

Monetary Policy in Troubled Times: New Governor, New Agenda

By Richard Barwell, Jagjit S. Chadha
and Michael Grady



**MONETARY POLICY IN TROUBLED TIMES:
NEW GOVERNOR, NEW AGENDA**

Monetary Policy in Troubled Times: New Governor, New Agenda
National Institute of Economic and Social Research Occasional
Papers 59.

© National Institute of Economic and Social Research, 2020

National Institute of Economic and Social Research

2 Dean Trench St

London SW1P 3HE

T: +44 (0)20 7222 7665

E: enquiries@niesr.ac.uk

W: niesr.ac.uk

Registered charity no. 306083

ISBN: 978-1-9162584-1-9

THE NATIONAL INSTITUTE OF
ECONOMIC AND SOCIAL RESEARCH

Occasional Papers

LIX

**MONETARY POLICY IN TROUBLED TIMES:
NEW GOVERNOR... NEW AGENDA¹**

By Richard Barwell, Jagjit S. Chadha
and Michael Grady

1 The views expressed in this paper are personal to the authors and do not necessarily represent those of the institutions with which they may be connected. This paper has been issued to encourage early discussion of these key issues at a time of national emergency. We are grateful for discussions and comments from Kate Barker, Charles Goodhart, Sean Holly, Mervyn King, Huw Pill, Manoj Pradhan, Paul Tucker, Philip Turner, Tony Yates and Garry Young. They share no responsibility for our views, and we simply could not incorporate all their excellent ideas and thoughts. For a set of references for this paper see NIESR Occasional Paper 58.

NATIONAL INSTITUTE OF
ECONOMIC AND SOCIAL RESEARCH

OFFICERS OF THE INSTITUTE

PRESIDENT
SIR PAUL TUCKER

COUNCIL OF MANAGEMENT
PROFESSOR DIANE COYLE (*CHAIR*)

TERA ALLAS	STEPHEN KING
ALEX BAKER	KEITH MACKRELL
JENNY BATES	NEVILLE MANUEL
PROFESSOR PHILLIP BROWN	PROFESSOR JILL RUBERY
NEIL GASKELL	PROFESSOR LORNA UNWIN
PROFESSOR SIR DAVID GREENAWAY	ROMESH VAITILINGAM

DIRECTOR
PROFESSOR JAGJIT S. CHADHA

SECRETARY
DR JOHN KIRKLAND

2 DEAN TRENCH ST, SMITH SQUARE
LONDON, SW1P 3HE

The National Institute of Economic and Social Research is an independent research institute, founded in 1938. The vision of our founders was to carry out research to improve understanding of the economic and social forces that affect people's lives, and the ways in which policy can bring about change. And this remains central to NIESR's ethos. We continue to apply our expertise in both quantitative and qualitative methods and our understanding of economic and social issues to current debates and to influence policy. The Institute is independent of all party political interests.

Contents

<i>About the Authors</i>	<i>vi</i>
Key Points	vii
Introduction	1
Running Out of Room	5
Monetary – Fiscal Coordination	16
The Future Framework	25
Conclusion	35
<i>List of Occasional Papers</i>	<i>36</i>

About the Authors

Richard Barwell is the Head of Macro Research at BNP Paribas Asset Management. Previously, Richard spent almost a decade at the Bank of England working in both the Monetary Analysis and Financial Stability directorates. He holds a PhD from the London School of Economics, has written three books on the conduct of economic policy and has a particular interest in the communication of monetary policy and the design of macroprudential policy.

Jagjit S. Chadha is Director of the National Institute of Economic and Social Research. He has been Chair of the Money Macro Finance Group and was Mercers' Memorial Professor of Commerce at Gresham College from 2014 to 2018. As well as having worked at the Bank of England and BNP Paribas, he has held academic posts at the universities of Kent and Cambridge, where he was Fellow of Clare College.

Michael Grady is Head of Investment Strategy and Chief Economist at Aviva Investors. Before joining Aviva Investors, he was Senior Economist at COMAC Capital, a global macro hedge fund. Prior to this, he spent a decade at the Bank of England in a variety of senior roles, latterly as a Senior Manager in the Markets Directorate. He began his career at the Australian Treasury.

Key Points

- The Covid-19 economic shock introduces radical uncertainty, as we do not know that much about its incidence or duration although is likely to be temporary and does not result from monetary-fiscal-regulatory laxity so is not subject to the problems of moral hazard. Large-scale temporary fiscal support must be supplied.
- We suggest the following principles guiding monetary and fiscal policies:
 - The Chancellor's fiscal policy has to decide upon the quantum of risk and the overall level of resources to be transferred across the private sector by taxes and to future generations by debt issuance.
 - It is then a question for the Bank of England to decide whether that quantum of risk transfer implies any changes in the stance of monetary and financial policies in order ensure long run stability of the financial system and of prices.
- Accordingly, the pandemic has also triggered a forceful monetary policy response by the Bank of England. Bank Rate has been cut to the floor, measures have been taken to ensure effective pass-through of the rate cuts and to encourage lending to SMEs, and asset purchases have resumed and at a rapid pace.
- Further monetary measures are likely to prove necessary given the scale of the collateral damage from the necessary public health response to Covid-19. Unfortunately, there is precious little conventional monetary ammunition left.
- We assess the three conventional channels through which the Bank could inject additional stimulus: further asset purchases, forward guidance and negative rates.
 - There is scope to stimulate the economy through large scale asset purchases, although long-term risk-free rates are already low. Purchases of riskier assets may provide more leverage on aggregate demand, but leave the

central bank balance sheet open to risk that can only be funded by the state in the event of losses. Objectives and governance are paramount in the design of any asset purchase scheme. Just because central bank reserves are injected into the system it does not mean that a scheme is simply a monetary policy operation.

- There is little additional monetary space to be found in the kind of “forward guidance” that speaks to an orthodox reaction to events or news. The only way to ease the stance through communication is via a clear commitment to change that reaction function and that requires a credible and transparent commitment device, preferably a target path for the price level or failing that an average inflation targeting regime.
- Although not desirable in steady state, we should consider the deployment of negative interest rates for reserves to deal with large shocks and a disconnect between the one-to-one exchange rate between cash and deposits.
- If, as we expect, the conventional monetary toolkit proves insufficient then more formal monetary-fiscal coordination may be required, which covers a range of possibilities, from creating and preserving fiscal space to outright monetary financing:
 - Monetary financing: In the most serious of economic shocks, where traditional monetary policy measures are exhausted, greater coordination between the monetary and fiscal authorities may be justified to create the fiscal space needed to support the economy. By committing to purchase government bonds in the magnitude issued, under strict conditions and only for a limited period, a central bank can support proper market functioning and prevent an unwanted tightening in monetary conditions.
 - Yield curve control could provide a robust and transparent regime for preserving fiscal space, with the added virtue of signalling the transition of responsibility for demand management to the fiscal authority. Ideally, the purpose of a yield cap would be to suppress any

contractionary increase in the risk-free rate in response to stimulus, but in a crisis it may keep a lid on rising sovereign credit and inflation risk premia.

- Helicopter drop: The size of any fiscal support is the choice of the government and HMT and this can be financed by the Bank of England either through purchases in the secondary market or in a more unorthodox manner via primary purchases of debt or even a direct increase in cash held by households. But the nominal anchor cannot drag.
- From this menu of highly unconventional policy options, we see most merit in yield curve control as a first step, although accept that if the commitment to a yield curve target were to be tested by market participants, the policy would ultimately converge on monetary financing.
- The Covid-19 crisis will eventually pass. At that moment it is essential that the Governor and the Chancellor revisit the flaws in the current monetary framework that have been exposed:
 - In the medium term, there is a case for raising the inflation target to 4% to offset the decline in equilibrium real interest rates and restore genuine monetary space. Any fundamental shift in the nominal anchor must be based on a considered and comprehensive cost benefit analysis. It is imperative that the change is not misunderstood as an expedient device in crisis management mode.
 - The Bank's balance sheet will have become very large by historical standards and relative to GDP. It seems increasingly likely to be deployed in pursuit of broader social objectives beyond monetary and financial stability, and the dividing line between monetary and fiscal policy will have become blurred. The Bank itself needs an exit strategy from the crisis and some rules need to be written to govern the “only game in town” in the event of further financial crises.

Introduction

The new Governor of the Bank of England, Andrew Bailey, faces a formidable challenge. From his very first day in office on 16 March 2020 he has been confronted with an imbalance between the demands on his institution to support the economy and the capacity of the Bank to meet that challenge.

The economy is engulfed in a crisis almost without parallel in peace-time. We are on the cusp of what may prove to be the first of several severe contractions in output as the authorities are forced to shut-down society to limit the death toll from the Covid-19 strain of the coronavirus. The case for extensive monetary support is clear.

