Macroeconomic policy change since the financial crisis: a literature review

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IPPR

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Non-partisan, it has been welcomed by both government and opposition parties. The Commission's Interim Report, *Time for Change: A New Vision for the British Economy*, was published in September 2017. Its Final Report will be published in autumn 2018.

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Introduction

This review, into macroeconomic policy change since the financial crisis, was commissioned by the IPPR Commission on Economic Justice. It is divided into three parts – fiscal policy, monetary policy and trade – and answers nine central questions across the three parts:

Fiscal policy

1. How much do fiscal rules vary, and what has been the impact of different rules?
2. How prevalent are independent fiscal councils, and what has been their impact?
3. How have the costs and benefits of fiscal risks been assessed and modelled?

Monetary policy

4. Is 'secular stagnation' still a useful way of understanding post-crisis capitalism?
5. What is the case for and against negative interest rates?
6. How much do central bank mandates vary, and what has been the impact of different mandates?

Trade and globalisation

7. What is the trend in current account balances for both advanced and developing countries?
8. How have advanced countries sought to improve their current account balance, and what accounts for an successful cases?
9. In advanced economies, what are the theoretical and empirically observed relationships between the effective exchange rate and (a) current account balances, and (b) living standards?

The review focuses on the UK, but draws in evidence related to other countries, and the international arena, where relevant. The authors are grateful to Michael Jacobs and Alfie Stirling at IPPR, and especially Andrew Baker and Jonathan Perraton at the University of Sheffield, for their generous and invaluable support in the production of this review.

Part 1: Fiscal policy

1. How much do fiscal rules vary, and what has been the impact of different rules?

Fiscal rules: prevalence and composition

Fiscal rules are now prevalent around the globe, both in developing and advanced economies. In 1990, just five counties had a fiscal rule in place covering at least central government. Yet, by the end of 2012, this number had shot up to 76 (IMF 2012). During this period, a number of supranational fiscal rules have also been developed, including the EU's Stability and Growth Pact (SGP)[1], which covered 47 member countries in 2012. Globally, not all of these member countries have their own national rules. However, in the EU there has been an increasing reliance on numerical fiscal rules, with the introduction of the Maastricht Treaty and the SGP acting as 'powerful catalysts' for the introduction of such rules at the national level (Ayuso-i-Casals et al. 2009). Indeed, there has arguably been three 'waves' of fiscal rules, with the first surge in the mid-1990s responding to bank and debt crises, the second driven by emerging economies in the 2000s, and the third in response to the economic crisis from 2008.

As the IMF (2012) note, there are four main types of fiscal rules, which are 'distinguished based on the type of budgetary aggregate that they seek to constrain'. They are:

1. *Debt rules* - designed to set an explicit limit or target for public debt in percent of GDP
2. *Budget balance rules* - these constrain the variable that primarily influences the debt ratio. Can be specified as overall balance, structural or cyclically adjusted balance, and balance "over the cycle."
3. *Expenditure rules* - set limits on total, primary, or current spending, either in absolute terms or growth rates, and occasionally in percent of GDP
4. *Revenue rules* - these set ceilings or floors on revenues and are aimed at boosting revenue collection and/or preventing an excessive tax burden

The implementation of these rules is, however, subject to a range of qualifying factors (such as accompanying institutions) which impacts upon their effectiveness, with not all types of fiscal rules equally apt 'to support the sustainability, economic stabilization, and possibly the size of government objectives, even when its design features are fine-tuned' (IMF 2012). Moreover, most countries combine at least two of these rules. Since the adoption of the EU's

[1] Supranational fiscal rules are also administered by the Eastern Caribbean Currency Union (ECCU); the West African Economic and Monetary Union (WAEMU); Central African Economic and Monetary Community (CEMAC) .

new Fiscal Compact in 2012, EU member states have been constrained by a new supranational fiscal ruling. The Compact introduced several new elements for fiscal rules at the national level and reinforced the SGP's framework. Included in the new rule is a requirement of all member states to adopt in national legislation a rule that limits annual structural deficits to a maximum of 0.5 percent of GDP.[2]

The IMF (2012) has devised a range of key characteristics which break down different fiscal rules into groups. These characteristics involve: the legal basis of the fiscal rule (statutory vs. political agreement); coverage of the rule (central or general government); enforcement (is there a formal enforcement procedure? An extra-governmental monitoring mechanism?); are supporting institutions in place? (multi-year expenditure ceilings, fiscal responsibility laws, fiscal councils); and, flexibility (escape clauses, the use of cyclically adjusted targets).

They note that rules constraining debt and the budget balance, often in combination, are the most frequently used, and are normally embedded in statutory norms. However, whilst the majority of supranational balance and debt rules cover *general* government, this is often not the case for national rules, which tend to focus on *central* government aggregates (excluding subnational governments). Around a fifth of counties include some form of exclusion to their rule, most commonly being the exclusion of capital investment (the so-called 'golden rule'). A few countries, such as France, exclude debt interest payments. Ex-post automatic correction mechanisms are not very prevalent, but are found in Switzerland and Germany (who operate 'debt brakes'), as well as in Poland, Slovakia and the USA (which can operate 'sequesters' when an agreement on deficit-reduction is not reached). Overall, the IMF (2012) note, fiscal rules have become much more encompassing over the last two decades. Since the recent economic crisis, there has been a wave of 'next-generation' fiscal rules adopted by countries. They suggest that these rules seek to 'combine the sustainability objective with more flexibility to accommodate economic shocks', but also note that they have had the effect of increasing the complexity of such rules.

The impact of fiscal rules

Debrun et al. (2008; see also Debrun and Kumar 2008) exploit a dataset spanning the period 1990-2005 on the national fiscal rules in EU countries in order to try and understand the impact of such rules. Their econometric analysis finds a robust link between numerical fiscal rules and fiscal performance. That is, 'stronger and more encompassing fiscal rules tend to encourage higher cyclically adjusted primary balances'. Whilst the authors do admit that other unobserved political factors, including policy-makers' preferences can shape budgetary outcomes, they argue that 'the observed link between rules and fiscal performance is not spurious'. In particular, they find that budget balance or general government debt rules have 'a significant and sizeable impact on deficits', whilst expenditure rules 'do not by themselves affect significantly budget balances'. This argument is supported by Ayuso-i-Casals et al.

[2] https://www.ecb.europa.eu/pub/pdf/other/mb201203_focus12.en.pdf?0ea5f8ccbeb103061ba3c778c8208513

(2009), who, in an overview of 25 EU countries, find that 'an increase in the share of government finances covered by numerical fiscal rules leads, *ceteris paribus*, to lower deficits'. Indeed, in a study of 23 fiscal rules in place in 11 EU countries from 1994 to 2012, Reuter (2015) finds evidence that whilst countries only comply with their own fiscal rules 50% of the time, these rules still act to 'tilt fiscal policy towards the numerical limit in times of non-compliance'. That is, they promote certain fiscal behaviours, even when their targets cannot technically be met.

Iara and Wolff (2011) explore the role of fiscal rules in relation to another risk factor: sovereign spreads. The authors develop a model of sovereign spreads 'that are determined by fiscal institutions in interaction with the level of risk aversion', and find that stronger fiscal rules are of great importance in containing sovereign bond spreads in times of elevated market uncertainty in particular. More precisely, they argue that better fiscal rules 'can reduce sovereign bond spreads between euro area member states and Germany by 100 basis points and more'.

This empirical literature is not, however, conclusive on the issue of causation. It is too difficult for such studies to truly disentangle whether or not fiscal rules have an endogenous or exogenous impact (see Porteba 1996). That is, whether fiscal rules serve as 'commitment devices' which bind governments, or as 'signalling' devices for already 'fiscally responsible' governments which merely serve to 'reduce the asymmetry of information between the electorate and policymakers' (Debrun and Kumar 2008). In their attempt to build upon Iara and Wolff's (2011) understanding of the relationship between fiscal rules and sovereign spreads, Heinemann et al. (2014) seek to provide some nuance to this debate through tracing the development of fiscal rules in Europe at different times. They suggest that whilst fiscal rules may be interpreted as little more than another indicator of fiscal responsibility for governments with good fiscal reputations, there is evidence that 'the new establishment of strict rules is relevant for fiscal reputation in countries with a lack of historical stability orientation'. As such, they remain positive that, from their perspective, 'fiscal rules nevertheless have the largest potential to restore financial market confidence for countries with particularly poor revealed stability preferences in the past' (Heinemann et al. 2014). In contrast, however, recent assessments of the finessing of the UK's fiscal rules under then Chancellor of the Exchequer, George Osborne, suggest that fiscal rules were strengthened in order to provide political cover for increases in spending and borrowing that might be deemed irresponsible from a fiscally conservative perspective. The rules may have 'signalled' good intentions – but the signalling was duplicitous (Berry, 2016; Berry and Lavery, 2017).

