 the debt rose from 105.9% to 133.2% - nearly 20% from new borrowing and 10.5% due to the fall in GDP. Clearly this amount

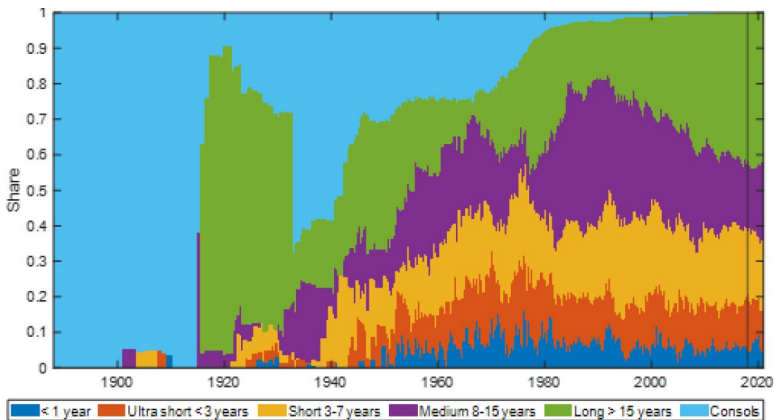
25 Marcet, A and A. J. Scott (2009), “Debt and deficit fluctuations and the structure of bond markets”, *Journal of Economic Theory*, Vol. 144(2), 473-501

of borrowing is substantial, but given the expectation that growth will show a bounce back as government lockdown policies are relaxed, a rapid improvement can also be expected independently of the budget deficit. Based on the 2020 numbers a third of the rise in the debt-to-GDP ratio will be reversed if GDP returns close to its pre-pandemic level. The $r-g$ term is likely to be very favourable in the very short term.

#5 – Funding is locked in

The UK is an outlier in international terms, with the average maturity of the National Debt around double that of most other OECD countries.²⁶ Whilst long-term funding is generally more expensive because of a term premium, it does help reduce the roll-over risk of financing debt. Just how much this benefits the UK is apparent in Figure 5.2, which shows how the maturity distribution of UK debt has evolved since fixed maturity bonds were first issued.

Figure 5.2 Percentage Composition of UK National Debt by Maturity



The switch to longer-term debt began with the issuance of 30- and 40-year gilts in the 1980s, and continued in the 2010s with new 50+ year bonds. This has vastly increased the share of the National Debt that is locked in for more than 15 years (the green area in Figure 5.2). Only a third of the National Debt is currently due to mature within the next 8 years and more than half of it matures after 2030.

26 HM Treasury Debt Management Report 2019-20

Reasons to be worried

The Janus like nature of debt is of course both its attraction as well as a source of concern. Like St. Augustine's prayer, "Lord make me good but not yet" it affords current license at the expense of future promises that may not be delivered. It is this that leads to fear of what high levels of debt imply about the future. Concerns about rising funding costs are partly mitigated by the facts above around the long-term maturity of outstanding government obligations, but considerable concern exists around inflation and debt crises.

#1 – Is high debt a harbinger of inflation?

Before WWI the UK government reduced the level of government debt after wars mainly through running primary surpluses over sustained periods of time.²⁷ During this time government bonds were mainly undated (perpetuals) providing a long-term horizon to bring public finances under control. A limited electoral franchise and a narrow group of bond holders helped provide a supportive political framework for long-term fiscal surpluses. Since 1914 declines in government debt after temporary surges have been brought about not by long running fiscal surpluses but by GDP growth and inflation. The contribution of inflation doesn't necessarily mean high inflation, inflation of one or two percent per annum over 20 or 30 years makes a substantial contribution to lowering the debt to GDP ratio. As Figure 5.1 shows, the most rapid reduction in government debt occurred between WWII and 1970, before the UK's rapid inflation in the 1970s. Modest inflation and sustained GDP growth have been the mechanism post WWII to bring down government debt from elevated levels.

#2 – Avoiding funding crises

A constant concern around government debt is the fear of not being able to fund additional deficits, or to face rollover problems when maturing debt needs to be refinanced. This is undoubtedly one of the reasons why such funding problems have been rare for the UK. At critical moments the government has indeed faced funding problems. Perhaps the most dramatic relates to the issuance of the

27 Ellison, M. and A. J. Scott (2020), "Managing the UK National Debt 1694-2018", *American Economic Journal: Macroeconomics*, Vol. 12(3), 227-257

1914 War Loan.²⁸ However, such funding crises are rare. In the face of a one in fifty or one hundred year pandemic it may be prudent to worry about other one in fifty/hundred year risks, such as a funding crises, but more imminent risks need to take precedence. The need to support the economy and promote growth to ensure long run fiscal sustainability is crucial. Given the current level of funding costs and the depth and liquidity in UK government debt market, concerns about disruptions to funding should not be dominant.

#3 – Debt is greater than it looks, be careful of long bonds

According to the ONS, at the end of 2020 UK government debt stood at 99.4% of GDP. However, that is the face value of government debt. Because yields are so low (and below the coupon rate for most government bonds) the market value of government debt is actually considerably higher at 133% of GDP. The ratio between the market value and face value of government debt has never been so high.

The difference between these two valuations reflects the appreciation of long bond prices that has happened because of falling yields. The temptation is to look only at the face value of debt because the UK Debt Management Office tends only to buy back bonds at redemption. This in turn leads to a preference for issuing long term debt as in recent years the long end of the yield curve has been historically very low. However, the substantial appreciation of long bonds over the past decade has meant that long bonds have been an expensive way of financing the government debt. It would have been better to issue a sequence of shorter bonds and benefit from rising bond prices than issuing very long-term debt. It may be that in the years ahead a bond market correction reverses this feature, but long bonds have earned investors high rates of return over time and made government funding more costly. This is the negative side of the UK debt maturity being so long.

The coronavirus pandemic has been a traumatic shock to the country's health and a permanent shock to its wealth. Thankfully, just as the UK has been able to roll out millions of vaccines to offer

28 <https://voxeu.org/content/extraordinary-story-britain-s-early-efforts-finance-first-world-war>

some hope of economic recovery, so too the Debt Management Office has been able to roll out billions of bonds that have helped provide economic respite.

Economic theory and UK history is clear that in response to large temporary exogenous shocks the appropriate response is for governments to let debt take the strain and for that impact to be felt over decades. The lack of a definite ceiling to debt, the proven historical capacity to deal with even higher levels, the maturity profile of UK debt, the depth of liquidity and current level of interest rates all argue against treating the level of debt as a current binding constraint on economic policy now or in the immediate aftermath of the crisis.

Of course, risks remain from high debt. A recipient of a Covid-19 vaccine today receives protection from the most important current health threat. Similarly, a sharp rise in government debt helps protect the economy against the worst of the pandemic and provides a platform to deal with the shock over the long term. However, medical vaccines don't determine future behaviours or prevent being affected by other illnesses. Similarly, high levels of government debt don't rule out future policy mistakes. Strengthening the long-term framework of fiscal policy as well as the authority and independence of fiscal councils and central banks has to be part of a post-Covid-19 policy response. Elevating the possibility of future policy mistakes is one of the side effects of the debt vaccine but it isn't however an argument not to use the debt vaccine. The world would be a better place without Covid-19 but in a world with Covid-19 the UK is better off with high government debt levels in the years ahead. Mistakes may lie ahead in the future. Letting debt increase dramatically in response to Covid-19 and taking decades to unwind the effect isn't one of them.

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Monetary Policy and the Value of Public Debt

*Gerald Holtham*²⁹

Introduction

This chapter makes three points:

- Current government debt is not a fixed amount; much of it is a contingent liability whose size depends on future developments.
- One of the factors influencing the size of the debt is the way that monetary policy is conducted.
- Current methods of monetary control are likely to be unnecessarily expensive, partly owing to a highly defensive interpretation of central bank independence.

How much public debt is there?

There is growing concern about the scale of government debt issuance consequent on the Covid-19 crisis and about the accumulated size of government debt.³⁰ In December the ONS reported that net government debt stood at about £2.1 tr, almost 100 per cent of annual GDP. And the debt is expected to top £2.2 tr by the end of the financial year in March 2021.

²⁹ I am grateful for comments on this paper from Charles Goodhart, Graham Hache, John Llewellyn, David Miles, and Mike L Williams. Their criticisms have much improved the result but none of them is implicated in my conclusions. Remaining errors of fact and interpretation are all my own work.

³⁰ There is a current discussion about the economic consequences of government debt and what sort of burden it represents on current and future taxpayers. This article does not address all the issues raised but focuses on the scale of the debt and its contingent nature.

Currently the Bank of England is holding around one-third of the unexpired bonds issued by the British government. The general public may well wonder in what sense that debt, with a face value of £602 billion, can be said to be debt at all, given that it is apparently money that the one part of the public sector owes to another. How far is that debt really a burden on tax-payers? The answer depends inter alia on how monetary policy is conducted.

The orthodox analysis runs as follows. In purchasing government debt, the Bank of England is creating commercial bank reserves. It writes a cheque to the seller of government debt, and that is paid into the seller's bank account, which increases that commercial bank's own account at the Bank of England – its reserves. Those reserves are regarded as a liability of the central bank, the Bank of England, that are set in its balance sheet against its assets, largely consisting of the government bonds it bought³¹ – See Figure 6.1.

This orthodox story implies that the Bank's bond purchases do not alter the public sector's total consolidated debt; they simply alter its duration. Long-term government bonds are retired and replaced by Central Bank debt to banks. Since the interest rate that the Bank pays to commercial banks is lower than the coupon on bonds, this normally reduces debt servicing costs. Bank rate is currently 0.1 per cent, as near to zero as may be. In 2019-20 interest on government debt would have been 2.2 per cent of GDP but the effect of Bank of England previous debt purchases under the quantitative easing programme was to reduce interest payments to 1.7 per cent of GDP, a saving of about £12 billion.³² So much for the accounting. But it falls short of answering our question: to what extent is this really a debt, a potential burden on taxpayers? Do these accounting conventions clarify or confuse economic reality?

Note that the central bank's liability is a very odd liability indeed. Unlike the case of government bonds, settlement of the central bank's liability can never be demanded, even in principle. Bank

31 In fact, the Bank bought the bonds at above face value owing to bond prices changing with market yields. These costs are shown in the final line of Table 1. Some costs would be avoided if the BoE took the bonds directly off the government when both parties agreed it was appropriate.

32 House of Common Briefing Paper No.05745, Government borrowing, debt and debt interest 26 November 2020, p.6 Available at <https://commonslibrary.parliament.uk/research-briefings/sn05745/> [Accessed December 2020]

reserves are money, the stuff in which all transactions are settled. If banks were to demand repayment of the liability that demand would be meaningless. Ever since countries abandoned the gold standard bank, reserves have become the ultimate money.³³ Moreover, the commercial banks are not rendering any service to the Bank of England in lodging their reserves with it. On the contrary, it is serving them by acting as a clearing house for inter-bank transactions and by acting as lender or borrower of last resort should their own lending operations leave them short or long of liquidity. Payment of interest on bank reserves is not the result of any obligation, legal or moral. It is simply a pragmatic policy choice, a device used to control the credit activities of commercial banks.

Figure 6.1 Public Sector Net Debt

£ billion, 30 November 2020

Total public sector debt: 2,099.8*

Of which 1,805.2 is gilts

Of which 602.1 is gilts held at BoE

BoE net liabilities: 233.9**

Of which 109.6*** is cost of gilt holding

Source: ONS Public Sector Finances UK November 2020; release 22 Dec 2020

Notes:

*This figure excludes debt of public banks. It encompasses the gross debt of central and local government plus that of public pension funds and non-financial public corporations, which are both small amounts. Cross holdings of debt among public bodies and liquid assets are subtracted to arrive at net debt.

** This figure is the loan “liabilities” of the BoE minus its holdings of gilts. Apart from the cost of acquiring gilts above face value it includes corporate bond holdings and the Term Funding Scheme, which provides 4-year loans to banks and building societies at close to Bank rate.

³³ Reserves can be extinguished when the private sector makes payments, such as taxes, to the government. Proponents of Modern Monetary Theory give great weight to that, arguing that money derives its value from the fact that it is the designated way of paying taxes. In fact money is the stuff that settles all transactions, only a small part of which are tax payments. The government accepts transfers of bank reserves not because they are a debt, but because they are the principal legal means of settling transactions in the UK – and in most other countries.

*** Cost of the gilt holding is the amount paid for gilt purchase in excess of the face value of the bonds.

This view is supported in a recent paper in which Kumhof et al consider the matter from a legal and accounting, as well as an economic perspective. They conclude that, far from being a debt: “an appropriate characterization of CBM is as ‘social equity’ that confers rights of participation in the economy’s payment system and thereby its economy”.³⁴

While it is more than questionable whether the monetary authorities have a true liability to specific counterparties, there is no doubt that they have a general fiduciary duty to preserve the integrity of the currency. They cannot let the purchasing power in circulation get far out of line with the productive potential of the economy. That is their true obligation.

In order to put a value on this “liability” therefore, one should not consider the face value of reserves, a sum that need not be and cannot be repaid. One should consider the present value of the interest payments the Bank of England will choose to make in future. The future is unknowable, but if the public debt is to be valued then, like any good insurance company one has to assess probabilities and put a value on those expected payments.

Why monetary policy affects debt

To put a value on those expected payments, it is necessary to consider methods of credit control.

The point of managing credit is to manage aggregate demand in the economy so that it is not so excessive as to cause inflation nor so deficient as to occasion a recession. Formally, this is expressed by having a low, but positive, inflation target. The Bank of England does not want to control credit by quantitative controls but via the price mechanism, so it sets an interest rate on bank reserves. That creates an opportunity cost; banks will lend to clients only at that rate plus a mark-up. They will usually lend any amount at that lending rate so long as they can find suitable customers. If they lend

34 Kumhof, K., Allen, J., Bateman, W., Lastra, R. M., Gleeson S., and Omarova, S., 2020. Central bank money: liability, asset, or equity of the nation? CEPR Discussion Paper DP15521, 6th December. Available at Centre for Economic Policy Research (cepr.org) [Accessed 8 December 2020]. Note CBM stands for central bank money.

so much that their stocks of liquid reserves fall lower than they need for settling payments with other banks, they can always borrow reserves from the central bank at a slightly higher rate. The Bank of England will provide loan facilities, at a price against collateral.

Monetary control therefore works on the demand for credit. When there is a perceived need for restraint, Interest rates – the Bank of England’s deposit and lending rate – are ramped up to the point where credit demand tails off to the extent thought appropriate by the monetary authority, given their inflation target and the state of demand, including the government’s net demand reflected in its budget deficit.

Normally banks will prefer to operate with low reserves, because in a healthy economy they can lend to customers at a higher rate than the Bank pays on the reserves. And if they are caught short of liquidity they can borrow at or slightly above the Bank’s deposit rate. Currently, owing to the Bank’s programme of Quantitative Easing (buying government bonds), banks have very large reserves. Because of weak private sector credit demand, or from the banks’ perspective insufficient profitable lending opportunities, the level of reserves is abundant and far more than the banks would normally wish to hold for prudential reasons. The Bank rate paid on those reserves provides a floor for interest rates

In recent years, the concerns of the Bank of England have been how to keep interest rates low and reasonably stable; but it is necessary to think ahead.

If the economy begins to overheat and banks have ample reserves, this can entail the Bank of England paying commercial banks much higher interest on those reserves in order to restrain credit. This is not an immediate problem; nonetheless, the time may come when the Bank wants to raise rates. It calculates that over the longer term short-term interest rates may need to settle in the

range 2-3 per cent,³⁵ which implies that, in a period when credit needs to be restrained, they could reach 5 or 6 per cent or more. With reserves currently above £700 billion, that entails the Bank of England paying commercial banks over £35 billion per year for nothing, simply as a by-product of conducting monetary policy. Evidently transferring 1 ¾ per cent of GDP in that way could raise some political eyebrows. These considerations call into question whether current methods of credit control remain appropriate for a world of abundant bank reserves. The central bank, however, has alternatives – two of them, one respectable and the other regarded as heretical in the UK though widely employed in other countries.³⁶

The first, and most likely course of action, is to reverse QE, that is, to resell on to the open market the government bonds it has bought during the QE period. That will have the effect of draining reserves from the system. The government will then be paying interest on those bonds to the private sector. If interest rates have risen, the Bank will receive less for them than they paid, and perhaps less than their face value, so the reserve drain would be partial. Moreover the Bank bought them after interest rates had fallen, and so paid more for them than their face value. If it is as unlucky selling as buying it could lose £200 billion on the round trip.³⁷ The offset is that the Bank will pay less interest. Indeed, as reserves are drained, the

35 Bank of England, 2018. Inflation Report, August. Box 6 p. 41. Available at [Inflation Report - August 2018 | Bank of England](#) [Accessed 24 January 2021]. The report concludes: "...R* in the UK has fallen by more than 2 percentage points since 1990. Allowing for uncertainty around the precise starting point and filter length, R* in real terms is estimated to have fallen from around 2¼%–3¼% (with a modal estimate of around 2½%) to around 0%–1% currently (with a modal estimate of around ¼%)...Adding the 2% inflation target in order to convert those numbers into nominal terms results in a current estimate of nominal R* in the range of 2%–3%.(6) As explained in more detail below, shorter-term forces currently acting on the UK economy have pushed nominal r* below this level."]N.B. R* is the "equilibrium" short rate, while r* is the actual rate that moves around it.)

36 See: Simon Gray Central Bank Balances and Reserve Requirements, IMF Working Paper WP/11/36, February 2011. Available at <https://www.imf.org/external/pubs/ft/2011/wp1136.pdf>, [Accessed 23r]January 2021]

37 In principle capital losses by the Bank would be balanced by capital gains by the government, which issued the debt. The government gains on a mark-to-market basis, however, remain notional because it usually refinances at maturity of the debt. The Bank's losses are realised.

banks may need to borrow reserves to sustain their credit activity. The Bank would then be paying interest on existing reserves and charging somewhat higher interest on borrowed reserves.

In any case this way of conducting monetary policy looks to be potentially expensive. The options are to pay large rents to commercial banks, or to occasion huge losses on government bond trading. Central bank independence is interpreted to mean that it has to be concerned with monetary policy and the stability of financial institutions and the markets; it does not have to be concerned about costs to the exchequer.³⁸

These problems are not unique to the UK. In the United States there have already been discussions about raising short rates before withdrawal of QE, and the spectre of making large payments to commercial banks.³⁹

The second possibility is the Bank calls for Special Deposits. This was a technique used in the 1960s, and modified with financial sector liberalisation after 1971.⁴⁰ It worked in conjunction with reserve requirements that required banks to hold a certain level of reserves relative to their customer deposits. The Special Deposits (SDs) effectively pushed up the reserve requirement and was supposed to curtail the growth in lending. A compulsory reserve requirement was abolished in 1981,⁴¹ together with SDs, and since 2009 there has been no penalty on holding excess reserves. These days Special Deposits would operate without a formal reserve requirement and would simply mean the central bank could control interest rates at lower cost. If for example it announced that the interest rate was zero on SDs but it would lend freely at twice the overnight money-

38 In practice, much of the loss would automatically be transferred to the government, which has given an indemnity to the Bank of England in respect of its Asset Purchase Facility which implements the asset purchase programme.

39 See Board of Governors of the Federal Reserve System, 2021. History of the FOMC's Policy Normalization Discussions and Communications. Available at <https://www.federalreserve.gov/monetarypolicy/policy-normalization-discussions-communications-history.htm> [Accessed 10 January 2021]

40 See <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/1982/the-supplementary-special-deposits-scheme.pdf>. The Bank concluded that the system had worked to restrict credit but at the cost of diverting business from banks to other financial intermediaries.

41 Apart from a cash requirement of ½ per cent of eligible liabilities.

market rate, banks would tend to key their own lending rates to that of the Bank because they would know that a call for SDs could come and that could leave them short of liquidity.

There is a tendency to dismiss such an arrangement as a “tax on banks”. It is as a peculiar tax, however. It does not appropriate any additional resources for government use; nor is it a charge on anyone’s past income; nor a reduction of their assets. Commercial banks have a genuine liability, in that the deposits they take are the property of their customers, who can withdraw them. Special deposits however do not reduce the value of those customer deposits, nor even make them less liquid. They do make it more expensive for banks to expand their balance sheets by extending credit, and they will pass on much of that cost to borrowers. But raising rates is the whole point of the exercise anyway. The interest rate necessary to restrain credit demand is unaltered, and the banks will still provide for that demand. But, now that they cannot count Special Deposits as free reserves, they may need to borrow reserves from the BoE. The conditions under which commercial banks trade will have been made more expensive; but if this is a tax it is targeted at an activity the authorities need to discourage and it takes the form of the reduction of a subsidy whereby the central bank pays commercial banks a rent while rendering them a service.

Such a device is also criticised for discriminating against clearing banks and potentially in favour of other sorts of financial institution leading to the growth of grey markets. Reserve requirements had that effect because they were tied to deposits. While SD allocations would have to be related to balance sheets at the time they were set, they would be a lump sum not a ratio and so should have less tendency to drive deposits out of the banking system. The scheme could also apply to all deposit-taking institutions, and not just to clearing banks, which indeed it did between 1971 and 1980.

Expected future interest payments therefore depend on the expected course of the economy in the absence of policy control, notably the growth of nominal GDP, which will determine the rate of inflation relative to the Bank’s target. That will determine the interest rate(s) that customers pay banks for credit. That rate will be consistent with different interest payments by the monetary authorities depending on the Bank’s policy. It could:

- Decide not to attempt to influence reserves, but simply pay interest on them at the required rate;

- Drain reserves by selling government debt, paying interest on reserves as before, but earning interest on any reserves the banks borrow in order to meet credit demand given the interest rate; or
- Sterilise reserves by calling for Special Deposits and charge interest on short-term loans as before.

The Bank of England would presumably not – under present arrangements – choose a course on the basis of its cost to the government. The balance between raising Bank rate and making the payment and selling government debt would not be assessed in terms of its effect on the public debt. If it were, the Bank would sell government debt only when the short rate exceeded the bond yield, i.e. when the yield curve was inverted across its full length. In fact the MPC has said that it would expect to sell government bonds when the Bank Rate reached 1.5 per cent – irrespective of the bond yield.

Reducing the Bank's balance sheet appears to be seen as an objective in itself, irrespective of its fiscal effect – although the size of the Bank's balance sheet has no particular economic significance. Using SDs would entail the lowest interest payments. If Special Deposits were set at the same size as putative bond sales, interest payments between the Bank and commercial banks would be similar, but there would be no interest payments on the government bonds that the Bank would otherwise have sold to the public.