Unfortunately, at face value the Bank looks ill-equipped to provide that support through conventional means. Unlike his predecessors, Mr. Bailey does not have the luxury of being able to cut interest rates by several hundred basis points. Indeed, it has been clear for many years now that the Bank's capacity to support the economy through conventional monetary stimulus is much diminished. And whatever remained of the conventional monetary ammunition has been largely exhausted over the past month, now that rates are seemingly at the floor and asset purchases have resumed.

But there will now be enormous pressure to do more. The Bank cannot stand by while the virus and the measures required to control its spread take their toll. Governor Bailey's Bank will have to explore every nook and cranny of the monetary armoury to find new ways to nurse the economy through the crisis. And with the Chancellor pressing ahead with a courageous "whatever it costs" strategy there will be mounting pressure on the Bank to do "whatever it takes" to support that effort, which in practice means much closer monetary-fiscal coordination and indeed a period of potential fiscal domination of the monetary economy.

The Bank must do what it can. An existential crisis is no time to dance on the head of a pin. But nor is it the time to fritter away decades of hard-fought gains on the monetary stability front. The Governor, the Chancellor and their advisers need to choose their

next steps wisely. It is possible for the Bank to provide and preserve fiscal space and support economic exchange without succumbing to a regime shift towards fiscal dominance.

The work is not done once the crisis is over. It is essential that the Governor and the Chancellor reflect on what has been done and agree on a sensible exit strategy. Many of the measures must be temporary and clearly designed as such. The question of restoring monetary space by raising the inflation target cannot be ducked indefinitely. And as a former Deputy Governor of the Bank has powerfully argued, rules need to be agreed around the operational framework and regime for the Bank of England, which has along with other central banks been termed “the only game in town” in a crisis. This framework must then be endorsed and enforced by the politicians to allow the Bank to go back to the business of delivering monetary and financial stability.

The paper is organised as follows. Sub-section 1.1 examines the shock that threatens to overwhelm the Bank. Section 2 discusses what more can be done within the conventional toolkit: asset purchases (2.1), forward guidance (2.2) and negative rates (2.3). Section 3 then turns to more unorthodox questions of more formal monetary–fiscal coordination: monetary financing (3.1), yield curve control (3.2) and helicopter drops (3.3). Section 4 turns to discuss the urgent order of business once the crisis is over: the exit strategy from the crisis measures (4.1), raising the inflation target to restore monetary space (4.2) and the Bank’s role and establishing rules to govern the its framework and operating practices (4.3). And Section 5 concludes.

1.1 What Is the Shock?

The first question for an economist is always: what is the shock that we face to the structure of our economy? Having taken a view on this, we can decide the best response. The Covid-19 virus has shrunk to almost zero the normal interactions that dominate our socio-economic relationships. Those who can work from home will do so, probably about 30 per cent of the workforce on a sustained basis, and we will switch our expenditure patterns away from recreational activities to necessities.

Much production will be halted. And we will also worry about the unknowns over how long this disruption will persist and ultimately whether our long-established trading and mobile patterns will return to anything like their pre-crisis norms. Many firms will be facing a severe loss of revenue, as will many workers, particularly those in self-employed and precariat industries.

The shock to the economy therefore has a number of elements. It involves the introduction of a large amount of uncertainty—what former Bank of England Governor Mervyn King has, with economist John Kay, called “radical uncertainty” —into the economy that will stymie planning and activity for a prolonged and unknown period. The good news though is that the initial shock is likely to be temporary, and so part of the policy response must be to limit the duration of its impact.

A further aspect is that this crisis was not caused by fiscal, monetary or regulatory laxity; it is essentially an “Act of God.” Therefore there should be no direct concern about policy interventions rewarding badly-run businesses and promoting more risky behaviour in the future, what economists call moral hazard. Policy has to provide comprehensive insurance and risk pooling to the private sector for the duration of this crisis, and given that expenditure will stall, as people increase precautionary savings, a considerable monetary and fiscal stimulus is required.

Fortunately the crisis has precipitated a co-ordinated response. In terms of demand management, so far there has been a proportionate reaction and much has been done to foster confidence, even though that remains fragile as the primary concern is that of our health. On Budget Day we had a 50 basis point emergency cut in the Bank of England base rate, a new SME funding scheme and a relaxation of the counter-cyclical buffer. Subsequently, the chancellor moved even further away from his arbitrary fiscal rules and announced £30bn of support to business. His overall £330bn package of loan guarantees was worth some 15 per cent of GDP and nearly 70 per cent of outstanding business loans. Last week, the Bank of England further responded with an emergency announcement of a cut in Bank Rate to its 0.1 per cent floor and a substantial extension of the asset purchase facility, or quantitative easing. At the end of the week the Chancellor too went further to support firms’ ability to retain workers who would otherwise be laid off.

The immediate problem the economy will face over the next few months is very much one of cash flow, as the normal circulation of cash through exchange and trade will be shattered. And the key policy questions are not so much the typical monetary and fiscal questions of the price of credit and the scope for tax cuts, but rather, how can the state get cash into the hands of firms and households without undermining long-run monetary and financial stability? The problem we face in the UK with our large sequence of current account deficits is that overseas investors will judge us harshly and make the borrowing we need more expensive if there is any hint of a decisive move away from long-run sound money. Any temporary measures therefore need the support of a clear, long-run and credible Bank of England framework.

Running Out of Room

In a speech given at the start of this year, Governor Carney put a number on the policy space that the Monetary Policy Committee still had to play with:

“a reasonable judgement is that the combined conventional and unconventional policy space is in the neighbourhood of the 250 basis points cut to Bank Rate seen in pre-crisis easing cycles”

Fast forward to the press conference on Wednesday 11 March in which Governor Mark Carney and incoming Governor Andrew Bailey announced the set of measures that the Bank was taking in response to the Covid-19 outbreak, where Andrew Bailey argued that roughly half of that space had been used up. Since then, the Bank has cut rates to the floor and resumed asset purchases. The precise figure Governor Carney quoted might be controversial but it seems clear that whatever space existed at the start of the year there is little conventional ammunition left in the Bank's armoury. But more will clearly need to be done.

In this section we discuss the three channels through which more can be done: asset purchases, forward guidance and taking the policy rate into negative territory.

2.1 Asset Purchases

Prior to the financial crisis, the Monetary Policy Committee (MPC) of the Bank of England operated on Bank Rate to alter the path of effective demand so that it stabilised around its notion of supply or capacity at or near the inflation target. To varying degrees, the level of Bank Rate, its expected path and the long-run level to which it will converge would each impact on the path of effective demand. In the years leading up to the crisis, it was widely thought that controlling the level and path to the long-run, or 'neutral', rate would be sufficient to offset most shocks.

There remain two great unknowns in this approach. The first is the relative level of aggregate demand to aggregate supply, which may not be discernible in real time or, worse still, may not be unique - in the sense that there may be many possible equilibria following from any given interest rate path. The second unknown is the numerical level of the long-run or 'neutral' rate, what Wicksell originally termed as the natural rate that equates planned savings with planned investment. The scale of the uncertainties over these two key magnitudes means we were probably rather lucky to enjoy the long period of growth and price stability that we did in the 'Long Expansion' from 1992 to 2007. Having observed these uncertainties repeatedly, we cannot really ignore them in the design of monetary policy now and so new instruments seem likely to become a permanent structure on the landscape. And accordingly, we have seen the rapid resort to further QE this week, which is now nearly some 30% of GDP.

Bank Rate influences the demand for money because households equate the marginal benefits of holding money, in terms of its liquidity service, to the cost, which is the interest rate forgone from not holding bonds. A cut in rates therefore induces a greater demand for money balances and should, through a variety of mechanisms, induce higher levels of expenditure. In response to changes in demand, the central bank typically alters the net supply of central bank money in an elastic manner at the given level of Bank Rate, by purchasing government securities or selling the securities it holds on its balance sheet. The purchase of government securities would release central bank money into the banking system, while the sale of securities would contract the narrow money supply. Providing the range of shocks and the scale of uncertainty in our knowledge about the economy did not act to amplify those shocks, it seemed that this system of interest rate control and monetary action could stabilise the economy on a path consistent with price stability.

The academic literature, however, had long identified a problem: in the presence of a sufficiently large negative shock, it might not be possible to lower Bank Rate sufficiently to offset the impact of that shock. This is because once Bank Rate hits or approaches zero, households will become indifferent between holding cash, which does not pay an interest rate, or bonds, which pay a rate heavily influenced by Bank Rate. We arrived at this point last week. If bonds and money converge to basically the same thing in terms of their financial returns, then changes in their relative holdings will not

have any economic effect on the wealth of households. Swapping pears for oranges might matter if you have satiated your demand for pears, but offering to exchange some pears for some other pears may hardly seem to matter much at all.

For such operations to have any economic impact, they must be able to raise bond prices over the level that they would otherwise reach, by reducing the net supply of bonds that the private sector is being asked to hold and thereby easing monetary and financial conditions. If such operations are to meet this objective, then the demand for bonds cannot simply be perfectly elastic at the price that equals the set of state-contingent payoffs, otherwise changes in net supply would not impact on bond prices and hence long-term interest rates. The argument runs that at some point, and we are here now, the increase in debt issuance (net supply) which typically accompanies a recession and/or financial crisis may reach the inelastic part of the market demand curve, with prices having to fall for the market to clear. These lower prices may represent compensation – a discount to the risk-neutral price – to debt holders for either or both of liquidity and default risks.

