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COMPARING THE DELEGATION OF MONETARY AND FISCAL POLICY

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Comparing the delegation of monetary and fiscal policy

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Abstract

The apparent success of independent central banks in conducting monetary policy has led many to argue that some form of policy delegation should also be applied to the macroeconomic aspects of fiscal policy. A number of countries have recently established Fiscal Councils, although their role is typically to give advice on paths for government debt and deficits rather than decide upon and implement policy. This paper examines how useful a comparison between monetary and fiscal policy can be in motivating and guiding Fiscal Councils. Simple analogies between inflation bias and deficit bias can be misleading, and the motives for delegating aspects of fiscal policy may be rather different from those generally associated with monetary policy. In addition, lack of knowledge about the desirable goals of long run debt policy, compared to a greater understanding of the objectives of monetary policy, may help explain key differences in the nature of delegation between the two. The paper ends by making some comparisons between the delegation of monetary and fiscal policy in the United Kingdom.

0. Introduction

Many people (for example Leeper, 2009) have used the apparent success of independent central banks to argue that a similar idea can be applied to fiscal policy.[1] However no country has set up a body like a central bank that has formal authority over the level of public debt or deficits (a body that Debrun et al (2009) call an 'Independent Fiscal Agency'), in the manner that central banks have control over interest rates. Instead, the institutions called 'Fiscal Councils' that exist in some countries are advisory bodies, with no statutory control. However, this does not mean that comparisons between how monetary policy has been delegated and existing or potential Fiscal Councils are not revealing. Indeed, it may be that examining such differences can shed some light on why the nature of delegation is different in each case. This paper focuses only on the macroeconomic role of a Fiscal Council, and leaves aside the question of whether the Council could also provide microeconomic analysis (as is the case for the CBO in the US and the PBO is Canada, for example).

Section 1 compares how delegation has worked in practice for monetary and fiscal policy. We distinguish a number of stages of the policy making process, from its ultimate objectives, through forecasting, to the public evaluation of decisions. A number of differences in the areas and form of delegation are discussed. This raises the question of whether these differences might stem from different motivations for delegation in each case.

The reason most often cited in the academic literature for the delegation of monetary policy to independent central banks is the problem of time inconsistency and inflation bias. Although it has been suggested that similar time inconsistency problems could account for deficit bias (the trend rise in government debt over time), in Section 2 we argue that this is misleading. Although significant time inconsistency problems associated with inflation do arise in optimal debt policy, they do not account for deficit bias.

Section 3 explores other potential causes of deficit bias that have been discussed in the literature. Some of these suggest that partial delegation (for forecasting, or evaluation) might be sufficient, while others call for more wholesale delegation. These differences in themselves may help account for why the form of delegation varies across Fiscal Councils around the world. The fact that no Fiscal Council has the power to impose deficit targets on their government (in contrast to central banks choosing interest rates) is often put down to the political sensitivity of tax and spending decisions. This section suggests three other reasons why the delegation of fiscal policy is more limited, including the possibility that deficit bias reflects informational deficiencies which an independent advisory body may be sufficient to correct.

Another possible reason for the absence of Independent Fiscal Agencies (fiscal institutions with control over deficits) is a lack of consensus over what appropriate targets for debt should be. Section 4 discusses why the benchmark random-walk steady-state debt result, based on tax

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[1] Recent developments may have called into question this success, but as Wren-Lewis (2010) and others have argued, the zero lower bound for interest rates was always a key caveat for theories of a 'Great Moderation', and so problems associated with hitting this zero bound should not necessarily detract from achievements in more normal times.

smoothing, is not a satisfactory basis for policy on long run debt. However, there exists very little research on what alternative frameworks, such as overlapping generation models, might imply for optimal long run debt. This suggests an important role for a Fiscal Council, in helping to stimulate and evaluate research on this issue. In addition, an independent institution can be helpful in evaluating the implications of new research in an area where there is a danger of research becoming politicised.

Section 5 uses the device of comparing monetary and fiscal policy delegation on the particular case of the UK, which has recently established the Office for Budget Responsibility (OBR). While both monetary and fiscal delegation in the UK involve the government laying down targets (for inflation and the medium term structural deficit, respectively), we use the analysis of section 1 to argue that the nature of these targets is very different. While the translation from the ultimate goals of policy to particular short term objectives is delegated in the case of monetary policy, it remains in the hands of government for fiscal policy. While our earlier analysis suggests why decisions over intermediate targets for debt are likely to remain with governments, it also suggests an important advisory role for Fiscal Councils, yet this appears to be precluded in the OBR's remit. While forecasting the UK economy is delegated for both monetary and fiscal policy, the nature of the forecasting required is rather different in each case. Delegation of forecasting to a Fiscal Council raises issues of independence, particularly when the Fiscal Council is prevented from commenting on policy. A final section concludes.

1. From objectives to evaluation

In what has been described elsewhere as the consensus assignment (Kirsanova, Leith and Wren-Lewis, 2009), monetary policy is assigned control of inflation and demand by varying interest rates, and fiscal policy (at the macro level) the control of government debt by changing taxes and spending. Advocates of this assignment normally add a proviso, which is that it only applies in circumstances where monetary policy is unconstrained, and in particular where interest rates are not at a zero bound[2]. As we have seen over the last two years, when interest rates do hit a zero bound, fiscal policy should step in to the demand management role. Fiscal policy is also the only tool for national countercyclical policy for a member of a monetary union. This something a Fiscal Council will need to deal with, but for expositional purposes it is easier if we start from a position in which the consensus assignment does apply, and then later go on to deal with the problem of fiscal demand management.[3]

The standard analysis of policy focuses on objectives and instruments. The schema in Figure 1 is more elaborate. First, we distinguish between ultimate objectives (which for monetary policy will include a medium term level of inflation), and the implementation of those objectives (how quickly inflation is brought to that target after a shock, and at what output cost). Second, we explicitly allow for the forecasting process, which is an inevitable part of policy making when there are lags and forward looking behaviour. Finally, we allow for a public evaluation process, by which the success or otherwise of the policy is judged. None of these categories is precisely defined: for example, instead of a separate evaluation category, we could distinguish between implementation and evaluation for each individual category.