The readiness of the authorities to use administrative methods like Special Deposits to influence bank lending will therefore have a bearing on the course of future interest payments by the Central Bank. It follows that the true value of outstanding public sector debt depends on the technique of credit control used by the Bank of England. The other important determinant is the course of the economy. The use of SDs to sterilize reserves could mean that public sector debt was some 30 per cent less than advertised – 70 per cent, rather than 100 per cent, of GDP – i.e. after netting out the authorities' own holding.

The outlook for interest rates...

In the past when monetarism was a fashionable doctrine there would have been a fear that the existence of substantial bank reserves was itself a predictor of a rapid growth of demand and a need for higher interest rates. Whatever the usefulness of broad money aggregates – the sum total of all bank deposits – as a leading indicator for nominal GDP, broad money itself is an endogenous variable; it depends on credit demand leading to a secondary expansion of the money supply. The mere existence of bank reserves does not ensure that credit demand.

Central banks around the world have bought enormous amounts of government debt in the past decade, greatly expanding the monetary base – those bank reserves. Yet nominal GDP growth has been slow, and inflation targets widely undershot. Some asset prices have been inflated by the fall of long-term interest rates associated with quantitative easing and in the past the rising valuation ratio of stock market capital to the cost of physically constructing new capital plant and equipment would have been expected to stimulate investment. That channel, too, is ineffective when expectations of future demand are low. In practice, an expanded monetary base has only the weakest relation with subsequent strong growth of GDP.⁴²

Government debt at the Bank of England, like the monetary base, may therefore be regarded merely as a contingent liability. If the Bank never resells the debt, that debt does not exist; and future interest payments on the monetary base are a contingency whose size depends on the course of the economy and decisions made by the Central Bank itself. It is therefore necessary to consider possible formulations of that contingent liability.

⁴² Bank of England research failed to find an influence of QE on bank lending. There has been an identifiable effect on gilt yields and an apparent effect on asset prices more generally but the effect on real economic activity is elusive. Of course, none of that is conclusive; it is possible to believe that central banks were fighting strong deflationary forces and the counterfactual of no QE would have entailed deep recession.

...and public debt

The average maturity of government debt in September 2020 was 15. years, down from 15.3 at the beginning of the year.⁴³ The UK Debt Management Office in its planning makes projections for interest rate and refinancing risk to a 15-year horizon.⁴⁴

The bank reserves created when the Bank of England buys gilts, however, have no term. Unless eliminated by gilt sales or reduced by government surpluses, they are perpetual. The BoE is currently paying interest on some £711 billion worth of bank reserves, which it created in buying gilts with a face value of £602 billion. If we discount future interest payments at the longest bond yield, the present value in the extreme case where neither bond yields nor interest rates change would be:

$$B * r/y$$

where B is the current nominal value of the reserves, r is the Bank rate, and y is the bond yield.

Currently the bank rate is 0.1 per cent, while the 30-year gilt yields 0.8 per cent. If rates did not change, the present value of the Bank of England's self-imposed "liability" would be £711 billion/8 = £88.9 billion, or slightly less than 15 per cent of the face value of the government debt held at the Bank. Of course this ratio of bank rate to gilt yield is unusually low. In the exceptionally low-interest period since late 2008 the ratio has averaged 0.22 which, if repeated, implies a liability of £156 billion, or 26 per cent of the face value of the debt. This whole period is truly exceptional, however, as Figure 1 shows. In the past 50 years there have been three distinct periods:

- 1970-92 was the period of stagflation and its aftermath, when the Bank of England's policy rate averaged 10.8 per cent;
- 1993-2008 was the so-called great moderation period when the rate was gently declining but averaged 5.3 per cent; and

43 UK Debt Management Office, 2020. Quarterly Review, 3rd Quarter 2000 July-September. Available at <https://www.dmo.gov.uk/media/14655/jul-sep00.pdf> [Accessed December 2020]

44 UK Treasury Debt Management Report 2020-21, Annex B, March 2020. Available at <https://www.dmo.gov.uk/media/14655/jul-sep00.pdf> [Accessed December 2020]

- The period from 2009 onwards has seen the rate average 0.5 per cent.

During the ‘great moderation’ period there was no significant difference between the 30-year bond yield and the Bank rate. The term r/y was approximately equal to 1.⁴⁵

Figure 6.2 Bank Rate 1970-2020



Notes: Monthly averages

Source: Bank of England

Official statistics showing public sector debt at around 100 per cent of GDP are therefore making two assumptions: First, the authorities cannot or will not limit commercial bank lending when the need arises other than by ramping up Bank rate paid on excess bank reserves or selling government bonds; in particular they will not use special deposits. Second, there will be a return to a “normal” situation of a humped yield curve where average long bond yields are little or no higher than Bank Rate.

An optimally independent central bank?

The case for an independent central bank is essentially prudential. It is a backstop against irresponsible fiscal and monetary policies being pursued by a government seeking short-term political advantage. There are elegant theories that imply that independence

⁴⁵ This reflects a peculiarity of the UK yield curve, which usually is humped with a positive slope up to the 10-year maturity, and downward sloping thereafter, whereby the 30-year frequently yields less than shorter-dated bonds.

might itself make inflation control easier through its effect on market expectations. While widely credited, these theories have never enjoyed substantial empirical support.⁴⁶ The backstop argument, however, is firm enough. Yet there is a price to be paid for the backstop if it means that monetary and fiscal policy cannot be coordinated, when necessary or merely advantageous.

Now, there is no reason why co-ordination cannot be achieved by agreement between bodies with different but related mandates. In the sort of deflationary conditions that have persisted since the financial crisis of 2008, the high-level coherence of fiscal and monetary policy has become particularly important, and that does not preclude operational independence in pursuit of agreed objectives. Clearly, public officials talk to each other, and the Treasury has an observer on the Bank's Monetary Policy Committee. However, the Bank and the government seem to set great store on the "credibility" of Bank independence and are punctilious about observing certain forms to emphasise it. One is the insistence, already noted, of buying government bonds only in the secondary market – a needless extravagance.⁴⁷ A second is the insistence by Bank officials that QE has nothing to do with monetary financing of a budget deficit but is merely "signalling" the intention to keep rates low – statements that do nothing to enhance their credibility.⁴⁸

The key point is that the Bank, having been given an inflation target and the freedom to pursue it, should have the ability to agree, as well as to disagree, to co-operate with the government on achieving aims beyond the inflation target and encompassing the public finances. When short-term interest rates neared zero, the Bank saw that it was justified to extend monetary policy instruments to large-scale bond

46 See Posen, A., 1998. Central Bank Independence and Disinflationary Credibility: A Missing Link. *Oxford Economic Papers*, Vol 50, No. 3, July, pp. 335-359.

47 Breedon, Francis and Turner, Philip, On the Transactions Costs of Quantitative Easing (July 2016). BIS Working Paper No. 571. Available at SSRN: <https://ssrn.com/abstract=2812862>, [Accessed December 2020]

48 For example, a Financial Times survey found that "... investors believe the central bank's quantitative easing programme is a thinly veiled attempt to finance the government's deficit to keep its borrowing costs down." See Stubbington, T., and Giles, C., 2021. Investors sceptical over Bank of England's QE programme, 4 January. Available at [Investors sceptical over Bank of England's QE programme | Financial Times \(ft.com\)](https://www.ft.com/content/1c1c1c1c-1c1c-1c1c-1c1c-1c1c1c1c1c1c) [Accessed 4 January 2020].

purchases. A further deflationary shock from Covid-19 should also have convinced the Bank that it was economically justified for the government to run a deficit and to pay for it with money creation. Logically therefore it would in future be justified for the Bank to find means of “normalisation” and monetary control that imposed the lowest possible cost on the public purse – as long as inflation control is not compromised.

Whatever the general advantages of current systems of monetary control they clearly become extravagant in conditions of massive excessive reserves, when interest rates have to rise. The extent of the extravagance would be likely to dwarf any resource misallocations occasioned by the use of regulatory methods like special deposits. Confidence in the Bank’s status should be strong enough by now to allow it to respond appropriately.

III

The Framework

The Fiscal Framework and Spending Control System

Joe Grice

This short paper sets out the main features of the current fiscal framework and the spending control system, in the context of their evolution over the last few decades experience. It also discusses some key issues relevant to both as concerns their future direction. Last year's Budget set out the scope of a review that the Treasury would be carrying out to look at such changes. The onset of Covid-19 and its aftermath has set such possible changes on hold. Nevertheless, they remain important areas for consideration.

The genesis of the current architecture

Many of the features of the current fiscal policy and spending control mechanisms can be traced back to the new frameworks introduced by the incoming Labour government in 1997 and 1998. Indeed, the idea of determining spending control ceilings within targets for public borrowing and for the level of taxation over a period of years dates back to at least the Medium-Term Financial Strategy (MTFS) introduced in 1980. The MTFS appeared to suffer, however, from excessive revision – with seemingly a new macroeconomic policy framework and revised targets for spending, taxation and borrowing introduced at each budget. This progressively had an adverse impact on its credibility. There were a number of other issues in which, at least in retrospect, the MTFS appeared deficient.

In 1997 and 1998, the Treasury published several “lessons” papers, seeking to define and diagnose problems with UK macroeconomic management as it had been practiced, based on experience. The one relating to fiscal policy highlighted the following issues:

- It was important to have regard to the influence of the economic cycle on fiscal policy measures. The cycle has effects on both government expenditure and on receipts. At times when economic activity is above its sustainable trend level, the tax base is likely to be temporarily higher than in the medium term, so that government receipts will be temporarily raised. On the spending side, the high economic activity will reduce government outlays on, for example, unemployment and other social security benefits. The reverse will be the case in the below trend phase of the cycle. This had clearly been an issue in the late 1980s, when the public sector seemed to be heavily in surplus. But this had only occurred by virtue of the “Lawson” boom. When the boom proved unsustainable, the underlying fiscal problems had re-emerged.
- The desirability of aiming off for “prudence”. It is, at least politically, easier to increase spending or cut taxes in the event of a better than planned for fiscal outturn than it would be to take the reverse actions in the case of an unfavourable outcome. That argues for setting fiscal targets asymmetrically so that the ex ante probability of doing better than planned is greater than that of the opposite. The case for prudence can also be buttressed by appeal to an older fiscal principle of making hay while the sun shines. Reduce public borrowing and strengthen the public finances when possible so as to be prepared for a later fiscal storm – such as a financial crisis or a pandemic.
- The need to protect public sector capital spending. Politically, governments had always found it easier to postpone or cut capital spending than current expenditure. The reaction to abandoning investment was generally less strong than, for example, cutting current spending on the NHS or on schools. Indeed, some pressure groups might welcome not proceeding, say, with schemes to build infrastructure such as road or rail links. Accordingly, when faced with conditions of fiscal stringency, governments had tended to react with disproportionate reductions in public investment. Gross general government investment by the mid-1990s had fallen to only around 1 ½ per cent of GDP, as compared to 3 to 4 per cent in the 1960s and 1970s. Net of depreciation, general government investment was, of course, lower still – only around

½ per cent of GDP. At the same time, the poor state of the UK's infrastructure had been diagnosed as a major factor behind the UK's comparatively poor productivity performance.

These lessons were built into the fiscal framework and spending control systems. In terms of the fiscal framework:

- 1 There were two fiscal rules. The Golden Rule focused on current items. Over the period of the expected economic cycle, current receipts less current spending should be surplus. Crucially, this formulation meant that the target could be achieved by cutting capital spending. On the capital side, spending was limited by the Sustainable Investment Rule: public debt should be kept at a prudent and sustainable percentage of GDP. This percentage was never explicitly stated but the indications were that it might be around the 40 per cent then prevailing. In conjunction with the Golden Rule, such a level would allow a substantial expansion in public sector investment while not leading to unsustainable levels of public debt.
- 2 The fiscal rules were to be monitored over the expected economic cycle, intending to avoid the illusions from cyclical “froth” affecting the fiscal aggregates, which had been a problem in the 1980s. Indeed cyclically adjusted measures of the main fiscal aggregates were developed and published, which attempted to calculate the distortions to the underlying fiscal position caused by the cycle.
- 3 The targets were constructed with explicit allowance for optimism bias. The GDP projections, for example, underlying tax receipt calculations were deliberately more pessimistic than those regarded as central. Generous contingency margins were built in at other points in the framework.

The spending control system was intended to implement the fiscal framework. In broad terms:

- Public spending (Total Managed Expenditure) was split between into DEL – expenditure subject to strict cash limits, over which spending departments were taken to be able to control, even if politically painful at times to do so – and AME, Annual Managed Expenditure. The later was the successor to “Unavoidables” in the preceding system, expenditure not susceptible to discretion because of legislative or other binding requirements: social security benefits would be a case in

point. However, departments were expected to monitor such expenditure continuously: were social security benefits being administered so that actual payments were as the law required, without fraud? Were the intentions of the legislation being achieved or was there a case for amending the legislation?

- DEL was itself split into RDEL, Resource DEL, essentially current spending and CDEL, Capital DEL, governing capital expenditure, as the name implies. Departments were allowed to move money between the two only with the Treasury's approval, rarely given in the case of a transfer from capital to current. In this way, public investment spending was safeguarded.
- Spending ceilings were all set in cash terms, embodying lessons from earlier years to give departments the incentive to manage their procurement costs.

This fiscal and spending control apparatus worked well for a period of years and the fiscal targets were largely met. However, the substantial contingency margins in the original design were progressively used up and, by 2008, the system was looking threadbare. Certainly, prudential principle of making hay while the sun shines did not look to have been to the forefront when the unexpected financial crisis of 2008 and subsequent recession wreaked havoc on the public finances. By 2009-10, net public debt stood at over 70 of GDP, around double that from 10 years earlier.

The new Conservative government in 2010

While expressing great concern about the size of the public debt it was inheriting, the new administration retained many of the features of the fiscal/spending control framework used by its predecessor. So, for example, the principles of setting fiscal policy over a complete economic cycle, protecting public investment and setting fiscal policy on a cautious basis were continued. Indeed, the last was rendered explicit in a target to reduce public debt ratios from the high levels of 2010, to be obtained in large part by a programme of austerity in public spending. There would also continue to be explicit fiscal targets against the Government could be held to account.

Most of the spending control system was also retained, with only a few minor changes to the terminology. The real innovations were in the mechanisms to keep the Government faithful to its declared fiscal intentions. The Labour Government had also put in place mechanisms to be seen to tie its hands in the face of siren calls. There had been legislation to require the government to publish its fiscal objectives and how it intended to meet them each year, in a transparent way. The new Government believed that these mechanisms had not been strong enough to achieve their intended purpose. Instead, it took inspiration from the IMF and other commentators who were arguing the advantages of “fiscal councils”, bodies of independent experts who would review the government’s fiscal policy and plans and report publicly on whether the Government’s words were likely to be achieved by its actions.

The Office for Budget Responsibility (OBR) was set up in 2010 as the UK’s fiscal council, and given a statutory basis in the following year. Broadly, it has four functions:

- 1 To produce forecasts for the economy and the public finances twice a year, which are published and intended to be the basis for the Government’s fiscal planning;
- 2 To compile a public evaluation of the Government’s performance against its declared fiscal targets;
- 3 To scrutinise the Government’s costing of policy proposals to ensure their realism;
- 4 To assess the long-term sustainability of the public finances in a biennial report.

Thus, the Government retains responsibility for formulating the fiscal policy and objectives: the OBR for reporting publicly on the probability of these being achieved. Ten years on, the OBR appears to have largely successful in meeting its intended role and objectives. Certainly, the mechanisms for ensuring the government does stick to its declared intentions are stronger than those it replaced, and those strengths have received widespread international recognition.

The current fiscal rules and the announced fiscal policy review

Last year's Budget was delivered on 11 March 2020, just as the seriousness of the Covid-19 outbreak was becoming apparent but days before the first lockdown. It confirmed that the Budget was based on the following fiscal rules:

- To have the current budget at least in balance by the third year of the rolling five-year forecast period
- To ensure that public sector net investment does not exceed 3 per cent of GDP over the rolling five-year forecast period
- If the debt interest to revenue ratio is forecast to remain over 6 per cent for a sustained period, the government will take action to ensure the debt-to-GDP ratio is falling.

The Budget also took credit for having reduced public borrowing from over 10 per cent of GDP in 2009-10 to less than 2 per cent in 2018-19. It noted that the net public debt to GDP ratio – which had risen sharply and more than doubled in the years after the financial crisis had been capped. After peaking in 2016-17, there had been some (modest) subsequent reduction.

Perhaps more interestingly, however, it also announced that the Treasury would be conducting a review over the summer into a number of areas of the fiscal architecture, with a view to seeing if there was a case for change. The review would be conducted over the summer of 2020, consulting with external UK and international experts. It would be completed in time to report the conclusions at the Autumn Budget. In the event, the Covid-19 crisis overtook this timetable. With some justification, the 2020 Spending Review, published on 25 November, said: “the current high levels of uncertainty mean now is not the right time to set out a medium-term fiscal strategy. This would be postponed and: “the government will set out details of a medium-term fiscal strategy... once the current uncertainty recedes”. Nevertheless, a number of important issues arise within the ambit of the review. Some of these relate to the fiscal policy architecture and some to the spending control system. Key issues relating to both are discussed in turn.

Issues relating to the fiscal policy framework

One major question is focusing on the right fiscal measures. If an important reason for taking fiscal policy seriously is to ensure the sustainability of the public finances over time, by definition that will depend upon all of government's liabilities and all of its assets, in other words the balance sheet as a whole. Quoting the latest Whole of Government Accounts, the 2020 Budget documentation notes that in 2018-19, the government had some £2 trillion pounds of assets and £4.6 trillion of liabilities. Yet targets set in terms of fiscal measures such as net public sector debt, fail to take into account more than half of these liabilities, while ignoring virtually all of the assets. So the case for a fiscal policy framework focusing on the balance sheet more widely is strong.

Looking at the balance sheet overall is not a new proposal. The documentation published when the new 1997 fiscal architecture was promulgated made noises about evolving towards a system looking at broad measures of public sector net worth. But little real progress was made. One of the reasons may have been the immaturity of the monitoring and accounting systems for the overall public balance sheet. Subsequently, the position in this regard has improved:

- The Whole of Government Accounts (WGA) came on stream in 2011 giving a comprehensive account of assets and liabilities. They had been instigated in 1998 and, while taking longer to compile than originally envisaged, do now provide the information base for fiscal policy focused on the overall balance sheet. In fairness, there is an issue of timeliness: the last accounts published relate to the financial year 2018-19. Nevertheless, in conjunction with the more timely traditional fiscal metrics, the scope for basing the fiscal policy framework on the balance sheet overall looks considerable
- Alongside the WGA, the advent of regular forward assessments of accruing liabilities should also contribute towards the prospect of a much wider focus for fiscal policy. Such exercises were initially carried out and published by the Treasury on a periodic basis. Now they have been incorporated into the OBR's work for its regular fiscal sustainability report.

One related development already under way is the institution of the Balance Sheet Review launched: “to identify opportunities to dispose of assets that no longer serve a policy purpose, improve returns on retained assets, and to reduce the risk and cost of liabilities.” Again, this has been a long running off-stage noise. The then Public Productivity Panel advocated such a review in 2001, inspired in part by a similar exercise the BBC had carried out across its portfolio of assets and liabilities, which had resulted in impressive gains. Nevertheless, the current exercise seems wholly to be welcomed. With the £2 trillion pounds of assets and £4.6 trillion of liabilities the WGA identified, even small percentage gains in the management of this portfolio would translate into large benefits. More generally, continuing attention to the value for money of government assets seems no less important than the value for money of its ongoing spending.

One obvious extension of a wider approach to the fiscal framework would be the compilation and publication of periodic generational accounts of the type advocated by (Auerbach, Alan J., Jagadeesh Gokhale, and Laurence J. Kotlikoff. 1994. "Generational Accounting: A Meaningful Way to Evaluate Fiscal Policy." *Journal of Economic Perspectives*, 8 (1): 73-94.) Such accounts have been compiled for various countries around the world. They would be one way of assessing the sustainability of the public finances. But in addition, they would display the effect of fiscal policy on the various generations within the UK population. At a time when questions of generational fairness are prominent, regular production of such information would underpin an informed public debate.

A second fundamental issue is the extent to which fiscal policy should be used as an instrument in harness with monetary policy to manage economic activity. For the past three decades or more, the demand management role of fiscal policy has been de-emphasised, with the focus being on the sustainability of the public finances. Fiscal policy has been set in a medium-term framework and monetary policy used for short term tuning. A signal feature of the 1997 arrangements, continuing to date, is a lack of mechanisms for coordinating fiscal and monetary policies. The Treasury sets fiscal policy in accordance with the fiscal rules and the Monetary Policy Committee sets interest rates to achieve its inflation target, with the fiscal policy stance a given. But there was no mechanism for ongoing consideration of the fiscal/monetary policy mix. This same point was made in a previous Occasional Paper seen from the

monetary policy end of the issue. (Chadha et al Monetary Policy in Troubled Times: New Governor... New Agenda <https://www.niesr.ac.uk/publications/monetary-policy-troubled-times-new-governor-new-agenda>)

There was no explanation, in 1997 or since, for this policy assignment. One might accept the advantages of setting fiscal policy in a stable transparent framework. But what gives monetary policy - the famous long and variable lags come to mind here - such comparative advantage as the instrument for fine-tuning the economy? This puzzle became the more prominent when the monetary policy instrument apparently fell to the end of its natural range. So what is the right response when the economy needs further support and the scope for further reduction in interest rates is small or non-existent? Interest rates have now been at unprecedentedly low levels for more than a decade.

Why has fiscal policy has not been used more actively to support monetary policy in sustaining economic activity. The usual knockdown answer is that this has not been possible on sustainability grounds, given the major debt that the UK government incurred from the financial crisis and its aftermath. The size of the public debt has, of course, been further dramatically increased by the effects of the Covid-19 epidemic.

But it is also important to recall that fiscal policy is not exogenous. Public borrowing and the stock of public debt depend crucially on the degree of economic activity. Productivity growth in the UK economy collapsed after 2007 and it is an open question as to the extent macroeconomic policy might be implicated in this. Had productivity growth continued at previous rates, the economy would have been around 25 per cent bigger than it now is and the tax base correspondingly higher. If more active fiscal policy would have helped alleviate this outcome, it is far from clear whether public debt would have increased in consequence. These ponderings are hypothetical. But the question of whether fiscal policy should henceforth be used more actively, in conjunction with and in support of, monetary policy, is surely one that needs further consideration.