Sellers of another £200bn of assets (or more as this crisis proceeds) to the Bank will find that their portfolios were now more heavily weighted towards highly liquid, low-yielding assets. To rebalance their portfolios, they would be likely to spend some or all of the proceeds buying other types of assets. This would tend to increase the relative prices of those assets, and hence wealth, and would, by stimulating the demand for corporate credit instruments, improve the supply of funds to the corporate sector. The purchases would also mean that the banking system would be holding a higher level of reserves in aggregate, which might cause it to increase its lending to companies and households, particular if in the current crisis these loans can be backed by government guarantees and support for the cash flow of firms. The increase the money supply should help support expectations of some return to normality eventually and confidence in the interim.

The question facing the Bank is exactly how much risk does it want to take onto its books and would the stabilisation effort return a greater return if a wider spectrum of riskier assets were bought. The Bank has typically set the quantum of QE to meet a particular view

on meeting its inflation target, but might rather decide to extend the range of securities it buys in order to have a larger effect per pound spent.

In theory, the same portfolio rebalancing effects that the Bank relies upon with government bond purchases should apply when the Bank purchases risky assets too. Shocking the net supply of those assets in private sector hands should shift prices, unless there is an ample supply of near-perfect substitute assets. And in just the same way that large-scale purchases of government bonds likely compress the term premium implicit in bond yields, large scale purchases of private sector assets would likely compress the risk premium implicit in the price of those assets. The added advantage of such a scheme is that by compressing credit and equity risk premia, the Bank could have a more immediate impact on the cost of capital of companies.

The merits of private sector purchases seem particularly compelling in a crisis. Risk premia can widen dramatically, leading to an acute tightening of financial conditions. It seems less likely that a public sector purchase programme can be relied upon to bolster demand for private sector assets in these circumstances via the portfolio balance channel, especially in the short run. Investors who sell government bonds to the central bank may be happy to sit on cash in the short run. Buying private sector assets could prove far more effective at compressing the counterproductive widening in risk premia. Indeed, the presence of a large and persistent buyer in the market – and the only buyer in the market that does not face liquidity constraints – could prove critical in nursing the market through the crisis. Of course, buying risky assets in a crisis potentially leaves the Bank open to the possibility of large losses.

It is important to keep in mind the purpose of these private sector asset purchases. Objectives and governance are paramount in the design of any asset purchase scheme. Just because central bank reserves are injected into the system in the process of purchasing assets, it does not mean that a scheme is a monetary policy operation. The Bank might purchase assets in its role as market maker of last resort. In an extreme crisis, it might even act as a risk taker of last resort. But both these activities lie beyond the scope of conventional monetary policy. They belong to the realm of financial stability policy. If the MPC is voting on purchases then the

objective should be the pursuit of price stability, nothing more. The MPC does not have the remit to stabilise the broad constellation of sterling asset prices. Neither, for that matter, does the FPC.

The problem the Bank ultimately faces at some 30% of GDP held is that it is already forming a monopsony in the bond market. Even in the aftermath of World War 2, the Bank of England Balance sheet remained under 20% of GDP. The size of the Balance sheet may not be far away from its limit.

2.2 Forward Guidance

There is a belief within the central banking community that there is still scope to stimulate the economy when interest rates hit the lower bound by printing new words, not new money. With one possible exception this is wishful thinking. There is little policy space to be found in forward guidance.

Central bank communication has certainly come a long way since the days of “myth and mystique”. Policymakers have become accustomed to talking, albeit in vague terms, about the future path of interest rates. However, for the most part they refuse to spell out precisely what they mean. The Bank does not publish fan charts around a path for Bank Rate and the size of the Asset Purchase Facility. It should.

That it does not is something of a puzzle. Nobody disputes that expectations of the future path of rate matters. Rate expectations are the key link in the monetary transmission mechanism. If those expectations drift away from the path policymakers expect to deliver then they have lost control of the effective monetary stance. Communicating clearly about the path is the obvious way to take back control.

Few people would dispute that central bank communication can move markets and ultimately the economy. But prudent policymakers will surely need to be persuaded that forward guidance can have a predictable, positive and punchy impact on the economy before they adopt it as a policy tool at the lower bound.

The power of forward guidance hinges on the message that the policymaker is sending. In particular, we need to differentiate between whether the policymaker is sending a message about the future path of rates on the basis of business as usual – describing

a normal response to potentially abnormal circumstances – or whether she is sending a message that the underlying reaction function has changed.

Almost all central bank communication falls into the former category, where the reaction function is explained in what is referred to as ‘Delphic’ guidance in the literature. If central bankers plan to stimulate the economy with words at the lower bound then they must send signals about that ongoing commitment that fall in the latter category, so-called ‘Odyssean’ forward guidance. Indeed, Delphic guidance is redundant in mainstream macroeconomic models, where agents share the same information as the central bank, and potentially counterproductive in the real world.

If a Delphic message about the rate path contains useful information then it follows that the audience has learned something either about the future state of the economy or the reaction function, how the central bank responds in the normal fashion to that future state.

It is possible that the audience might not understand the reaction function, although that would not reflect well on the central bank if after countless speeches, interviews and press conferences it had been unable to explain precisely how policymakers respond in a predictable and stable fashion to news. Still, there may be moments like the Taper Tantrum of 2013 when people become confused about the reaction function and there is a big payoff from taking back control of policy expectations by re-anchoring beliefs about monetary strategy on reality. For example, it is possible that at some point the market will start pricing in a premature exit from the current ultra-accommodative stance and Delphic guidance could certainly serve a purpose here. But it is worth repeating that the guidance will be far more effective if it is communicated in the form of specific paths for the policy rate and the balance sheet rather than ambiguous words.

The merits of Delphic guidance are less clear when the central bank is revealing information about the future state of the economy. The statement that ‘rates will be a lot lower for a longer than you think because the economy will remain in recession for a lot longer than you think’ is probably tailor made to encourage people to save not spend, irrespective of what happens to interest rates.

In any case, by the time the Bank gets around to delivering a lower for longer Delphic signal on rates it will likely find rate expectations already anchored on the floor for years to come. The Bank could still try to nudge market expectations of the likely level of Bank Rate in the far future in these circumstances but it would surely require quantitative statements with a precision that the current crop of policymakers will be unwilling to make at that horizon given the uncertainty. After all, the MPC is currently unwilling to publish a rate path within a fan chart over a three-year horizon.

State-contingent Delphic guidance adds little value at this horizon. If the central bank does not forecast growth and inflation ten to twenty years out, why would it expect private sector agents to do so, and therefore what value is there in statements about the rate outlook conditional on growth and inflation outcomes at that horizon?

If there is any value in communication as a policy lever at the lower bound it is through Odyssean guidance. Here the central bank is signalling that it will behave differently in the future than it has done in the past and will keep rates low for too long at the floor – that is, long past the point where activity and then inflation recover.

It is imperative that people notice something has changed. One potential problem Governor Bailey might have is that central banks and in particular the Bank of England have been in full-on forward guidance mode for many years now, with several re-boots along the way. Odyssean guidance cannot be mistaken as more of the same.

The fundamental problem with Odyssean guidance is credibility. The central bank would be making a promise to do something in the future that it will not want to do when the time eventually comes. There will be a temptation to raise rates when inflation starts to rise. People need to believe today that central bankers will do what they say tomorrow and that will likely require a commitment device: the equivalent of the bees wax and rope that Odysseus used to sail close to the Sirens and yet ensure he did not crash against the rocks.

There are formidable practical constraints on credibility. A former Deputy Governor once argued that it would not be feasible for the MPC to make commitments about policy more than a year into the future given the turnover of policymakers on the committee, so people may reasonably question whether policymakers can

legitimately make commitments into the far future that bind their successors. Warm words in speeches will not be enough. The remit needs to change.

The obvious solution here is to change temporarily the objective of policy – to switch from an inflation target to a price level path target. Now the central bank is obliged to overshoot the target in the future if inflation undershoots the target today, whilst rates are at the lower bound, and that will require keeping rates low for longer in the future. So-called average inflation targeting is a less stringent method of implementing the same principle, with the central bank obliged to deliver overshoots to compensate for undershoots, but without the discipline device of having to reach a specific path for the price level. Just promising to make sure inflation has returned to the target before lifting off from the lower bound is probably insufficient to impart any meaningful stimulus today.

Building credibility will support effectiveness. But people need to understand the consequences of the commitment and change expectations and behaviour accordingly if the signal is going to significantly stimulate demand. If the Odyssean aspect of the guidance only bites in the far future – that is the deviation between the rate path under the orthodox and heterodox reaction functions only becomes material many years into the future given the likely path of inflation and output – then the stimulus only works through expectations of the far future and very long term interest rates. It is far from clear how relevant either of these concepts are for the decision-making process of the representative household.