In the case of monetary policy undertaken by independent central banks, there is normally a mandate set down by government which will discuss ultimate goals. In some cases (e.g. UK) there is an explicit inflation target. However, even with explicit inflation targets it is generally understood that the Bank has discretion over how quickly to bring inflation back to target following some shock, an assessment which will include some implicit inflation/output trade-off.[4] The Bank's interest rate decision will also be guided by an internal forecast, although how this forecast is constructed and the weight put on it varies across banks. In some cases independence has been granted with an explicit evaluation procedure. In the case of the UK, for example, the Governor of the Bank has to write a letter to the Chancellor if the inflation target is missed by more than 1%. More generally, independent central banks are subject to parliamentary scrutiny, although how effective this is no doubt varies across countries. (By evaluation, we mean a critical discussion of past and current policy at all four levels, using appropriate academic research.)

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[2] Or more strictly, where there was not a significant possibility that the zero bound would be hit in the near future, given the implementation lags involved in fiscal actions (see Wren-Lewis, 2010).

[3] Implicit here is a view that, zero bound problems aside, the consensus assignment should apply in floating exchange rate regimes: see Kirsanova, Leith and Wren-Lewis (2009). If this view is not taken, and if fiscal policy is routinely used as a countercyclical tool, then there are far greater similarities between fiscal and monetary policy.

[4] The conservative central banker literature focuses on differences between preferences over output and inflation between the government and the central bank. Since Woodford (2003), the macroeconomics literature has viewed this trade off as a more technical problem based on consumers utility.

Ultimate Goals	
Optimal stabilisation around target	IG Equity?, Golden rule?

Implementation	
Bank gives output/inflation trade-off	Government debt goals

Forecasts	
Bank forecast	Government or FC forecasts

Instrument changes	
Bank decisions on interest rates	Government budget deficits

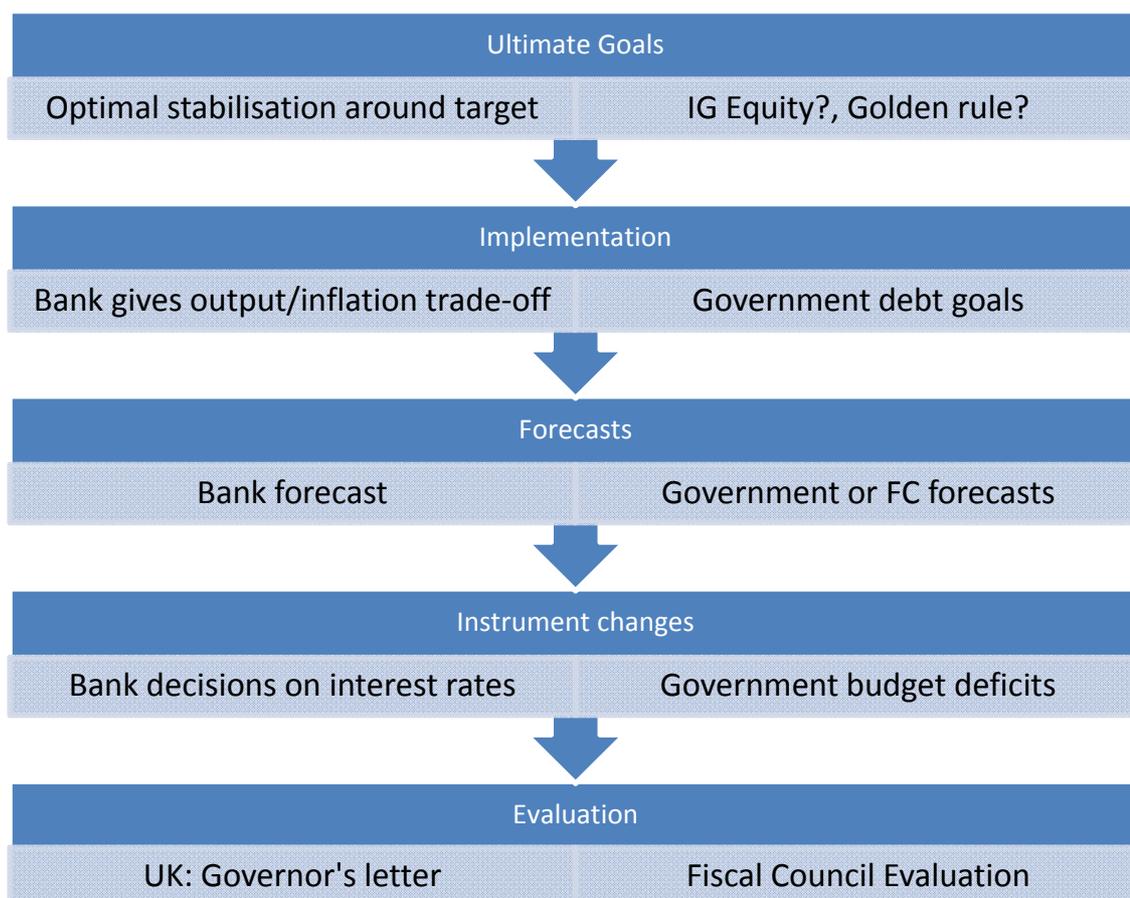| Evaluation	
UK: Governor's letter	Fiscal Council Evaluation

Figure 1   Comparing monetary and fiscal delegation

A comparison of each of these five areas with fiscal policy making reveals the scope for delegation, and some of the key issues that are explored more fully below. Starting with ultimate objectives, there seems to be much greater clarity for monetary policy relative to fiscal policy. Of course even with monetary policy there is still debate, most recently with the suggestion that perhaps inflation targets are too low because this increases the chances of hitting the zero bound. But even if inflation targets were to change, the orders of magnitude involved would not be large. Compare this with government debt. (Section 4 contains a detailed discussion.) There is no general agreement about what levels government debt in relation to GDP should be, or indeed whether this measure is the appropriate fiscal target. Levels of government debt differ widely across countries, while inflation targets (implicit or explicit) across countries are fairly close.

We could define the ultimate objective of both policies as the maximisation of social welfare. However, even if we adopt this unifying device, there are two clear differences between monetary and fiscal policy. First, inflation directly affects social welfare and human happiness. For example, following the work of Michael Woodford, it is now possible to formally incorporate the costs of inflation (when sticky prices are due to Calvo contracts) in a social welfare function based on the utility of the representative agent, where inflation costs are due to the relative price dispersion generated by positive inflation. At an empirical level, research on happiness consistently finds large and significant negative effects from higher inflation and unemployment. In contrast, the costs of

excessive debt are more indirect. Government debt is not normally added directly into a social welfare function, or considered as a direct influence on happiness.