Issues related to the spending control system

Spending control ceilings are set as the amount of public spending devoted to various activities. Public debate is dominated by questions such as how much money is advanced to say the NHS or to schools. Yet presumably what citizens are interested in – whether taxpayers or public service users – is the level and quality of service they receive in consequence of this funding: for example, how well and how quickly they are treated by hospitals or the quality of the education state schools provide. That suggests switching emphasis away from inputs such as funding towards the outputs and outcomes public services achieve. The 2020 Budget documentation accordingly notes the advantages of more concentration on outcomes. But this is not a new thought. Such exhortations have been made since at least the late 1980s. In practice, little progress in this direction has been achieved.

Part of the reason is the lack of agreement on how public service outcomes and outputs should be measured. The late Sir Tony Atkinson carried out a review of the measurement of public service outputs in 2004. He recommended that the output of a public service should be regarded as the change in outcome solely attributable to that service. So, for example, the output of the NHS might be regarded as the improvement in (quality adjusted) life expectancy solely attributable to NHS activities (and not, say, resulting from reduced smoking or better diets). Atkinson was constrained by his terms of reference to measurement for national accounts purposes, but he made a number of recommendations about measuring public service outputs more generally. Only limited progress with this agenda has been made. But now would seem an ideal time to take forward the work needed to implement an output/outcome focused public spending control system.

One advantage of so doing would be the prerequisite need for a more structured national debate about what we want each of our public services to do. The Covid-19 pandemic has underscored the importance of this. If, as a nation, we are serious about rebuilding better, this is the ideal time for such a review. Some of these issues are fundamental. Should the NHS, for example, continue to be focused primarily on hospitals, which is where most money currently goes? How should this be balanced against primary care and care in the community? How much priority should be given to mental health or what should the balance be between preventative

and curative care? In regard to schools, what balance should be struck between their role in promoting skills and education and the function of engendering good citizens with well-developed social skills? What priority should be given to their role in promoting physical and mental health amongst young people? If we are serious about addressing climate change and about biodiversity, what does that imply about public services and the way they are delivered?

All of these issues would need to be resolved in order to move towards an outcome-based spending control system. But that would seem an advantage rather than a drawback if the fiscal objective of providing maximum benefits to our society is to be realised.

One particular issue relevant to the inputs versus outputs debate concerns the national infrastructure. The long terms problems with infrastructure are certainly in the frame as one of the reasons for the UK's comparatively weak productivity performance. As noted earlier, this in turn has fed back adversely on the public finances. No doubt, the prolonged low levels of funding for infrastructure and other public investment were an important factor here. But a degree of increased funding has been achieved over the last couple of decades. In recent years, public net investment has been in the range of 2-3 per cent of GDP, some four or five times greater than that which characterised the 1990s.

Yet so far, the effects of this increased spending seem to have been slow to emerge. The transport system, for example, still seems inadequate for the growing demands that are placed on it. Effecting a genuine green revolution carries a requirement for large and entirely new tranches of national infrastructure. In part, this just may be a question of time. New investment flows are necessarily small in relation to the existing large infrastructure stock, so patience is needed. Nevertheless, questions must remain as to whether the benefits from increased public investment are being fully realised. Certainly, the Government seems to share this frustration. The 2020 Budget documentation talks about strengthening "the practices and institutions that deliver the UK's fiscal framework..." including "advisory bodies such as the National Infrastructure Commission", as one of the areas for its fiscal policy review. This would certainly seem in the right direction. A fully articulated plan showing not just the increased spending inputs but the expected

concrete improvements in infrastructure over time would be a particularly useful instance of more concentration on outputs and outcomes, as well as inputs.

Conclusion

This note has briefly described the current fiscal policy and spending control frameworks in the context of their origins and the debates regarding fiscal policy over several decades. It also discusses some key issues relating to the evolution of these frameworks henceforward. The Covid-19 epidemic has, of course, vastly affected recent fiscal projections and the effects will be with us for some time to come. It has also put on hold, at least for the moment, some of the changes to the fiscal framework that would otherwise be desirable. But some of these questions, such as the role of fiscal policy in demand management and a shift towards a genuinely output/outcome focused spending control system are fundamental. At the same time, the aftermath of Covid-19 also gives a near unique opportunity for rethinking. Hopefully, therefore, these opportunities for significant change will be grasped.

Fiscal Policy Choices: the role of informal rules and fiscal frameworks

The Rt. Hon. Liam Byrne MP

Pity the poor fiscal policy maker trying to steer the ship of state between the Symplegades of certainty and flexibility today. On the one hand, voters - and bond markets - like the comfort of a plan for balanced budgets. On the other hand, we live in the age of the shock wave. In my time in parliament, I've worked through military conflict, financial crash and global contagion. With a Brexit vote thrown in for good measure. All have wreaked havoc with the basic business of fiscal planning.

Of course, it didn't used to be like this. For most of the New Labour years we enjoyed fiscal rules that were robust, flexible to a degree but crucially, stable. The case for these rules was set out with admirable thoroughness by Ed Balls and Gus O'Donnell⁴⁹ but the political summary was simple: transparent, predictable fiscal rules helped open economies enjoy low inflation and interest rates especially when coupled with an independent central bank. And then the world's financial system crashed, and we were forced to think anew.

The old certainties now seem part of a sunlit past. Since 2010, the Coalition Government set out new fiscal rules in the June 2010 Budget, (formalised in the April 2011 Charter for Budget Responsibility), there have been a further four versions of the Charter, with a new fiscal framework - the sixth since 2010 - still to come, designed to meet rules set out in the 2019 Conservative manifesto. Shifting rocks indeed.

49 Ed Balls Gus O'Donnell (eds), *Reforming Britain's Economic and Financial Policy: Towards Greater Economic Stability*

Yet formal rules are only part of the picture. They do not reflect in full the way fiscal policy is made. So as we confront the next great fiscal consolidation, I hope it is useful to reflect on our experience of consolidation planning back in 2009.

Sailors used to navigate by the constellations and Chancellors are much the same. Amongst the myriad of indicators blinking in the dark, there are a few stars in particular that we used to steer by. On reflection I would say five 'stars' in particular were important: (1) the output gap, (2) the public spending envelope, which affected the plausibility of (3) our public service agreements, (4) the target for reducing the deficit and (5) the tax-spend mix in the consolidation plan.

In the months after the Great Financial Crisis, we faced uncertainty swirling around practically every element of this picture. In particular GDP projections were very difficult and so understanding what was required to close the output gap was not easy, especially as the labour market was not behaving as it had in the past. The advent of tax credits, for example, appeared to be supporting a much higher employment rate than we would have expected.

But, nor had we ever really encountered a shock like this in modern times and while we knew that the GDP components would bounce back, it was hard to forecast by just how much - and how fast. In particular, it was very difficult to forecast the restoration of the investment rate as we simply could not anticipate firm's ambitions to rebuild their own cash buffers and reduce their exposure to banks which in turn were aggressively trying to reduce the risk on their own balance sheets. The very method used to project GDP was fraught with problems. Hitherto, GDP forecasts were created by assessing how far the growth rate had drifted from the long-term trend rate of growth. Good demand management methods packing together a judicious mix of monetary policy and fiscal policy were then constructed to return the economy to trend. Such is the theory. But in 2008, there were clear signs that the trend rate of growth in the British economy had been damaged and so quite what trend rate we were seeking to return the economy too was not a straightforward calculation.

Second, the deficit was so big that the old balanced budget rules were, for the foreseeable future, broken beyond repair. New rules were needed, and so the Chancellor had to extemporise. Here, in this key judgement, politics and economics collide. On the one

hand, there was a genuine concern that without a convincing timetable for reducing the deficit, the unprecedented quantum of gilts required to be sold would require a high coupon. Like inflation, interest rates are amongst the last components slot into the Treasury red book forecasts and small increases in this rate are one of the Chancellor's most important windfalls. In this instance, the Chancellor and the Prime Minister decided that the target to halve the deficit over four years was both economically realistic and politically viable, and so the basic numbers were fixed for what was the largest fiscal consolidation ever planned by a Labour government.

Figure 8.1 Average Adjustments in Successful Fiscal Consolidations

Cut/Tax rise	%GDP
Government wages	-0.58%
Transfers	-0.54%
Public investment	-0.41%
Government consumption	-0.38%
Subsidies	-0.29%
Direct taxes	0.53%
Indirect taxes	0.17%

This deficit target, however, was fixed with a very clear eye on the public spending envelope and the scale and speed with which we thought it plausible to secure efficiencies. This is Treasury politics at its most raw, especially for a party that had made 'investment vs cuts' one of the key dividing lines in British politics. Our scope to reduce public spending was on the one hand constrained by what we thought was administratively plausible and what we thought wise, given the 120+ public service agreements defined between Treasury and Whitehall departments, which translated the poetry of manifestos and ministerial pronouncements into the prose of action plans to get things done. If we cut too far and too fast, ministers would quite rightly point out that manifesto commitments were in jeopardy. Furthermore, we were acutely alive to the Japanese

experience of a double dip recession and so thought it unwise to unwind the fiscal stimulus too quickly, and second, as a centre-left party we wanted to close the deficit in a way that did increase inequality.

This then took us to the vexed question of the tax-spend mix. Simply put, once we had decided the speed with which we wanted to deliver a balanced budget - or in our case 'halve the deficit in four years', we had to agree what fraction of the consolidation should come from spending cuts, and what from tax rises. Here, we tried to learn from history. We looked at every fiscal consolidation around the world to assess the 'tax-spend' mix in successful consolidations. On average, we saw that 80% of successful consolidations were paid for with spending cuts. That was much too harsh for us. Our last budget therefore sought to reduce borrowing with a package composed of two-thirds spending cuts (71%) and around one third in tax rises (29%) (See Appendix Figure 8.2). Personally, I believe we got the tax-spend mix right. Mr Osborne subsequently sought to secure far more of the deficit pay-down through spending cuts (to over 90% in fact between 2012 and 2015) with terrible consequences for both growth and the welfare of poor communities.

Once the spending envelope is set, however, the Chief Secretary can set about her or his business negotiating new budgets across departments. I am sure that like unhappy families, budgets are each unhappy in their own way. But I suspect there are patterns which are similar. Reflecting on our experience I think there were five problems which really bedevilled us.

First, was the challenge of assuring markets that we were serious about spending reductions and deficit closure when, for all sorts of reasons, there was a reluctance to develop something akin to the Office of Budget Responsibility - an independent forecaster of GDP growth from which the Treasury estimates would then be drawn. I suspect our reluctance to embrace this had a political cost, and that we would have been permitted more political latitude in our spending plans if we have been prepared to embrace the transparency that the Conservatives later proposed, even if the quality of forecasts was not much improved.

Second, resisting cuts to the 'big numbers' in the budget, made delivery of all the other departmental settlements much harder. In particular, Alistair Darling and Gordon Brown were very reluctant to touch social security spending. I am sure that we made the right

judgements in our restraint. But we never made a virtue of this and did not explain the way in which we were protecting social security payments.

Third, common to all spending reviews the challenge of information asymmetry create the most perverse outcomes. In particular it leads to a terrible gaming both between departments, and between departments and the Treasury. The Treasury has to land budget out-turns in line with the numbers promised to Parliament. It therefore relies on a number of tricks to ensure that it has the flexibility to deliver budgets, safe in the knowledge that it has less than a full picture of what departments are truly up to. For example, in a system of multi-year budgets, departments are typically promised the ability to 'carry over' underspends from earlier years into subsequent years; departments quite typically run significant surpluses because departments are generally very poor at spending the full allocation of their budgets. The last-minute Treasury whip-round before a budget is a tried and tested tactic for hoovering up unspent budgets and reallocating monies to something which is more virtuous than sitting in the department's theoretical bank account. These 'accumulated underspends' however can be cancelled pretty much at will. The budget which a department thinks it is carrying forward can suddenly evaporate. There would be less need for this kind of game playing if the Treasury had a much clearer line of sight, through to the precise monies which departments were actually spending. This requires wholesale reform of the way government accounting is managed.

Fourth, every Chief Secretary has to be prepared for a certain amount of special pleading which often risks throwing a spanner in the works. Typically, the special pleading is put forward by parts of the establishment which are extremely well connected and find it very easy to get themselves on the front page of *The Times* newspaper. I was very keen to cancel the Tate Modern extension for example, because I thought it was difficult to justify a spend of £140 million of our own art infrastructure in London at the time of more general spending reductions. One front page story later and I had the Prime Minister on the phone asking if I could apply my creativity to trying to solve the problem and letting the Tate Modern extension go ahead.

Fifth, however, is the risk of fighting the last war. This, to an extent, is inevitable when one is embarked on the difficult business of spending reductions. But we found a focus on solving the problems of the past distracted our attention from focusing on what was really going on amongst crucial parts of our political coalition. It was only in September 2009 that a team in the Treasury had uncovered the problem which we now call the ‘squeezed middle’ - the stagnation of living standards for significant numbers of people - but it was not until March 2010 that I was able to present these conclusions in a robust way to the cabinet with thoughts about how to fix the problem.

Conclusion

This is the most important lesson for the next consolidation because two different nettles have to be grasped.

First, the Government is lacking a proper framework for what it is actually trying to achieve, beyond ‘getting Brexit done’. Many, myself included in work with the Centre for Progressive Policy, are looking at more sophisticated ‘inclusive growth’ indices that take us well beyond simple GDP targeting.⁵⁰ Kate Raworth⁵¹ has important insights into frameworks for helping governments deliver both Sustainable Development Goals within harder ‘budgets’ for consumption of environmental resources. Governments need goals. It is very hard to set a public sector spending envelope properly without them. Right now, those goals are high level and vague.

Second, we need a radically different debate about tax which will play a much bigger part in the next consolidation. We need this for two reasons. On the one hand, we can now see very clearly that old-fashioned supply side strategies of slashing corporation tax rates do not bump up investment. By and large, they bump up share buy-backs.

More important however is the need for better taxes on ‘carpet-baggers, capital and carbon’, reducing tax avoidance, taxing either wealth,⁵² or better still, the wealthy through capital gains and

50 <https://www.inclusivegrowth.co.uk/inclusive-growth-time-measure-value/>

51 <https://www.kateraworth.com/doughnut/>

52 The IFS inquiry is now underway, <https://www.ifs.org.uk/events/1830>

inheritance,⁵³ and creating some long-term certainty around carbon taxes.⁵⁴ Above all, we need a better debate about tax as Institute for Government⁵⁵ has argued and far more parliamentary oversight. We lack institutions like the US Congress and US Government (such as a Congressional Budget Office or the Office of Tax Analysis), and today the intelligence services have more parliamentary oversight than the tax authorities. Missing tax targets - by significant margins⁵⁶ - was a running problem for Mr Osborne, and frankly, for a country that fought a civil war about Parliamentary control of the tax system, these are reforms which are long overdue.

53 All the more important in the light of the Oxford Martin School's recent report which concludes; 'direct transmission of wealth across generations impacts directly on the extent of wealth inequality.' See <https://www.oxfordmartin.ox.ac.uk/news/intergenerational-wealth-transfers-drive-inequality-in-britain/>

54 See Ian Parry, A Carbon Tax for a Taxing Problem, <https://www.imf.org/en/News/Podcasts/All-Podcasts/2020/01/20/parry-co2-tax>

55 <https://www.instituteforgovernment.org.uk/our-work/policy-making/better-tax-policy>

56 See Appendix 2

Appendix**Figure 8.2 Tax Spend Mix in Budget Consolidation Plans**

	forecast (% GDP)		% point change	Contribution of receipts/spending to change in borrowing
	Budget year	5 years later		
March-2010 (last Labour budget)				
Receipts	36.1%	38.3%	2.2%	29%
Spending	47.9%	42.4%	-5.6%	71%
Public sector net borrowing	11.8%	4.1%	-7.8%	
June-2010				
Receipts	37.2%	38.7%	1.6%	18%
Spending	47.3%	39.8%	-7.4%	82%
Public sector net borrowing	10.1%	1.1%	-9.1%	
March-2011				
Receipts	37.2%	38.4%	1.1%	13%
Spending	47.1%	39.9%	-7.3%	86%
Public sector net borrowing	9.9%	1.5%	-8.4%	
March-2012				
Receipts	37.5%	37.9%	0.4%	5%
Spending	45.8%	39.0%	-6.8%	95%
Public sector net borrowing	8.3%	1.1%	-7.2%	

	forecast (% GDP)		% point change	Contribution of receipts/ spending to change in borrowing
	Budget year	5 years later		
March-2013				
Receipts	38.0%	38.3%	0.3%	9%
Spending	43.6%	40.5%	-3.0%	90%
Public sector net borrowing	5.6%	2.2%	-3.4%	
March-2014				
Receipts	37.7%	38.1%	0.4%	7%
Spending	43.5%	38.0%	-5.5%	94%
Public sector net borrowing	5.8%	-0.1%	-5.9%	
March-2015				
Receipts	35.8%	36.3%	0.5%	9%
Spending	40.7%	35.9%	-4.8%	91%
Public sector net borrowing	5.0%	-0.3%	-5.3%	
July-2015				
Receipts	35.9%	36.8%	0.9%	21%
Spending	39.6%	36.3%	-3.3%	79%
Public sector net borrowing	3.7%	-0.5%	-4.2%	

	forecast (% GDP)		% point change	Contribution of receipts/spending to change in borrowing
	Budget year	5 years later		
March-2016 (last Osborne budget)				
Receipts	36.3%	37.4%	1.0%	23%
Spending	40.2%	36.9%	-3.3%	77%
Public sector net borrowing	3.8%	-0.5%	-4.3%	
March-2017				
Receipts	36.7%	37.2%	0.4%	23%
Spending	39.3%	37.9%	-1.5%	77%
Public sector net borrowing	2.6%	0.7%	-1.9%	

Notes: Receipts are formally described as 'public sector current receipts'

Spending is formally described as 'total managed expenditure'

Source: Office for Budget Responsibility. Historical official forecasts database.

Figure 8.3 Forecasts of Tax Receipts and Actual Out-turns Varied Widely

OBR forecasts of current receipts (ex APF) and outturns						
£ billion						
		2010-1 1	2011-1 2	2012-1 3	2013-1 4	2014-1 5
June-2010	Forecast	547.7	584.2	621.9	661.9	
	Outturn	561	581	590	610	
	Difference	13	-3	-32	-52	
AS 2010	Forecast	550	586	620	659	
	Outturn	561	581	590	610	
	Difference	11	-5	-31	-49	
Budget 2011	Forecast	549	589	620	660	
	Outturn	561	581	590	610	
	Difference	12	-8	-30	-51	
AS 2011	Forecast		576	594	624	
	Outturn		581	590	610	
	Difference		6	-5	-14	
Budget 2012	Forecast		570	592	623	
	Outturn		581	590	610	
	Difference		11	-2	-13	
AS 2012	Forecast			594	621	
	Outturn			590	610	
	Difference			-4	-11	

OBR forecasts of current receipts (ex APF) and outturns						
£ billion						
		2010-1 1	2011-1 2	2012-1 3	2013-1 4	2014-1 5
Budget 2013				587	612	
				590	610	
				3	-3	
AS 2013					607	
					610	
					3	
Budget 2014					608	
					610	
					2	
AS 2014						646
						646
						1
Budget 2015						647
						646
						-1

Political Organisation of Expenditure

Adrian Pabst

1. Formal fiscal frameworks

In the wake of the 2008-09 financial crisis, the predominant policy response in the UK and other advanced economies was fiscal retrenchment combined with monetary activism (Chadha et al., 2016). The onset of the Covid-19 pandemic has seen somewhat of an inversion of this stance, with the scope for further monetary policy intervention being more limited and fiscal policy coming to the fore. Across the West and beyond, governments have subsidised the wages of millions of workers and provided emergency loans for businesses. The sharpest recession in 300 years was met with one of the largest fiscal expansions on record (Küçük et al., 2021).

As with the ‘age of austerity’ (Jordà and Taylor, 2013; Alesina et al., 2018), this change in agenda raises questions about the nature of the political organisation of public expenditure – notably the fiscal rules and frameworks established and adapted by successive UK governments since the mid-1990s to chart a path for public spending in the short and medium term. Indeed, there has been a global trend to the adoption of formal fiscal rules (and fiscal councils), especially in light of the existential crisis of the eurozone a decade ago. Fiscal rules can be defined as parameters to reign in public expenditure, in particular debt and deficit levels deemed to be excessive. Fiscal councils tend to be independent bodies charged with assessing spending plans against fiscal targets.

In reality however, the current process for determining public expenditure in the UK is somewhat at odds with the formal fiscal framework. At present the Chancellor sets the budget date and together with HM Treasury goes into purdah talks with the Office for Budget Responsibility (OBR). Then No 11 publish policy, often leaking key announcements to the press ahead of the formal Budget

speech in the House of Commons. There is potential and actual divergence between the OBR forecasts and the economic prospects it presents, and policy made exclusively by the Chancellor of the Exchequer and HMT. Yet the impact of fiscal policy tends to be longer term than the typical term of chancellors or the electoral cycle, while some policy responses in the face of an emergency have to be immediate, as with the Coronavirus Job Retention Scheme (CJRS), or furlough scheme, following the Covid-19 shock. This highlights the need for greater openness about how policy is designed and how it reflects, and responds to, economic prospects.

One question of particular importance is the way HMT tends to revise public expenditure in response to the state of the economy both on a long-term basis and in response to short-run changes in economic performance. Recent research finds that revisions were in part a response to new knowledge about growth and the wider economic evolution, certainly to the extent that they reflect the operation of automatic stabilisers (Chadha et al., 2018; Crawford et al., 2018). However, how does this component translate into changes in fiscal expenditure, in light of exogenous shocks but also the structure of the economy? Crucially, how to design fiscal frameworks and set rules for spending that absorb uncertainty?

Based on interviews with politicians and policy-makers, one finding that emerges is that fiscal rules matter for managing uncertainty but they have limited use – both over time (as targets get missed and confidence in the commitment to the rules declines) and across space (as the nature of shocks and the public response casts light on inadequate rules). Nonetheless, formal fiscal rules make a difference by imposing both external and internal discipline – being held accountable to parliament and the public, as well as being transparent across government in terms of the total spending envelope.