There is little monetary space to be found in forward guidance. But in the current circumstances, every little helps. The Bank will likely have to exhaust whatever space remains. There are two takeaways here. First, make the long overdue transition to complete forward guidance: publish paths for policy instruments within fan charts and alongside scenarios to illustrate the uncertainty. At the very least, the Bank would take back control of policy expectations and the monetary stance and minimise the risk of tantrums. Second, if the Bank is to provide Odyssean guidance then the transition from what has gone before must be abrupt and crystal clear. The fact that Andrew Bailey has just arrived will help: new Governor, new guidance. But the signal must be credible, which means adopting a commitment device – preferably a price level path target, but failing than an average inflation targeting regime.

2.3 The Case for Negative Policy Rates

Barely more than a decade after the Great Financial Crisis (GFC), central banks around the world once again find themselves testing the limits of monetary policy. The Covid-19 health crisis has led to rapid reductions in policy rates, as well as many of the unconventional balance sheet measures undertaken in the aftermath of the GFC. The Bank lowered Bank Rate to 0.25% on 11 March 2020 (along with launching a new Term Funding Scheme and easing in bank regulatory requirements) in order to support business and consumer confidence, and to reduce the cost and improve the availability of finance. On 19 March the Bank lowered Bank Rate again, to 0.1%, as well as beginning large-scale asset purchases.

The reduction to 0.1% followed comments from Governor Bailey, and the previous Governor, that negative interest rates were not desirable in the UK. That has been the view at the BoE since late 2016, when a review at the time concluded that the effective lower bound (ELB) was close to, but a little above, zero. That view reflected a concern that banks would face difficulty in passing on even lower (negative) rates due to the cost of funding (largely deposits) likely to remain sticky at zero. It was argued that negative rates could result in lower bank profitability and a potentially perverse impact on lending, which could shrink in response, rather than expand. This is commonly known as the “reversal rate”.

The analysis from the BoE is at odds with the experience of some other central banks. In Europe, the European Central Bank (ECB), Swiss National Bank (SNB) and Swedish Riksbank have all reduced policy rate into negative territory. As has the Bank of Japan. Research from those jurisdictions since those policies were enacted suggest that, when combined with other policy measures, negative rates can indeed be effective in lowering borrowing costs and supporting the flow of credit to the real economy.

A 2017 IMF policy paper, “Negative Interest Rate Policies – Initial experiences and assessments”, found that those central banks that had adopted negative interest rates saw full pass-through into money market rates, generally weaker exchange rate, increased credit availability and no signs of cash hoarding. Overall, the assessment concluded that Negative Interest Rate Policies (NIRPs) had generated positive, albeit likely small, effects on monetary conditions. They did, however, identify some decrease in banks net

interest margins. More recently, studies by the ECB also show that the benefits of negative rates have outweighed the costs, although they also highlight that a more extended period of negative rates may become more challenging in terms of costs to the banking sector.

With the ELB once again being tested, we suggest the Bank urgently consider whether negative interest rates ought to once again be considered as part of the “emergency” monetary policy toolkit. If the main concern regarding negative rates relates to the reversal rate (rather than, say, the hoarding of cash), the Bank ought to investigate options that could effectively lower that rate. The re-launch of the Term Funding Scheme – offering 4-year funding for lending to the real economy – allows banks to fund at close to Bank Rate for up to 5% of their stock of loans. That facility should by itself reduce the reversal rate, as it would allow banks to fund their marginal lending activity at Bank Rate, including if it was negative.

In addition to the Term Funding Scheme, another approach that has been adopted by some central banks that have negative policy rates, most recently the ECB, but also the Bank of Japan and SNB, is to apply a tiering system to the (negative) interest rate charged on reserve balances. Reserves held at the central bank usually attract a zero or positive rate of interest – in the case of the BoE, all reserves are remunerated at Bank Rate. As such, a negative policy rate would become a cost to banks that have no choice but to hold these reserves. This is particularly important when negative rate policy is combined with QE and therefore large excess reserve balances. This tiering could give the Bank the ability to dial up or down the marginal amount of reserves attracting the policy rate needed to ensure it is passed through into money markets, but does not weigh so heavily on bank profitability.

Some may consider such policies to be quasi-fiscal, as they might equate to a subsidy to the banking system. That may not be quite the right way to see it. But in pursuing negative policy rates, particularly if done alongside QE, the central bank is effectively placing a tax on the banking system if it does not act to mitigate the direct cost of those policies on banks. So long as commercial banks remain the primary transmission channel through which monetary policy operates on the economy, they need to be viable through the economic cycle. If that viability is questioned through

the policy actions of the central bank, then without some mitigating factor, the logical conclusion is the far more radical choice of disintermediating the commercial banks entirely.

With the unprecedented nature of the Covid-19 crisis, and the possibility of severe economic disruption, central banks will need to find all the ammunition they can to support demand in the economy. In the United Kingdom, as elsewhere, negative policy rates ought to be considered as part of that arsenal of measures.

Monetary – Fiscal Coordination

The limited monetary ammunition at the disposal of the Monetary Policy Committee may prove insufficient to the task. The economic hit from Covid-19 may demand a more forceful response than the Bank can muster through asset purchases, forward guidance and negative rates. Some form of formal monetary fiscal coordination may be required. In this section we discuss the merits of three stylised schemes: monetary financing, yield curve control and helicopter drops.

3.1 Monetary Financing: co-ordinated monetary and fiscal policy in a crisis

The great financial crisis (GFC) reminded everyone that monetary policy was about more than just setting the overnight cash rate. The very origins of central banks were as institutions that could use their balance sheet to assist the state – usually in the financing of wars. When interest rates reached their effective lower bound during the GFC, major central banks embarked on large-scale asset purchase programmes. Quantitative easing (QE), in form of government bond purchases, was designed to absorb duration from the market, reduce term premia and lower long-term bond yields. That was intended to ease financial conditions directly, thereby supporting the economy, but also to encourage a portfolio rebalancing into riskier assets, boosting their prices and therefore overall wealth.

While many asset markets became illiquid and dislocated during the GFC, government bond markets did not. They continued to function in an orderly way. And even in the face of ballooning fiscal deficits and bank bailouts, long-term government bond yields remained low throughout that crisis. In part that was due to the rising demand for safe assets, and in part due to the asset purchases undertaken by central banks. Quantitative Easing proved effective in preventing a “liquidity trap”, whereby conventional monetary policy becomes ineffective due to the lower bound. But central

banks did not go so far as co-ordinating their purchases with the fiscal authority, or purchasing new issuance of government bonds – usually referred to as monetary financing.

However, as far back as the Federal Reserve’s Jackson Hole Symposium in 1999, Lars Svensson noted that some shocks may be so large that central banks and fiscal authorities ought to plan for a ratcheting up of emergency policies. His final step in that ratcheting up process, after QE had already been used to suppress bond yields to close to zero, and risk assets had been included in purchase programmes, was to undertake a coordinated monetary and fiscal expansion. That expansion would be financed by the central bank buying the debt issued by the fiscal authority.

Government bond purchases would in this way directly create fiscal space, allowing an easing in fiscal policy without the need for private agents to absorb that debt (who would potentially have required greater compensation for doing so). In a sense, this would bring central bank policy full circle to its origins of financing government spending. But unlike in those early days, and even as recently as 1997 in the case of the Bank of England, that role came at the expense of independence. With that hard-fought independence achieved, what sort of crisis might be enough to risk it? Perhaps the Covid-19 crisis is the time to consider such extreme measures.

The onset of the Covid-19 crisis has seen countries around the world going into lockdown, for what is currently an unknown period. We face a sudden stop in economic activity. There will be both supply and demand destruction that requires significant, maybe unprecedented fiscal support to households and businesses. It is at an extraordinary time like this that central banks can provide an important additional benefit to the economy through supporting fiscal stimulus. That support could come in a number of forms, but creating fiscal space through coordinated issuance and asset purchases is potentially the most powerful.

In addition to the creation of fiscal space, another benefit of government bond purchases relates to market functioning. Unlike in the GFC, cracks have been appearing in government bond markets in the early stages of this crisis. Liquidity has dried up and market functioning has become impaired. In order to increase cash positions, there has been fire sales of all assets, including government bonds, resulting in longer-dated yields rising (after initially falling sharply). Such market conditions for risk-free

assets, which provide a critical anchor for risky assets, as well as determining the cost of government borrowing are extremely concerning. In this environment, the BoE can act as “market maker of last resort”, to support gilt market functioning, and thereby broader sterling markets.

There is, of course, a risk that once the government financing genie is out of the bottle, it may be very difficult to get her back in. Which is why strict conditionality should be placed on any such period of policy coordination. When the crisis ends, which it will, so should the crisis-related policy arrangements. A failure to enshrine such conditionality would put at risk future monetary dominance over the price level, and the economic gains that have come from the era of independent central banks with inflation targeting mandates. One way of enshrining this could be through an exchange of letters between the Chancellor and Governor, where they jointly agree in a severe economic crisis that the Treasury (and the Debt Management Office) and the Bank of England would coordinate their fiscal and monetary response in a time-limited and state contingent way. As part of that exchange, the Bank ought to make clear that any gilts purchased under such an agreement would not be a permanent addition to the Bank’s balance sheet. The Bank would begin to reduce its holdings as the economic situation improved.