It is worth noting that much of the literature on fiscal rules admits that complimentary institutions are a prerequisite for their success. Iara and Wolff's (2011) modelling of the impact of fiscal rules on sovereign spreads, for example, highlights that the strength of the legal base of the fiscal rules, as well as the attendant enforcement mechanisms (such as automatic correction and sanctioning), are significant facets of 'good' fiscal rules. These facets are, moreover, found to be more important than other factors, such as media visibility

of the rule and the nature of the body in charge of monitoring the rule's effectiveness (Iara and Wolff 2011). Similarly, whilst finding that fiscal rules lead to lower deficits, Ayuso-i-Casals et al. (2009) argue that 'the presence of strong enforcement mechanisms seems important to maximize the effect of fiscal rules'. From a slightly differential angle, as already noted, Debrun et al. (2008) find that unobserved political factors, including policy-makers' preferences, interact with fiscal rules and can shape budgetary outcomes. Returning to the IMF's (2012) analysis of key characteristics of different fiscal rules, they note that the legal basis of fiscal rules, their coverage, enforcement, flexibility and relationship to supporting institutions all shape the effective implementation of rules. All of these analyses, therefore, highlight the fact that fiscal rules have limited impact on their own. Rather, they must with secondary institutions in order to have an effect.

Another issue is linked to the pro- or counter-cyclical nature of fiscal policy. In theory, it is possible to understand that fiscal rules may interfere with the stabilisation function of fiscal policy by restricting counter-cyclical activity in bad times. This has been a persistent critique of the SGP, for example. Debrun et al. (2008) find, however, that the overall evidence arising from existing studies is 'not strongly conclusive' on this matter. At the supranational level, von Hagen and Wolff (2006) find evidence that national governments have employed 'creative accounting' techniques designed to circumnavigate the rules of the EU's SGP. They find evidence that recorded deficits 'have been lowered by increasing stock-flow adjustments', and that this effect is especially pronounced when the fiscal rule is binding. The introduction of the SGP, therefore, is found to have contributed to the increased use of such creative accounting techniques, thereby confirming the 'vulnerability of fiscal rules' to such tricks (von Hagen and Wolff 2006).

2. How prevalent are independent fiscal councils, and what has been their impact?

The prevalence of fiscal councils

Fiscal councils (FCs) are independent public institutions aimed at promoting sustainable public finances through various functions, including public assessments of fiscal plans and performance, and the evaluation or provision of macroeconomic and budgetary forecasts' (IMF 2013). There is some debate around the prevalence of FCs, due largely to definitional distinctions. According to 2016 IMF data, there are 39 FCs around the world, with 26 of those located within Europe. The majority of FCs have been constructed in the last two decades, with a major period of their creation coming from 2005 onwards, but there has been a FC in the Netherlands since 1945 and, in the USA, the Congressional Budget Office has been in operation since 1974 (IMF 2016a). Yet, other studies in the field suggest that this figure misrepresents the true prevalence of FCs as opposed to other forecasting or fiscal

research bodies. Calmfors and Wren-Lewis (2011), for instance, suggest three criteria must be met in order for a FC to be defined as such:

1. They should have a clear watchdog function (not just be public research or forecasting bodies)
2. They should have macroeconomic competence
3. They should be independent from the political system

According to these three criteria, Calmfors and Wren-Lewis suggest that only 11 FCs exist. They are:

1. Central Planning Bureau (CPB) in the Netherlands (from 1945)
2. Economic Council in Denmark (from 1962)
3. Council of Economic Experts (CEE) in Germany (from 1963)
4. Congressional Budget Office (CBO) in the US (from 1975)
5. Public Sector Borrowing Requirement Section of the High Council of Finance (HCF) in Belgium (from 1989)
6. Government Debt Committee in Austria (from 1997)
7. Fiscal Policy Council (FPC) in Sweden (from 2007)
8. Parliamentary Budget Office (PBO) in Canada (from 2008)
9. Fiscal Council in Hungary (in the form that existed from 2008 to 2010)
10. Fiscal Council in Slovenia (from 2010)
11. Office for Budget Responsibility (OBR) in the UK (from 2010)

The impact of fiscal councils

Assessing the impact of FCs is incredibly difficult. As FCs operate within a complex web of fiscal rules, other fiscal and economic policy levers, wider political and economic institutions, different political cultures and economic histories, it is extremely difficult to disentangle their direct impact. Moreover, as the IMF (2016a) note, even where this is attempted, the problem of reverse causation - 'the possibility that intrinsically disciplined countries reveal their deep preferences by adopting certain institutions' - remains critical. As such, there have not been many significant quantitative comparative analyses conducted on FCs because of the difficulty of doing so accurately. As Calmfords and Wren-Lewis (2011) note:

> *Ideally, one would want to run regressions including the existence and features of fiscal councils as explanatory variables for fiscal outcomes. But given that councils are only one aspect of the fiscal framework, their diversity and the short existence of some of them, this would not be meaningful.*

Debrun and Kumar (2008) remains perhaps the only major attempt to produce a quantitative analysis of FCs and their impact. They utilise European Commission survey data to propose quantitative indices summarizing the impact of FCs on fiscal discipline. On the whole, their analysis shows a strong positive correlation between budgetary institutions and fiscal

performance. Nevertheless, they admit that it remains difficult to solve the reserve causation problem, and disentangle the impact of FCs as 'commitment' devices which 'tie the hands' of policy makers from their impact as 'signalling' devices which merely serve to 'reduce the asymmetry of information between the electorate and policymakers'. As such, it may simply be that already fiscally 'responsible' governments tend to adopt strict rules and institutions 'to reveal the nature of their (unobservable) preferences'. Nevertheless, the authors do also suggest that the link between actual budgetary performance and fiscal indicators is robust and thus 'consistent with a discipline-enhancing effect of institutions' (Debrun and Kumar 2008). Aside from Debrun and Kumar's research, the literature largely relies upon case study evidence and the observation of broad correlations between cases (see Calmfords and Wren-Lewis 2011; IMF 2016a).

In terms of fiscal performance, the IMF (2016a) find that in general FCs are not directly associated with stronger fiscal performance. Rather, certain features of FCs are. These features are:

- Legal and/or operational independence
- Compliance with fiscal rules, highlighting the complementarity between FCs and fiscal rules
- The ability to assess or produce macroeconomic and budgetary forecasts
- A strong media presence

In a comparative analysis of seven major FCs[3], the IMF (2016a) find a range of common features in their success. As such, the IMF argues that FCs should:

- Be designed and suited to each country's specific legal and political contexts and traditions with the appropriate remit to sui
- Have a strong legal basis of independence
- Have resources commensurate to the remit
- Possess a strong media presence in order to influence policy debates
- Be combined with a political and public consensus on sound public finances in order to gain a stronger impact
- Utilise fiscal rules as benchmarks against which performance can be judged

[3] Belgium (Conseil Supérieur des Finances—HCF), Canada (Parliamentary Budget Officer—PBO), Hungary (Költségvetési Tanács), Korea (National Assembly Budget Office—NABO), Netherlands (Centraal Planbureau—CPB), Sweden (Finanspolitiska rådet), and the United States (Congressional Budget Office-CBO).

3. How have the costs and benefits of fiscal risks been assessed and modelled?

The IMF defines a fiscal risk as 'the possibility of deviations of fiscal outcomes from what was expected at the time of the Budget or other forecast'.[4] These risks can be categorized according to whether they are: 'exogenous' or 'endogenous' and 'continuous' or 'discrete'. If 'discrete', risks may be understood as either 'probable', 'possible' or 'remote'. Below is a table reproduced from an IMF (2016b) report which provides a typology and examples of fiscal risks.