The new formal fiscal frameworks that were adopted by successive governments after 1997 marked a fundamental change in so far as it shifted the planning and control of spending from a one-year horizon with annual negotiations between the Treasury and spending departments to a three-year horizon. This included the new option of ‘end-of-year flexibility’ (EYF) introduced in 1998 to allow spending departments to carry over unspent funds rather than lose them (Crawford et al., 2018). In some sense these continued and developed the more formal multi-year rules that can be traced

back to the Medium-Term Financial Strategy (MTFS) of the early 1980s. But while Spending Reviews provided opportunities for some more longer-term fiscal planning, the Budget and the Autumn Statement continued to generate an element of uncertainty – political noise that did not always offer a clear signal. This, combined with ad hoc changes to fiscal rules and targets, casts doubt on the rigour of existing frameworks. As Martin Weale said in 2002 in relation to Chancellor Gordon Brown’s redefinition of the golden rule, ‘One can already smell the fudge being cooked in Great George Street’ (quoted in Chu, 2013).

And over time the usefulness of fiscal rules is limited because of a trade-off between credible targets and the need for flexible changes in light of a change in the state of the economy faced with shocks. Nor is this a new problem: North and Weingast (1989) highlight the tension between credible commitments and room for manoeuvre in relation to the constitutional settlement of 1689 and the importance of new institutions in facilitating the onset of the Industrial Revolution (cf. Acemoglu et al., 2005). But historians have questioned not only whether the de facto balance of power is more important than *de iure* legislation but also whether institutional change has a traceable impact on growth and public expenditure (cf. Hodgson, 2017).

Rules and the institutions that enforce them are also limited because they can either exacerbate existing uncertainty or create new forms of complexity in relation to behaviour. In recent times, this applies to HM Treasury in terms of re-writing rules or ‘moving the goalposts’ when it comes to specific targets, or by spending departments in terms of either exceeding their agreed expenditure or accruing substantial entitlements to their unspent resources (cf. Crawford et al., 2018).

All this raises questions about the fundamental drivers of fiscal policy and the actual operation of formal fiscal frameworks in an economic and political context characterised by changing types of uncertainty. That includes the heightened, ‘radical uncertainty’ involved in events and processes such as Black Wednesday, the 2008–09 Global Financial Crisis (GFC), the Brexit vote and its aftermath, as well as more recently the onset of the global Covid-19 pandemic and the fiscal response to the largest recession in modern British history (Küçük et al., 2021).

2. Drivers of fiscal policy

To analyse the drivers of fiscal policy, much of the public finance literature follows the approach taken by studies of monetary policy (e.g. Taylor, 1993) in estimating fiscal reaction functions. A number of drivers matter for the path of public expenditure: (1) the economic cycle; (2) debt stabilisation; (3) fiscal rules (in particular debt and deficit targets); (4) other drivers such as the electoral cycle; and (5) economic uncertainty or news.

Economic cycle

A question that has received a lot of attention in economic research is the extent to which fiscal policy reacts to the business cycle. For example, Gali and Perotti (2003) regress the cyclically adjusted deficit, a measure of discretionary fiscal policy, on (expectations of) the output gap. Given that measures of the output gap may be positively correlated with the deficit, which affects the level of output, an instrumental variable approach is taken to identify uncorrelated output gap components. A negative reaction of the deficit to the output gap indicates that policymakers conduct policy in a countercyclical way: when cyclical conditions improve, fiscal policy becomes more restrictive and the deficit falls, and vice versa.

The authors find that membership in the European Monetary Union made countercyclical fiscal policy more prevalent than for countries, such as the UK, that abandoned the ERM in 1992 and are not part of any monetary union. Arguably, Britain had an excessively loose fiscal stance prior to the GFC (Baker, 2006) and an excessively restrictive post-GFC (Jordà and Taylor, 2013), which has led to a much less countercyclical fiscal stance. Implementing deep cuts to both local government and capital spending during the years 2010–2015 raises questions about low economic growth, low productivity growth and low wage growth, besides the lack of preparedness for an effective response to the pandemic in terms of critical medical supplies and the protection of under-funded care homes.

The public deficit is a function of expenditure, interest payments on debt and revenue components. For EMU member states, Hallerberg and Strauch (2002) estimate reaction functions separately for each component and find that taxes fluctuate counter-cyclically but discretionary and investment spending tend

to exhibit procyclical patterns, undermining automatic stabilisers. The EU fiscal pact of 2011 seems to have reinforced this pattern. More recently, Gaspar (2020) shows that fiscal rules within the eurozone area have not only become more complex and opaque, comparing them to the architecture of the Cathedral-cum-Mosque in Spain's southern city of Córdoba. But it is also the case that 'despite various amendments to strengthen the counter-cyclical features of the rules, the outcomes have been mainly pro-cyclical' (Gaspar, 2020).

Macroeconomic data is often revised considerably, which means that initial spending plans deviate from outcomes (de Castro et al., 2013). The general finding is that fiscal reaction functions estimated using real-time data point to a much more countercyclical stance than using outturns (Cimadomo, 2012; literature reviewed in Cimadomo, 2016). For instance, Bernoth et al. (2008) regress the ex post primary balance on an ex post measure of the output gap, capturing the sum of discretionary and automatic policy, and on the output gap measurement error, capturing the discretionary component only. They find that pro-cyclicality of discretionary fiscal policy only arises with ex post data while real-time data suggests policymakers aim to run countercyclical policies but struggle to do so in the face of data constraints. This raises fundamental questions about which data is used when making key spending decisions (e.g. Blanchard, Dell'Ariccia and Mauro, 2013), and informal supposition, e.g. the so-called 'Macpherson rule'.

By using real-time GDP datasets (growth forecast changes relative to previous vintage), our analysis based on NIESR's NiGEM model does not rely on output gap estimates given that potential output is unlikely to change from one forecast to the next. To minimise errors introduced by classification changes (which usually affect mainly levels), we can consider the change in public spending relative to the previous year as provided in the same forecast (see chapters 11 and 12).

Debt stabilisation

Fiscal policy not only responds to the business cycle but also aims at stabilising the level of public debt. Bohn (1998) shows using US data that primary surpluses are adjusted in response to debt/GDP ratio which displays mean reversion. How prevalent the objective of debt stabilisation becomes depends on the available fiscal space,

which itself depends on forecasts of budget surpluses, the interest rate (Blanchard, 2019) and growth path and feedbacks between these variables (Lee et al., 2019; Lee et al., 2020).

Given the marked variations across the period in question (1993-2021), we can distinguish different fiscal regimes and debt regimes:

- i during the Great Moderation (the period of reduced volatility in the business cycle from the mid-1980s to 2007), the build-up of public (not just corporate) debt and the dangers posed by a combination of over-leveraged financial institutions and loose lending (Baker, 2006; Rajan, 2005) was not given the same weight as after the GFC – not least because fiscal rules were redefined and targets moved;
- ii the subsequent period of fiscal consolidation (2010-16) saw a shift towards the pursuit of deficit reduction, albeit with a changing timetable in the face of weaker than anticipated growth;
- iii after the 2016 Brexit vote, there was a relative easing of deficit reduction, combined with some more public spending (e.g. public sector wages) and a much longer timetable to achieve a structural deficit below 2 per cent and a balanced fiscal position;
- iv following the December 2019 election and the onset of the Covid-19 pandemic, fiscal policy became fundamentally more expansionary and the Chancellor Rishi Sunak effectively suspended fiscal rules in his Budget speech of 3 March 2021 (for a more detailed overview of fiscal rules since 2011, see Table 1.1 in Chapter 1)

Fiscal rules

Strict fiscal and formal fiscal governance have been shown to reduce fiscal forecast errors (von Hagen 2010, Pina and Venes 2011, de Castro et al. 2013). Political institutions that have a preference for checks and balances and the strength of democracy can explain differences in the volatility of fiscal policy over time (Hensiz 2004, Agnello and Sousa 2014).

Other drivers of fiscal policy

Politicians may have the incentive to lower taxes or increase spending prior to elections giving rise to political business (or budget) cycles (Nordhaus 1975). These tend to vary with the degree of economic development, the quality of institutions, electoral rules and fiscal policy constraints (Persson 2002; Persson and Tabellini, 2005; Besley and Mueller, 2015). Hallerberg and Strauch (2002) find that the election cycle interferes with responses of fiscal policy to the business cycle. Sorensen et al. (2001) show that the political orientation of a government matters for political business cycles to arise. The possibility of changes in political leadership also throws open the ever present possibility of political risk or uncertainty affecting public spending and economic prospects, e.g. comparing the fiscal plans of the Labour Party and the Conservative Party in the December 2019 election.

To understand responses of fiscal policy to the cycle and economic uncertainty, it is important to understand the historical context. Major events like wars have contributed to spending surges in the past. Panageas (2010) shows theoretically that banking sector bailouts alter optimal taxation policy while a negative feedback loop between the banking sector and the state has implications for fiscal policy and sovereign risk (Corsetti et al., 2013; Philippon and Schnabl, 2013; Acharya and Rajan 2013; Acharya et al., 2014).

Economic uncertainty

Economic theory (Brainard 1967) suggests that under certain circumstances policy should be conducted in a conservative manner, in the presence of uncertainty about the effectiveness of policy. Little is known whether this principle is followed in practice. Given that economic uncertainty tends to be correlated with adverse economic outcomes (Bloom 2009), an increase in uncertainty may require an increase in government expenditure or the development of new public debt instruments (see Chapter 13) to help stabilise the economy as the private sector holds back investment. These are the questions this chapter and also chapters 10 and 11 address.

3. Interviewees and questions

As part of this project, we conducted interviews with a range of policy- and decision-makers, including leading politicians and officials in HM Treasury (HMT). Specifically, the interviews were semi-structured and they involved former Chancellors of the Exchequer, former Chief Secretaries to the Treasury, former chief advisers to the Chancellor and former officials in HMT.

The two key questions that framed the interviews were as follows:

- 1 how did revisions to GDP growth and other forecasts affect the planning and controlling of public expenditure in the period from 1993 until 2020?
- 2 what ‘rules of thumb’ did HMT use to deal with uncertainty, and how effective did they prove to be?

The first question follows from our finding that revisions to GDP growth and other forecasts were statistically large and significant in the years 1993–2021. If spending plans in this year and next year are subject to considerable revision uncertainty, then this is likely to have implications for the planning and controlling of public expenditure. In turn, this raises fundamental questions about evidence-based policy (Davies, 2012; Pabst, 2021).

The second question reflects an important change in the overall approach to policy-making. The period from 1993 until 2015 was characterised by the adoption of formal rules that replaced earlier, more ad hoc arrangements, especially after 1997 when Chancellor Gordon Brown put in place a new framework with a number of fiscal rules and ensuing targets. How successful was a more rules-based approach (on HMT’s own terms, e.g. Balls and O’Donnell, 2002)? How adequate were the rules in practice – sufficiently binding, well designed, backward or forward looking, more or less open to reinterpretation by the government (cf. Chadha and Nolan, 2007)? For example, what was the impact of revisions on the spending limits on individual government departments? Were the targets an end in themselves or were they proportional to a well understood notion of social welfare?

4. Main issues and findings

The main issues that came up in the course of the interviews were fivefold. First of all, a key challenge that was identified by several interviewees is how to manage two different kinds of uncertainty. There is uncertainty in the real economy, which affects our knowledge of the state of the economy – including national output, productivity, investment, etc. – which, in turn, affects forecasts of GDP growth and tax revenues and thereby expenditure decisions. Another kind of uncertainty relates to spending priorities, i.e. the overall spending envelope, the composition of expenditure and the distribution among spending departments. These two types of uncertainty interact – with the state of the economy either requiring greater or lesser spending, or a different composition, or spending priorities having a certain effect on the real economy.

The second issue relates to the recent context – notably since the Brexit vote but also the Trump presidency and now Covid-19 – has been characterised by ‘radical uncertainty’ (King and Kay, 2020), which is a close relative of Knightian uncertainty. Events are outside the range of our past experience, but we know that they are possible even as we cannot calculate the probability of their actual occurrence. When radical uncertainty affects both the economy and politics, there is an even greater need on the part of decision- and policy-makers to have conceptual narratives that make sense of the numbers. Fiscal policy, if it is to maximise growth and social welfare, requires a robust framework that can resist the test of time, including ‘known unknowns’, events that are likely to happen at some point but unlikely to be predicted with any degree of certainty or indeed ‘unknown unknowns’ – events outside our range of experience and also beyond what is understood.

Connected with this is a third issue – that of a possible bias towards over-optimistic forecasts, potentially on the part of certain political advisers and decision-makers (see the foreword by Lord Lamont on changing the rule to deal with optimism bias). On the whole, over the period from 1993 until 2020, there were more downward revisions of forecasts about GDP growth and tax revenue than upward revisions.

A fourth issue is a possible bias against capital spending, as it is easier for HMT to cut back capital investment in case of a need to tighten the fiscal stance, whereas current expenditure is politically

more sensitive. For example, Pain et al. (1997) find that health and social security spending was a major driver of UK public deficits in the 1990s.

Finally, almost all interviewees raised the issue of balance – between fiscal discipline (and therefore predictability), on the one hand, and flexibility (and therefore room for manoeuvre to deal with shocks of new spending priorities), on the other hand (cf. North and Weingast, 1989). One possible solution is to decentralise some of HM Treasury’s power and to introduce more checks and balances in fiscal events before and after the Budget (for more proposals, see Chapter 1).

Our main findings are eightfold. First of all, the nature and kind of uncertainty that policy- and decision-makers have to manage varies significantly over the period in question. Several interviewees argued that there is an important difference between two levels of uncertainty: (1) ‘predictable’ uncertainty, which includes ‘normal-order’ events (political or economic events such as changes in government or interest rate changes) and so-called ‘known unknowns’ (identified risks); (2) ‘unpredictable’ uncertainty, which relates to so-called ‘known unknowns’ (unidentified risks), for example the implications of events such as the collapse of Long-Term Capital Management in 1998, the bursting of the dot.com bubble in 2001, the 2008 financial crash (Chadha et al., 2016), the near-collapse of the Eurozone in 2010, the Brexit vote or the advent of the Covid-19 pandemic, not to mention ‘unknown unknowns’.

The second finding relates to fiscal rules. All the interviewees emphasised that fiscal rules matter but that they have a limited duration. The importance of formal fiscal rules consists in imposing two kinds of discipline: (1) external discipline, through independently assessed forecasts in the period 1997-2010 or through the independent Office for Budget Responsibility (OBR) since 2010. However, neither arrangement necessarily eliminates forecast bias, which is to do with economic modelling that has changed little since independent assessments or the creation of the OBR; (2) internal discipline, by defining a framework that balances departmental demands with overall spending, as well as the composition of expenditure (current and capital, but this distinction is arguably more blurred than is commonly assumed).

The fiscal frameworks that were adopted after 1997 marked a fundamental change in so far as it shifted expenditure planning and controlling from a one-year horizon with annual negotiations between HMT and spending departments to a three-year horizon, including the possibility of carrying over non-spend. But while the Spending Reviews allowed for some more long-term economic planning, the Budget and the Autumn Statement continued to generate an element of political uncertainty.

One of the main reasons why fiscal rules and their usefulness are limited in time is the trade-off between credibility and flexibility. At some point in the economic and the political cycle, sticking to a set of rules will be at odds with having room for manoeuvre. There are three prominent examples during the period in question (1993-2021): (1) the lower-than-expected tax revenues in 2000-01 from non-financial corporations, which led to a structural deficit in the 2004 Spending Review conducted by the Labour government (cf. Johnson, 2016) and an extension of the economic cycle from seven years to twelve years (cf. HMT, 2008) in what some have termed “the long expansion”; (2) lower-than-expected growth in 2011-12, which shifted the timetable in relation to the planned deficit reduction by the coalition government; (3) the impact of Covid-19 on the economy and the need for fiscal intervention, which led to the current Chancellor’s suspension of formal fiscal targets established by the former Chancellor Philip Hammond (Sunak, 2021). (In this respect the HMT analysis of the impact of Brexit in 2016 was odd. It ought to have been undertaken by the OBR or another independent body. The policymaker here was setting his own exam!).

Third, fiscal rules tend to reduce uncertainty in the sense of unpredictable behaviour by government, but they can introduce new types of complexity that exacerbate an already uncertain horizon. For example, new rules can lead to even greater departmental under-spend than previous fiscal frameworks, as the sanctions for over-spend are becoming more severe. Reasons for under-spending allocated budgets include the fear of being hauled in front of the Public Accounts Committee, the lack of good procurement and the tendency of front-line departments (especially local government and the NHS) to be better at spending money than Whitehall departments. Moreover, HMT has relatively poor oversight in terms

of departmental budget accounting, and the end-of-year spending facility has been contested. If departments end up ‘gaming the system’, then that would lead to greater unpredictability.

Fourth and in light of the above, what ‘rules of thumb’ did HMT use in order to manage uncertainty? ‘Rules of thumb’ ranged from formal fiscal rules via estimates of Annual Managed Expenditure and forecasts for GDP and tax revenue to pension expenditure, public sector pay and other big ‘fixed costs’ (e.g. monthly meetings of pay boards in the period 1997-2010). Arguably, this can be described as the ‘rule of big numbers’, which is the result of an asymmetry of information in favour of spending departments.

Fifth, the other reason for heightened uncertainty is re-interpreting existing rules and the targets they imply or rewriting the rules or suspending them altogether, coupled with the cancellation of previously scheduled announcements such as the Budget or the Comprehensive Spending Review. Rather than being a source of predictability and stability in an uncertain context, fiscal policy can exacerbate radical uncertainty (King and Kay, 2020) and thereby have adverse effects on business confidence and investment. This is particularly true if policymakers control the timing of fiscal events and conduct extensive leaking before the whole picture emerges.

The sixth finding relates to the commitment to prudence, which successive governments have invoked. This raises questions about the purpose of prudence (economic and/or political considerations) and the ways in which prudent planning of public expenditure is translated into economic policy. HMT tends to have built-in margins of errors: (i) cutting capital expenditure, which may have advantageous long run multipliers (Barrell et al., 2012), rather than current spending; (ii) ‘back pockets’ to offset forecast errors. Problems arise when cutting capital expenditure hits national output in times of sluggish economic growth or when new spending pledges drain ‘back pockets’.

The seventh finding relates changes in government and fiscal frameworks and how they affect uncertainty. On the whole, such changes tend to involve more continuity than discontinuity. There are several reasons. For one, HMT tends to be committed to balanced budgets over the economic cycle and officials emphasise the importance of long-term sustainable public finances. The main difference is about the extent to which different governments use fiscal policy to manage the business cycle. Another reason is

that successive fiscal frameworks tend to formalise more informal arrangements and thus mark a step change rather than fundamental re-orientation. For example, in the period 1993-97, there was an attempt to plan public expenditure over a 2-3 year horizon, even if in reality the older culture of annual negotiations tended to prevail. After 1997, the commitment to a longer-term time horizon was formalised, but there were still significant re-calibrations at the time of Budget Day or (Autumn/Spring) Statements. A third reason for greater continuity than change is that HMT officials tend to give the same advice. Finally, there is considerable inertia in the system, because the largest blocks of spending (health, DWP and education) tend not to change fundamentally because of political priorities or pressures.

However, there are moments of rupture that make a significant difference, either exacerbating or mitigating uncertainty. New programmes, such as ‘big projects’ (roads, HS2, BIS catapult, or Heathrow expansion) in the period 1997-2015, are often government ‘signature themes’, but they might conceal from view urgent needs such as house-building. Other fundamental changes include HE tuition fees and the loans system (in 2012). Such reforms tend to have a long-term legacy that creates some kind of ‘path dependency’ but might also be a source of uncertainty in case the next government pledges to make radical reforms (e.g. abolishing tuition fees). The ‘levelling up’ agenda post-2019 is another example of government policy that addresses a pressing problem but risks not being joined up with other key tasks, besides the prospect of exacerbating existing or creating new inequality within regions and between sectors.

Eighth and finally, there was a shift after 1997 from assessing the outcome of public expenditure to measuring the efficiency and value-for-money, and this has changed the ways in which public spending is planned and controlled. Since then, HMT dedicates more time to measuring the extent to which spending departments achieve the centrally defined targets. During the ten or so years of economic expansion, the need to boost productivity was far less urgent, but following the GFC, the tendency of productivity to flat-line costs the public sector in the region of £30bn per year. In some labour-intensive parts of the public sector, productivity has declined, e.g. in health care by over 4 per cent in the period 1997-2007 alone.

Fiscal consolidation would look very different with stronger productivity growth. This issue has gained even greater economic and political salience in the wake of the December 2019 election with the promise of ‘levelling up’ and the stark disparities of power, wealth and status highlighted by the Covid-19 pandemic, but also the potential for substantial productivity improvements with the right level of investment in labour.

5. Concluding reflections

Recent events, including the Brexit deal agreed in December 2019 and the Covid-19 crisis, have brought fiscal policy to the fore of public policy making. The disruption caused by the late agreement struck between the UK and the EU, as well as the circumstances of three national lockdowns required an activist fiscal stance to minimise disruption and keep certain essential economic and other services going. At a time when both consumer and business confidence is low, fiscal policy has a particularly important role to play to sustain investment and consumption in such ways as to stimulate consumer spending and business investment partly by maintaining that confidence.

In addition, fiscal policy is also vital in channelling resources into new areas of activity – especially the search for, and distribution of, vaccines. But this extends to wider sectoral changes that require changes in the provision of both capital and labour, e.g. producing critical medical supplies such as PPE and making sure that there is sufficient labour supply for sectors such as health and social care, but also the role of R&D spending – whether for shorter term objectives such as discovering and producing a Covid-19 vaccine or longer term goals of generating and disseminating innovation.

Moreover, fiscal intervention is required in relation to key workers who run much higher risks of contracting Covid-19 and households that suffer from an increase in the level of poverty and destitution. From school meals via Universal Credit payments to a higher reliance on foodbanks and other indicators, it is clear that market forces will not correct these imbalances sufficiently. Nor do regional and local government have the power or resources to address the most pressing problems, including school meals and child poverty more generally.