Second, the impact of debt on welfare (aside from crisis periods) is much more long term. This means that any welfare analysis has to take a view on intergenerational equity. One possibility is to assume that agents collectively internalise the welfare of future generations, but this Ricardian model also implies that debt does not matter too much (see section 2). Once we depart from a Ricardian world, debt will impact on the long run capital stock. Any evaluation of social welfare will have to address issues of intergenerational equity that can be largely ignored when evaluating monetary policy. Perhaps for this reason academic analysis has tended to shy away from an analysis of what appropriate long run targets for government debt might be (see section 4).

While these issues for fiscal policy remain very uncertain and are not much discussed, there is a great deal of discussion of possible rules for government debt and deficits. But these rules, and their associated targets for debt to GDP ratios and the like, are intermediate targets.[5] The reasons why high government debt is undesirable are well known, but it is much more difficult to then say what these undesirable consequences imply for the optimal level of debt. This uncertainty, I will suggest below, has important implications for any delegation of fiscal policy.

Differences in timing carry over to the forecasting process. Forecasts on which monetary policy decisions are based need go little further than 5 years ahead. In New Keynesian terms, the natural span of any monetary policy exercise is directly related to the period over which prices remain sticky[6]. Forecasts designed to evaluate the sustainability and desirability of debt policy should be much longer term. In their 2010 evaluation of the long term US budget outlook, the Congressional Budget Office (CBO) present projections until 2080.

Monetary policy decisions, at least in normal times, involve a single instrument. Although in the past some central banks have tried using monetary aggregates as intermediate goals, nowadays it is generally assumed in normal times that short term interest rates are the policy instrument. In the case of fiscal policy there are many policy instruments: different tax rates and allowances, different types of spending etc. If we know how changing each tax rate changes debt, then from the point of view of controlling government debt it is irrelevant which particular tax we use. However from a broader social and economic perspective, there is a great deal of interest in which tax is changed. For this reason alone, it is inconceivable that an independent fiscal authority could ever be given the power to permanently alter tax rates, or decide how much to spend on individual government spending programmes. However in principle, an independent fiscal agency could be given the power to impose an annual deficit figure on the government, leaving the government to choose how to achieve this deficit.

In the case of monetary policy, independent central banks control implementation, the forecast and policy decisions over interest rates. They may also conduct ex post evaluation. In the case of fiscal policy, the extent of delegation is more piecemeal. In many countries Fiscal Councils co-exist with fiscal rules that the government both sets and attempts to achieve (see Calmfors and

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[5] In this schema, we could class the annual budget deficit as the instrument of macroeconomic debt policy. Government fiscal rules are normally less precise: for example an objective not to exceed some debt to GDP ratio over the business cycle.

[6] Assuming that we can ignore hysteresis, which may be a dubious assumption (see Ball, 2010, for example).

Wren-Lewis (2011)). In some cases Fiscal Councils produce the forecasts on which government budgets are based (e.g. the Central Planning Bureau in the Netherlands and the Office for Budget Responsibility in the UK), but in others they do not.[7] There are no Independent Fiscal Agencies that have the power to impose a deficit target on the government. Indeed, the role of an independent Fiscal Council may be limited to the last of the five areas considered above. Rather than replace any activity of government in the area of fiscal policy, a Fiscal Council can simply be a public 'watchdog', which comments on government activity in all other areas. (This seems a fair description of how the Swedish Fiscal Council works, for example: see Calmfors, 2010a.) We could describe such a watchdog as the 'delegation of evaluation and advice'.

In this sense, delegation of fiscal policy is a rather more subtle and varied affair than delegation of monetary policy. An interesting question is whether this variation reflects differences in the motivations for delegation, an issue to which we now turn.

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[7] Although where they do not, this is sometimes because there is a separate forecasting agency which is recognised as having considerable independence (e.g. Sweden).

2. Time Inconsistent Debt Policy

      In this section I argue that the standard academic justification for delegating monetary policy, involving time inconsistency, does not transfer to fiscal policy towards debt in the context of the conventional assignment. This last qualification is essential. If fiscal policy rather than monetary policy is used to control output and inflation, because of asymmetric shocks to a monetary union member for example, then time inconsistency and inflation bias issues can apply directly to fiscal policy. We discuss this possibility further at the end of this section.

      The near doubling of the level of government debt in the OECD area between mid 1970 and the mid 1990s has often been termed 'deficit bias'. Much of the discussion around the delegation of monetary policy has focused on 'inflation bias'. If these two biases have a similar cause, then any solutions to them involving delegation may also be similar. In an exam for undergraduate economists, if you ask a question about why independent central banks are thought to be a beneficial form of delegation, the student will almost certainly see this as a prompt to explain the problem of time inconsistency in monetary policy. The academic literature on this is so large and also so well known that no summary will be attempted here. If this is what academic economists think is the main reason for the delegation of monetary policy, can a similar approach be applied for fiscal policy and the control of debt?

      At first sight this line of enquiry seems promising. The potential impatience of politicians is often seen as an important part of the inflation bias story. The argument is that a short-sighted politician will be tempted to increase output at the cost of a rise in inflation, and ignore the consequence that inflation might increase permanently while the output gains will be transitory. In other words, impatient governments will not be able to commit to an inflation target. Impatience is also likely to be important in fiscal policy. The benefits for the politician of cutting taxes or increasing spending may be immediate, whereas the costs in servicing higher debt can be put off into the longer term. In addition, just as time inconsistent and time consistent monetary policies can be very different, recent research has shown that optimal policy towards debt under discretion and commitment will also be quite different (see below). These similarities may have led the UK Chancellor, in the Mais lecture he gave before the 2010 election that brought him to office, to claim: "Evidence suggests that many of the same time-consistency problems that lead to inflation bias when politicians are in direct control of monetary policy can lead to deficit bias in fiscal policy."[8] Unfortunately, as I will now show, this claim becomes questionable when we explore the issue further.