Make no mistake, these are deeply uncomfortable policy options for any modern central bank to have to face. As noted in a letter from the Systemic Risk Council to the G20 Finance Ministers and Central Bank Governors dated 19 March, 2020: “...the thresholds for steps of that kind (e.g., monetary financing) should be very high given their interference with normal freedoms and constraints... For all their interventions, governments and central banks should incorporate into their design incentives for smooth exit when conditions permit.”

3.2 Yield Curve Control

The Bank of Japan launched its new framework for strengthening monetary easing in September 2016, with not one, but two radical ideas. The first was an Odyssean "inflation-overshooting commitment". The second was yield curve control. Central bank watchers steeped in the lessons of yesteryear no doubt reflected that there is nothing new under the sun in central banking: the Federal

Reserve had a dispiriting experience of yield curve control in the mid-20th Century. However, the Bank of Japan's announcement certainly resurrected the idea.

Yield curve control (YCC) feels like a world away from the conduct of monetary policy during the Great Stability. But in an era of ultra-low equilibrium real interest rates that is likely to define Governor Bailey's term of office, it could become an integral part of the monetary policy framework on his watch. We will begin with a timeless case for YCC and then turn to discuss the function that it could play in two specific scenarios in the coming months: one orthodox, the other anything but.

The central bank is the monopoly provider of reserves and therefore has the luxury of setting the price. That price is the ultra short-term risk-free nominal interest rate. In practice, central banks do not even control the ultra short-term nominal rate that prevails in the money market, but they could, and arguably should through an epsilon corridor system.

Once we speak of interest rates at horizons beyond the next policy meeting the case for control seems to fade. Those rates reflect expectations of future decisions by the policy committee. Indeed, the ten year yield reflects expectations of decisions that will be made by an altogether different Committee. However, there is no longer any pretence within central banks that those expectations and those long rates matter, as discussed elsewhere in this paper.

Indeed, influencing long rates became the name of the game once short rates hit the floor and central banks turned to asset purchases as the means to stimulate the economy. Central banks were in control of how much money they printed, but they were not in control of the variable they cared about: the long rate. Pragmatic policymakers fell back on rules of thumb linking the envelope of purchases to impacts on growth and inflation but the lack of control in the transmission mechanism of asset purchases was evident.

In theory, there is another way. The central bank could take back control. The staff could estimate the optimal term structure of the risk-free rate – that is, the yield curve that delivered the best output and inflation outcomes given the parameters of the loss function and the model of the economy (or more generally the calculation could have been made robust to uncertainty about the structure

of the economy). The policy committee could then vote on that optimal term structure, publish yield targets and then task the good people who work in market operations to implement the decision.

The central bank would probably need some skin in the game: there would likely need to be a flow of purchases, but perhaps not on the scale that was required in conventional purchase programmes. Indeed, one could argue that yield curve control becomes more attractive when it becomes difficult to sustain the pace of asset purchases without eviscerating the free float. And like the Bank of Japan, a central bank would need to stand ready to conduct fixed-rate operations to keep control if the market tests the commitment to the target.

The YCC framework can remain long after purchases have ceased. The policy committee still cares about long rates so why give up control? Indeed, control over long rates will be a valuable commodity in the exit strategy from the lower bound, as the short rate is lifted from the floor and the balance sheet goes into run off and the risk of a tantrum is high.

Yield curve control could be loose or tight. It seems unlikely that a central bank would ever want to exert complete control and implement a zero corridor regime around, say, the 10 year rate. After all, in normal times central banks implement corridor regimes around overnight rates. An indicative tolerance band around the target seems far more likely, with the band potentially varying across the term structure. The central bank does not even have to publish a tolerance band although it will soon be discovered by revealed preference. It is possible to imagine the central bank relaxing control within reason in the exit strategy discussed above.

We have glossed over one technicality. The Bank of Japan expresses its YCC framework in terms of a government bond yield but in an ideal world the central bank would be setting targets for the risk-free curve and not seeking to interfere with risk premia. A lot will hinge on this technicality.

Finally, we come to the crunch: can a central bank control long rates? A central bank that tried to pin prices far from the fundamentals perceived by the bond market would quickly be confronted by a flood of buyers or sellers. But yield curve control seems a realistic proposition within the interval in which fair value is perceived to exist by market participants. A lot will hinge on that assumption too.

But perhaps we should take comfort from Japanese experience – or to paraphrase Ben Bernanke, yield curve control works in practice even if some are not convinced whether it will work in theory.

So much for the timeless case for yield curve control there could be an urgent need for a cap on government bond yields in the weeks and months ahead in two very different strategies that are both referred to as creating fiscal space.

The first scenario is one in which the central bank believes it is approaching the limit of what can be done with conventional monetary easing and simply wants to ensure that a potentially large fiscal stimulus is not neutered by financial crowding out. Forward guidance that the policy rate will not rise may not be sufficient. Under yield curve control the central bank would prevent long rates from rising either on account of net supply effects in the bond market (thanks to higher issuance) or through revised expectations of the future path of the policy rate. But the name of the game is managing the cost of issuing government debt so controlling swap rates might be considered inferior to controlling government bond yields directly.

Implementing yield curve control in these circumstances has the particular virtue of signalling that responsibility for supporting the economy is being passed to the finance minister. The central bank has prepared the way, by ensuring that any fiscal stimulus will be effective as possible. The MPC votes on the yield cap. Operational independence is maintained.

In theory, a looser fiscal stance should go hand in hand with a less loose monetary stance. The expected future path should respond to news on the fiscal stance and in theory so too should the real term premium and inflation risk premium. At some point it might become difficult to suppress long rates without having to own a decent share of the market. In a crisis one is tempted to argue that this would be a nice problem to have: that bond investors become sufficient optimistic that they want to price in rate hikes.

The second scenario is a more problematic one in which the bond market is questioning the sustainability of the public finances. Rising sovereign credit risk premium and inflation risk premium lead to a contractionary tightening of financial conditions. Finance ministers are at risk of losing fiscal space in this situation and may even come under pressure to consolidate. Inaction risks disaster.

Yield curve control could protect fiscal space in this scenario. In an interval around fair value the central bank might be able to stabilise bond yields whilst finance ministers support demand. In truth the policy is a clandestine risk premia cap but this might be the one place that constructive ambiguity is helpful. The policy committee would vote on an appropriate yield target and the central bank would implement the policy accordingly.

The YCC regime can act as an automatic bond market stabiliser in these difficult circumstances and that seems superior to the discretionary alternative. Under YCC, the Governor does not have to take a decision every day whether he should be in the market leaning against a particular back-up in yields or not, without the anchor of a target that has been voted on by a committee to guide interventions.

Yield curve control is not a panacea. The central bank might be able to prevent a rout in the bond market, albeit at the cost of owning the market. But the problem may simply manifest itself in a rout in the FX market and that is an altogether more challenging proposition.

3.3 A Helicopter Drop

The immediate problem the economy will face over the next few months is very much one of cash flow, as the normal circulation of money through exchange and trade will be shattered. And the key policy questions may not be so much the typical monetary and fiscal questions of tilting consumption and adding somewhat to lost demand by altering the price of credit and the scope for tax cuts but rather how the state can get relax the immediate cash constraints faced by firms and households without undermining long-run monetary and financial stability? The question is one of an expansion in the money supply without implying a loss of control over the price level.

The Federal Reserve has been able to inject huge quantities of central bank money into international capital markets without undermining confidence in the dollar because it is both the world's primary vehicle and reserve currency. The problem we face in the UK, with our large sequence of current account deficits, is that overseas investors will judge us harshly and make the borrowing we need more expensive if there is any hint of a decisive move away

from long-run sound money. Any temporary measures therefore need the support of a clear, long-run and credible Bank of England framework. We return to this point later in this paper.

The extreme answer to the cash flow problems is the famous Milton Friedman parable of a “helicopter drop” of money. The classic mechanism here is that the government borrows money from capital markets and then asks the Bank of England to issue money backed by those borrowings. A pure helicopter drop would then involve that money being handed over to every subject, irrespective of their income or wealth endowment. The Bank of England would essentially agree to hold the value of the bonds permanently on its balance sheet and match that with a permanent increase in the stock of central bank money.

The two important aspects of this policy are the quantity of transfer would be set by the government to try offset the cash constraints faced by households. The quantum would not be left to the central bank to choose, as it simply affects the operation of printing the cash. The second point is that a pure helicopter drop does not involve any change in the future sequence of taxes to pay back the increase in debt or a subsequent tightening by the central bank to offset the increase in the price level implied by the increase in central bank money. The increase in debt is accommodated by both tax and monetary policy.