SOURCE	INCIDENCE			
	Continuous	Discrete		
		Probable	Possible	Remote
Exogenous	Commodity Price Volatility	Student Loan Defaults	Earthquake	Systemic Financial Crisis
Endogenous	Budget Overruns	PPP Project Completion Bonus	Government Guarantee	Subnational Government Default

Reproduced from IMF (2016)

The OBR (2017) note that faced with one such risk, a government generally has four policy options to deal with it:

- tolerate it – 'perhaps with an accounting provision to reflect the potential cost'
- treat it – 'to reduce the probability or expected impact of crystallisation'
- transfer it to the private sector – 'for example by insuring against crystallisation'
- 'terminate the activity creating the risk'

The appropriate choice, the OBR note, will depend on the Government's overall risk appetite, and its assessment of a range of factors:

- the benefits that it perceives from the activity that creates a particular risk
- the potential cost should that risk crystallise
- the potential cost of any policy response

The IMF (2016b) has set the international standard for assessing and modelling fiscal risk, with the publication of its 'best practice' guide in 2016. The Fund note that the experience of recent years 'has underscored the need to better understand the size and nature of these risks and their implications. Being better aware of fiscal risks can allow governments to put in place policies to budget for these more carefully and to take steps, where appropriate, to limit their exposure to shocks'. Current practice around the world, they argue, 'often falls short'. In this report, the IMF develops its 'Fiscal Stress Test' (FST), which is designed to mirror the

[4] https://www.imf.org/external/np/pp/eng/2008/052108.pdf

approach taken by the Fund in assessing financial stability in the context of the Financial Sector Assessment Program. The FST:

- 'integrates analysis of macroeconomic shocks and the realization of contingent liabilities using historical data'
- 'Examines the impact of such shocks on not only fiscal flow variables (such as government revenue, expenditure, and financing), but also stock variables (such as government liabilities, assets, and overall net worth), to which most existing methods pay limited attention.
- 'Models the impact of a more extreme set of scenarios compared with existing fiscal risk analysis techniques'

There are two key elements: macroeconomic risks and contingent liabilities. On the one hand, the FST models how public finances react to 'a large, correlated shock to key fiscally relevant macroeconomic variables typically including, GDP, inflation, commodity prices, exchange and interest rates, and housing and equity prices'. On the other hand, it takes into account 'the range and likelihood of both explicit and implicit contingent liabilities, and their interaction with large macroeconomic shocks'. The FST provides three summary indicators to assess the degree of fiscal pressure in an extreme scenario: fiscal solvency, government liquidity, and government financing burden.

In the UK, Parliament approved a revised Charter for Budget Responsibility in 2015 that requires the OBR to produce a fiscal risks report at least once every two years.[5] The OBR implement a fiscal stress test in accordance with the IMF's best practice recommendations, outlived above. In their modelling of fiscal stress, the OBR project the state of the UK finances in line with a shock similar to the 2008 financial crisis and its aftermath. It finds that 'the fiscal effects are severe, with the deficit rising to 8.1 per cent of GDP by 2021-22 (of which 7.4 per cent of GDP is deemed structural) and debt rising to around 114 per cent of GDP'. Relative to their normal March 2017 forecast, the deficit under such conditions would be £66.2 billion higher in 2017-18, rising to £158.5 billion higher by 2021-22. The report goes on to analyse the results of the stress test in relation to: tax receipts, public spending, financial transactions and the crystallisation of contingent liabilities, as well as fiscal aggregates like borrowing and the government's fiscal targets.

The OBR report finds that over the medium term, the biggest potential risks are those that would affect the whole economy, including:

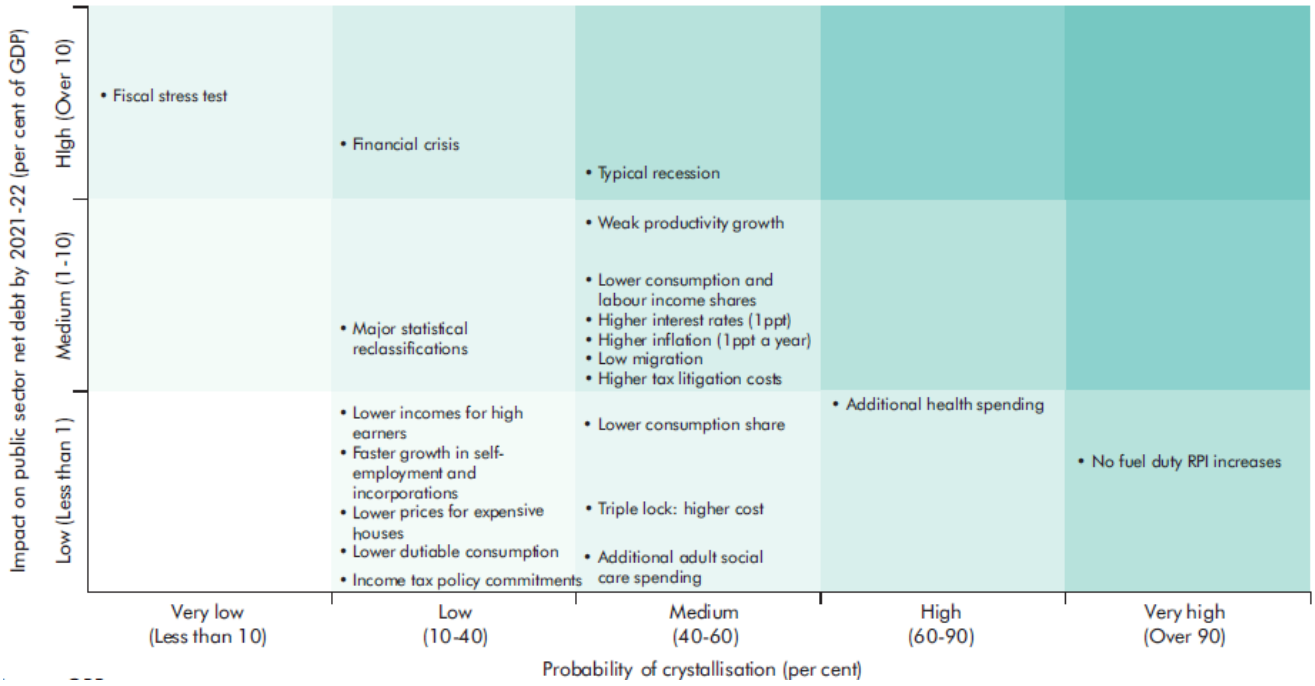
- recessions (a medium likelihood over five years)
- financial crises (low probability)
- the building pressure of sustained productivity weakness (medium probability)

There are also risks that would affect large parts of public spending:

[5] http://budgetresponsibility.org.uk/frr/fiscal-risk-report-july-2017/

- shocks affecting debt interest (medium probability)
- pressures on health (high probability)

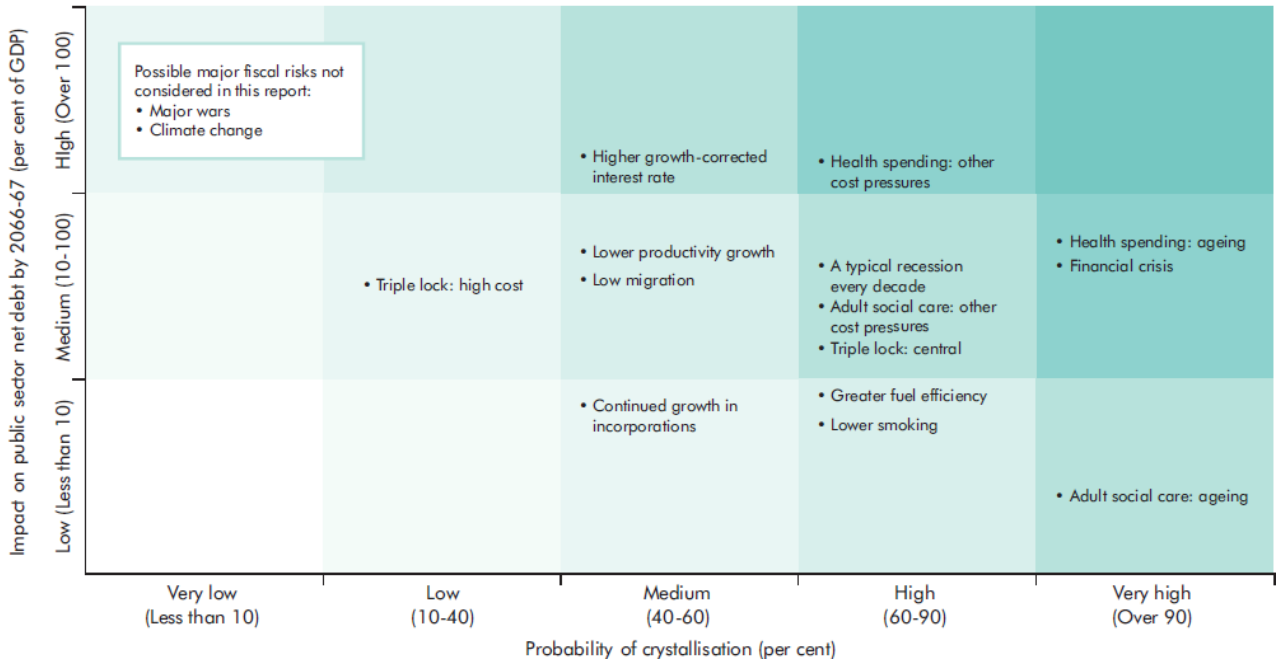
Some of these risks are seen as serious enough to threaten the government's medium-term fiscal mandate for the structural deficit to come below 2 per cent of GDP by 2020-21. The OBR note that, 'a financial crisis would; a recession could if it had wider fiscal effects beyond just cyclical borrowing; and some combinations of debt interest risks could too'. The report provides a useful table for understanding their risk projects over the medium term:



Reproduced from OBR (2017).

Alongside this overview of the main sources of fiscal risk in the medium term, the OBR highlight what they find to be the main risks to fiscal sustainability, which they consider to be 'highly likely to occur and relatively high impact if they did'.