      What is the optimal level of government debt, and how quickly should we try and get there? To the extent that debt is financed by distortionary taxation, then if we could choose our initial level of debt, we might choose a negative level, so that any government spending could be financed from the interest on these assets. However, if we instead inherit a positive level of debt, then tax smoothing suggests it would be undesirable to try and eliminate it, even if it was not the initial level of debt/assets we would have chosen. (This result was first shown in models with sticky prices by Schmitt-Grohe and Uribe (2004) and Benigno and Woodford (2003). Lambertini (2007) and Eser et al

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[8] http://www.conservatives.com/News/Speeches/2010/02/George_Osborne_Mais_Lecture_-_A_New_Economic_Model.aspx

(2009) show that the result can also apply in an open economy.) This is sometimes called the random-walk steady-state debt result.

To demonstrate this at its simplest, suppose we ignore government spending, and assume debt (which is indexed, and pays a real interest rate) is entirely financed by distortionary taxes. Assume the optimal level of taxes is zero, and their cost is quadratic. The optimal level of debt in the absence of history is also clearly zero, but let us assume that we inherit a positive debt $D_{-1} > 0$. Optimal policy involves choosing debt and taxes to minimise discounted costs i.e.

Minimize $T_0^2 + \beta T_1^2 + \beta^2 T_2^2 + \ldots$

subject to $D_t = (1+r)D_{t-1} - T_t$ for each period t>=0, where r is the real interest rate and β is a discount factor. We normalize the impact of distortionary taxes on welfare to one for simplicity.

Writing this as the Lagrangian

$L_0 = (T_0^2 - 2\lambda_0(T_0 - (1+r)D_{-1} + D_0)) + \beta (T_1^2 - 2\lambda_1(T_1 - (1+r)D_0 + D_1)) + \ldots$

then each period the first order conditions will be

$T_t - \lambda_t = 0$

$-\lambda_t + \beta(1+r)\lambda_{t+1} = 0$

for all t. If β(1+r)=1, which means that we discount utility at the same rate as the real rate of interest, then we can see immediately that the Lagrange multiplier is constant, so taxes will be constant in every period. This in turn implies that, if debt is not to explode, we aim for a constant level of debt equal to its inherited level. So taxes in each period are enough simply to finance the interest payments on the inherited level of debt, and the optimal policy involves keeping debt at this inherited level, whatever this inherited level might be. For example, accommodation implies taxes have to rise to rD_{-1}. The discounted welfare cost of this is $r(1+r)(D_{-1})^2$. Compare this to the cost of immediately eliminating debt, $(D_{-1})^2$, which is clearly larger for all feasible values of real interest rates.

How reasonable is the assumption that β(1+r)=1? It is clearly critical. If β(1+r)<1 then we eventually end up with zero debt and taxes, because the discounted long term benefits of this now exceed the short term costs of the higher taxes to get there. If β(1+r)>1, then it becomes optimal to let debt explode: see section 3 for an example. However the standard workhorse macroeconomic model, in which agents internalise the utility of their children, gives us the β(1+r)=1 result. (We will discuss this further in section 4.) The implications are stark. Debt targets do not make sense in this framework. Instead government debt is a buffer which we should allow to be blown this way and that according to the economic wind. [9]

The first order conditions above are identical for all time periods including the first, so there is no problem of time inconsistency here. However, in this example, the only way to reduce debt was

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[9] This benchmark result also explains why governments might not worry about what the optimal level of debt is, even when debt targets are imposed, because the least damage is done by having a target equal to the inherited debt stock.

by raising taxes. In practice a good deal of government debt is defined in nominal terms. In these circumstances, we could reduce the debt burden by unexpectedly raising inflation. Come the next period, it would be optimal to reduce debt still further by this means, so policy becomes time inconsistent. Agents assuming rational expectations will anticipate this continuing incentive to raise inflation, and so the optimal policy will (given these expectations) become the time consistent, discretionary solution.

The same point would arise even if all debt is real, but prices are sticky, because in those circumstances the monetary authority can temporarily change real interest rates. Lower real interest rates have a similar effect in reducing the debt burden, but because it influences inflation, any attempt to reduce debt this way will also be time inconsistent when inflation is determined in a forward looking manner. With a forward looking Phillips curve, the cost of any policy changes that influence inflation and hence welfare will differ in the first period compared to all others.

As a result, as Leith and Wren-Lewis (2007) show, following a positive shock to debt the time consistent policy has to involve debt returning to its initial, pre-shock level i.e. it has to be a debt targeting policy rather than a debt accommodation policy. If it was not, then there would always be a first period incentive to move debt slightly towards its initial level, and so the policy would be time inconsistent. Leith and Wren-Lewis (2007) also show that the costs of not being able to commit to the stead- state random-walk result are significant, in part because in this closed economy setting debt is adjusted very rapidly under discretion.

So the time consistency problem for optimal debt policy has some clear similarities with the same problem for monetary policy. Under sticky prices the source of the problem can be the same (a forward looking Phillips curve), and the costs of not being able to commit to the time inconsistent policy can be significant. But there are also two major differences. First, this is not a story of deficit bias. Second, the impatient fiscal policy maker, unlike their monetary counterpart, has an incentive to stick to the time inconsistent plan.

The optimal time inconsistent debt policy, as we have already noted, does not involve returning to a debt target. The time consistent policy does. So we cannot claim that the problem of time inconsistency and lack of commitment, at least in this context, causes deficit bias.[10] Deficit bias is all about an upward drift in debt levels over time, so it is hardly consistent with a situation where policy makers are forced to rapidly return to a debt target.

This fact also reveals the second problem, which is that an impatient fiscal policy maker will tend to stick to the time inconsistent plan. The benefits of not doing so are long term: after a positive debt shock, the time inconsistent plan tries to initially reduce the steady state rise in debt. The costs of departing from the time inconsistent plan are short term, involving whatever measures (including higher inflation) are required to initially reduce debt. Although there may be some cases where there is an incentive to renege, typically an impatient policy maker's incentives are to stick with the time inconsistent plan, which is perhaps why we do not see policymakers rapidly reducing any positive shocks to debt. This is the exact opposite of the monetary policy case.

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[10] As time consistency problems are endemic in models with forward looking behaviour, there may be other stories about deficit bias that could involve time inconsistency problems (such as hyperbolic discounting, which we discuss in section 3), but we focus on the case closest to the monetary policy literature here for obvious reasons.