Both public investment in so-called ‘shovel ready’ projects and other forms of fiscal expansion are key to limit the recession and sustain the recovery, as well as help with a reconstruction that can give rise to a higher growth, higher wage and higher productivity economy than was the case pre-pandemic and the period since 2007. For example, the National Infrastructure Commission’s most recent assessment in 2018 recommended a series of investment projects that would cost about 1-1.2 per cent of GDP for each 5-year period (2020-25, 2025-2030, etc.). That would include existing commitments such as HS2 and is within the fiscal remit as set by government. These proposals are as follows (NIC, 2018):

- nationwide full fibre broadband by 2033
- half of the UK’s power provided by renewables by 2030
- three quarters of plastic packaging recycled by 2030
- £43 billion of stable long term transport funding for regional cities
- preparing for 100 per cent electric vehicle sales by 2030
- ensuring resilience to extreme drought through additional supply and demand reduction
- a national standard of flood resilience for all communities by 2050.

At the same time as making ad hoc fiscal decisions in response to a fast-changing environment, there is also a strong case for a robust fiscal framework that combines clear principles (responsible tax and spend) with state-contingent adjustments. Such a framework has to adopt a medium-term horizon that avoids sliding back into short-termism and instead favours longer-term investment in physical, human and organisational capital – coupled with a range of institutional arrangements to join up policy and make sure that it is informed by evidence and sound judgement (see Chapter 1). Given the political pressures surrounding government decision, the time has now come to consider creating a beefed-up independent body tasked with overseeing the implementation of a comprehensive investment programme to recover and rebuild the economy following the deep socio-economic scarring left by the Covid-19 pandemic.

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IV

Understanding Fiscal Policies and Managing Uncertainty

Monetary-Fiscal Interactions

Thomas Lazarowicz

The conflict

To illustrate the co-ordination issues facing monetary and fiscal policymakers, we develop a simple model of the policy setting 'game' faced by the authorities. In this set-up, similar in spirit to the analysis presented in Bhundia and O'Donnell (2002), output is subject to supply and demand shocks with the fiscal and monetary authorities tasked with its stabilising. The monetary policy target, which we assume has become the long run average of inflation, is pursued by the monetary authority with its policy rate. Fiscal policy is then tasked with reducing the overall variance of output around its potential by choosing the level of public expenditures. The particular problem that the fiscal policy authority faces is that it would not wish to conflict with the monetary policy authority by stimulating (or contracting) activity simultaneously in an uncoordinated fashion nor can it know exactly what the impact is on activity of a given changes in its expenditure path. We do not distinguish between types of government expenditure here but simply set up the fiscal policy response to demand and supply shocks and motivate our basic estimating equation that is explored in the following sections of this paper.

A number of key points emerge from the analysis:

- 1 The policy rate is conditioned on both demand and supply shocks but also the path of government expenditure;
- 2 Aggregate demand in the economy is then shown to result not only from demand and supply shocks but also the setting of public expenditure;
- 3 And then, given that impact of government expenditure on output is uncertain, changes in the path of government expenditure following identifiable shocks should tend to be

gradual. So in a period, for example, of fiscal consolidation or responses to a slowing economy expenditure should not normally adjust too rapidly.

The monetary and fiscal control problem

Let us start with a simple exposition of the fiscal authority's control problem, following Lambertini and Rovelli (2002) and similar to Chadha and Nolan's (2007) general equilibrium setting. Equation 10.1 states that output, Y_t , is assumed to deviate from its long run potential, Y^* , in response to government expenditure, g_t , to deviations in the policy rate, i_t , from its natural level, i^* , that is given by $\bar{r} + \pi^*$ - the long run real rate and the long run average inflation rate, respectively - and to temporary demand shocks, $\epsilon_{t,1}$ (which we assume are not intertemporally correlated) where α and γ are parameters reflecting the fiscal and interest rate multipliers, respectively.

10.1

$$Y_t = Y^* + \alpha g_t - \gamma(i_t - \pi^* - \bar{r}) + \epsilon_{t,1}$$

Equation 10.2 can be thought of as a traditional Phillips curve. Inflation π_t differs from the long run rate with the existence of an output gap, weighted by the parameter β , in addition to a supply shock, $\epsilon_{t,2}$, which we assume has no serial dependence and is uncorrelated with the demand shock $\epsilon_{t,1}$ (we can relax this assumption relatively trivially but impose it to ease exposition).

10.2

$$\pi_t = \pi^* + \beta(Y_t - Y^*) + \epsilon_{t,2}$$

The monetary policy authority is set an objective to pursue an inflation target, while also placing a weight on deviations of the real interest rate from its long run equilibrium level - noting that $i^* - \pi_t = \bar{r}$, weighted by the parameter μ .

10.3

$$L_M = (\pi + \pi^*)^2 + \mu(i_t - \pi^* - \bar{r})^2$$

By substituting 10.1 and 10.2 into 10.3, and minimising the resulting loss function, we can solve for the monetary policy makers optimal interest rate response as a function of aggregate demand and supply shocks, $\epsilon_{t,1}$ and $\epsilon_{t,2}$, as well as changes in the path of government expenditure.

10.4

$$i_t^{br} = \pi^* + \bar{r} + \frac{\gamma\beta}{\gamma^2\beta^2 + \mu} [\beta(\alpha g_t + \epsilon_{t,1}) + \epsilon_{t,2}]$$

We can then also re-write the aggregate demand equation (10.1), using 10.4 to obtain an expression for deviations of output from potential output that is conditioned on the monetary policy response (as we have substituted out i_t), and dependent upon government expenditure and the demand and supply shocks.

10.5

$$(Y_t - Y^*) = \frac{\mu\alpha}{\gamma^2\beta^2 + \mu} g_t + \frac{\mu}{\gamma^2\beta^2 + \mu} \epsilon_{t,1} - \frac{\gamma^2\beta}{\gamma^2\beta^2 + \mu} \epsilon_{t,2}$$

To simplify the analysis, we rewrite the coefficients pre-multiplying government expenditure and the demand and supply shocks can be re-written as

$$\phi_1 = \frac{\mu\alpha}{\gamma^2\beta^2 + \mu}, \quad \phi_2 = \frac{\mu}{\gamma^2\beta^2 + \mu}, \quad \phi_3 = \frac{\gamma^2\beta}{\gamma^2\beta^2 + \mu}$$

We can then express the equation for the output gap in the same fashion as in the classic Brainard (1967) problem involving parameter uncertainty.

10.6

$$(Y_t - Y^*) = \phi_1 g_t + \phi_2 \epsilon_{t,1} - \phi_3 \epsilon_{t,2}$$

As in the standard Brainard problem, we suggest that the fiscal authority is interested in stabilising the variance of output around potential output but must treat the control parameters as though they are measured with error. We can express this problem by taking the second moment of 10.6, recalling that we assumed no covariance between the demand and supply shocks, formally that $\sigma_{\epsilon_{1,t}, \epsilon_{2,t}} = 0$, and the time subscript is suppressed for notational

convenience. We therefore allow for the existence of multiplicative uncertainty in the three parameters, capturing the notion that the fiscal policy maker is uncertain as to the exact size of the fiscal multiplier, as they are uncertain as to the impact of the demand and supply shocks. The second moment of the output gap is then given by:

10.7

$$E(Y_t - Y^*)^2 = \sigma_{\phi_1}^2 g^2 + \sigma_{\phi_2}^2 \epsilon_1^2 - \sigma_{\phi_3}^2 \epsilon_2^2 + 2g\epsilon_1\sigma_{\phi_1\phi_2} - 2g\epsilon_2\sigma_{\phi_1\phi_3} + (\phi_1 g - Y^*)^2$$

Following Brainard, we take the first order conditions of 10.7, and rearranging for g to express the optimal setting of the level of government expenditure as a function of the level of potential output, the supply and demand shocks, and the covariance between fiscal expenditure and the shocks themselves.

10.8

$$g = \frac{Y^* - \frac{1}{\phi_1}(\epsilon_1\sigma_{\phi_1\phi_2} - \epsilon_2\sigma_{\phi_1\phi_3})}{\frac{\sigma_{\phi_1}^2}{\phi_1} + \phi_1}$$

Equation 10.8 highlights the ‘conservatism’ principle, that when the instruments of policy are uncertain in their impact, the fiscal policymakers sets g at a level lower than they would if there was no

uncertainty. We can see this by noting that $\frac{\sigma_{\phi_1}^2}{\phi_1} + \phi_1 \geq 0$. This effect can, however, be overturned if the sum of the covariances between the demand and supply shocks and expenditure is sufficiently negative (as the sum enters equation 10.8 negatively) to outweigh the uncertainty as to the fiscal multiplier.

The form of the equation we therefore examine later is given by 10.9, which states that government expenditure is driven by deviations in output from its potential and shocks to aggregate demand or supply: .

10.9

$$g = \lambda_1 Y^* - \lambda_1 \epsilon_1 + \lambda_1 \epsilon_2$$

Concluding Remarks

The interaction and need for co-ordination in monetary and fiscal policy has been well explored by the literature. And we rehearse the connections in a simple model. As well as showing that output is jointly determined by standard shifts in aggregate demand and supply, it also depends on the policy choices and the extent to which work together or against each other. Our analysis provides some motivation for the need for an optimal fiscal policy to recognise that it not only must flex in the face of changing economic conditions but also condition on monetary policy. This means that an institutional framework for co-ordination should underpin policy action. More prosaically it also means that our estimated equations need to deal careful with complex two way causalities.

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Political Revisions to Expenditures: five decades of real-time data on official economic forecasts and UK fiscal policy

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1. Introduction

To understand how fiscal policy responds to changing economic conditions and macroeconomic uncertainty, we need to know what information policymakers hold about the economy in real time, and how fiscal plans are changed as a result. A general finding in the literature is that fiscal data is often revised considerably, which means that initial spending plans may deviate from outcomes (de Castro et al., 2013). For instance, fiscal reaction functions estimated using real-time data tend to point to a much more countercyclical stance than outturns (Cimadomo 2012, literature reviewed in Cimadomo 2016).

This paper presents a new dataset bringing together official economic forecasts and fiscal plans in real time for the United Kingdom. As Cloyne (2013) points out, the UK is an interesting case to study the conduct of fiscal policy because tax and spending decisions are highly centralised and most announcements tend to take place at one or two major fiscal events a year. Unlike in the US, most of the announced fiscal policy changes become law.

To evaluate fiscal policy, it is often important to understand the type of fiscal instruments employed. While aggregate government expenditure data is more readily available, only expenditure excluding interest payments is under direct control of the

⁵⁷ This chapter was written while the author was Principal Economist at NIESR until the end of February 2020.

government in the short term. The government can then decide whether to focus spending measures on current expenditure items or capital expenditure. Building on and extending historical official forecast data made available by the Office for Budget Responsibility (OBR) using information in documents accompanying Budgets and major fiscal events, this paper introduces real-time series for real GDP growth, total government expenditure, investment and interest payment components and current receipts over the period 1969 to 2019 to contribute to the understanding of how different components of fiscal policy react to macroeconomic uncertainty.

Section 2 introduces the underlying data sources and definitions used to ensure comparability of forecast data over time. Section 3 comments on major data revisions separately for each government in power between 1970 and 2018 and discusses the historical context, largely building on information provided in Cloyne (2012). Section 4 evaluates whether official forecasts involve systematic errors and how they compare to alternative forecasts. Section 5 concludes.

2. Data sources and definitions

The main data source used to compile the real-time economic and fiscal dataset is the ‘Historical official forecast database’ (HOFD) made available by the OBR on their website. For the main fiscal and economic aggregates, real-time forecast updates are provided at semi-annual frequency, as published in the spring and autumn alongside Budgets, pre-Budget reports and/or fiscal statements. Where HOFD data series start later and if possible, we extend HOFD data back to 1969 using Financial Statement and Budget Reports (FSBR, 1969-1998), Economic and Fiscal Strategy Report and Financial Statement and Budget Reports (1999-2010), Budget Reports (from 2011) and OBR Economic and Fiscal Outlook (EFO) publications (from 2010).

Real GDP growth

Real-time data in the HOFD stretches back to November 1983. We extend this data to April 1969 using estimates provided in the FSBR. GDP refers to output at constant market prices. Prior to 1998, estimates refer to GDP at factor cost. To assess the performance of HMT/OBR forecasts, we also collect real-time forecast data from the International Monetary Fund (IMF) using historical forecasts from the World Economic Outlook stretching

back to 1990. We compare IMF spring projections with HMT/OBR forecasts published in the first half of the year, and IMF fall projections with HMT/OBR forecasts published in the second half of the year (see section 4). We also collect real-time forecast data from the National Institute of Economic and Social Research (NIESR), using NiGEM historical forecast data (from 1990) covering forecasts published in the February and August editions of the National Institute Economic Review.

Government expenditure

Government expenditure is total government spending in nominal terms reported in £ billion. We use the following definitions to provide estimates that are comparable over time, as much as is possible. For 1970-1981, government expenditure is the sum of general government current and capital expenditure from the FSBR. For 1982-1993, we use general government expenditure in cash terms including privatisation proceeds, as reported in the FSBR and from 1990 as provided in the HOFD. For the period after 1993, the HOFD provides real-time estimates of total managed expenditure.

Government investment

Government investment refers to general government capital expenditure in nominal terms reported in £ billion. We arrive at a sufficiently long time series using the definition of public sector gross investment, i.e. net investment plus depreciation. For 1970 to 2007 this includes general government capital expenditure, gross domestic fixed capital formation of the general government, increase in stocks, capital grants to the private sector and capital grants within the public sector. From October 2007, we use the gross investment component of total managed expenditure. Data was collected from FSBRs, Budget and pre-Budget reports, and the EFOs.

Interest payments

This refers to central government gross debt interest payments in nominal terms, reported in £ billion. Prior to October 2007, we use data on the component of current expenditure that covers interest paid to the private sector and overseas. Data in the FSBR is available from 1977. The HOFD contains data from 2010

onwards, with interest payments reported net of asset purchase facility transactions. We use central government interest payments as a proxy for general government interest payments because data is available for a longer time period. Central government interest payments account for the largest part of general government interest payments, increasing from a share of around 70 per cent in the 1970s to nearly 100 per cent in most recent data.

Current receipts

Public sector current receipts are in nominal terms, reported in £ billion. Data from 1990 onwards is taken from the HOFD, where data prior to November 1994 relates to general government cash receipts. We extend the data using information in FSBRs on general government current and capital receipts.

3. Chronology and context for changes in fiscal policy plans

This section presents real-time estimates of real GDP growth, government expenditure, government investment, debt interest payments and current receipts. To provide structure, this is done separately for each government in power between 1970 and 2018. We limit the discussion and data presentation to main fiscal events, i.e. Budgets. Real-time data refer to estimates published at the time of Budget for the current financial year (or the previous calendar year in the case of GDP growth) that just ended, labelled year t , as well as the upcoming financial year (or the current calendar year in the case of GDP growth), labelled year $t+1$. Data revisions and changes to government plans are set against the economic and budgetary background of the time as discussed in Budget documents. For 1970-2008, we mainly rely on summaries provided by Cloyne (2012) for the economic context and budgetary objectives of each fiscal event. We also comment on major definitional and classification changes.

Heath Government (19 June 1970 – 04 March 1974, Conservative majority government)

The major challenge for HM Treasury under Chancellor Anthony Barber during the premiership of Edward Heath was stagflation – the rise in unemployment accelerated in 1970 and 1971, as did inflation. The view was that economic growth was below potential (FSBR, 1971, page 5) while inflation was driven not so much by

demand but as a result of global cost pressures. Consequently, 1971-1973 Budgets contained measures that aimed at stimulating aggregate demand, alongside expansionary monetary policy, without much concern about inflationary consequences. Instead, the aim was to lower inflation by influencing public sector wage setting (income policy). At the same time, supply side reforms were introduced to raise long-term growth potential, with tax reforms considered an essential element.

Treasury forecasts show that the government overestimated its ability to boost economic growth. Growth projections for 1971 were downgraded from 1.3 per cent to 0.9 per cent and projections for 1972 were revised down from 4.7 per cent to 2.6 per cent (Table 11.1). This may be because HMT overestimated the degree of spare capacity in the economy (Coopey and Woodward, 1993, p. 11, cited in Cloyne, 2012). Relatedly, the ability to increase spending was slightly overestimated as government expenditure forecasts, while rising substantially over this period, were revised down in 1971, 1972 and 1973. This was partly driven by downward revisions to government investment forecasts. It is worth noting that estimates for current receipts were not revised down significantly despite the revisions in growth. Nevertheless, the rate of economic growth rose to 5.5 per cent in 1973 (as per 1974 estimates), an expansion that came to be known as Heath-Barber boom (Cloyne, 2012, p. 60). As a result, however, the balance of payments deteriorated. The government responded to the ensuing fall in reserves by temporarily letting sterling float. Despite tax reforms and revenue cuts introduced during the Heath government, government receipts kept rising.

Table 11.1 Economic and Fiscal Forecasts 1971-1973

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1970	2.1	3.3	24.6	27.3	4.6	5.0			19.8	22.0
1971	1.7	1.3	26.8	29.3	5.0	5.6			21.6	23.4
1972	0.9	4.7	29.2	31.7	5.5	6.3			23.3	24.6
1973	2.6	6.5	31.4	25.4	5.8	6.9			24.8	27.6

Note: t refers to the financial year ending (previous calendar year for GDP growth). t+1 refers to the financial year starting (current calendar year for GDP growth).

Third Wilson Government (4 March 1974 – 10 October 1974, Labour minority government)

The third Wilson government and Chancellor Denis Healey inherited a complicated economic environment. It turned out that the Heath-Barber stimulus and boom were only temporary. Already after the March 1973 Budget, expenditure cuts were announced to make room for private investment and consumption while monetary policy was tightened, with Bank Rate reaching an unprecedented level of 13 per cent by November 1973. In the autumn, higher global oil prices led to rising energy prices while miners and electric power engineers started industrial action and a state of emergency was declared on 13th November followed by a three-day week to start in 1974. Quoting the February 1974 National Institute Economic Review, the incoming Labour Chancellor said prior to winning the election: “It is not often that a Government finds itself confronted with the possibility of a simultaneous failure to achieve all four main policy objectives – of adequate economic growth, full employment, a satisfactory balance of payments, and reasonably stable prices” (HC Deb 26 March 1974 vol 871 c282, cited in Cloyne, 2012, p. 62).

1973 growth estimates were cut from 6.5 per cent to 5.5 per cent and the new government expected output to contract by 1.1 per cent in 1974 (Table 11.2). Judging that aggregate demand was in excess of supply, the 1974 Budget aimed at being broadly neutral

but, given the uncertain outlook, with a slight expansionary bias. In government expenditure forecasts this is reflected in an upward revision to 1973-74 spending of £0.7 billion and an increase in 1974-75 spending of £8.8 billion, mainly of current spending items as government investment projections remained relatively flat. Public sector borrowing was to be reduced substantially and the Budget also contained redistributive measure in support of the relatively poor. 1973-74 receipts were revised up despite the downward revision to growth while a large increase of more than 25 per cent was projected for receipts in 1974-75.

Table 11.2 Economic and Fiscal Forecasts 1974

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1973	2.6	6.5	31.4	35.4	5.8	6.9			24.8	27.6
1974	5.5	-1.1	36.1	44.9	6.7	7.8			28.3	35.9

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Fourth Wilson Government (10 October 1974 – 5 April 1976, Labour majority government)

The March 1974 Budget was followed by additional measures in July and a second Budget in November, highlighting the severity of the crisis and the need for additional fiscal measures. The main objective was to fight inflation, which had risen to 17 per cent, through VAT and local tax cuts, corporate tax deferrals and increased current expenditures. By early 1975, it became clear that the depth of the economic crisis in 1974 had not been as severe as initially expected. Growth was revised up by 1 percentage point to -0.1 per cent (Table 11.3). Illustrating the enormous degree of economic uncertainty at the time, the April 1975 Budget expected a recovery for the ongoing calendar year with GDP growth reaching 1.3 per cent in 1975, only to be severely revised down to -1.6 per cent one year after, making 1975 the second year of the then deepest post-war recession. Measures to support growth and contain inflation had failed, with unemployment rising and

retail prices up 20 per cent relative to the previous year. The 1975 Budget shifted the focus away from demand stimulus to reducing the deficit, announcing higher taxation to take immediate effect while expenditure cuts were planned for 1976-77.

Table 11.3 Economic and Fiscal Forecasts 1974-1975

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1974	5.5	-1.1	36.1	44.9	6.7	7.8			28.3	35.9
1974 Suppl				45.7		8.4				35.6
1975	-0.1	1.3	45.9	54.8	8.5	9.6			35.6	43.8

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Callaghan Government (5 April 1976 – 4 May 1979, Labour majority government/Labour minority government 1977 – 1979)

The second half of the 1970s was characterised by two turning points. One concerned the economy, the other the conduct of economic policy. GDP growth picked up from the second half of 1975 onwards, albeit at a slower pace than the government expected with HMT year-ahead growth forecasts being revised down 1.3 and 0.5 percentage points, respectively, for 1976 and 1977 (Table 11.4). Inflation and unemployment remained high and only started easing by 1977-1978. Demand management slowly came out of fashion with the emphasis in Budgets increasingly on supply-side measures to bring inflation down instead of reflationary stimulus, although most supply side policies took the form of tax cuts closely resembling demand management policy in practice (Cloyne 2012, p. 67). One trigger was the sterling crisis of 1976 with the pound depreciating 23 per cent in effective terms in October relative to the previous year amidst slow growth and high public expenditure and deficit levels. This forced the government to apply for a loan from the IMF at the end of 1976 which required cutting borrowing by £2.5 billion, or 2 per cent of GDP, implemented mainly through expenditure reductions. As a result, government expenditure in

1976-77 turned out to be £8.2 billion lower than expected at the time of the 1976 Budget. Public investment was nearly halved. With public finances improving in 1977 and 1978, Chancellor Healey was able to increase fiscal stimulus somewhat, leading to an upward revision to 1977-78 spending.