Whilst modelling for this broad range of potential fiscal shocks, the OBR does not seek to analyse the potential benefit of particular policy decisions. Rather, it acts to merely remind government that it must 'keep these risks under review, to see if the benefits of the exposure outweigh the costs and whether there is scope to mitigate them in order to improve that balance'. Indeed, the OBR (2017) note that: 'None of this should be taken as a recommendation to refrain from particular spending increases or tax cuts, or to avoid particular fiscal risks – that would lie beyond our remit.' Indeed, no such report could be found that includes a full cost-benefit analysis of various fiscal policy choices and provides sufficient overview of the whole economy. This may be because such an overview would be generally limited to organisations such as the OBR, which has, in turn, a restricted mandate.



Reproduced from OBR (2017).

The OBR's approach has, however, been criticised by macroeconomists such as Simon Wren-Lewis (2017), who argues that the OBR's restricted remit, which does not look into the potential benefits of the government assuming some level of risk, gives it a very narrow conception of the wider macroeconomy. Tony Yates (2017) makes a similar point, criticising the OBR report for failing to 'draw out that in many ways the whole point of government is to assume risk, not to avoid it'. Wren-Lewis argues: 'To put the term risk and attach it to some level of debt or deficit, giving us 'fiscal risks', is questionable. It is a bit like saying there is a risk that your central heating will come on if it gets cold: that is not a risk, but why it is there'. He goes on to argue, 'Implicit in the idea of 'fiscal risks' is either a belief that there is an optimal level of debt which is below current levels, or a view that there is some level of debt so high that markets would start worrying about the government choosing to default'. As such, the report conducted by the OBR is essentially 'meaningless'. Both Yates (2017) and Wren-Lewis (2017) make the point that the most significant and immediate risk the UK economy faces is a product of the fact that monetary policy is operating at the zero-lower bound and there is potential that we are hit by a negative shock and monetary policy is unable to respond effectively.

More widely, the literature highlights further issues associated with this kind of fiscal risk modelling. One of the core debates within this issue is the concept of 'structural budget deficits' and the validity of underlying propositions of being able to determine normal levels of output and employment. In a recent paper on the European Commission's model for estimating 'potential output', which is used for measuring the 'structural budget balance' of EU countries, Heimberger & Kapeller (2017) demonstrate how underlying and highly contestable assumptions not only serve to measure the economy, but have an impact in shaping economic outcomes. Heimberger & Kapeller (2017) find that the Commission's

estimates have been ‘demonstrably pro-cyclical’ both pre- and post-crisis, and that they have in turn ‘reinforced general economic developments not only by affecting national fiscal policies but also by reaffirming and amplifying established views on economic conditions and appropriate policies in Europe’. Moreover, in ignoring international competition and the financial system altogether, the Commission’s perspective on the ‘structural budget balance’ of EU countries ‘could not account for the increasing polarization underlying the pre-crisis period’, and post-crisis it reinforced austerity measures by suggesting the public sector deleverage simultaneously with the private sector. Linked to this, as a Fabian Society (2012) report notes, a basic problem with the approach of focusing exclusively on the budget is that arithmetically the three sectoral balances in the economy – the budget position, the private sector and the current account position – must sum to zero. Thus, what occurs in the budget position depends on expenditure and saving in the private sector and the external position. The report therefore recommends the government adopt a fiscal rule which looks to reduce both the public sector deficit and the corporate sector surplus.

Part 2: Monetary policy

4. Is 'secular stagnation' still a useful way of understanding post-crisis capitalism?

Secular stagnation refers to the condition of persistent negligible or no economic growth, and whilst the concept has been around since Alvin Hansen coined the term in 1938, it has revived more recently by Larry Summers (2014; 2016) to describe the nature of the world's industrialized economies post-crisis. The hypothesis can be summarised by three core propositions: first, a structural aggregate demand deficiency has plagued the global economy for decades and will continue to do so, keeping growth low; second, that the financial boom and various financial bubbles were required to maintain any semblance of normal growth rates pre-crisis; and thirdly, that the natural real interest rate has been steadily declining (Borio 2017). Various factors are offered as reasons for the substantial fall in real interest rates, including slower population growth, cheaper capital goods, growing inequality which leads to a lower propensity to consume, heightened risk-aversion in financial markets, reserve accumulation by central banks and governments, and disinflation. Summers (2016) argues that the secular stagnation hypothesis fits with much of what we have witnessed in the global economy in recent years: 'Real interest rates are very low, demand has been sluggish, and inflation is low, just as one would expect in the presence of excess saving. Absent many good new investment opportunities, savings have tended to flow into existing assets, causing asset price inflation'.

The view put forward by Summers has been challenged from a number of different angles. Rogoff (2015), for example, argues that the current predicament is better understood as the product of the 'debt supercycle'. Rogoff argues 'the lead up to and aftermath of the 2008 global financial crisis has unfolded like a garden variety post-WWII financial crisis', in relation to sluggish growth, as well as the magnitude of the housing boom and bust, the huge leverage that accompanied the bubble, the behaviour of equity prices before and after the Crisis. This debt overhang argument is predominantly cyclical in nature, though it does recognise underlying issues which contribute to banking crises, meaning that Rogoff believes that 'after deleveraging and borrowing headwinds subside, expected growth trends might prove higher than simple extrapolations of recent performance might suggest'. Summers (2016) has himself refuted these claims, suggesting that debt build-ups are 'insufficient to account for the prolonged slow recovery', and 'provide no natural explanation for the generation-long trend toward lower neutral real interest rate'.

Some of these critiques should be seen as alternative New Keynesian interpretations of the 'zero lower bound' problem (see Palley 2016a). Ben Bernanke (2015) is, for example, sceptical of the secular stagnation thesis but his 'global savings glut' argument shares a

number of the same features. Bernanke's perspective suggests that the current economic situation is better understood as the product of 'global savings glut', driven by China and emerging markets in Asia in particular. Whilst Summers views the decline of the equilibrium real interest rate as driven by more fundamental factors, such as slow population growth, Bernanke's outlook remains more optimistic that policy measures can be taken to improve the situation, including 'working to free up international capital flows and to reduce interventions in foreign exchange markets'. He argues that 'in an open economy, secular stagnation requires that the returns to capital investment be permanently low everywhere, not just in the home economy'. As such, 'unless the whole world is in the grip of secular stagnation, at some point attractive investment opportunities abroad will reappear'. Summers (2016) accepts the important role of this 'savings glut' in driving low real interest rates, yet argues that its impact was largely felt a decade ago and thus cannot fully explain the continuing decline in real interest rates in the post-crisis environment that has contributed to the state of secular stagnation. Whilst Bernanke and Summers disagree on the structural nature of the current stagnation, both accept the lowering of the natural real interest rate as the main factor driving stagnation.

Paul Krugman has also engaged with Summers on the topic of secular stagnation, and like Bernanke and Summers, sees there are a problem with the natural real interest rate. Indeed, Krugman shares much of Summers' argument, suggesting that although he doesn't use the term 'liquidity trap', like him Summers also 'works from the understanding that we are an economy in which monetary policy is de facto constrained by the zero lower bound' (see Krugman 2013). Krugman's perspective, however, suggests that the current economic malaise is best understood as a 'liquidity trap', similar to that experienced by Japan in the 1990s, wherein 'monetary policy loses its grip because the nominal interest rate is essentially zero, in which the quantity of money becomes irrelevant because money and bonds are essentially perfect substitutes" (Krugman 1998). From this perspective, the main issue is a situation where people save more than the economy can absorb, leading to a negative natural rate of interest and thus a liquidity trap where conventional monetary policies become impotent. Summers (2015), on the other hand, suggests that unlike Krugman's liquidity trap thesis, secular stagnation views there as being 'no assurance that capitalist economies, when plunged into downturn, will over any interval revert to what had been normal'. More recently, however, both economists seem to have converged on the idea that escaping secular stagnation/the liquidity trap requires the active use of fiscal policy (see Krugman 2015).

On the other hand, the whole premise of the New Keynesian focus on the ZLB problem has been challenged from a more orthodox Keynesian perspective. Palley (2016b), for example, argues that ZLB economics 'promotes a false understanding of current problems and, thereby, blocks the path to solutions' by promoting 'pre-Keynesian misunderstandings of the role and adjustment capabilities of interest rates, which keeps economics locked into a failed orthodoxy'. For Palley (2016a), ZLB theories such as those put forward by Summers, Krugman and Bernanke misinterpret reality. He argues that, the US economy 'has been on a

glide-path to stagnation for the past 30 years owing to neoliberal policies that created a structural demand shortage by worsening income distribution, increasing the trade deficit and encouraging offshore investment diversion'. In this version of events, neoliberal economy policy is the cause of stagnation and '*hitting the ZLB is simply a symptom'.* Rather than there being a problem with secular stagnation, Palley's argument suggests that the current predicament is best understood as the product of an ideological shift towards monetary policy and the relegation of fiscal policy, which could have better managed aggregate demand.