The way to understand this policy is that it is a direct attempt by the government to provide partial and direct compensation for the loss of cash flow from the contraction in trade. It is a one-off transaction designed to absorb a large fraction of the deficiency in demand brought about by the Covid-19 shock.

How much would it cost? A money drop of some £1,000 per person, for example, would cost around £70bn, or 3 per cent of GDP. The impact on demand will depend on the extent to which it is saved or spent by recipients. And that may then depend on the extent to which household consumption is constrained by the immediate shortage of income. If households are operating at their cash constraints then the impact might be near the full amount of the transfer. The secondary effect will be the extent to which the initial income falls by more as jobs are lost and belts tightened across the economy and overseas.

A similar idea would be to adopt a universal basic income strictly for the duration of the crisis, which if set at £500 per person per month would cost somewhat over 1 per cent of GDP per month. If matched to the duration of the crisis these measures may make some sense as an insurance policy for the whole population, as we are all going to be affected. A year of such measures would thus cost some 12% of GDP and may help support demand in the longer period of crisis and the next virus wave later this year. Again these disbursement could be made through the state to individuals through the tax and benefit system, claimed like child benefit or disbursed as a cash endowment by the Bank of England. But only when the expansion in the money supply is backed by debt issuance with no intention to repay the debt and there is no intention to raise future taxes, it is a helicopter drop.

The rabbit hole to avoid is one where the central bank chooses the amount of the transfer to the general population. And then simply chooses to finance that level of outstanding government debt as it would set up expectations of this becoming a repeated event and would miss the essential fiscal nature of the policy. Under operational independence, the Bank of England has to set the path of its instruments to meet its mandate for monetary and financial stability. As the transfer is a fiscal operation, it is a question for the government what level of resources to transfer and what level of risk to absorb. The Bank can then seek to finance that choice subject its own views on the path of the price level that meets its mandate for price stability. The drop is a funding instrument for the state that will boost demand, at least the first time.

The Future Framework

The crisis should eventually pass. At that point, it is imperative that the Governor and Chancellor reflect on what has been done and engage with the flaws that have been exposed in the monetary policy framework but have long been apparent. In the final section of this paper we highlight three key issues. First, the exit strategy from the emergency measures and the large balance sheet that the Bank will find itself carrying at the end of this crisis. Second, the need to engage with the one strategy which offers the prospect of restoring lost monetary policy space: raising the inflation target. Third, to consider the role of the Bank itself, to some rules need to be written to govern what has been termed by many as the “only game in town”. The Mervyn King solution – “If central bankers are the only game in town, I’m getting out of town!” – does not work for the institution. The Chancellor and Governor need to find a solution that does and re-focus the Bank’s mission statement of the pursuit of monetary and financial stability.

4.1 In Through the Out Door

Former ECB President Jean-Claude Trichet said that the “non-standard measures” that the ECB implemented during the financial crisis were designed with the exit strategy in mind. So were the ones implemented by the Bank of England. The measures we have outlined are clearly non-standard. The Bank of England should ideally develop a credible plan for extricating the balance sheet from whatever crisis measures are announced before they are agreed. However, in a crisis it is hard to plan for winning the peace. The crisis arrived and time is short. So should the Bank engage in monetary financing on an industrial scale to back-stop the sovereign then the exit strategy will be a first order political problem

The exit strategy from the more conventional measures is relatively straightforward – that is, relative to the complexity involved in the exit from monetary financing. If the Bank engages in ‘Odyssean’ guidance then the Bank will have to honour the commitment and

hold the bonds it bought. Failure to do so would undermine the capacity of the Bank to use this tool in future downturns. The lesson to learn here is that the guidance should not be presented in such vague terms that the Bank can renege on the pledge at some point without it being clear that it has done so. Vague guidance that the reaction function has shifted that lacks a credible commitment device will prove ineffective in this downturn.

If the Bank does take rates into negative territory then it would presumably want to make crystal clear that the priority will be to unwind this measure first in any exit strategy and moreover, that this might be viewed as an intermediate step, with a potentially long lag between rates returning to positive territory. And if the Bank has also engaged in forward guidance alongside a negative rate policy then the wording must reflect our uncertainty around the reversal rate. This is not an insurmountable problem. It just requires careful drafting of the commitment, linking it to the evolution of the crisis.

Life becomes much more complicated when monetary policy is directed at fiscal support. If the exit strategy here is inevitably unclear upon entry then there is something to be said for a conservative approach of selecting the path which is least uncertain. This favours yield curve control, because it operates on the variable that policymakers care about (the price) and acts like an automatic stabiliser for the bond market.

The transition into and out of yield curve control should be easier to manage. The more orthodox approach to supporting demand through asset purchases by controlling quantities in an attempt to influence prices morphs into controlling prices. Nothing more. That is, QE ends when YCC begins and there is nothing special about the bonds that are purchased under yield curve control. No commitment is made about how many bonds will be bought: if the yield target (or cap) holds then the answer could be none. But obviously should the bond market revolt, this policy collapses to monetary financing as the Bank is confronted by a flood of sellers. No commitment is made as to how long those particular bonds remain on the balance sheet. The exit from YCC could be smooth – if conditions in the bond market permit – with the central bank gradually relaxing its grip. At least until the final stage in the process, the Bank retains control. Throughout it all, the MPC retains control over the process, voting on the cap, and the tolerance band around it.

In contrast, the entry and exit from the alternatives looks very challenging. Once the Bank is conducting an explicit monetary financing strategy then the Committee would likely have to communicate some basic parameters around the programme – around any constraint on the flow of purchases relative to the flow of issuance in each period, and of particular concern here, about the duration of the monetary financing programme and how long these bonds would remain on the balance sheet. Any withdrawal from monetary financing would presumably involve a signal (explicit or revealed through action) that the Bank was scaling back purchases relative to the flow of new issuance. If that news triggered a sell-off then exit would likely be postponed. Failure to control the price means decisions over purchases can be dictated by market sentiment from one day to the next. It is very hard to believe that the Bank would want to keep a monetary financing regime as a permanent feature of the landscape. Moreover, at some point, the Bank would need to give careful thought to the how any unwind of its monetary financing portfolio would impact upon the exit strategy from more conventional measures. Is the Bank free to unwind its portfolio of conventional purchases ahead of schedule if the monetary financing bonds have to stay on balance sheet for the foreseeable future, or does that break the spirit of the agreement and undermine the efficacy of monetary financing next time around?

Nobody should be under any illusion about the complexity of entry and exit into close monetary – fiscal coordination in febrile markets. If the bond market revolts then the Bank may be forced to jeopardise monetary stability in the name of protecting an embattled sovereign. The Bank might be able to hold the line in the bond market, but the currency market would surely act as a release valve. This may then develop into a a full-blown sterling crisis.

4.2 Raising the Inflation Target

The fundamental problem that central banks face now and for the foreseeable future is a lack of policy space. Indeed, almost all conventional monetary space is likely to be exhausted in fighting the current crisis. There will be nothing left to do if and when the economy is hit by another shock. Longer term there is only one strategy which offers the prospect of restoring that lost space: raising the inflation target. But there are real risks in implementing this change today in the midst of a crisis.

There is a mature and diverse literature on the calibration of the optimal inflation target although it would be fair to say that when formal inflation targets were established, the authorities typically settled on the number Two and macroeconomists found it easy to rationalise that choice after the fact. The calibration argument that resonated with many if not most central bankers when those targets were established was the idea that the inflation target should be as low as possible whilst still leaving sufficient policy space above the lower bound. That calculation hinges on the level of equilibrium real interest rates and in the decades since those targets were established short- and long-term real rates have fallen significantly.

It has become increasingly clear that the decline in real interest rates is an equilibrium phenomenon, and one that is likely to persist and potentially even intensify in the years ahead. For a given level of inflation expectations, those secular trends in equilibrium real interest rates translate into corresponding declines in the average levels of the short- and long-term nominal rates that central banks control and influence respectively. And that inevitably squeezes the space between the term structure of nominal rates and the respective constraints.

The lower bound on the short-term nominal interest may not be zero, and it might even lie below the reversal rate in an open economy in which a significant share of the corporate sector can raise funds in capital markets, but it does exist. The lower short-term equilibrium real rates go, the less space there is to cut short-term nominal rates in a downturn before they hit that bound.

If the policy rate is then near certain to remain at the lower bound for the foreseeable future then the long-term risk-free nominal rate will approach an implicit lower bound too. The lower long-term equilibrium real interest rates go, the less space there is to guide long-term nominal rates lower in a downturn as well.

Policy rates are close to zero or below zero across most advanced economies. Long-term nominal rates are very low by historical standards too. There may be some scope to stimulate demand further by taking the policy rate a little lower, or to nudge long rates lower with more courageous forward guidance or another round of asset purchases. And central bankers have become ever more ingenious in finding radical new ways to stimulate the economy but these increasingly involve their institution in alien territory, whether it is industrial policy or fiscal policy. But when compared

to the cycles of the past when central banks could slash short rates by several hundred percentage points, the fact remains that almost all conventional monetary space has been exhausted.