Table 11.4 Economic and Fiscal Forecasts 1976-1978

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1975	-0.1	1.3	45.9	54.8	8.5	9.6			35.6	43.8
1976	-1.6	2.4	57.8	65.4	10.6	12.2			45.3	51.9
1977	1.1	1.2	57.2	63.5	6.6	6.5	3.6	4.3	48.9	55.1
1978	0.7	2.0	64.3	71.2	6.6	7.2	4.7	5.7	55.8	62.1

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

First Thatcher Government (4 May 1979 – 9 June 1983, Conservative majority government)

While 1978 saw the strongest growth rate in five years and unemployment fell, the government faced problems combatting inflation through income policy, i.e. pay restraint. After the ‘Winter of Discontent’ which saw wide-spread protests against pay caps during the coldest winter in 16 years, the Labour government was voted out of office in 1979. The incoming Thatcher government fully abandoned demand management practices. Its new approach to macroeconomic policy put the emphasis on monetary measures to combat inflation, with fiscal policy taking the back seat and supporting monetary policy through borrowing control. Chancellor Geoffrey Howe set out ambitious plans to cut the public deficit, predominantly by reducing expenditure. While some consumer taxes were raised to meet budgetary objectives, tax policy was no longer seen as a demand-side tool but employed with the objective to increase the productive capacity of the economy, and thus corporate tax cuts were emphasised. By the end of 1979 growth

weakened while inflation remained high following the international oil crisis that year. In line with the new macroeconomic paradigm, monetary policy was tightened with the minimum lending rate rising from 12 per cent in April to 17 per cent in November 1979. Unemployment rose sharply. In 1980-1981, the economy fell into a recession, which HM Treasury quite accurately predicted. Contrary to the Chancellor's plans, public expenditure rose in nominal terms and had to be revised up each year during the first Thatcher premiership, partly driven by inflation but mainly as a result of the recession. Despite a series of corporate tax cuts, high rates of inflation meant current receipts kept increasing in nominal terms (Table 11.5).

Table 11.5 Economic and Fiscal Forecasts 1979-1983

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1978	0.7	2.0	64.3	71.2	6.6	7.2	4.7	5.7	55.8	62.1
1979	3.0	0.4	100.8	83.6	6.5	7.0	5.8	6.9	62.5	74.5
1980	1.5	-2.5	84.7	100.8	7.6	7.7	7.4	8.4	76.4	92.0
1981	-2.5	-2.0	103.7	113.0	7.8	7.2	9.1	10.4	91.6	105.2
1982	-2.0	1.5	119.5	131.5	7.0	7.6	11.0	11.4	107.6	117.1
1983	2.0	3.0	131.5							

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Second Thatcher Government (9 June 1983 – 11 June 1987, Conservative majority government)

The second Thatcher premiership saw growth recovering and inflation receding. Unemployment, however, remained at very high levels and only peaked in 1986 when the claimant count reached just under 3.1 million (Cloyne, 2012, p. 85). Fiscal policy remained largely passive, with the objective of supporting monetary policy through reductions in government deficits (Table 11.6).

Table 11.6 Economic and Fiscal Forecasts 1984-1987

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1983	2.0	3.0								
1984	3.0	3.0	139.0	146.0	9.2	9.1	12.7	13.8	128.2	137.8
1985	2.5	3.5	149.5	159.5	10.2	9.1	14.8	16.4	138.3	150.0
1986	3.5	3.0	158.0	163.0	10.6	10.2	16.1	17.0	149.2	155.6
1987	2.5	3.0	165.0	174.0	10.4	10.7	16.5	17.2	157.6	168.1

Note: t refers to the financial year ending (previous calendar year for GDP growth). T+1 refers to the financial year starting (current calendar year for GDP growth).

Given continued uncertainty about the oil price, the Chancellor Nigel Lawson maintained a cautious stance on borrowing. Government expenditure moved in a predictable manner without major revisions, with the exception of government investment which was repeatedly revised up during 1984-1987. Tax policies focused on the supply side.

Third Thatcher Government (11 June 1987 – 28 November 1990, Conservative majority government)

After growth surprises in 1987 and 1988, economic activity slowed in 1989. At the same time, unemployment kept falling but inflation picked up, reaching 7.8 per cent in 1989. The budget reached balance in 1987-88 and the main objective of fiscal policy during Thatcher's third term was to keep it in balance. Monetary policy remained tight to counteract the pick-up in inflation. 1988 to 1990 saw priorities shifting somewhat from tax reductions to higher expenditures on health, education and law and order, as well as on debt repayments. The 1990 Budget saw an increase in government investment, driven by upward revisions to local authority capital expenditure, financed by higher than forecast community charge benefit grants, and, for 1989-90, revisions to capital grants paid within the public sector (Table 11.7; similar revisions inflate 1991 government investment data).

Table 11.7 Economic and Fiscal Forecasts 1988-1990

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1987	2.5	3.0	165.0	174.0	10.4	10.7	16.5	17.2	157.6	168.1
1988	4.5	3.0	172.0	183.0	10.3	11.1	17.0	17.0	173.3	185.1
1989	4.5	2.5	179.0	194.0	10.8	11.5	17.7	17.0	190.3	204.7
1990	2.3	1.0	197.7	212.7	16.9	14.7	17.7	17.7	203.0	219.0

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

First Major Government (28 November 1990 – 9 April 1992, Conservative majority government)

Thatcher's resignation in November 1990 took place against the backdrop of falling GDP since the end of 1990, inflation rose and the 1991 recession turned the public budget surplus into deficit. Monetary policy remained tight, reinforced by constraints provided by the Exchange Rate Mechanism which the UK had joined in October 1990. The new Chancellor Norman Lamont continued to reject using fiscal policy to stabilise demand, with the focus still on long-term tax and supply-side reform. At the same time, the fiscal deficit was allowed to widen temporarily for the duration of the recession. The government had to revise up its spending projections while revenue turned out to be lower than expected (Table 11.8). By 1992, output stabilised, although not as much as HMT expected at the time of the Budget, inflation had fallen back to 4 per cent while unemployment remained elevated.

Table 11.8 Economic and Fiscal Forecasts 1991-1992

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1990	2.3	1.0	197.7	212.7	16.9	14.7	17.7	17.0	203.0	219.0
1991	0.5	-2.0	216.0	234.8	18.9	18.5	17.6	16.7	217.0	226.0
1992	-2.5	1.0	236.5	258.5	19.5	19.7	17.6	17.6	222.0	230.0

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Second Major Government (9 April 1992 – 1 May 1997, Conservative majority government)

Prime Minister Major's second term began in crisis, with Britain dropping out of the ERM in September 1992, the budget deficit on course to hit 8 per cent of GDP the year after and unemployment rising to 3 million. In response, the new Chancellor Kenneth Clarke focused fiscal policy on reducing the budget deficit, through expenditure cuts and tax increases. Inflation had fallen to 1 per cent in early 1993 and inflation targeting was adopted to maintain price stability. Both stable inflation and a reduction in borrowing were argued to support the recovery. In 1994, the Budget was moved to the autumn and continued to be announced then until the end of the Conservative government. From late 1993 onwards economic growth recovered, surprising to the upside in 1993 and 1994, while unemployment remained elevated. The budget deficit was on a downward trajectory as government receipts jumped in 1994. The government's fiscal objectives sought a trade-off between stable tax yield to return the budget to balance as a means to keep inflation stable and a reduction in the size of the state, pushing public expenditure below 40 per cent of GDP. In particular government investment entered a downward trajectory after 1995 (Table 11.9).

Table 11.9 Economic and Fiscal Forecasts 1993-1996

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1992	-2.5	1.0	236.5	258.5	19.5	19.7	16.5	17.6	222.0	230.0
1993	-0.5	1.3	260.0	280.0	20.1	20.4	17.5	19.4	224.0	229.0
1993 N	-0.5	1.8		280.7		21.7		19.4		229.7
1994 N	2.3	3.0		296.8		20.6	19.2	22.1		256.4
1995 N	4.0	2.8		307.5		20.7	17.6	20.5		276.1
1996 N	2.5	2.5		315.7		17.5	20.0	22.2		286.2

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth). N refers to a November budget.

First Blair Government (2 May 1997 – 7 June 2001, Labour majority government)

The Labour government inherited strong economic fundamentals which persisted over the course of the first term of Prime Minister Tony Blair. Real GDP growth was around 2-3 per cent throughout. An initially expected dent to growth at the time of the East Asian financial crisis in 1999 did not materialise. Unemployment continued falling, reaching a level below 1 million by 2001. Inflation remained stable at 2-3 per cent. On economic and fiscal policy, the government and Chancellor Gordon Brown adhered to the approach adopted by previous Conservative governments: monetary policy was to be used as primary macroeconomic instrument focussing on price stability while fiscal policy remains passive and economic policies focus on long-term supply-side measures. To build economic credibility, the government adopted central bank independence and held on to the previous government's spending plans for two years. Fiscal policy remained tight for two reasons: first, by 1997 the economy was thought to operate above potential and fiscal policy was used to support monetary policy in preventing it from overheating; second, the government had committed to

follow the Golden Rule principle of keeping the current budget in balance, a goal that was achieved in 1998-99, and borrow only to invest. Most fiscal measures focused on longer-term supply side measures, for instance to improve productivity, and social reform. Consequently, government investment spending recovered from the trough it had reached in 1997, rising by more than 10 per cent a year on average over 1998-2001 (Table 11.10).

Table 11.10 Economic and Fiscal Forecasts 1997-2001

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
1996 N	2.5	2.5		315.7		17.5	20.0	22.2		286.2
1997	2.5	3.3	314.6	323.9	16.9	14.6	22.3	24.6	285.4	310.9
1998	3.0	2.3	319.5	334.0	14.5	15.2	24.3	24.6	316.0	334.0
1999	2.3	1.3	331.4	349.2	16.0	17.8	29.5	26.0	334.2	344.3
2000	2.0	3.0	345.2	370.9	16.6	19.0	25.5	27.8	356.2	375.6
2001	3.0	2.5	368.3	393.7	19.6	23.6	26.6	23.1	383.2	398.4

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth). N refers to a November budget.

Second Blair Government (7 June 2001 – 5 May 2005, Labour majority government)

The global slowdown in 2001 and 2002 led to downward revisions of UK growth but overall, the economy managed to avoid a deeper slowdown. Unemployment picked up slightly but continued falling after 2002 while inflation remained at target. The recovery took place more slowly than expected and the Treasury had to repeatedly revise down its growth prospects (Table 11.11). As a result, government revenue rose more slowly than expected with revenue outturns underperforming projections in each year during the period 2002-2005. In the short-term, fiscal policy remained

passive as automatic stabilisers were left to operate freely while the government saw through deteriorations in the budget balance. Long-term spending commitments, for instance on health and to support productivity growth, were financed through tax raising measures. Government investment spending kept growing, but at a slower pace than planned as outturns were consistently lower than year-ahead plans.

Table 11.11 Economic and Fiscal Forecasts 2002-2005

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2001	3.0	2.5	368.3	393.7	19.6	23.6	26.6	23.1	383.2	398.4
2002	2.3	2.3	392.1	418.4	22.3	24.6	22.2	21.1	390.8	407.2
2003	1.8	2.3	421.0	455.7	23.4	30.2	20.8	21.8	397.1	428.3
2004	2.3	3.3	459.0	487.6	27.5	33.0	22.2	23.9	421.5	454.7
2005	3.0	3.3	484.1	518.6	32.2	41.2	23.8	25.9	449.7	486.7

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Third Blair Government (5 May 2005 – 27 June 2007, Labour majority government)

While 2005 growth surprised to the downside, the claimant count rose and the budget deficit widened to more than 3 per cent of GDP, 2007 turned out to be better than expected with economic growth picking up and unemployment falling (Table 11.12). Inflation remained close to target in 2005 before picking up to 3 per cent as oil prices rose. By 2007, the small output gap that had opened up was thought to have closed. Budget measures focused on the long term, with a particular emphasis put on education, while discretionary measures remained neutral. The principle of budget balance was adhered to with a longer-term view, seeing through temporary increases due to automatic stabilisers operating.

Table 11.12 Economic and Fiscal Forecasts 2006-2007

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2005	3.0	3.3	484.1	518.6	32.2	41.2	23.8	25.9	449.7	486.7
2006	1.8	2.3	523.2	552.3	39.3	43.4	26.3	26.7	486.1	516.4
2007	2.8	3.0	552.2	586.6	40.7	44.6	27.9	29.7	517.2	553.0

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Brown Government (27 June 2007 – 11 May 2010, Labour majority government)

Up to the March Budget 2008, the impact of the financial crisis, while expected to dent economic growth, was not reflected very much in the conduct of fiscal policy. GDP growth in 2008 was expected to come in weaker than the previous year at 2 per cent as a result of global uncertainties and problems in the financial sector but only modest discretionary loosening was planned with the bulk of the response left to automatic stabilisers (Table 11.13). Policy changes for 2008-09 and 2009-10 were fiscally neutral and some discretionary consolidation was planned for the years after. The turnaround happened in the Pre-Budget Report of November 2008. The UK economy had entered a recession and it became clear that the forecast published at the time of the March Budget was far away from the likely outturn. Only employment held up, unlike during the recessions of the 1990s. In September, the government had announced its £500 billion rescue package for the financial sector and the Pre-Budget Report estimated that discretionary stimulus would reach 1 per cent of GDP in 2009-10, effectively abandoning the reliance on automatic stabilisers and monetary policy alone. This was to be followed by a sustained fiscal consolidation from 2010-11 onwards.

As the full depth of the recession became clearer, additional stimulus was provided in 2009 while the Bank of England started its programme of Quantitative Easing. The public budget deficit rose above 12 per cent of GDP as a result of stimulus measures

and the sharp fall in revenue. 2008-09 current receipts had come in around £45 billion short of what was expected at the beginning of the financial year. By the end of 2009, the global economy showed signs of a recovery and growth returned in the UK. In line with earlier plans, the March 2010 Budget put a strong emphasis on fiscal consolidation through tax raising measures, a slowdown of current expenditure growth and reductions in public investment as a share of GDP after investment spending items had been brought forward. The deficit was to be halved within four years and the government was overly optimistic about the economic bounce back, anticipating GDP growth of more than 3 per cent in 2011.

Table 11.13 Economic and Fiscal Forecasts 2008-2010

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2007	2.8	3.0	552.2	586.6	40.7	44.6	27.9	29.7	517.2	553.0
2008	3.0	2.0	586.4	617.8	46.2	51.5	29.9	30.3	549.9	575.2
2009	0.8	-3.5	620.7	671.4	56.2	63.4	30.5	27.2	530.7	496.1
2010	-5.0	1.3	674.1	704.0	69.5	60.0	30.8	41.6	507.5	540.8

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

First Cameron Government (11 May 2010 – 7 May 2015, Conservative/Liberal-Democrat coalition government)

The Coalition government and Chancellor George Osborne put the objective of deficit reduction on top of the agenda. It set out a plan to achieve cyclically adjusted budget balance and falling net debt as a share of GDP within five years. At its first Budget in June 2010, this required a fiscal consolidation of £128 billion, 70 per cent of which was to be achieved through current spending reductions, targeting welfare payments and public sector pay, and the remainder through reductions in investment spending in excess of the previous government's plans. Returning to the pre-crisis way of conducting macroeconomic policy, monetary

policy was mandated with price stability thereby playing the main role in supporting the economy in the short term. Reform of financial regulation was supposed to mitigate future economic risks and ensure financial stability while microeconomic reforms were intended to bolster potential output. The Office for Budget Responsibility was set up to provide independent forecasts for the economy and public finances. With the exception of 2010 and 2014, when growth surprised to the upside, GDP turned out to be lower than forecast (Table 11.14). This was explained by spill-overs from the European sovereign debt crisis in 2011-12 and the failure for productivity growth to pick up as expected.

As a result, fiscal aggregates improved less quickly than planned and targets were moved out into the future. As fiscal consolidation proceeded, government departments underspent relative to budgetary plans such that government expenditure repeatedly turned out to be lower than projected. Ideologically motivated tax cuts, in particular of corporation tax, were financed by additional reductions in spending to remain fiscally neutral. The transfer of Royal Mail pension assets, alongside the transfer of pension liabilities to crystallise only over time, from the private to the public sector was treated by the ONS at the time as a capital grant reducing government net investment figures by £28 billion in 2012-13.

Table 11.14 Economic and Fiscal Forecasts 2010-2015

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2010	-5.0	1.3	674.1	704.0	69.5	60.0	30.8	41.6	507.5	540.8
2010 J	-4.9	1.2	669.3	696.8	68.7	59.0	30.9	43.4	514.6	547.7
2011	1.3	1.7	694.4	710.4	61.6	53.7	43.1	48.6	548.5	588.6
2012	0.8	0.8	696.4	683.4	49.1	18.8	47.4	44.8	570.4	591.5
2013	0.2	0.6	673.3	720.0	16.1	47.4	46.5	49.5	586.8	612.4
2014	1.8	2.7	715.5	732.0	47.6	52.1	48.4	52.1	619.8	648.1
2015	2.6	2.5	737.1	742.6	67.8	68.3	45.7	46.0	646.9	667.4

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth). J refers to a July budget.

Second Cameron Government (7 May 2015 – 13 July 2016, Conservative majority government)

The Conservative government's priority remained a reduction of the public deficit and additional consolidation measures were implemented in the second 2015 and the 2016 Budget. However, by 2016 the focus shifted somewhat towards higher spending on longer-term supply-related projects, e.g. infrastructure and education with spending plans being revised up. In 2016, economic growth was forecast to be the strongest among G7 countries, employment performance surprised to the upside, leading to upward revisions in government revenue projections, while productivity growth remained dismal (Table 11.15).

Table 11.15 Economic and Fiscal Forecasts 2015-2016

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2015	2.6	2.5	737.1	742.6	67.8	68.3	45.7	46.0	646.9	667.4
2015 J	3.0	2.4	735.5	742.3	66.9	67.1	45.4	46.7	646.4	672.8
2016	2.3	2.0	753.9	771.9	72.7	77.8	45.7	47.8	681.8	716.5

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth). J refers to a July budget.

First May (13 July 2016 – 8 June 2017, Conservative majority government)

The vote to leave the European Union in the 2016 referendum caused a sharp depreciation of sterling and a fall in confidence indicators. The Bank of England responded with an interest rate cut and a new round of QE. Household consumption held up strongly surprising to the upside while private investment only slowly weakened amidst Brexit-related uncertainties. The referendum result also led to a change in government with Theresa May taking over as Prime Minister. The new Chancellor Philip Hammond changed the fiscal timetable by moving to a single fiscal event in the form of an autumn budget, downgrading the role of intermediate statements. His Budgets focused on economic stability and long-run challenges, in particular productivity improvements, without compromising on the consolidation path of the previous Chancellor. As fiscal aggregates improved more slowly than anticipated – in the case of net debt driven also by Bank of England balance sheet effects – fiscal targets were moved further into the future. New spending commitments remained fiscally neutral, mainly through cuts in other areas, and the government planned to bring the share of total managed expenditure below 38 per cent within four years, down from its 2010 peak of 46 per cent and below the then estimated long-run average of around 39 per cent.

Table 11.16 Economic and Fiscal Forecasts 2017

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2016	2.3	2.0	753.9	771.9	72.7	77.8	45.7	47.8	681.8	716.5
2017	1.8	2.0	772.8	802.4	77.7	82.9	49.1	55.8	721.1	744.2

Note: t refers to the financial year ending (previous calendar year for GDP growth); t+1 refers to the financial year starting (current calendar year for GDP growth).

Second May Government (11 June 2017 – 24 July 2019, Conservative minority government)

2017 growth was robust compared to the years since the financial crisis, supported by domestic demand but the OBR downgraded its growth forecasts acknowledging that the expected pick-up in productivity growth would not materialise as fast as initially thought. At the time of the 2018 Budget, growth had been slightly stronger than expected, unemployment had fallen to a multi-decade low of 4 per cent and wage growth was picking up contributing to upwards revisions to government revenue. The public deficit had fallen to around 1 per cent of GDP, substantially down from its 2009 peak of more than 10 per cent, while net debt had started falling. The 2018 Budget made room for additional spending, predominantly targeted at the NHS. Government activity was increasingly occupied with Brexit preparations in light of the initial end of the two-year negotiation period scheduled for March 2019. Lack of clarity about Brexit and the fact that the government had lost its majority at the 2017 elections together with global trade tensions increasingly dampened investment growth.

Table 11.17 Economic and Fiscal Forecasts 2017-2018

Budget year	GDP growth		Govt expenditure		Govt investment		Interest payments		Current receipts	
	t	t+1	t	t+1	t	t+1	t	t+1	t	t+1
2017	1.8	2.0	772.8	802.4	77.7	82.9	49.1	55.8	721.1	744.2
2017 N	1.8	1.5	772.4	795.3	79.4	82.8	48.7	54.7	726.7	745.4
2018 N	1.7	1.5	797.4	812.9	84.4	79.8	54.4	53.3	752.2	775.8

Note: t refers to the financial year ending (previous calendar year for GDP growth). T+1 refers to the financial year starting (current calendar year for GDP growth). N refers to a November budget.

A year-by-year analysis and a formal forecast evaluation show that fiscal policy, in particular government expenditure, has become much more predictable over time with a break occurring in the late 1980s. This coincides with the shift in the conduct of macroeconomic policy, away from demand management to monetarism and the focus of fiscal policy on the supply side.

4. Forecast evaluation

Next, we evaluate Treasury forecasts and fiscal plans taking information from the last five decades together. To test whether forecast revisions are predictable, i.e. contain systematic bias, we calculate the average forecast bias as

$$bias(y) = -\frac{1}{N} \sum_{t=1970}^{T=2018} (y_{Nt} - y_{Nt-1})$$

where y_{Nt-1} is the forecast/plan for outcome measure y provided for financial (or calendar) year t prior to or at the beginning of that financial (calendar) year, subsequently also referred to as current-year forecast. y_{Nt} is the estimate of outcome measure y in financial (calendar) year published at the end of or after that financial (calendar) year, subsequently also referred to as full-year outturn estimate. $(y_{Nt} - y_{Nt-1})$ is the forecast surprise. If forecasts systematically surprise to the upside, they contain a negative bias, i.e. they are too pessimistic. If forecasts systematically surprise to the downside, they contain a positive bias, i.e. they are too optimistic.

Another way to test whether economic forecasts are systematically biased, is to run a so-called Mincer-Zarnowitz test by regressing outturns on forecasts and a constant term:

$$y_{it} = \alpha + \beta y_{it-1} + \varepsilon_{it-1}$$

If both $\alpha \neq 0$ and $\beta \neq 1$, then the forecast is considered to be systematically biased.

Growth forecasts

Figure 11.1 plots HM Treasury's/OBR's current-year forecast for real GDP growth alongside the outturn estimate published one year after. It reiterates that growth surprised largely to the downside during the volatile 1970s as well as during the Great Recession. For most of the period in between there does not appear to be a systematic bias in the government's growth forecasts. This is confirmed by the first line of Table 11.18. The average bias in GDP growth forecasts is only 0.002 percentage points and a Mincer-Zarnowitz test rejects the hypothesis of forecast bias given that the constant term is not significantly different from zero while the coefficient for the forecast term is not significantly different from 1.