Whilst these rival theories indicate that there may be other ways of understanding the current economic predicament, there has been some cause to suggest the power of the secular stagnation theory might be declining. As Davies (2017) puts it, 'global activity growth has rebounded sharply, and recession risks have plummeted. Growth in real output is now running at higher levels than anything seen since the temporary rebound from the financial crash in 2009/10… the growth rate of fixed investment is beginning to recover, which is a body blow to one of the central tenets of the secular stagnation school'. Donald Trump's victory, which came attached with a promise to reflate the American economy, was seen to boost investor confidence. The Economist (2017) also have posed the question of whether we are seeing 'the end of secular stagnation'. It notes, 'Headline inflation is trending upward, even in Europe and Japan. Commodity prices have stabilised, helping struggling emerging markets. And America's Federal Reserve has begun raising its benchmark interest rate secular stagnation theorists have not yet been dissuaded of the power of their argument.'

Notwithstanding this recent uptick in the major economies, however, little significant positive change has occurred that would cause such theorists to change their mind. Krugman (2017) has noted in early September 2017 that he is still 'worried about secular stagnation', citing President Trump's decision to close the DACA scheme supporting young migrants as a negative move which will only contribute to the growing demographic problems underpinning secular stagnation. Similarly, in May of this year, Summers defended the continuing value of his thesis. He notes that secular stagnation does not imply a permanent state of deflation, and that Hansen's theory spoke of a 'weak recovery' – which, he says, is vindicated by the contemporary state of the economy. Indeed, he argues that compared to when he made the argument first in 2013, economic indicators suggest the theory to be even more solid today: 'Relative to the prevailing forecasts at the time that I spoke, interest rates have been very substantially lower. Growth has been very substantially lower. Inflation has been very substantially lower for the industrialized world' (Summers quoted in Wessel 2017). Furthermore, a Davies (2017) notes, a February 2017 paper by the President of the Federal Reserve Bank of San Francisco, John Williams (2017), concluded that the low real interest rate is a global phenomenon and likely to be very persistent, meaning secular stagnation could still be an issue for some time to come. It seems that whilst significant analytical and theoretical differences emerge within the literature, the appeal of the secular stagnation thesis has not been damaged by economic events over the past 12 months or so.

5. What is the case for and against negative interest rates?

The case for negative interest rates

The case for negative interest rates emerges from the standard models of using monetary policy as the primary tool for economic policy. Key to the case is the finding that the natural rate of interest – the rate consistent with normal output – has fallen to such low levels (because of secular stagnation) that growth can only be achieved through reducing rates to negative levels. As Williams (2016) notes, global estimates show the natural rate of interest moving from a pre-recession average of around 4% down to a new normal of around 3%. The critical implication of this trend is that, 'conventional monetary policy has less room to stimulate the economy during an economic downturn, owing to a lower bound on how low interest rates can go' which necessitates 'a greater reliance on unconventional tools like central bank balance sheets, forward guidance, and potentially even negative policy rates'. The upshot of this thinking being that negative rates make it 'more costly for commercial banks to park their money with the central bank' which should lower the cost of commercial loans, meaning there is more money in circulation, through loans or banks buying up government bonds (Skidelsky 2016).

The case for the active adoption of negative interest rates has been put forward by IMF economists (see Viñals et al.2016). They suggest that once nominal rates are at the ZLB, if real interest rates remain above the levels consistent with price stability and full employment, central banks could adopt a negative rate policy. The authors argue that: 'negative rates aim to encourage the private sector to spend more and support price stability by further easing monetary and financial conditions. For smaller open economies, negative rates can also help discourage capital inflows and reduce exchange rate appreciation pressures.' Furthermore, they note 'synergies' between negative rate policies and QE, suggests that moving policy rates negative 'aims to lower money market rates and push down the yield curve further, and boost portfolio substitution effects, thereby increasing the potency of monetary policy.'

There have been a range of justifications used by central banks around Europe. The World Bank (Arteta et al. 2016) note that, 'the main motivation stated by the ECB, Bank of Japan, [Swedish] Riksbank, and MNB (Central Bank of Hungary) was the need to stabilize inflation expectations, and support growth'. The Governor of the Swedish Riksbank, Stefan Ingves (2015), argued that setting a negative repo rate was necessary to ensure that inflation would continue to rise and attain its target rate. The ECB argued that negative rates were needed to 'further ease financing conditions, stimulate new credit provision and thereby reinforce the momentum of the euro area's economic recovery and accelerate the return of inflation to levels below, but close to, 2 percent' (ECB 2016). In the case of the Swiss National Bank (SNB) and the Danmarks Nationalbank, the World Bank notes that 'a proximate motivation was the need to respond to currency appreciation and capital inflow pressures'. For example,

the SNB stated in March 2016 that the Swiss franc, 'The Swiss franc is still significantly overvalued. Negative interest is making Swiss franc investments *less attractive' (SNB 2016).*

The case against negative interest rates

There are also a number of arguments against the implementation of negative rates. From a theoretical perspective, Palley (2016a; Palley and Posen 2017) draws on his criticism of the idea that that ZLB helps to *explain* post-crisis economic stagnation, rather than being a product of demand deficiencies. He argues that such theories rely upon the pre-Keynesian notion that 'a lower real interest rate can always solve the problem of aggregate demand shortage' by increasing investment demand and reducing saving – a claim that Keynes discredited. Skidelsky's (2016) account builds this Keynesian critique, quoting Keynes as saying: "whilst a decline in the rate of interest may be expected ... to increase the volume of investment, this will not happen if [profit expectations] are falling faster than the rate of interest; and whilst an increase in the volume of investment may be expected ... to increase employment, this may not happen if the propensity to consume is falling off."

Alongside the Keynesian argument that lowering interest rates will not solve demand deficiency problems, there are a number of arguments which highlight potentially dangerous implications arising from a negative interest rate policy. Despite their overall positive assessment, the IMF (Viñals et al. 2016) include several caveats in their argument, noting that there may be limits both in terms of the level of negative rates that can be set and the length of time they can remain negative. Under conditions of negative rates, the IMF (Viñals et al. 2016) note that individuals, corporates and even banks 'could substantially increase the use of cash as a store of value', which would cause a range of new costs associated with the need to physically store such volumes of cash. More importantly, they note a political economy consideration that public support for negative rates could quickly diminish if the public began to feel that they were 'being taxed' if and when deposit rates increasingly turn negative. This would, Palley (Palley and Posen 2017) argues, 'increase savings if households try to compensate for lost interest income', thus sucking household consumption out of the economy.

Negative rates may also lead to financial disruption in a number of different ways. Palley (Palley and Posen 2017) argues that 'somebody must bear the cost of negative rates', and thus if banks absorb it, they will 'reduce their profitability and they may reduce lending via raised credit standards'. On the other hand, if banks decide they do not want to lose deposits, 'they may instead pass the cost on to borrowers.' Indeed, in the chase for profits, negative rates could also encourage risky lending practices of the sort that led to the financial crisis. The IMF (Viñals et al. 2016) argue that as banks' margins are squeezed, 'they may start lending to riskier borrowers to maintain their profit levels. Banks may also be encouraged to rely more on cheaper but volatile wholesale funding sources. Weak loans could become harder to detect, and vital corporate restructuring could be delayed. Negative interest rates may induce boom and bust cycles in asset prices.'

From a slightly different, longer-term, perspective, Palley fears that there could a major contradiction within negative rate policies (Palley and Posen 2017). Whilst they aim to 'increase house prices and equity prices, [in order to] generate wealth effects that stimulate the economy', if the policy is successful, future interest rates will rise, thus running the risk of 'triggering a financial crisis as bubbles burst, house prices fall, and we see debt defaults'. There are, moreover, serious implications for insurance and pensions markets. The IMF (Viñals et al. 2016) note that 'low rates make it difficult for insurers to meet guaranteed returns, and with substantial duration mismatches, this will eventually force losses on life insurance policy holders'. More damagingly, Palley highlights the fact that as a result insurance companies and pension funds, may then themselves engage in risky yield-chasing, leading to financial fragility and asset bubbles (Palley and Posen 2017). The World Bank (Arteta et al. 2016) show concern for the global impact of negative rates. They argue that a policy of negative interest rates, like other unconventional monetary policy measures, could have 'spillover effects to emerging market and developing economies (EMDEs), as search for yields in reaction to negative rates in advanced economies may affect capital flows to EMDEs.'