The lack of policy space should be a major concern to the policy community. If central banks are unable to support demand then the responsibility passes to finance ministers. But given the limited scope of the automatic stabilisers, the familiar lags with the design, legislative progress and effective implementation of discretionary stimulus and ultimately concerns around debt sustainability it is not clear that the fiscal policy can always be an effective substitute for monetary policy. The combined policy response may prove insufficient in the current downturn. There will be very little left to handle the next shock.

It is hard to know precisely how serious the implications are of the lack of policy space but common sense suggests they are grave. A lack of policy space would look a lot like a major policy error in the opening stages of a crisis – with an inadequate response to a deteriorating outlook – but we have few examples in history of sustained and significant policy errors. Economic theory suggests the implications could be truly dire. Intuition and economic models that are based on the implicit assumption that policymakers will act to stabilise the system will not capture the discontinuous and destabilising shifts in behaviour when households and companies realise they are on their own. Temporary shocks could easily translate into prolonged slowdowns.

There are obvious solutions. Restore monetary space. Or put in place a fiscal regime with sufficiently robust and rapid automatic stabilisers and sufficient fiscal space to allow major discretionary stimulus that can supplement them. Or take whatever steps are necessary to reduce the likelihood and severity of tail risks that can cause a significant slowdown in demand when they crystallise. In the financial stability realm that might involve a much tougher prudential regime. But there is also an argument here for investments to build resilience against all manner of tail risks. A prudent social planner would probably choose all the above. We find it hard to believe that she would exclude the first option.

Restoring policy space is relatively straightforward in theory. If equilibrium real interest rates have fallen by two percentage points then you need to raise expected inflation by two percentage points to leave nominal interest rates and policy space roughly unchanged.

In other words, if we update our calibration of the inflation target for the news on real interest rates we get a different answer: Four is the new Two. True: the other costs of inflation may suggest that the optimal target does not move one for one with real rates, but it surely moves significantly higher.

The real debate is whether a 4% target is achievable. Some claim that moving the goalposts could de-anchor expectations and lead to runaway inflation. This risk should not be dismissed but central banks do have the tools to bear down on inflation if necessary. Others claim that the authorities lack the means to deliver a one-off reflationary stimulus to demand that could lift inflation to the higher target so announcing it would damage credibility. But that reveals a complete lack of confidence in the efficacy of the monetary and fiscal levers that we will have to rely on in every future downturn if the target remains where it is. If we have so little faith in Plan A then that arguably makes the case for raising the target stronger, not weaker.

In a perfect world, the global policy community would have already conducted a comprehensive cost-benefit analysis to determine the optimal inflation target and devised a coordinated strategy for achieving it. That plan could then be executed at an opportune moment. But we do not live in a perfect world.

There seems little realistic prospect of a coordinated re-rating of inflation targets and reflation of economies around the globe, although the policy debate is moving very fast. That is not a deal-breaker. The UK authorities could press on regardless. Indeed, there might even be an opening for an opportunistic reflation in the years ahead, if the Bank is confronted by a transitory surge in inflation.

However, there are risks involved in rushing into making a fundamental change to the nominal anchor of the economy. The calibration of the target is ultimately a question for society. An unanticipated change inevitably has redistributive consequences. The target needs to be set by political will based on an exhaustive body of evidence in order that we can secure the same consensus we had for the original target a generation ago.

Moreover, there is a risk that a unilateral change in the target in the current circumstances could be misinterpreted. The Bank is already operating at the outer edge of its remit. It may soon embrace a

formal yield curve control policy, that might be required to suppress any expansion in the sovereign credit risk and inflation risk premia in moments of stress as well as any rise in the risk free rate. The Bank may even adopt the language of monetary financing. A surprise change in the inflation target designed to restore monetary space could be misinterpreted in these circumstances as a means to restore fiscal space with potentially grave consequences. This, then, is a decision that must be delayed for more tranquil times. But it is an issue to which the Chancellor must return at some point.

4.3 Central Banks and the State

It is normal to think of monetary policy as setting Bank Rate to help stabilise output over the business cycle in a manner consistent with some notion of price stability, and for fiscal policy to deal with any deleterious consequences on the income and wealth distribution - from both economic shocks and monetary policy responses - by choosing appropriate tax and spending plans. But this suggested dichotomy has never been quite perfect, as fiscal policy usually has built-in automatic stabilisers which typically also support output stabilisation, and monetary policy choices have always altered the government's financing costs.

Indeed, this traditionally porous separation, or assignment, between monetary and fiscal policies has been pretty much spliced open by the financial crisis and again the Covid-19 crisis. The two have become conjoined at the zero lower bound, with fiscal policy arguably more effective in terms of output stabilisation and monetary policy acting to mop up excess bonds with reserves issuance and providing revenues to the Exchequer. The key objective for monetary policy is though and must remain the maintenance of price and financial stability.

To start from first principles, consider the extent to which QE has directly relaxed the fiscal budget constraint by setting up the possibility of a fiscal dividend to the Exchequer and, more traditionally, may also have reduced government borrowing costs at a critical time. The reduction in debt service costs may be even higher over the life of these operations.

It also turns out that the first 10 or so year of the APF is likely to deliver a fiscal dividend of some £35 billion on the exit from QE, which gives the HM Treasury considerable room to offset

distributional effects at nearly 2% of GDP in revenues. In this sense, the main redistributive implication of QE may have been a payment from bondholders to taxpayers. There is, however, a serious point of political economy that is often missed in discussions of QE. Whilst it might be seen as a long-term arbitrage opportunity that will, on exit, yield a positive return to the Exchequer, it is concerning that the profits have been remitted on a quarterly basis since 2012. This arrangement stores up future tensions. Should the costs of funding the APF at some future point exceed the coupon payments, the APF will have to ask for losses to be remitted back from the Treasury, which may raise questions over monetary independence. Indeed, it might undermine the credibility of the regime if there were any sense that the monetary authorities were reluctant to raise Bank Rate because of the direct impact on the profitability of their balance sheet.

As a guiding principle, fiscal policy involves questions about resource allocation, and monetary policy involves questions about total nominal expenditure in the economy. To that extent, monetary policy instruments and operations are directed at supporting the path of nominal expenditure, while fiscal policy ought to concentrate on economic structure, income and wealth shares, and planning revenue and expenditure priorities. The direct revenue consequences of some operations are a by-product rather than an aim of monetary policy. The new Governor will need to ensure that the Bank concentrates on maintaining and developing the required instruments, operational expertise and institutional demarcation to ensure nominal stability, and that it resists taking on new obligations which are essentially under the remit of the Treasury and Whitehall.

Is money created by QE and is it inflationary? There is a conceit, or a suspension of disbelief, at the centre of the management of the central bank balance sheet in that it is treated as separate from that of HM Treasury but in reality it is not, as it forms part of the consolidated public sector balance sheet. Prior to these operations, HMT issued bond liabilities backed by future taxes. These are typically bought by non-bank financial intermediaries, representing savers, at a price that represents no more than the present value of those future tax receipts. When the Bank of England, through the APF, buys those bonds from non-bank financial intermediaries, it creates central bank money in the form of electronic reserves and so expands its balance sheet. In effect, some of the bonds issued

have ended up at the Bank of England, paid for by reserves issued by the Bank. The large part of these purchases by the Bank of England have not been sterilised – that is, offset by further sales of government debt such as T-Bills to absorb the reserves – and so have added to the stock of narrow money. If the money represented a permanent expansion of the money supply that was not met by an increase in demand, it would tend to raise the price level in direct proportion to its issuance and thus would bring about a temporary inflation.

But even if these operations turned out to result in a permanent increase in the supply of money, they would only lead to a temporary inflation with a one-off adjustment in the price level. To the extent that the increase in the stock of central bank money is met by an increase in its demand at near zero interest rates, there is no excess supply driving up prices. And ultimately there is not long run effect as when the purchases are reversed or, as now seems more likely, the stock of bonds held by the APF runs down as bonds mature, this will lead to the reserves that were created and borrowed being paid back to the Bank of England and the central bank money created being destroyed.

There are increasingly widespread challenges to the basic financial arithmetic of running primary surpluses that underpins the pursuit of 'sound money'. The first is that the growth rate of the economy may not only tend to be temporarily higher than the real payments on debt, which would allow debt-to-GDP to grow more rapidly, but if it were permanently higher then there would be no constraint on public debt issuance in terms of its long run stability relative to GDP, as nominal GDP growth will always tend to reduce the ratio of debt to GDP. The second is that at the zero lower bound, monetary and fiscal policy are very close substitutes and so we must think about them as conjoined actors in stabilisation policy and use fiscal policy to return to robust growth. Finally, modern monetary theorists would have us believe that the lack of inflation means that there are considerable spare resources in the economy such that the central bank can simply issue free passes for households to use.