Figure 11.2 illustrates that HMT/OBR growth forecasts were consistent with those provided by other forecasting institutions. Focussing on the post-1990 period, HMT/OBR forecasts were slightly too optimistic, as suggested by a significantly negative α coefficient. This is similar NIESR's forecasts for which the hypothesis of $\beta = 1$ is also rejected at the 10 per cent level. Of the three forecasters, only the IMF's UK growth forecasts pass the Mincer-Zarnowitz test.

Table 11.18 Economic and Fiscal Forecast Evaluation, 1970–2018

	Average bias	α	β	$\beta=I^{(a)}$	N
GDP growth	0.002	-0.15 (0.19)	0.96*** (0.07)	0.57	49
GDP growth (> 1990)	0.002	-0.43** (0.21)	1.11*** (0.09)	0.23	28
GDP growth (IMF)	0.002	-0.21 (0.19)	1.03*** (0.08)	0.71	28
GDP growth (NIESR)	0.002	-0.72** (0.33)	1.26*** (0.15)	0.09	28
Govt expenditure	-0.007	0.23 (0.16)	0.96*** (0.03)	0.18	49
Govt investment	-0.019	0.30** (0.14)	0.92*** (0.04)	0.05	50
Interest payments	-0.009	0.40*** (0.13)	0.89*** (0.04)	0.01	42
Expenditure ex interest	-0.010	0.32* (0.18)	0.95*** (0.03)	0.09	41
Current expenditure ex interest	-0.008	0.35* (0.20)	0.94*** (0.03)	0.09	41
Current receipts	-0.002	0.07 (0.07)	0.99*** (0.01)	0.32	50

Notes: GDP growth in per cent, fiscal variables in real terms (2016 prices), logs. Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. (a) p-value F-test.

Figure 11.1 Real GDP Growth Forecasts and First Estimates by HMT/OBR

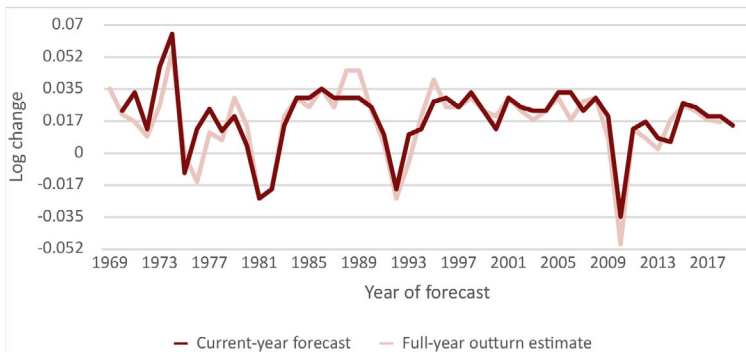
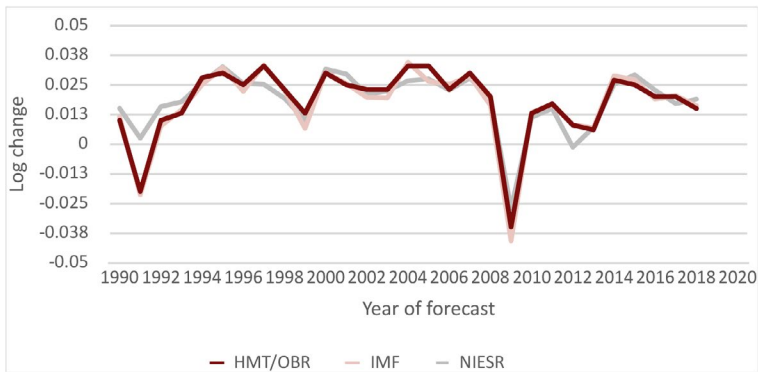


Figure 11.2 Real GDP Growth, Current Year Forecasts by Different Forecasting Institutions



Fiscal forecasts

The deviation of the government's fiscal projections from early outturn estimates are plotted as time series in Figures 11.3–11.6, for government expenditure, government investment, interest payments and current receipts, respectively. This shows that aggregate variables, i.e. total expenditure and total current receipts, are more accurately predicted than expenditure components, i.e. government investment and interest payments, for which outturns deviate more strongly from forecasts.

Because both the size of the economy and the price level have been increasing over time, it is difficult to evaluate revisions to nominal figures over a longer period. We therefore deflate revisions in fiscal measures using the (ex post) GDP deflator and take logs. Taking logs also comes with the advantage that revisions can be interpreted as percentage deviations. An alternative is to scale revisions by nominal GDP but this may inflate revisions if during recessions GDP falls more rapidly and strongly than fiscal aggregates.

Figures 11.7–11.10 plot one-year revisions to fiscal variables over time both in real terms (deflated by GDP deflator) and as a ratio of nominal GDP. In line with the discussion in section 3, Figure 11.7 shows that government expenditure became substantially more predictable in the late 1980s, after much more volatile revisions were made prior to that. This break corresponds to the shift in fiscal policy away from demand management, with government

expenditure being actively used for macroeconomic stabilisation, to monetarism and the focus on supply-side policies, in which government expenditure became more of a passive instrument used to reduce the government deficit and support monetary policy. This is true both for log real revisions and revisions relative to money GDP. Overall, there does not appear to be a significant bias in government expenditure revisions. The data series passes the Mincer-Zarnowitz test.

The gross investment component of government expenditure has been revised more frequently and strongly. 1976-77 stands out as the financial year with the largest government investment revision when the government subscribed to an IMF fiscal adjustment programme. Regarding upward revisions, the recession years 1991 and 2009 stand out. On aggregate, there has been a negative bias in government investment plans as the government ended up spending around 2 per cent more on capital expenditure than was initially planned.

Similarly, interest payments were on average underestimated although the revision pattern drawn in Figure 11.9 is less clear. To measure spending directly under the control of government more directly, we subtract interest payments from total expenditure figures. By further excluding investment spending, we arrive at a measure of current expenditure under the direct control of the government. For both alternative spending measures, revisions are negatively biased with plans being on average revised up by 1 per cent in real terms. Periods of upward and downward revenue revisions appear to fluctuate (Figure 11.10) but overall forecasts of receipts are unbiased using standard definitions.

Figure 11.3 Government Expenditure Plans and First Estimates

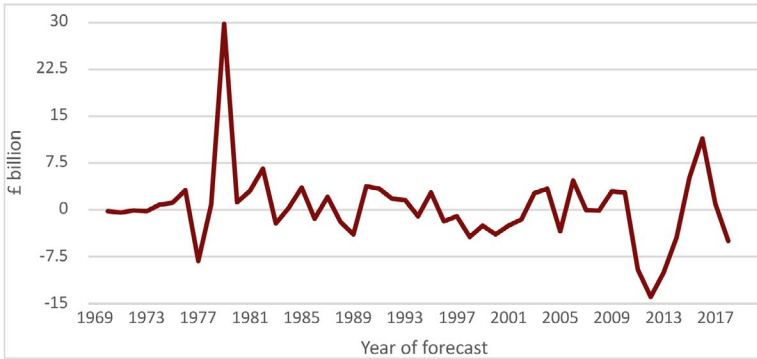


Figure 11.4 Government Investment Plans and First Estimates

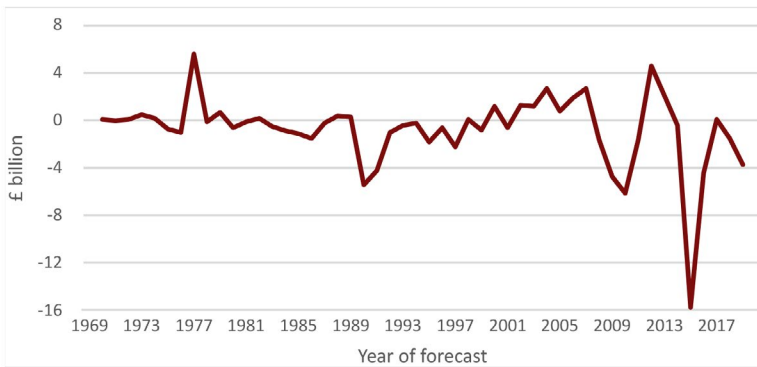


Figure 11.5 Government Interest Payment Forecast and First Estimates

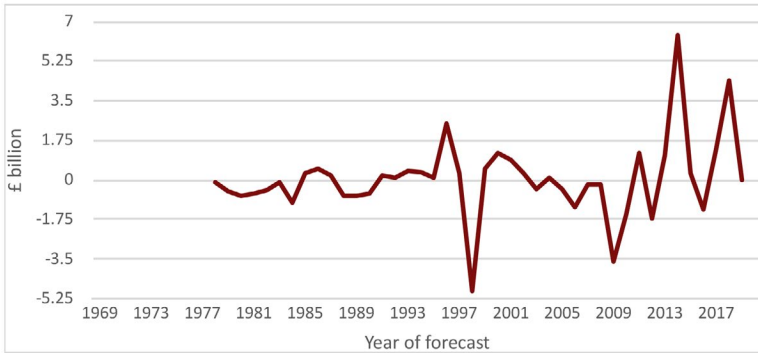


Figure 11.6 Current Receipts Forecast and First Estimates

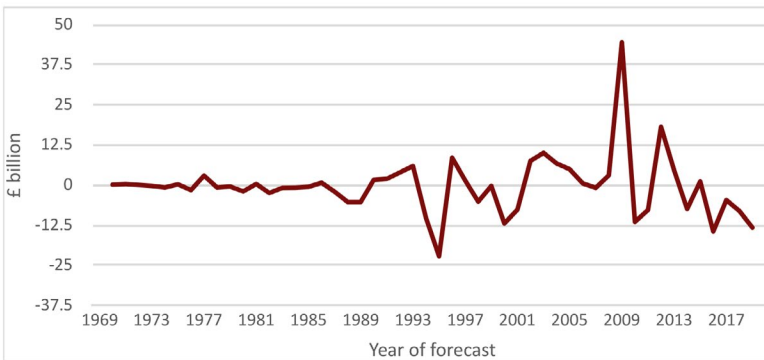


Figure 11.7 Government Expenditure Revisions

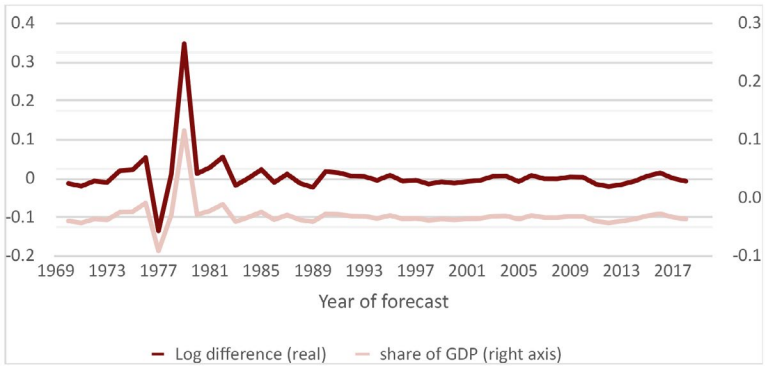


Figure 11.8 Government Investment Revisions

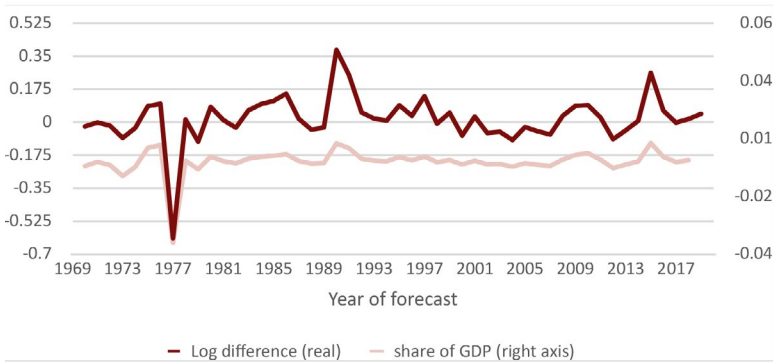


Figure 11.9 Interest Payment Revisions

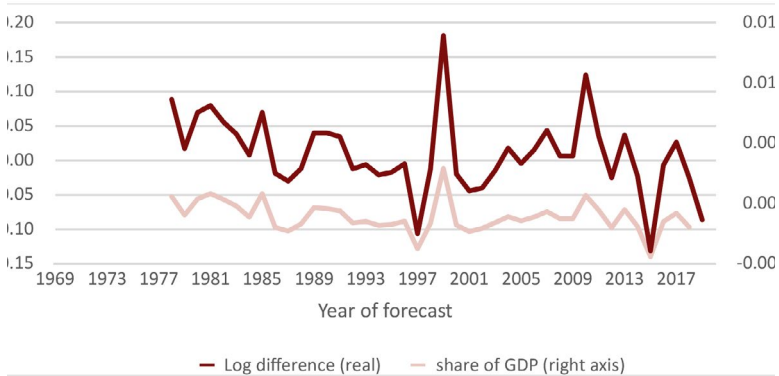
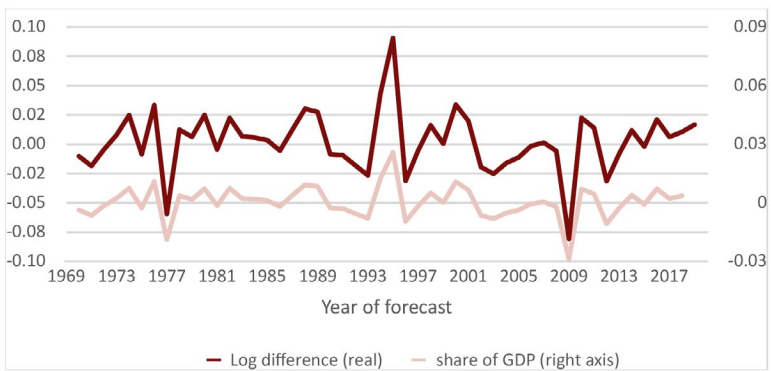


Figure 11.10 Current Receipts Revisions



6. Conclusion

This paper introduced a new real-time dataset collecting UK government economic forecasts and spending and revenue plans. Historical forecast data from the OBR has been expanded to cover the 50-year period 1969-2019 and include information on disaggregate expenditure items, i.e. interest payments and capital spending. The data can be used to empirically assess the drivers of fiscal policy using knowledge policymakers had at the time. It thereby improves on ex post available data which is subject to often multiple revisions.

Looking at the whole sample, official forecasts of real GDP growth and forecasts of aggregate fiscal variables, i.e. total expenditure and total current receipts, do not include systematic forecast error. However, for expenditure components such as government investment and interest payments, outturns deviate more strongly from forecasts.

Hence any analytical work on fiscal policy in real time faces the trade-off between using aggregate expenditure and revenue measures and disaggregate components. The former are less prone to larger revisions and definitional changes but may conceal discretionary policy activity. The latter are better able to pick up fiscal instruments available to policymakers in real time but tend to be revised more strongly and subject to definitional changes making comparisons over time more difficult. This holds for instance for government investment series introduced in this paper. While real-time data is much better suited than ex post data to analyse policymakers' intentions, separating revisions that arise due to discretionary policy measures from revisions that result from automatic stabilisers, definitional changes, or, for nominal variables, the impact of projected inflation remains an important empirical challenge.

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Output and Expenditure Revisions

Kemar Whyte

Introduction

It is well understood that a great deal of the data which is published by official statistical sources undergoes a process of revision as new information becomes available. These statistical agencies and institutions often have to balance the need for timeliness, which relates to the pressure to process information on the state of the economy as quickly as possible, with the knowledge that the process of data collection itself is time consuming. This often results in several vintages of an observation relating to a specific time period being available. There are substantial lags from the preliminary measures of activity to the final estimate and accordingly significant revisions to our understanding of the state of the economy are stored up, as a consequence.

A clear understanding of how well governments have planned and managed public expenditure is of significant public interest. However, few would dispute that there is enormous uncertainty about future fiscal outcomes, particularly those beyond the next few years. Fiscal policy stabilisation can become difficult in the presence of economic uncertainty. In fact, fiscal policy itself can be a source of instability and uncertainty considering the cancellation of budgets or revisions to planned spending. Against this background, this study aims to contribute to the understanding of revisions to public expenditure in the presence of economic uncertainty, captured by revisions to GDP forecasts.

Our analysis points to a countercyclical fiscal policy stance for the UK for the sample period 1993-2015 as we find a negative relationship between changes to public expenditure (as measured by Total Managed Expenditure) and revisions to GDP growth, i.e. public expenditure tends to be revised up following downward

revisions to GDP growth. Sub-components of Total Managed Expenditure; Department Expenditure Limits (DEL) and Annually Managed Expenditure (AME) also display a countercyclical relationship with GDP revisions. However, the effect is more pronounced for AME – suggesting transitory effects (automatic stabilisers). Taken together, these findings suggest that for the UK, the effect of automatic stabilisers seems to be dominant in characterising the relationship between government expenditure and economic activity. Our results also reflect the large variance around any fiscal announcement implying that plans should not be viewed as ‘fixed’. Indeed, deviations of spending from initial plans may not necessarily be due to a lack of control but simply a change to fiscal objective.

Related Literature

The relationship between spending and the state of the economy can be thought of as a fiscal reaction function (e.g. Gali and Perotti 2003). However, there is no real consensus whether this relationship is procyclical or countercyclical, in the literature. In a study focusing on EMU countries, Gali and Perotti (2003) find that discretionary budget deficits have become more countercyclical after the Maastricht Treaty. Candelon et al. (2010) later find contradictory results. Using similar Instrumental Variables and GMM techniques, they find that discretionary fiscal policy has remained procyclical after 1992. The authors also argue that fiscal rules differ between large and small countries, with large countries tending to follow a procyclical discretionary policy. Further, the study shows that discretionary fiscal policy exhibits different behaviour when facing supply or demand constraints. A procyclical discretionary policy is followed mainly during upswings, when supply constraints are prevalent.

In another interesting study, Bernoth et al. (2008) assess the response of fiscal policy to ex-post versus real-time data. By exploiting the information contained in real-time and ex-post data, they develop an approach to estimate the automatic and discretionary fiscal policy responses to changing economic conditions. They find that the procyclicality of discretionary policy only arise in the ex-post data, whilst real-time data suggests that policymakers have tried to run countercyclical discretionary policy – though there are often difficulties in doing this due to data constraints. Similarly,

Cimadomo (2012) finds that when fiscal policy rules are estimated using real-time data, OECD countries tend to plan a countercyclical fiscal stance, particularly during economic expansions.

Data

Government control of fiscal expenditure can refer to a number of different measures of overall public expenditure (see Thain and Wright, 1995). The most widely used measure in the UK is Total Managed Expenditure (TME), which refers to the total amount that the government spends in a fiscal year. It is drawn from the National Accounts and defined as public sector current expenditure plus public sector gross investment. TME can be broken down into two subcomponents:

- 1 Departmental Expenditure Limits (DEL) – the amount that government departments are allocated to spend in a given financial year, usually the result of negotiations with HMT before a spending review. Departments cannot exceed the DEL (DELs can however be altered between spending reviews, whether as a result of policy changes or drawing money from the Treasury reserve). Costs of running services, hospitals, schools, staffing costs.
- 2 Annually Managed Expenditure (AME) – all spending that is not controlled by a government department. Classed as spending that “cannot reasonably be subject to firm multi-year limits”. Includes welfare, pensions, debt interest payments, accounting adjustments etc – generally demand led programmes are included in AME.

Both AMEs and DELs can be further split into resource and capital components. Resource spending can be thought of as money that is spent on day to day resource and administration costs, while capital spending is on investment and projects that are designed to promote economic growth. The distinction between Resource Annually Managed Expenditure (RAME) and Resource Departmental Expenditure Limits (RDEL) occurs in whether this spending is subject to multi-year planning (as in DELs) or more volatile spending that is harder to impose multi-year plans on (AME).

The data used for the analysis is taken primarily from two sources and spans the period 1993-2015. We exploit the OBR's real-time database, "Historical official forecasts", to calculate series of revisions to Total Managed Expenditure (TME), as well as more granular measures of public spending, namely the split between Department Expenditure Limits (DEL) and Annually Managed Expenditure (AME). Descriptive statistics for the revisions in TME and its components are shown in Table 12.1.

Table 12.1 Descriptive Statistics for Revisions in Public Expenditure (mil £)

TME

	Revision for t	Revision for t+1	Revision for t+2	Revision for t+3	Revision for t+4
Mean	0.228	0.4858	0.6389	0.3989	-0.0312
Median	0.1933	0.2388	0.2063	0.0941	0.0523
STD. Dev	1.1391	1.4376	1.7773	1.9916	1.6474

Notes: This table provides descriptive statistics on Total Managed Expenditure (TME) across multiple horizons. Revision for t refers to revisions in the current fiscal year. t+1, t+2, t+3, and t+4 show the same effect for one, two, three, and four years ahead.

DEL

	Revision for t	Revision for t+1	Revision for t+2
Mean	-0.0672	0.268	-0.842
Median	0.1011	0.1247	-0.2786
STD. Dev	1.166	2.4281	1.6471

Notes: This table provides descriptive statistics on Department Expenditure Limits (DELs) across multiple horizons. Revision for t refers to revisions in the current fiscal year t+1 and t+2 show the same effect for one and two years ahead.

AME

	Revision for t	Revision for t+1	Revision for t+2
Mean	0.2435	0.1173	0.5684
Median	0.3708	0.0901	0.3198
STD. Dev	1.7731	2.7673	2.3636

Notes: This table provides descriptive statistics on Annually Managed Expenditure (AME) across multiple horizons. Revision for t refers to revisions in the current fiscal year. t+1 and t+2 show the same effect for one and two years ahead.

The forecasts for UK real GDP growth are taken from NIESR's NiGEM forecast database. The study exploits NiGEM's real-time database to obtain previously published forecast that would be consistent with any fiscal announcement at the time. This approach allows us to be confident that the published forecast number takes account of all macroeconomic news that would have been available to the government at the announcement date. As such, any revisions to growth forecast reflect new information about the state of the economy between event t and t-1.

Stylized facts about the data

Since 1998-99 DELs accounted for over 50 per cent of TME, reaching its largest share during the crisis period 2007 – 2009 (Figure 12.1). Between 1998 and 2008, the share of DELs in TME grew at an average rate of 1.7 per cent per year while the share of AME grew at an average rate of -2.0 per cent per year. However, since 2009, the share of AME has grown at a faster pace than DELs. AME has grown at an average annual rate of 2.0 per cent, while DELs have grown at a rate of -2.2 per cent. This might be largely due to high growth in spending on social security benefits and debt interest payments resulting from the recession.