6. How much do central bank mandates vary, and what has been the impact of different mandates?

Although some central banks, including the Bank of England (BoE) and Sweden's Sveriges Riksbank, are hundreds of years old, the number of central banks rose rapidly in the post-WW2 period, reaching 173 in number in 1998 with the creation of the European Central Bank (ECB) (Fontana 2006). Central banks are public policy institutions 'whose main goals are to preserve monetary stability and promote financial stability' (Archer and Bingham 2009). The responsibilities of central banks also cover a number of areas, including acting as a lender of the last resort, payment systems (production of banks notes, settlement services, management of gold and foreign exchange reserves), oversight and development of the financial system, banking services and debt management for the state, and sometimes analysis and advice regarding economic and development policies (Archer and Bingham 2009). Although monetary stability is the main goal for central banks around the world, the mandates and core functions of these central banks differ. That is, central banks vary in both their *de jure* form, and in the *de facto* content of their actions.

As Meade (2009) states, 'although economic considerations are involved, the choice of a precise mandate for the central bank is fundamentally a political decision' which 'expresses society's preferences for how independent of government the central bank should be in discharging its assigned responsibilities'. The legal position of a central bank, its relationship to government and its responsibilities are a product of not just economic policy, but a host of factors associated with a country's economic history, the development of its public sector

more broadly, its legal system (common or civil law), etc (Meade 2009). The way in which a central bank's mandate is constructed has a significant influence on the functions it tends to perform. For instance, Archer (2009) finds that 'central banks from emerging market economies have a wider range of functions than central banks from industrialised economies', given that a central bank can central banks can be a 'source of expertise that can be used in a wide range of applications', including guiding the development of immature financial systems.

Price stability is, however, the overriding goal of central banks across the board. Utilising the BIS Survey 2008 on central banks' self-assessments of the functions that they discharge, Archer (2009) details a range of characteristics of modern central banks. He notes that 'price stability is usually the dominant monetary policy objective specified in legislation', and that comparatively few countries now have central bank laws without price stability as a specific element of the central bank's objectives. The 'average central bank reports a high degree of involvement in objective setting for monetary policy – though not complete autonomy'. For a number of central banks, such as those of Australia, Brazil, New Zealand, Norway, Turkey and the United Kingdom, responsibility for monetary policy objective setting is shared. For example, the government may set specific targets. In those cases, the central bank has *instrument autonomy* with respect to monetary policy but not full *goal autonomy.* Within the Eurozone, national central banks 'make no independent monetary policy decisions as institutions'. Around 70% of central banks report that they have full implementation and goal autonomy.

Whilst price stability tends to be the chief goal of central banks, it is important to recognise how different mandates of central banks shape their policy actions. For example, within its mandate the ECB has only one monetary policy objective: price stability. This contrasts with the US Federal Reserve (or Fed), which has a 'dual mandate' of price stability and 'maximum employment' (see Fontana 2006). The differential outcomes for the wider economy between these two has been stark. As Fontana (2006) notes, underlying the role for the central bank is the 'new consensus' view in macroeconomics that central banks engage in aggregate demand fine-tuning via changes in the short-term nominal interest rate in order to hit an inflation target (usually around 2%). Within this school of thought, monetary policy 'produces real effects only in the short run, never in the long run'. This has meant that the ECB becomes 'theoretically sheltered from 'any serious criticism about the long-run performance of the euro area in terms of output and employment' (Fontana 2006). Fontana and Palacio-Vera (2007), however, find evidence that monetary policy 'does have long-run effects on output and employment', and thus make the argument that a 'flexible' approach to monetary policy is required, which not 'only seeks to stabilize output in the short run and achieve price stability in the long run but that also makes an active contribution to the growth of output and employment'.

In contrast to the ECB, the Fed's dual mandate has allowed 'for less restrictive theoretical assumptions than a single mandate for price stability', meaning that the Fed can 'encompass a

broader view of macroeconomics that allows for the interaction between aggregate demand and aggregate supply and for the nonneutrality of monetary policy' (Fontana 2006). The upshot of this is, as numerous studies find, the Fed has better supported long-run growth and employment when compared with a single mandate institution such as the ECB (Fontana 2006; Ball 2005). Ball (2005) notes, for instance, that the Fed's less prominent focus on inflation has meant hat it has behaved more flexibly in times of crisis, cutting interest rates sharply at the start of recessions in the early 1990s and in 2001.

With the growth in central bank independence, Archer (2009) notes that in the past few decades, 'a more focused concept of the role and responsibilities of the central bank seems to have emerged. Objectives have become better identified and used more actively as a means to shape the performance of the central bank'. Nevertheless, just as this image of a central bank had begun to emerge, the financial crisis from 2007-08 saw 'brought various unsettled issues to the fore (including incomplete objectives and trade-offs) and has thus renewed some uncertainties about the future shape of central bank functions and objectives' (Archer 2009). A large component of this has been a shift toward financial stability falling under the central bank's remit. A 2016 report based on the question of 'Rethinking the Central Bank's Mandate' in light of the financial crisis, led by Sweden's Riksbank, argued that 'a lesson from the financial crisis was that keeping prices stable was not enough to create stability in the economy on a more general level. It is insufficient for central banks to try to achieve macroeconomic stability through price stability while the micro level in the financial system, that is individual financial institutions, are overseen using traditional supervisory methods'. The rise of macro-prudential policy has, however, created debate around the role of central banks in the delivery of such measures.'

Archer (2009) finds that, around 90% of central banks 'operate under the presumption that they have a policy responsibility for financial stability'. However, less than half of central bank statutes contain objectives relating to financial stability and there is a much lower level of *de facto* responsibility over financial stability recorded, partly due to the fact that financial stability involves many different dimensions with respect of a number of different institutions. In some cases where the central bank has an explicit legal objective for financial stability, the objective can be 'broad-ranging and the central bank's responsibility apparently far-reaching', as is the case in China. More often, this responsibility is more roughly defined as 'contributing to financial stability or to the actions of another authority pursuing a financial stability objective'. This is the case in Australia, the Czech Republic, the Eurosystem, Japan and Switzerland (Archer 2009).

The report notes however, 'growing tendency for central banks to have 'significant responsibility for the development of prudential policy with respect to the *financial system as a whole'*. This is true in the case of the UK, wherein a number of changes were introduced post-GFC, 'designed specifically to enhance the effectiveness of the financial stability function. These include a change in the composition of the Court and the creation of a Financial Stability Committee'. A key area for financial stability functions in central banks is

oversight of the payment system, with 'the average central bank' having somewhere between a shared and a full level of responsibility for this function (Archer 2009).

Unlike the ECB, the BoE also incorporates financial stability as a primary objective, meaning that the BoE has a role in detecting and reducing threats to the financial system, including acting as lender of last resort (EU Parliament 2012). The ECB, on the other hand, 'has a mandate of financial stability *to help the banking system* in performing its duties and supplying credit to the economy... but it has not a clear mandate for helping directly the euro area economy by lowering interest rates by other means'. Although in 2015, the ECB under Draghi changed policy and began implementing quantitative easing, a 2012 report for the European Parliament makes clear that the ECB's more restrictive mandate was a critical factor in the ECB's weaker response to the crisis when compared to the Fed in the USA and the BoE, and that this had held back recovery in the Eurozone (EU Parliament 2012).

Part3: Trade and globalisation

7. What is the trend in current account balances for both advanced and developing countries?

Broadly, developing countries ran surpluses from the late 1990s in the aftermath of the emerging market currency crises. As Gruber and Kamin (2007) note, 'the aggregate current account balance of the developing countries moved into surplus starting in 2000.' Chinn et al (2011) add that 'throughout the first decade after 2000, the United States ran enormous current account deficits. China, the rest of East Asia, and the oil exporting countries ran correspondingly large current account surpluses.' The offsetting deficits in advanced economies were largely a US effect. This situation, however, is somewhat of a "puzzle" given that economic priors would expect 'that mature industrial economies should be exporting capital to developing countries' (Gruber and Kamin 2007). There is no consensus explanation for the current pattern of international capital flows, and many hypotheses have been put forward. Explanations for this trend within the Asian economies include trends in saving and investment balances, the mercantilist behaviour of these countries after the Asian financial crisis, distortions in financial markets and the global savings glut – explanations, Chinn et al (2011) note, that are far from mutually exclusive. Gruber and Kamin (2007) argue that their analysis supports 'the view that the financial crises of the late 1990s contributed to Asian current account surpluses and to what Bernanke has referred to as a ''global saving glut'', but it remains an open question why those surplus savings ended up in the United States rather than being spread more evenly throughout the world.'

Global current account imbalances become less pronounced after the global financial crisis, but the broad patterns remain between persistent surpluses (China and emerging Asia; Japan, Germany) and persistent deficits (US, UK). Lane and Milesi-Ferretti (2012) argue that 'the pre-crisis period was characterized by increased dispersion in current account deficits and surpluses, facilitated by a benign global financial environment characterized by low risk aversion by borrowers and lenders as well as low volatility'. Since the GFC, global current account imbalances as a percentage of GDP 'have narrowed *considerably' (Lim 2016). The* same is true within the Euro area itself. 'While the euro area as a whole has remained relatively close to external balance, the current account balances of individual countries have diverged' (Barnes et al. 2010). 'Only in the wake of the financial crisis, the dispersion of current account balances has narrowed considerably with some reduction in surpluses and, with the collapse in domestic demand, a more marked narrowing of deficits' (Barnes et al. 2010).