So while there may well be a time inconsistency problem associated with inflation and debt that has similarities to the problem of inflation bias, it is unlikely to lead to deficit bias. We need to look elsewhere for explanations for deficit bias. But before doing so, we need to consider the possibility that the conventional assignment might not apply. This will clearly be the case for a member of a monetary union, because they have to follow the monetary policy of the union as a whole.

Most of the literature on inflation bias simply assumes that the policymaker has control over output, and does not specify what instrument is used to achieve this control. As a result, this literature could be applied to fiscal policy in a monetary union. However, it does not automatically follow that we will see deficit bias as well as inflation bias. To see this, we can simply note that in the case of monetary policy and rational expectations, an inflation bias equilibrium does not require a lower level of nominal or real interest rates at any time. Instead, the level of inflation bias is defined as the level of inflation at which policy makers have no incentive to increase output or inflation. If it is fiscal rather than monetary policy that is being used to influence output and inflation, it is therefore possible that inflation bias could be accompanied by a neutral rather than expansionary fiscal policy. Furthermore, we could note that for an individual member of a monetary union, idiosyncratic inflation bias would not be sustainable in the long run, because it would imply a steady loss in competitiveness.

In more complex cases where both monetary and fiscal policy can be used to influence demand, the combination of a fiscal authority that desired higher than natural output and a more conservative central bank might lead to an outcome where budget deficits were offset by high real interest rates. As Castellani and Debrun (2005) note, institutional change that reduces inflation bias through monetary policy might encourage inflation bias through fiscal policy with an associated deficit bias. In Agell et al. (1996), a discretionary equilibrium exists where both inflation bias and deficit bias are present, and the government would be better off committing to budget balance and inflation at target. This raises interesting issues about monetary and fiscal policy coordination when one or other policy (or both) is delegated, but this is an area with a large literature which is beyond the scope of this paper to address.

3. Motives for delegating fiscal policy

There are a large number of reasons discussed in the literature that might lead to deficit bias, and that therefore could provide a case for the delegation of policy. (For a survey, see Calmfors and Wren-Lewis (2011).) However, before looking at these, it is worth reflecting on why the inflation bias and time inconsistency story for the delegation of monetary policy has proved so attractive. Any account of why policy delegation takes place in practice needs to address two related points: why would governments be prepared to delegate in the first place, and what prevents them taking control back when the delegated authority does things that are not in their interests. When delegation acts as a commitment device then it is possible to see why governments might choose to enhance commitment through delegation. Overruling a delegated authority incurs a political cost, which enhances the credibility of commitment. Finally the delegated authority itself may be less likely than the government to trade-off reduced unemployment for higher inflation for a number of reasons: it may be more conservative, it may be set explicit inflation targets, and it could be incentivised to meet those targets. In these circumstances, delegation is something that governments might carry out, and it may be sustainable.

To see why such considerations may be informative, consider deficit bias caused by the desire to *exploit future generations.* Debt allows the current generation to take resources from future generations (Musgrave, 1988). This aspect of fiscal policy is almost completely absent from monetary policy. There is unfortunately some supporting evidence that such exploitation might occur. Consider three other means by which the current generation could exploit future generations: direct transfers, a gradual rise in the real price of an asset owned by the old and required by the young, and undertaking activities that incur costs for future generations. All three activities take place to at least some extent. Unfunded social security schemes take resources away from future generations if the rate of return is less than the rate of interest. The real price of houses has been rising in most countries. Climate change has yet to be seriously addressed by the current generation.

Why would delegating fiscal decisions to unelected representatives help avoid this intergenerational transfer? Maskin and Tirole (2004) argue that officials want to leave a legacy. In that sense, they will care about what future generations will think of them. This motive does not apply to the current generation as a whole, because each member of a generation is small, and therefore their contribution to a generation's legacy is inconsequential. Indeed, we hardly ever talk about the legacy of a generation. So if deficit bias reflected a deliberate desire by the current generation to exploit future generations, delegation might prevent it.

The problem with this line of argument is that it is unclear why governments would ever want to delegate policy. If governments represented the interests of the electorate, then any government that expressed a desire to end this exploitation would be in danger of being voted out of office. The best one could hope for is that an individual politician might be prepared to go against the wishes of the electorate in order to leave a legacy. Even if this happened, however, there would be a strong possibility that the electorate would replace them by others who were committed to undoing their actions.

It is also worth noting that if deficit bias was due to the exploitation of future generations, delegation of evaluation and advice (which is what we see in practice) would be pointless. The advice of a fiscal council to avoid this exploitation would be completely ignored. Delegation would

only be effective if the delegated authority had the power to make decisions about the level of the budget deficit. Delegation of advice alone would only make sense if agents are not selfish when the full consequences of their behaviour are made apparent to them, but are inclined to allow more selfish motives to prevail otherwise. However this points to a problem of information, which we consider in more detail below.

There are three main explanations of deficit bias which appear consistent with delegation being enacted by governments, and being subsequently sustained. These relate to impatience, an asymmetry of information between the electorate and governments, and common pool problems. Before considering each in turn, it is worth discussing another story put forward in the literature, which involves *electoral competition.*

Suppose two political parties compete in a democracy. Here parties can differ in their preferences either over types of public goods or over the size of government, but where these parties fully reflect the preferences of their section of the electorate. This set-up was originally formalized by Alesina and Tabellini (1990) and Persson and Svensson (1989). In this theory, governments do not fully internalise the cost of debt, because those costs may be borne by an opposing party if the government is not re-elected. Indeed, it may be advantageous for a government to increase debt to constrain the actions of a future government with different political preferences. In this framework each party would not create deficit or debt bias if it could be certain to be in power forever (its non-benevolence would instead be reflected in its preferences for particular public goods or the size of government). The apparently short sighted behaviour comes from the fact that it might not be in power in the future.

An issue with these original formulations is that they use real models, so that all government debt is in real terms. In reality most government debt is defined in nominal terms. This fact could fatally undermine these models of deficit bias if prices were not sticky, because governments could simply alter the level of debt by using surprise inflation (assuming monetary policy was not delegated to an independent central bank). If this were the case, debt cannot be used strategically as a state variable, so no debt bias will arise on this account. Of course inflation is not costless, so an important question is whether the combination of nominal debt and sticky prices can recreate the use of debt as a strategic variable.