There are two separate objections to these ideas. The first is that the overall socially appropriate objective for the central bank remains the maintenance of price and financial stability. There is a primacy for the social imperative, and importance, of planning with a functioning price system that underpins trade in a capitalist

economy. This ultimate objective means that as long as we continue to believe that the money stock pins down the price level, the central bank's primary objective is to ensure money does not grow much out of line with its demand. This imperative leaves fiscal authorities free to issue as much debt as can be financed at world interest rates without jeopardising their ability to respond to future economic shocks (and any structural developments) that might require further debt issuance.

The second objection is that debt is a claim on the future income of the issuer, and public debt is a claim on future generations. We cannot simply make speculative claims on those generations on their behalf, and it is the role of the central bank to lengthen the planning horizon so the preferences of those future generations are given appropriate weight. A sharp bringing forward of public expenditure on a sustained basis has rarely ended well but in order to deal with existential crisis it can be exactly the right thing to do, providing the framework ensuring price stability it not dismantled in the process.

Conclusion

The modern, recent history of monetary policymaking in the UK can be seen as having unfolded over three key events: exit from the European Exchange Rate Mechanism in September 1992, the election of ‘New Labour’ in 1997 with Gordon Brown as Chancellor, and the global financial crisis of 2007-8. The first led directly to the adoption of an explicit inflation target for monetary policy in October 1992; the second led to the adoption of operational independence for the Bank of England's Monetary Policy Committee (MPC) in pursuit of that target; and the third exposed the limitations of single-minded inflation targeting pursued solely via manipulations in Bank Rate. With the terrible events associated with the spread of the Covid-19 virus, the UK monetary authorities have an opportunity to move the dial further on that will increase the space for monetary policy but also respect the boundary between the political choices of the state and the technical matters of ensuring monetary financial stability in the face of shocks. We must do whatever it takes.

But at the same time, we need to ensure sensible commitments about the long run are not lost. One way to frame the policy innovations over the past decade or so has been an attempt to nurture a fragile economy back to normal. The global financial crisis had the capacity to bring about a decade of prolonged depression. That it did not is a testament to extraordinary monetary policies. The pressing issues now are to help the government redefine the numerical objective for monetary stability. Being clearer about the links between the MPC and Financial Policy Committee as bodies both affecting monetary and financial conditions. Think hard about communication is part of the instrument tool kit and finally contribute to the measurement and understanding of the new economy. Indeed the best answer of all might be for the Governor to call for an external Review of the Bank's Remit and Objectives and use that to refocus on the bread and butter of central banking in the long run while managing the crisis in whatever it takes mode until then.

LIST OF OCCASIONAL PAPERS

- I *The New Population Statistics*
By R. KUCZYNSKI. 1943.
- II *The Population of Bristol*
By E. GREBENIK and H. SHANNON. 1943.
- III *Standards of Local Expenditure*
By J. HICKS and U. HICKS. 1943.
- IV *War-Time Pattern of Saving and Spending*
By C. MADGE, C 1944.
- V *Standardized Accounting in Germany*
By H.W. SINGER. Reprinted 1994.
- VI *Ten Years Of Controlled Trade in South-Eastern Europe*
By N. MOMTCHILOFF. 1944.
- VII *The problem of valuation for rating*
By J. HICKS, U. HICKS and C. LESER. 1945.
- VIII *The incidence of local rates in Great Britain*
By J. HICKS and U. HICKS. 1946.
- IX *Contributions to the study of oscillatory time-series*
By M. KENDALL. 1946.
- X *A system of national book-keeping, illustrated by the
experience of the Netherlands economy*
By J. DERKSEN. 1948.
- XI *Productivity, prices and distribution in selected British
industries*
By L. ROSTAS. 1948.
- XII *The Measurement of Colonial National Incomes*
By P. DEANE. 1948.
- XIII *Comparative Productivity in British and American
Industry*
By L. ROSTAS. 1952.
- XIV *The Cost of Industrial Movement*
By W. LUTTRELL. 1952.
- XV *Costs in Alternative Locations: The Clothing Industry*
By D. HAGUE and P. NEWMAN. 1953.
- XVI *Social Accounts of Local Authorities*
By J. UTTING. 1954.
- XVII *British Post-War Migration*
By J. ISAAC. 1956.

- XVIII *The cost of the National Health Service in England and Wales*
 By B. ABEL-SMITH and R. TITMUSS. 1962.
- XIX *Post-war investment, location and size of plant*
 By P. FLORENCE. 1962.
- XX *Investment and growth policies in British industrial firms.*
 By T. BARNA. 1963.
- XXI *Pricing and Employment in the Trade Cycle.*
 By D. NEIL. 1966.
- XXII *Health and Welfare Services in Britain in 1975*
 By K. JONES and D. PAIGE. 1968.
- XXIII *Lancashire textiles: a case study of industrial change*
 By C. MILES. 1970.
- XXIV *The economic impact of commonwealth immigration*
 By K. JONES and A. SMITH. 1971.
- XXV *The analysis and forecasting of the British economy*
 By M. SURREY. 1973.
- XXVI *Mergers and concentration in British industry*
 By P. HART, M. UTTON and G. WALSHE. 1974.
- XXVII *Recent trends in monopoly in Great Britain*
 By G. WALSHE. 1975.
- XXVIII *Cyclical indicators for the post war British economy*
 By J. ODEA. 1977.
- XXIX *Poverty and progress in Britain 1953-73, a statistical study of low income households: their numbers, types and expenditure patterns*
 By G. FIEGHEN, P. LANSLEY and A. SMITH. 1979.
- XXX *The innovation process in the energy industries*
 By G. RAY and L. UHLMANN. 1979.
- XXXI *Diversification and competition*
 By M. UTTON. 1980.
- XXXII *Concentration in British industry, 1935-75: a study of the growth, causes and effects of concentration in British manufacturing industries*
 By C. CLARKE and P. HART. 1982.
- XXXIII *State pensions in Britain*
 By J. CREEDY. 1982.
- XXXIV *International industrial productivity: A comparison of Britain, America and Germany*
 By A. SMITH, D. HITCHENS and S. DAVIES. 1983

- XXXV *Concentration and foreign trade*
By A. MORGAN and M. UTTON. 1984.
- XXXVI *The diffusion of mature technologies*
By G. RAY. 1985.
- XXXVII *Productivity in the distributive trades: a comparison of
Britain, America and Germany*
By D. HITCHENS and A. SMITH. 1986.
- XXXVIII *Profits and stability of monopoly*
By M. UTTON. 1983.
- XXXIX *The trade cycle in Britain 1958-1982*
By A. BRITTON. 1987.
- XL *Britain's productivity gap*
By R. CAVES and S. DAVIES. 1987.
- XLI *The growth and efficiency of public spending*
By M. JOYCE and M. LEVITT. 1988.
- XLII *British imports of consumer goods: a study of import
penetration 1974-85*
By A. MORGAN. 1988.
- XLIII *Youth unemployment in Great Britain*
By P. HART. 1991.
- XLIV *Lone parenthood: An economic analysis*
By J. ERMISCH. 1992.
- XLV *International financial markets: The performance of
Britain and its rivals*
By A. SMITH. 1994.
- XLVI *Productivity and growth: A study of British industry,
1954-1986*
By N. OULTON and M. O'MAHONY. 1994.
- XLVII *The Single Market Programme as a stimulus to change:
Comparisons between Britain and Germany*
By P. HART and D. MAYES. 1995.
- XLVIII *Productivity, education and training: An international
perspective*
By S. PRAIS. 1996.
- XLIX *Unresolved issues on the way to a single currency*
By J. ARROWSMITH and C. TAYLOR. 1996
- L *The influence of financial intermediaries on the
behaviour of the UK economy*
By G. YOUNG. 1998.

- LI *Thinking the unthinkable about EMU. Coping with turbulence between 1998 and 2002*
By J. ARROWSMITH. 1998.
- LII *Sixty years of economic research. A brief history of the National Institute of Economic and Social Research*
By K. JONES. 1999.
- LIII *Modern budgeting in the public sector: Treasury rules in a comparative context + Executive Summary*
By R. BARRELL and F. HUBERT. 2001.
- LIV *Social disparities and the teaching of literacy: Reflections following visits to Swiss and English schools to compare attainments and teaching methods in language and literacy*
By S. PRAIS. 2002.
- LV *Product quality, productivity and competitiveness*
By V. JARVIS, M. O'MAHONY and H. WESSELS. 2003.
- LVI *Pension reform : redistribution and risk*
By M. WEALE. 2004.
- LVII *Integration, accession and expansion*
By R. BARRELL, D. HOLLAND and O. POMERANTZ. 2004.
- LVIII *Renewing our Monetary Vows: Open Letters to the Governor of the Bank of England*
By R. BARWELL AND J.S. CHADHA (EDS). 2019.
- LIX *Monetary Policy in Troubled Times: New Governor... New Agenda*
By R. BARWELL, J.S. CHADHA AND M GRADY. 2019.

National Institute of Economic and Social Research

2 Dean Trench St, London SW1P 3HE

T: +44 (0)20 7222 7665; E: enquiries@niesr.ac.uk; W: niesr.ac.uk