As IMF (2013b) note, most of this adjustment took place during the recession of 2008–09, 'when global growth was negative, and reflects lower demand in external deficit economies', which brought 'large declines in investment in these economies, some increase in private saving, and much lower government saving'. Whilst exchange rate adjustment played some

role, policy adjustment 'contributed disappointingly little' (IMF 2013b). This year's External Sector Report from the IMF (2017b; Adler and Cubeddu 2017) finds that 'excess current account imbalances—that is, those beyond the levels warranted by country fundamentals—were broadly unchanged in 2016'. Since 2013, however, there has been 'a rotation of these excess imbalances toward advanced economies', whilst they have narrowed in 'key emerging market economies, led by a smaller excess surplus in China and smaller excess deficits in others key economies (such as Brazil, Indonesia, South Africa, and Turkey)'.

Thus, whilst the reduction of large flow imbalances has curbed systemic risks to the global economy, the IMF worry that two concerns remain. First, given the demand compression in deficit countries driving the imbalance reductions, 'narrower external imbalances have come at the cost of increased internal imbalances (high unemployment and large output gaps)'. There is thus the risk that these imbalances will once again widen as economies recover. Second, 'since flow imbalances have shrunk but not reversed, net creditor and debtor positions ("stock imbalances") have widened further', whilst weak growth has 'contributed to increases in the ratio of net external liabilities to GDP in some debtor economies'. These factors make some economies more vulnerable to market sentiment (IMF 2014). The IMF (2017a) World Economic Outlook report from April 2017 notes that global current account imbalances narrowed marginally in 2016, but note that 'findings suggest that unless countries implement substantial policy changes, the global imbalances are unlikely to disappear.'

Indeed, the OECD (2012; 2013) believe that absent more ambitious policy changes, global current account imbalances will widen and return to pre-crisis 2007 peak by 2025-30, after which time they should narrow again. Their diagnosis (OECD 2012) argues that:

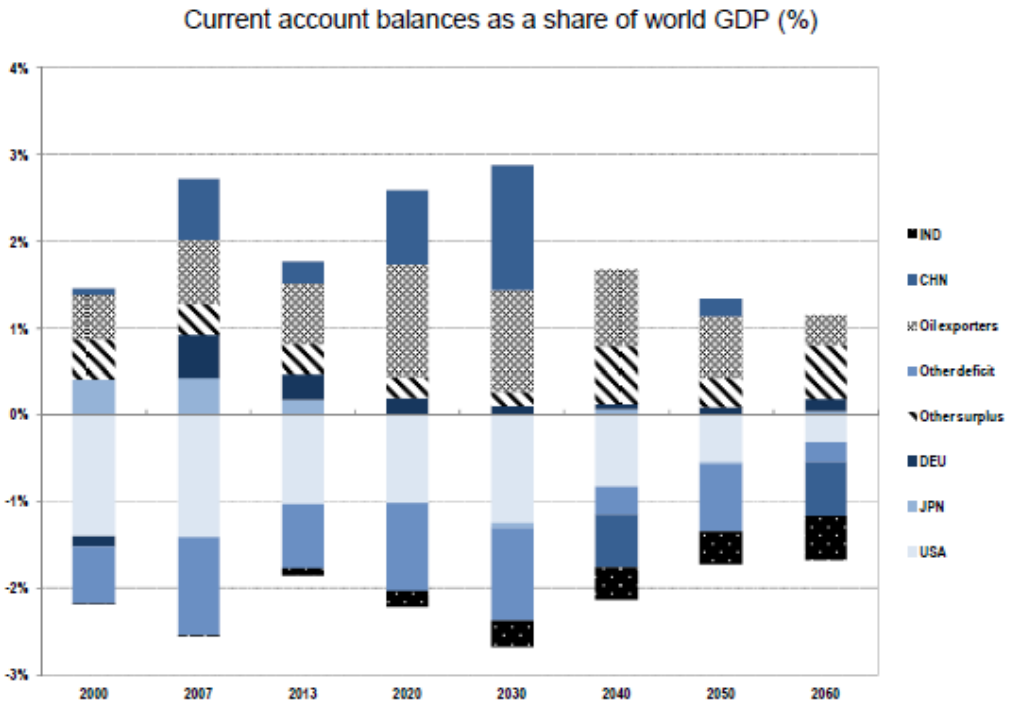
- In the short term, a widening of global current account imbalances 'is mostly a cyclical response as output gaps close, since those countries that had been running the largest deficits prior to the crisis (most obviously the United States) have typically experienced sharper downturns'.
- Over the longer term, the OECD suggest that the negative effect of ageing populations on saving is the dominant effect, 'leading to reduced current account balances in most OECD countries, although Germany, Netherlands and some Nordic countries continue to run surpluses'.
- A few countries -- Italy, Greece and Portugal – 'are projected to run persistent very large current account deficits of 10-15% of GDP'.
- The US current account deficit falls from 2030, 'mostly because demographic effects are projected to have a smaller negative impact on saving than in many other countries (and because the United States then accounts for a smaller share of world GDP)'.
- China is projected to have a widening current account surplus up to the late 2020s as the investment rate falls more rapidly than the saving rate due to slowing potential growth. China's large current account surplus then 'begins to decline in the 2030s as

the old-age dependency ratio rises more rapidly, lowering the saving rate more quickly'.

- The current account surplus of oil exporters is 'projected to rise only slightly to 2030 reflecting modest increases in real oil prices set against the tendency for oil exporters to gradually run down current account surpluses'. This reflects an assumption of 1% per annum increase in real oil prices after 2030.

These long-term changes could have an impact on interest rates. Although they concede the point is 'speculative', the OECD (2013) suggest that demographic changes especially in China and the effects of advances in social protection and credit availability in non-OECD countries could lead to a global savings *shortage*. This global saving rate decline beyond 2030 could 'place upward pressures on real interest rates' for OECD members, with an increase of about 1½ percentage points on 10 year government bonds in global real interest rates between 2030 and 2060.

Figure 18. Global imbalances are projected to rise over the next two decades



Reproduced from OECD (2013).

In the UK context, Brexit has acted as a catalyst for some of the fears around the country's continuing current account deficit. Mark Carney (2017) suggested that the UK has relied 'on the kindness of strangers' to fund its current account deficit, depending on foreign investors to bridge the shortfall in the balance of payments. Yet, whilst markets might have expected this to close at some point, perhaps through weaker growth of domestic demand, The Bank of

England (Broadbent 2017) suggests one possibility (although the analyst does not necessarily hold this view) is that the foreign exchange market 'believes that leaving the EU will hasten the correction of these imbalances'. It may be the case that foreign exchange markets believe 'those strangers will be less generous to a UK outside the EU… [and thus] might require a higher premium for sterling finance'. The upshot of this would be to 'slow the growth of domestic demand that much earlier, accelerate a rebalancing of the economy and depress the fair value of the exchange rate' (Broadbent 2017).

8. How have advanced countries sought to improve their current account balance, and what accounts for any successful cases?

Unlike emerging East Asian economies, developed economies have not attempted to maintain low real exchange rates through pegged currencies; Denmark's peg to the Euro is, essentially, the only case of a developed country with a fixed exchange rate. Within the euro area, however, there have been attempts at internal devaluation. Since the Eurozone crisis, given the absence of nominal exchange rates, crisis-hit economies have attempted internal devaluation changes in prices and costs. This internal devaluation has 'entailed a decline in domestic unit labour costs (ULCs), relative to those of trading partners—through a decline in relative wages or/and increases in labour productivity and other non-price adjustments (e.g., related to product quality)' (Tressel et al. 2014). Ireland, for example, 'has seen 15–20 percent reductions in ULCs due to wage cuts and labor shedding'. In Portugal and Spain, though wages have not declined, reductions in ULCs of around 5–10 percent 'have come primarily from labour shedding'. Such moves can, however, reduce domestic demand and exacerbate debt overhang problems (IMF 2014).

Germany, as Europe's largest surplus economy, is often taken as a case in point when looking to understand how a country can achieve a current account surplus. Bofinger (2015) provides an account of how this came about from the late 1990s with the creation of the Eurozone. He notes that in order to tackle unemployment, a corporatist deal was struck, wherein large German unions accepted real wage stagnation in order to see new jobs created. In essence, German 'wage moderation' 'is an explicit attempt to devalue the real exchange rate internally', Bofinger (2015) notes.