Figure 12.1 DEL and AME Share in TME

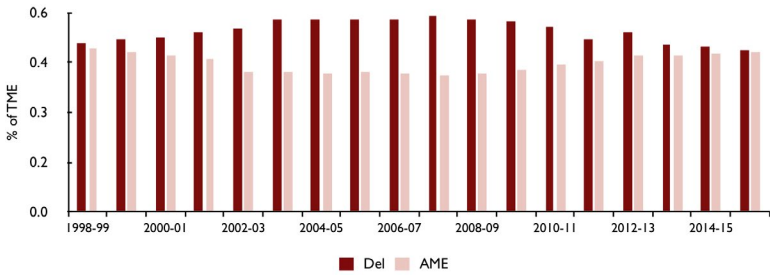


Figure 12.2 shows the difference between TME outturn and the plan set in the previous autumn and revisions to GDP. By and large, positive revisions to spending seem to be associated with negative surprises in output, particularly during the global financial crisis (GFC).

Figure 12.2 Difference in TME Plan Set in Previous (March) Year Compared to GDP Revision

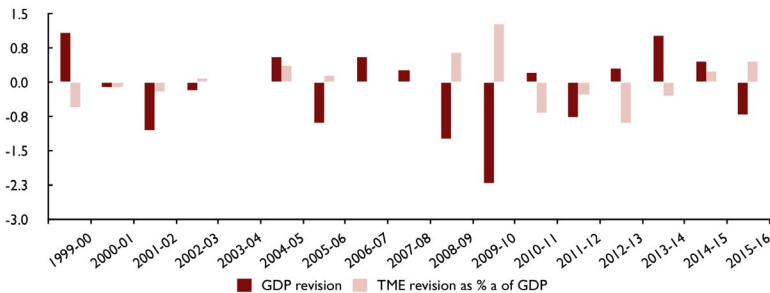
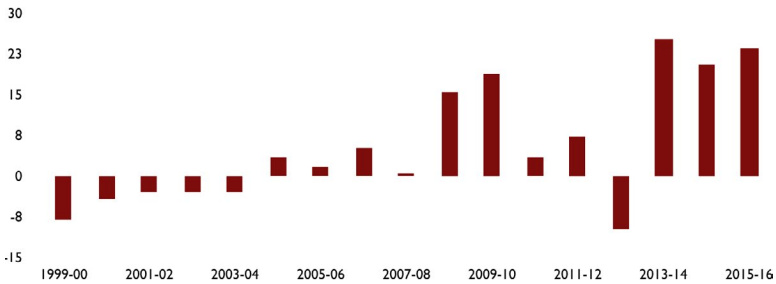


Figure 12.3 shows the revisions in AME, i.e. difference between AME outturn and the plan set in the previous autumn. There is a clear distinction to be drawn between the start and the end of the period, i.e. between 1999-00 and 2003-04, AME outturns were consistently lower than the forecasts from a year earlier. From 2004-05 onwards, AME has consistently been higher than forecast, except for 2012-13, where adjustments were made regarding Royal Mail’s pensions assets. This suggests that factors other than GDP revisions have also played a role in AME revisions.

Figure 12.3 Difference in AME Plan Set in Previous (March) Year



When looking at the relation between revisions in GDP and revisions in expenditure, it is also important to consider the implications of GDP revisions for tax revenues. As tax revenues are procyclical, i.e. they show a positive co-movement with output growth,⁵⁸ positive revisions in GDP are likely to result in positive revisions in projected tax revenues, which might lead to upward revisions in expenditure plans by relaxing the government budget constraint. The fact that we observe a negative relation between revisions in GDP and revisions in expenditure despite the procyclicality of tax revenues suggests that the motive to stabilise economic fluctuations or the automatic stabilisers might be the dominant factor rather than the budget constraints.

Empirical methodology

The literature on fiscal policy responses suggest that a reaction function can be estimated to analyse the responsiveness of government spending to actual or projected movements in economic output (e.g. Gali and Perotti, 2003). Therefore, to analyse how public spending responds to news about the macroeconomy, we explore whether adjustments to spending plans can be explained by changes in the economic outlook. In line with the literature, we also explore other factors that could explain reactions in fiscal policy, such as elections, political party in power, and other macroeconomic variables.

⁵⁸ Total current receipts have a correlation of 0.76 with output. Corporate tax revenues show the strongest (0.61) correlation with output, whilst miscellaneous taxes show the weakest (0.29).

Our baseline equation takes the form:

$$\frac{TME_t^h - TME_t^{h-1}}{TME_t^{h-1}} = \alpha + \beta(g_t^h - g_t^{h-1}) + \gamma C^h + e_t^h$$

Where TME_t^h is the total managed expenditure plan for fiscal year t announced by HMT at fiscal event $h \leq t$; g_t^h is the NiGEM forecast of UK real GDP growth in fiscal year t published immediately prior to fiscal event h . C^h is a vector of control variables available in real time may affect changes to spending plans. The error term is denoted by e_t^h .

To carry out our estimations we adopt an instrumental variable approach. Movements in economic growth could respond to government spending, therefore giving rise to endogeneity concerns. We therefore instrument UK GDP growth using variables that affect spending through GDP, but do not themselves respond to UK fiscal policy. In this regard, we use revisions to US GDP growth forecast and changes in the Fed Funds rate as instruments for changes to UK growth forecasts.

Empirical results

Table 12.2 Spending Reaction, Current Fiscal Year

Dependent variable	(1)	(2)	(3)	(4)	(5)	(6)	(1)
	TME	TME	TME*	DEL	DEL	AME	AME
	t=h	t=h	t=h	t=h	t=h	t=h	t=h
GDP growth	-0.850** (0.40)	-0.803*** (0.27)	-0.436 (0.58)	-0.408 (0.25)	-0.473* (0.27)	-1.188*** (0.40)	-1.423*** (0.50)
Claimant		-0.197* (0.10)	-0.259** (0.12)		-0.068 (0.17)		-0.188 (0.18)
Bank Rate		0.218** (0.09)	0.281** (0.11)		0.148 (0.11)		0.160 (0.18)
Election		-0.031 (0.29)	-0.025 (0.30)		-0.332 (0.31)		-0.316 (0.64)
Conservative		0.827* (0.47)	1.170** (0.51)		-0.307 (0.55)		1.726 (1.11)
Constant	0.027 (0.13)	-0.399 (0.31)	-0.584* (0.35)	-0.156 (0.21)	-0.162 (0.59)	-0.015 (0.29)	-0.558 (0.93)
Observations	58	58	53	44	44	44	44

1 Notes: This table provides results for the baseline specification of our model. The sample period is 1993-2015. The first three columns use TME as the dependent variable, but column (3) excludes the crisis years 2008-2009. Columns (4) and

(5) use the DELs as dependent variable, and in columns (6) and (7) AME is the dependent variable. All estimations are based on a 2-stage instrumental variable approach. Robust standard errors are reported in parentheses.

Table 12.2 reports our baseline results. We first show the results using TME as our dependent variable (columns 1-3), we then examine the reaction of two subcomponents of TME, DEL (columns 4-5), and AME (columns 6-7). Both DEL and AME can be split into resource and capital components but for the purposes of this study, we focus only on the headline components.

The results for TME would suggest that on average, government spending is countercyclical. That is, revisions to UK GDP growth have a negative and statistically significant effect on TME revision. For revisions concerning the current fiscal year ($h = t$), a 100-basis point positive revision to GDP growth forecasts results in an 85 basis point reduction in TME growth rate, other things being equal. This suggests that spending plans are countercyclical to the state of the economy. A potential explanation for this finding is that revisions to AME outweighs those to DELs. In such a scenario, we would expect a response via automatic stabilisers. That is, when the economy surprises to the upside, expenditure on certain payments such as welfare payments is lower than forecast, while the reverse holds for surprises to the downside. This finding of a countercyclical fiscal policy stance is broadly consistent with earlier works of (Gali & Perotti, 2003), (Bernoth et al. 2008), and (Cimadomo, 2012).

We consider the possibility that the countercyclical relationship might be largely driven by the crisis period. In fact, the politically chosen path of fiscal consolidation (i.e. austerity) chosen by the UK could indeed have led to a procyclical policy stance over our sample period. The question then becomes whether fiscal consolidation outweighs the effect of automatic stabilisers. Afterall, it is not difficult to understand that during an economic downturn, fiscal policy will respond whether directly or by automatically stabilising effects to offset the negative shock to the economy. To test this, in column (3) we remove the crisis years (2008-2009) from the specification to see if the relationship holds. We find that the countercyclical relationship is no longer evident. However, there is still no statistical evidence to suggest that the policy stance becomes procyclical outside of the crisis period. A candidate explanation could be that the relative size and effectiveness of the automatic stabilisers is greater than that of fiscal consolidation. Automatic fiscal stabilisers have traditionally been seen as superior

to discretionary fiscal stimulus and are the most effective tool to stabilise the economy after temporary shocks (Blanchard et al. 2010, Sutherland et al. 2010).

To explore how this relation changes across major expenditure components, we examine the reactions of the two headline components of TME, after controlling for the same macroeconomic variables. The magnitude and level of significance on the coefficient on growth revision when explaining changes to AME is far greater than that of the coefficient on growth when explaining revisions to DEL. This would suggest that in our main finding for TME, AME expenditure revisions are a dominant factor. This could suggest that governments increase discretionary expenditure to smooth the effects of negative shocks to GDP when the economy surprises on the downside.

Of the control variables, only those in the TME specification appear statistically significant. As a first step we use the same control variables in all specifications. Further exploration of other macroeconomic control variables also yielded statistically insignificant results. Notwithstanding, the signs of the coefficients carry economic significance and are consistent with those in the TME specification. The bank rate enters with a positive coefficient which could suggest that tighter monetary policy leads to upward revisions in expenditure. In fiscal-monetary interaction terms this might be thought of as the BoE's response to what it views as loose fiscal policy from the Treasury, or vice versa. A higher claimant seems to be negatively correlated with spending, possibly because the variable represents institutional changes to spending control over time. Our sample further suggests that Conservative governments tend to make significantly more positive revisions than Labour governments.

As Table 12.3 shows, the conclusion of a countercyclical reaction of expenditure to news about GDP forecast weakens for revisions beyond the current fiscal year.

Table 12.3 Spending Reaction, One Fiscal Year Ahead

	TME	TME	DEL	DEL	AME	AME
	t=h+1	t=h+1	t=h+1	t=h+1	t=h+1	t=h+1
GDP growth	-1.325 (0.90)	-1.704* (0.96)	0.362 (1.41)	0.794 (1.49)	-2.165 (1.39)	-1.721 (1.64)
Claimant		-0.239 (0.16)		-0.151 (0.36)		0.369 (0.44)
Bank Rate		0.349** (0.15)		-0.091 (0.19)		-0.177 (0.28)
Election		-0.074 (0.51)		-0.732 (0.82)		-0.568 (1.12)
Conservative		1.103 (0.74)		-1.299 (1.07)		-1.141 (1.21)
Constant Conservative	0.370* (0.19)	-0.470 (0.73)	0.291 (0.44)	2.014* (1.04)	0.016 (0.43)	-0.394 (1.26)
Observations	54	54	34	34	36	36

2 Notes: This table provides results using the baseline specification of our model, but estimation is based on one fiscal year ahead. The sample period is 1993-2015. The first two columns use TME as the dependent variable. Columns (3) and (4) use the DELs as dependent variable, and in columns (5) and (6) AME is the dependent variable. All estimations are based on a 2-stage instrumental variable approach. Robust standard errors are reported in parentheses.

Summary remarks

It is important to understand how governments plan and manage public expenditure, particularly in a context of economic uncertainty. In this study, we have presented an analysis of revisions to both public spending and GDP using 23 years' worth of data. Our analysis also looks at disaggregated measures of expenditure, namely the split between DEL and AME.

Our main finding is one of a countercyclical reaction of expenditure to news about GDP forecast. Further, our analysis also reveals that while this relationship is of a homogenous nature for DEL and AME, the effect is largely dominated by revisions to AME. That is, revisions to UK GDP growth have a more negative and statistically significant effect on AME compared to DEL. Taken together, these

results imply that automatic stabilisers play an important role in providing a cushion for the economy when there is a temporary negative shock.

While we attribute this key finding to the automatic stabiliser effect, we do not completely discount the possibility that it could reflect discretionary changes in spending to counteract shocks to the economy. Accordingly, further research into the components of public expenditure might be needed to explore this phenomenon.

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Fiscal Policy, Uncertainty and Debt Instruments

Jagjit S. Chadha

Debt issue is part of fiscal policy

Fiscal policy is the government's choice over the path of public expenditure and revenue raising from taxes or issuing debt. Its fundamental objective is to manage society's risk by ensuring the provision of public goods that would otherwise not be supplied to a sufficient degree by the market and by sharing that risk within different cohorts of society or with future generations. The difference between aggregate tax receipts and expenditure is the government deficit (or surplus) and to the extent to which it adds to (or takes away from) aggregate demand can mitigate the scale and impact of business cycle. The outcome from fiscal policy over time is a sequence of fiscal deficits, rarely surpluses. The public or national debt at any point in time is thus simply the accumulation of deficits and interest rate payments due on debt outstanding.

The fiscal framework policy must be designed to ensure that the government is able to deal with risks as they emerge and has sufficient access to the tools at its disposal (Dornbusch and Draghi, 1990). In practice this means the ability to borrow against future tax receipts where the access to the pool of savings is guarded by international capital markets. The mindset in this case, as for any loan market, is whether the borrower can pay back the loan in the manner expected. But when we are in the realm of sovereign debt, the question is as much about the overall capacity of the state to manage its overall affairs, as much as the simple accounting of revenues and expenditure that face any firm. Fundamentally therefore fiscal policy involves the management of societal risk and must confront the question of uncertainty over future states

of nature, which mean specifically the level of GDP, the level of required expenditure and the impact and timing of (distortionary) taxes.

Because fiscal policy involves expenditure decisions made today in response to unfolding events but involves strategies for repayment over the long run, the framework and institutions matter greatly for belief, or credibility, in those strategies, which ultimately feed into the costs of debt service. The response to the question of fiscal credibility (to pay interest service and repay debt) by policymakers has been to try and shore up the plans for debt repayment by setting up mechanisms for expenditure control. This action was done first with plans to conform to set plans for expenditure in line with a medium-term economic strategy. But latterly it has become subsumed in a ritual that assess whether the government will meet a particular path for the deficit and a level of public debt relative to income.⁵⁹ The overall objective is to give the impression of rules-based policies that conform to the expectation of financial markets that public debt will be repaid on schedule. The plans and the act of planning has some considerable merit as they can force government departments to confront their individual inefficiencies and jointly meet a given expenditure target.

But as far as the actual practice of expenditure control and planning what happens turns out to be quite different. We find that expenditure plans and expected revenue receipts are significantly affected by revisions to our expectation of the level of economic activity. This is because of both surprises in the evolution of demand in the short run and as a result of the difficulty of understanding long run trends in productivity capacity. It is also clear that certain elements of planned expenditure such as public investment have been hard to implement over time because of the difficulty of identifying appropriate projects, garnering local political and business support and identifying sufficient social returns. It is also the case that there are revisions from changes in political preferences e.g. when there is a change of government hue. All this means that when the government alters its fiscal expenditure plans it is signalling something about its revised view of the state of the economy and/or its preferences on how it wishes to meet the economy's risk.

59 At the March 2021 Budget, Chancellor Sunak effectively suspended the rules put in place by his predecessor but one Chancellor Hammond in 2016.

Debt Management

Let me go back to basics briefly. Let us start from the proposition that taxes are distortionary, by which I mean their incidence influences our decision to work, spend, produce and invest. What matters here is not only the tax rates themselves but also their timing. The government will seek to raise a present value of taxes that retains the ability to respond to future shocks - what is frequently called fiscal space - in manner that minimises the distortionary effects of those taxes, what economists call dead-weight losses. This observation has direct implications for debt strategy.

First, changes in tax rates should be smoothed over time to limit the distortionary implications in any one period. And that means that a sequence of budget deficits rather than increases in taxes should accompany temporarily high episodes of public expenditure. Moving forward beyond the current crisis, the government ought to seek to run budget surpluses when public expenditure returns to normal. With no future movements in tax rates, the level of public debt is capped by the expected sequence of future surpluses levied on the future tax base. But there is an important caveat to this point. If public expenditure is going to be permanently higher then tax revenues must accordingly rise in sympathy. If we think that the public sector is going to be larger - perhaps to meet the demand from an ageing population, the needs for human capital formation or to plug infrastructure gaps - then we have no alternative to raising tax rates. Either way, public debt will rise when there is economic distress, which begs the question of which debt instruments should be used.

Instruments of Uncertainty

The choice of instruments matters when there is uncertainty about future states of nature. When setting fiscal policy today, we do not know the future path of public expenditure nor do we know the size of the economy nor indeed for that matter, the rates of return demanded by financial markets. The constellation of those uncertainties matter for the problem of minimising the distortionary effects of current and future taxes. By appropriate choice of instrument these effects can be limited. Governments would ideally like to issue debt instruments that match payoffs to the risks that they face. For example, they would wish to limit

payoffs from the bonds issued when government expenditure is high, output is low and to limit the sensitivity of debt issuance to changes in the costs of funding. Ideally then government debt would be arrayed in manner across possible instrument to limit the variance in the sequence of real payments on debt. It then become a question of how much nominal debt versus index-linked, short run versus long run debt, foreign currency versus domestic debt. And then whether these is a case for other debt instrument, such as GDP-linked debt.

Supply and Demand

Most public debt is issued on a nominal basis which means the interest payments are known in actual cash terms, so the government does not face uncertainty about the amount of cash transfers (Barro, 1997). But there is considerable uncertainty about the real value of these cash transfers because we do not know the price level in the future. Nominal debt therefore implies considerable uncertainty in the sequence of real financing costs, and hence the call on future taxes. Debt interest that is index-linked to a measure of the price level offers a solution, as it allows the issuer to know the real value of interest rate payments but leave the government subject to nominal uncertainty as the actual cash amount of the payment cannot be known until the relevant price index has been published.

In terms of aggregate demand and supply shocks the implications of issuance of these two types of debt are instructive and laid out in Table 13.1. A government planner may quite like to hold nominal debt in the presence of dominant positive demand shocks but would be really concerned about the possibility of a negative supply shock. That said the holder of these bonds may be concerned about the payoffs in these states of nature and may require compensation for the risks of variability in real returns or the possibility of default. And some holders of debt may thought have nominal liabilities and would value income streams that are fixed in nominal terms. By construction index-linked bonds offer certainty about real obligations but are still subject to risk on the variance in the tax base or GDP. The government would like to choose a mix of nominal and index-linked bonds depending on how well-matched tax receipts are to nominal shocks and the extent to which holders of debt want nominal or real returns to be guaranteed.

Figure 13.1 Shocks and Instruments

	Positive shock	Negative shock
Aggregate Demand		
Nominal Debt	Real payments fall; tax base increases	Real payments rise; tax base falls
Index-Linked Debt	Real payments fixed; tax base increases	Real payments fixed; tax base falls
Aggregate Supply		
Nominal Debt	Real payments fixed; tax base increases	Real payments fall; tax base falls
Index-Linked Debt	Real payments rise; tax base increases	Real payments fixed; tax base falls

The government can also secure some certainty from future variations in required rates of return by issuing long term debt. But at the same time, it would not want to have a large amount to re-finance in one future year, which may leave it open to roll-over risk should that year coincide with disruptions in capital markets or some political risk. The solution here is to ensure that there is a similar quantity of debt at every issued maturity so that in any one year the expected rollover is a constant and small fraction of the overall public debt stock. And to the extent that there is an excessive need for debt to be issued in any one year, for example the Covid-19 year of 2020 provides a very good example, providing there is a credible framework for monetary policy (Chrystal, 1999), the central bank can allow a temporary overdraft (in the case of the Bank of England via the Ways and Means account) or re-ignite balance sheet policies and buy debt temporarily under the mantle of Quantitative Easing.

GDP-Linked bonds

Ideally the government would like to issue instruments that have low payoffs then expenditure is high and also when output is low. An appropriate framework for debt would seek to limit these issues if they changed the incentive to deploy public debt. There is, for example, a danger that if instruments reduced the real costs of debt issuance, that government may face some form of moral hazard and overissue debt. Indeed, the lowering and convergence of

public debt costs for all member states in the Euro Area and the elevation of public debt levels prior to the financial crisis seems to have played a key role in the subsequent Euro crisis (Duréé and Smets, 2014).

That said because there is in general a negative correlation between high government expenditure and output, issuing debt where payments are linked to GDP may offer an extra degree of freedom for debt issuers. In this case, for example, by linking real payments to GDP growth deviations around a trend, the government will gain extra fiscal space in a recession and pay that back in an upswing. The payments will move in line with the tax base and provide some hedge against uncertainty in the tax base and allow the government to offset the risks faced. There is a practical problem of ensuring an appropriate measure of GDP, which is not revised, provides the appropriate payoff index and the possibility that holders of debt might particularly value payments in a recessions and would there require a premium for reductions in payment when they would value them most. It is also the case that a country with a credible monetary framework, has a close substitute by being able to change the costs of funding in line with economic prospects, and in the case of a negative shock reduce its policy rate and thereby holding down issuance costs further along the yield curve. But for large enough shocks policy rate may not be able to fall enough, whereas linking payments to GDP itself may provide a cleaner hedge.

Recent research has shown that this creation of fiscal space may be particularly helpful to countries that are bumping up an informal debt limit as the savings on debt interest allows transfers to poorer households to continue (Chadha, Kwon and Shibayama, 2021). These transfers allow poorer households to continue to maintain living standards despite a temporary fall income and also help prevent an amplification of the original income shock, which would occur if their expenditures fell in line with their income as it would also reduce income for better off households.

Conclusion

Debt management is a rarely discussed aspect of fiscal policy. But it is the choice that must be made whenever the government sets an expenditure plan. How much to tax now and accordingly what kind of debt at what maturity to issue as a message about future taxes. The fiscal policy debate has concentrated unduly on the level

of public debt and also the costs of debt service. But the reality is that public debt is issued to support economic adjustment and its evolution and costs are the result of the ongoing revelation of states of nature that might mean that higher interest is perfectly affordable as the economy is booming or that even low levels of debt pose problems as they may be rolled over into markets that do not wish to hold them. The time is right for a clear strategy on debt and the issuance of instruments alongside statements about current planned levels of expenditure.

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