Leith and Wren-Lewis (2009) suggest the answer is yes, but the size of the resulting deficit bias may not be that large. Instead the main costs involved in having competing political parties appears to involve a political business cycle, where in particular alternating between parties that like big or small government causes significant costs to social welfare through cyclical movements in inflation and output designed to influence the level of debt. This is rather different from deficit bias, and is a problem that may be more easily resolved by the delegation of monetary policy. Perhaps all that can be concluded at this point is that more research needs to be done on the impact of competing parties within the context of models with nominal debt and sticky prices.

Impatience

One possible explanation for deficit bias is impatience. This can work at the level of individuals or governments. Of course it is governments that take fiscal decisions, but we can distinguish between cases where governments simply carry out the electorate's wishes, and other

cases where deficit bias arises from the way government interact with the electorate. An example of the former is where agents have hyperbolic discount functions rather than conventional exponential discount functions. (See Rogoff and Bertelsmann (2010) for an application to deficit bias.) To use a simple analogy, if we don't think about it too much, we will be tempted to eat that extra pastry (a tax cut or additional spending today), but if someone (a Fiscal Council) reminds us that we are already overweight (debt is too high), we might not. Here a Fiscal Council could play a public information type role, although we also need an additional story about why the government is ineffective, reluctant or unable to play this role.

A more common explanation for deficit bias is that governments are more impatient than the electorate. As we noted above, a benchmark result for debt policy is that optimal steady state debt follows a random walk. What if the policymaker is a little more impatient than the private sector (i.e. not quite benevolent)? The following analysis is taken from Kirsanova, Leith and Wren-Lewis (2007), and uses the closed economy model of Leith and Wren-Lewis (2007).

Suppose we have a benevolent monetary policy maker, but a mildly myopic fiscal policy maker, who together play Nash. The fiscal authority's annual discount rate is approximately 6%, compared to 4% for the monetary authority and the private sector. We consider only one fiscal instrument, government spending, but deviations from the initial steady state in government spending are costly for welfare because of over/under provision of public goods. Figure 2 plots the reaction of the fiscal instrument and debt to a cost-push shock. The solid line represents the outcome when we have benevolent fiscal and monetary policy makers, and this outcome follows the random walk result, for reasons already discussed. The dashed line represents the outcome from a Nash game between fiscal and monetary policy makers, where the only difference between the two is that the fiscal authority has a higher discount rate. In this case, debt steadily increases, and does not (and will not) reach a new steady state.[11]

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[11] Although this solution is explosive (as inspection of eigenvalues confirm), the rate of increase in debt is less than the rate of discount, so welfare costs will still be finite. As a result, we can compute optimal paths, although with obvious qualifications related to linearisation. With stronger discounting, the increase in debt and other macro variables would explode more rapidly, and the social costs of this would be infinite.

Figure 2   Debt following a cost-push shock under optimal cooperative policy and under Nash
                with myopic fiscal policy makers*
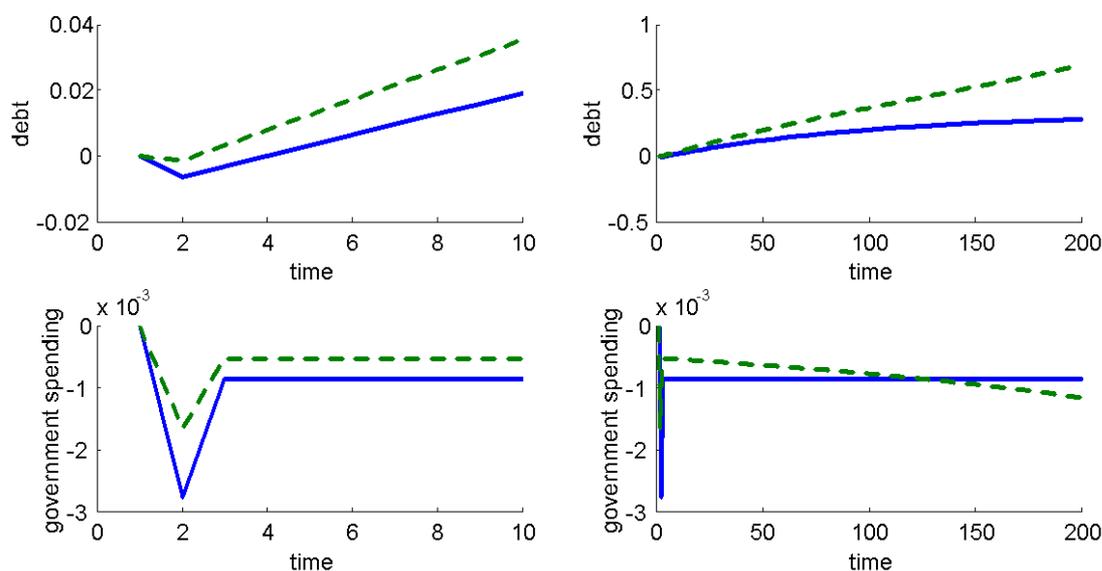
Solid line = cooperation, Dashed line = Nash. *period=quarterly.

The reason is straightforward. Government spending needs to fall to provide funds to service the higher debt level. Impatience by the fiscal authority means that they cut spending by less than is required to stabilise the debt stock. As Figure 1 shows, this will eventually imply that larger cuts are required, but mild myopia means that these future cuts are valued less than smaller cuts in spending in the short term.

Such a result might seem inevitable, once it is recognised that the socially optimal response with a non-myopic fiscal policy maker is a random walk in debt. However, this simple intuition ignores the actions of the other player. For the monetary authority, explosive debt is costly, because it is maximising social welfare. In principle, it can use monetary policy to influence the budget deficit to prevent the explosion in debt happening. In fact, even in the socially optimal case it does this to some extent (see Leith and Wren-Lewis (2007) for a detailed analysis of when and why this happens). However, Figure 2 shows that, when the fiscal authority is short-sighted, it is not optimal for the monetary authority to try and reduce interest rates *sufficiently to prevent* an explosion in debt. (Of course, any attempt by the monetary authority to do so would encourage an even looser fiscal policy, so it's a game they may not be able to win.)