The significance of wage moderation is, however, somewhat tempered by findings from a European Commission (2012) report which shows the importance of exogenous factors in shaping current account balances alongside endogenous policy choices. The European Commission (2012) report analyses several factors which have contributed to the widening of surpluses and deficits inside the euro area and the EU. The report finds, 'no single factor provides a complete explanation to the increase in the current account surpluses'. Indeed,

largely it shows that factors associated with national policy actions accounted for only a small proportion of current account fluctuations in the EU. The report notes, for instance:

- 'The introduction of the euro and financial market integration contributed significantly to the increases in the surpluses and deficits in the euro area, helped by inadequate macroprudential supervision'.

- 'External shocks, including the increase in competition coming from China, other Asian countries and other emerging economies, had a substantial impact on the export performance of the EU economies', with Germany benefitting in particular.

- Export performance was driven by both price *and* non-price factors, and that 'surplus countries benefited from a favourable export structure as reflected in their product and geographical composition'.

In terms of government policy, the report finds:

- the composition of investment is important: whilst investment in equipment and transport machinery was similar across deficit and surplus countries, 'construction investment was much lower in surplus countries', such as Sweden, Germany, Belgium, the Netherlands and Denmark. As such, 'construction appears as a prime factor in shifts of resource allocation between tradable and non-tradable sectors'.

- The fiscal stance is an important determinant of current accounts. Abbas et al. (2011) show an improvement in the fiscal balance of 1 percentage point of GDP leads to an increase in current account balance of between 0.3-0.5 per cent of GDP.

- Wage constraint can play a role in shaping current account balances, but only a limited one. In the case of Germany, for instance, wage restraint and labour market reform was seen to account for 'moderate' adjustments the trade surplus.

These results show, the European Commission (2012) report finds, that 'not much of the divergences in the euro area can be attributed to fiscal and structural factors', and that factors such as 'oil balances, aging speed, and catching-up effects matter for recent imbalances', but that these results are 'mainly driven by economies outside the EU'. Indeed, as Marin (2017) argues, in light of China's entry into the World Trade Organisation in 2001, German success (in terms of its current account balance) can be contrasted with that of the US (where China's industrialisation cost US jobs). She notes that Germany fared better than the US, because '(i) on the import side, trade adjustment to low-cost competition had already happened before the rise of China; (ii) the rise of Eastern Europe offered new export opportunities for German firms; and finally (iii) China's love for product quality found a perfect match in German products.' This highlights how it was not one particular policy that served Germany well over the past two decades, but rather a fortunate interaction of Germany's overall policy mix and concurrent liberalisation of economies in Eastern Europe alongside that of China.

The case of Denmark, a much smaller economy than Germany with considerably higher ULCs, is an interesting alternative example of how a country might build a current account surplus. Denmark has been running a surplus since 1990, and whilst this was initially associated with a positive trade balance in both goods and services, since the early 2000s, 'income from investment abroad has gained in importance and today contributes as much as the trade in goods' (Leszczuk and Pojar 2016). This shift has occurred, 'due to an accumulation in the net international investment position', particularly outward FDI, and because 'investments abroad have returned more than investments at home, a fact influenced partly by Denmark's safe-haven status'. This shift is the result of longer-term institutional factors. For instance, Leszczuk and Pojar (2016) note that Danish investment funds, insurance corporations and pension funds 'have played a major role in the built-up of foreign assets *partly due to the Danish well-developed pension system'* [emphasis original]. Though Denmark's surplus had been growing in the years before the crisis, the report also notes that Denmark has benefited significantly from valuation effects after the crisis – that is, the change in market value of the external asset and liabilities portfolio stocks beyond financial transactions (Leszczuk and Pojar 2016).

9. In advanced economies, what are the theoretical and empirically observed relationships between the effective exchange rate and: (a) current account balance and (b) living standards)?

Effective exchange rates and current account balances

In theory, exchange rates should move to ensure current account equilibrium over the medium run. As a report by UNCTAD (2007) puts it, in principle 'a depreciation of the real exchange rate, more than anything else, induces an "expenditure switch" from demand for foreign goods to demand for domestic goods, which is reflected in an improvement in the trade balance, and vice versa in the case of an appreciation'. The significance of the real effective exchange rate-current account correlation 'permeates both traditional and modern theoretical frameworks in international macroeconomics' (Arghyrou and Chortareas 2008). For example, Henry and Longmore (2003) note that, it is generally accepted that for small open economies, 'changes in the real effective exchange rate can have a significant impact on economic activity by altering the relative returns in the tradeable and non-tradeable sectors' (Henry and Longmore 2003).

In practice, however, the evidence for this is not substantial. As Cuestas and Regis (2013) note in a recent paper on the topic, empirical research on the relationship between the current account and the exchange rate 'is not extensive in terms of the number of works' Arghyrou and Chortareas (2008) note that while most theoretical models of open economies rely on a causal relationship between real exchange rates and the current account, 'limited, if any, contemporary evidence exist on the empirical validity of this relationship'. The evidence that

does exist is mixed. UNCTAD (2007) argue that, 'evidence does not support the orthodox belief that, with free floating, international financial markets will perform that role by smoothly adjusting exchange rates to their "equilibrium" level, while with fixed exchange rates, product, financial and labour markets will always be flexible enough to smoothly and rapidly adjust to a new equilibrium'. In reality, they suggest that exchange rates under a floating regime 'have proved to be highly unstable', driven by speculative flows, and that 'experience with hard pegs has not been satisfactory either'. Supporting this view, Henry and Longmore (2003) find that in the case of Jamaica, the real exchange rate has not played a significant role in determining the major elements of the country's current account. Instead, they suggest that 'persistence of current-account imbalances is strongly dependent on currency misalignments'.

On the other hand, Arghyrou and Chortareas (2008) look to rectify this by considering the role of real exchange rates in current account determination in the EMU countries. Their analysis reveals a 'significant negative long-run relationship exists between the movements of the RER and the CA balance'. Moreover, they discover two groups of countries exist within euro area since the adoption of the single currency: 'those with persistent real exchange rate depreciation leading to current account improvement; and those with systematic real appreciation and deteriorating current accounts'.

Effective exchange rates and living standards

In a broad sense, there is an indirect but clear link between exchange rates and living standards – their impact upon economic growth rates. Dollar (1992) argued, for instance, that the relative undervaluation of the Asian currencies compared with those in Latin America and Africa helped to explain higher growth in Asian region. In a more recent paper, Harvard economist Dani Rodrik (2008) supports this argument, finding robust evidence 'that undervaluation of the currency (a high real exchange rate) stimulates economic growth'. However, Rodrik notes that, '*this relationship holds only for developing countries*; it disappears when the sample is restricted to richer countries, and it gets stronger the poorer the country'.

In terms of the relationship between REERs and living standards in *advanced* economies, although there is not a significant corpus of work, a nascent literature highlights some interesting observations. Perhaps most significantly, a recent intervention by James K. Galbraith has tackled the relationship between exchange rates and industrial wage inequality (Rossi and Galbraith 2016; Galbraith 2017). There is a simple underlying logic to Galbraith's argument: export-oriented sectors tend to be well-paid, and 'their earnings in local currency rise automatically when the national currency devalues, hence inflating the pay gap between export- and non-export sectors'. This impact occurs instantly, and does not depend on any changes in volume. On the other hand, in the non-export sector, there is no such effect. 'Those who are paid in the local currency continue to be paid exactly what they earned before; any adjustments to offset an increased cost-of-living will come later if they come at all'

(Rossi and Galbraith 2016). Rossi and Galbraith (2016) demonstrate the impact of this for a wide selection of countries for the years from 1971 to 2011, 'a period characterized by fluctuating exchange rates and financial market liberalization in many open economies'. Their analysis shows, they argue, 'a very clear transmission mechanism and an unmistakable arrow of causation, running from movements of the exchange rate, to changes in intersectoral industrial pay inequality, and from there to changes in household income inequality'.

Hua's research has looked at this issue specifically in relation to China. China has come under significant international pressure in favour of renminbi revaluation, given the view held by some in the international community that the Chinese currency has been held artificially low. Hua's research with Jeanneney has shown that this has produced significant geographical distortions in living standards in China. That is, due to the higher share of tradable goods produced in urban rather than rural areas, the real depreciation of the Chinese currency up until 1993 boosted the urban economy at the expense of the rural economy, increasing inequality between the two areas of Chinese society (Jeanneney and Hua 2001). Hua's (2011) work has found that while international pressure is significant, increasing the valuation of the renminbi could 'exert negative effects by deteriorating the international competitiveness in tradable sector and by destructing employment'.

On the other hand, research by the Bank of Canada (Lafrance and Schembri 2000) suggests that the exchange rate has not had an impact on Canadian living standards. This research was conducted in light of the decline of Canadian living standards relative to the USA in the 1990s, which occurred alongside a decline in the Canadian-U.S. dollar exchange rate. They authors analysed this relationship, but found that exogenous forces— notably a decline in the world prices of commodities and weak demand for domestic output—were affecting both Canada's standard of living and the exchange rate and that 'the flexible exchange rate regime itself did not play an independent role in the relative decline in Canada's standard of living (Lafrance and Schembri 2000).

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