Kirsanova, Leith and Wren-Lewis (2007) also show that the welfare costs (using, of course, the private sector's discount rate) of this shock when the fiscal policy maker is impatient is almost double that under a completely benevolent policy (i.e. with random walk steady state debt). However, a policy that imposed a very strict debt target (i.e. targets that had to be achieved quite

rapidly) could involve an even greater social loss. In other words, strict debt targeting to disarm a mildly impatient fiscal policy maker could produce a cure worse than the disease.

This example on its own cannot account for deficit bias, because following a debt reducing shock we would get a symmetrical outcome: debt would fall, but rather than stay low as the optimal policy would imply, it would continue to fall in a mildly explosive manner. However if we add to the argument the point that a mildly impatient government would also tend to favour tax cuts (or higher spending) now compared to higher taxes (lower spending) later, then if this preference was not penalised by the electorate (see below) we would get deficit bias.

Impatience by governments also plays a key role in an alternative inflation bias story. This is based on a backward looking Phillips curve, and a myopic policy maker who goes for short term increases in output and inflation which over time shift inflation expectations towards the inflation bias level. This account of inflation bias receives less attention in the current academic literature than the one based on time inconsistency, as the New Keynesian Phillips curve has largely eclipsed its backward looking predecessor. With a forward looking Phillips curve, the amount of inflation bias is unaffected by the government's impatience: impatience only influences the ability of the government to commit to an inflation target (see Kirsanova, Vines and Wren-Lewis, 2009).

If the problem of deficit bias is caused by impatient governments, then a potential solution is to delegate decisions on the deficit to a more patient non-elected policy maker or institution. However, the problem might also be solved by the creation of a public watchdog, which could apply pressure on governments to avoid the outcomes of impatience. Kirsanova et al (2007) also show how, if the presence of a Fiscal Council could be proxied by an additional term in excess debt in the social welfare function (representing the political pressure it could bring to bear on the fiscal policy maker), then something very close to the benevolent outcome could be achieved. The watchdog has the beneficial outcome of making outcomes coincide with social rather than government preferences.

If governments differed in their impatience, then it is possible to see how delegation might come about. It would be advantagous for a government that shared the private sector's degree of impatience to set up a body that could in the future apply political pressure on a more impatient government. If this political pressure was sufficient to make the more impatient government act as if it shared private sector preferences (along the lines suggested above), then this government would be unlikely to be willing to bear the far greater cost of rescinding the delegation.

Common Pool Theory

An alternative account of deficit bias is common pool theory (see, for example, Von Hagen and Harden (1995), Eichengreen et al (1999) and Krogstrup and Wyplosz (2006)). As public projects or tax cuts may favour relatively small groups, those groups lobby for these with insufficient regard to the full budgetary costs now as well as in the future. Often common-pool theories focus on the fact that many decision makers (e.g. spending ministers) may be involved in formulating budgets, and these decision makers fail to internalise the overall costs of higher spending and debt.

One of the potential strengths of this theory is that it suggests a direct link between different types of institutional set-up within government and the extent of deficit bias. Several

studies have found empirical support for the idea that common-pool problems play a role in deficit bias (see Calmsfors and Wren-Lewis (2011) for some examples) . However, it would probably be a mistake to conclude that institutional environments that address these problems would be immune to deficit bias. Hallerberg and von Hagen (1999) outline how a strong finance ministry can reduce deficit bias. Over the last decade, the UK had a period in which the finance minister (Gordon Brown) had unprecedented power and imposed strict fiscal rules, all within a majoritarian system of government. Despite this, the UK has also been subject to apparent deficit bias.

Common-pool theory suggests how a fiscal council with no formal power might nevertheless be effective at reducing deficit bias. The recommendations of a council could strengthen the authority of a finance minister in any negotiations. In more fragmented political systems, the recommendations of a fiscal council could form the basis of contracts between political actors that in effect internalised fiscal discipline (see Fabrizio and Mody (2006) for some support that such arrangements could be effective). In these circumstances, it is not difficult to see how fiscal policy delegation of this kind could arise and be sustained.

Informational Problems

Another class of theories of deficit bias focus on informational problems. One example is over-optimism about future growth, either by the electorate (who elect a government that reflects this optimism), or by the government relative to the electorate. This over-optimism about future growth can lead to deficit bias because future tax receipts will not be as high as is hoped. Politicians may overestimate their ability to influence the growth rate, and may pressurise otherwise more realistic civil servants to produce forecasts based on this over-optimism. If this is the source of deficit bias, then delegating just the forecasting process to an independent agency would be appropriate. (There are parallels with an argument sometimes put forward for why, in monetary policy, a government would target output above the natural rate. Rather than standard explanations related to tax or monopoly distortions, it could be that governments overemphasise their ability to increase the natural rate.)

Maskin and Tirole (2004) talk about the danger of elected representatives 'pandering to popular opinion'. Although this phrase is often used, it appears a little paradoxical, as we would normally want governments to reflect public opinion. However, a key point about representative democracy is that the electorate normally delegates decision making to representatives, whose job it is to take 'good decisions' that the individual elector has neither the time nor probably the competence to make. In this sense, representative democracy presumes a lack of information on the part of the electorate, and this lack can be exploited by government.

Voters may be unaware of what the true overall fiscal position of the government is. A government may argue, for example, that particular spending increases are affordable within existing fiscal plans, and it may be very difficult to verify whether this is the case of not. In contrast, as common pool theories emphasise, the beneficiaries of any tax cut or spending increase are likely to be very aware of these benefits. As a result, it will be very tempting for governments to 'bribe' specific groups before elections, exploiting the lack of knowledge that the rest of the electorate have about their future costs.

This problem involving lack of information might help explain the results in Alesina et al. (1998) that successful fiscal adjustments do not appear to jeopardise government popularity: if voters are made fully aware of the fiscal arithmetic, they may support short-term costs for longer-term gains. Broesens and Wierts (2009) show that budget outcomes tend to be more favourable in countries where fiscal policies were more transparent.

The obvious remedy for problems caused by lack of information is to improve the information available to the electorate. If the electorate is made aware, by a Fiscal Council, that a tax cut is not a free lunch, it may make a more rational, informed judgement about the actions of governments. As a result, governments or opposition parties may be discouraged from pandering to the electorate. It has been suggested that the requirement in the Netherlands that parties submit their budget proposals to evaluation by the Central Planning Bureau has had the effect of reducing attempts to 'bribe the electorate' before an election.

Delegation of advice or delegation of authority

With these many different potential sources of deficit bias, it is perhaps not surprising that different forms of fiscal delegation have been tried in different countries. The need to produce independent forecasts is emphasised for the most recent Fiscal Council to be formed, the Office for Budget Responsibility (OBR) in the UK. The new government blamed overoptimistic forecasts by their predecessors for the large increase in UK debt, and so the responsibility for producing the budget forecasts has been delegated to the OBR. In contrast, the Swedish Fiscal Council does not produce forecasts, in part because the arm of government that produces forecasts in Sweden is seen as sufficiently independent. Instead it has, among other things, commented on the appropriateness of the government's fiscal rules, and the scope for discretionary countercyclical fiscal policy in the recession.

One feature that is common to all fiscal councils currently operating, however, is that none of them has the power to impose deficit targets on the government. In contrast, delegation of monetary policy has not involved advisory bodies or watchdogs, but has instead involved giving control of monetary policy to central banks, subject often to mandates that range from the fairly precise (a government determined inflation target) to the vague. There are four potential explanations for this difference between monetary and fiscal delegation.

(1) No taxation without representation

The suggestion often made is that even indirect control over taxation is too sensitive to entrust to a non-elected body: as the slogan puts it, 'no taxation without representation'.[12] The problem with this argument is that it could also apply to monetary policy. Changes in interest rates can create redistributions in income that may be just as large as those that result from changes in taxes. Changing interest rates, when this was done by governments, was a very political decision. The fact that there are roughly as many gainers as losers from such changes seems beside the point. (If we take an intertemporal view, the same is true of tax changes.)

(2) Control over instruments

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[12] This argument has been forcefully made to me by MPs of the UK Treasury Select Committee when I proposed that they consider delegating certain fiscal powers.

Central Banks have always had operational control over monetary policy. Even when finance ministers specified what short term interest rates should be, the central bank has conducted operations in the money markets to ensure those rates prevailed. In these circumstances it is not a huge practical step to allow those central banks to also decide when and by how much to change rates.

In contrast, there are a huge number of tax rates, exemptions, and allowances, and even more elements to government spending. The government will always have control of these many instruments. As we noted in section 1, any delegation of the setting of aggregate fiscal policy would have to involve the delegated body setting targets for annual deficits, leaving the choice of how to meet those targets to the government. There is no existing body that such powers could be naturally delegated to, unlike the case of central banks and monetary policy.

(3) Reasons for deficit bias compared to inflation bias

Where and when central banks did not have control over interest rates, they often gave their advice to governments about what interest rates should be. This advice was normally confidential. It would have been possible for governments to allow the central bank to make such advice public, and in that sense delegating advice but not control over monetary policy. However, it seems unlikely that the public availability of that advice would have done much to mitigate the problem of time inconsistency and inflation bias. At best, such information might have helped reveal whether governments were able to commit, becoming another aspect of transparency.

As we noted above, lack of information may play a much more central role in explaining deficit bias. If the only cause of deficit bias was over-optimism in the production of long term forecasts, then the only delegation required involves forecasting: the level of the deficit can still be set by government. More generally, informational problems causing deficit bias will tend to suggest independent watchdogs rather than complete delegation. However, with other explanations of deficit bias, such as impatience, it was less clear whether delegation of advice (and any political capital that went with that) would be sufficient to eliminate that bias.

(4) The absence of a consensus on the goals of policy

In Section 1 we noted an important contrast between monetary and fiscal policy. Whereas the goals of monetary policy are well understood, the objectives of fiscal policy in relation to government debt are far less clear. As an illustration of this, we may note that national inflation targets (implicit or explicit) tend to be pretty similar among developed economies, whereas debt to GDP ratios tend to be very different.

Alesina and Tabellini (2007) discuss some of the criteria for successful delegation. One of these is that there should be a broad consensus on what constitutes 'sound policy' in any particular domain. With monetary policy, there is a broad consensus that inflation should be on average low, and in certain cases the inflation target is set by governments.[13] There is of course a choice about

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[13] Although low inflation is generally agreed to be good, there is less consensus about where the major costs of inflation come from. There is a good deal of debate about which inflation measure should be targeted, with a number of considerations suggesting that output rather than consumer price inflation should be used (Kirsanova et al, 2006).

how much inflation or output should be allowed to vary in the short run, but this may be dominated by politically neutral issues involving competency in forecasting and assessing the impact of interest rate changes.

In the context of public debt, the extent of consensus seems to be much more limited. There is clear agreement that debt should follow a sustainable path i.e. that fiscal actions (rather than inflation) should ensure that the government's intertemporal budget constraint holds. However, there are infinitely many sustainable paths for debt, with quite different end-points for these paths. Should steady state debt follow a random walk, as the literature cited above suggests, or should there be a target for debt? If the latter, what should that target be? This lack of agreement makes delegating *decisions* over debt problematic, but it increases the need for good independent *advice and evaluation*. It is to these issues that we now turn.

4. Debt targets

In section 2 we briefly outlined the rationale behind the steady-state random-walk debt result. One obvious reason for qualifying this model of optimum debt is if debt is sufficiently high that it attracts a default premium in order to be financed. This is clearly a major concern at the moment. However, for most countries this situation is also hopefully unusual: most of the time we would want debt levels to be well below levels that might attract a default premium. Indeed, as Debrun et al (2009) note, it is the discontinuous nature of market discipline on excessive debt that helps allow the problem of deficit bias in the first place.

However, the possibility of default may play a more influential role if we believe that occasionally the economy will be hit by large negative shocks of the type just experienced, particularly if we require an expansionary fiscal policy to compensate for hitting a zero bound for interest rates (Wren-Lewis (2010)). In such circumstances we would want to ensure that in normal times debt was well away from any level at which it might attract a default premium, to avoid getting pushed into that area if a large negative shock hit. Asymmetric shocks, or countercyclical action when a zero bound for interest rates are hit, will imply a departure from the random walk result in any case. As Mash (2010) shows, standard tax smoothing arguments will imply the need for debt to fall in normal times in such situations.

There is a more fundamental problem with the random walk steady state debt result. It depends critically on the equality between the real interest rate and the rate of time preference (impatience). As was noted in section 2, if interest rates are only very slightly above the rate of time preference, then the long run target for government debt is very different from its current level. If we included government spending, then the ideal level of government debt would be negative, such that all spending could be paid for from the interest on those assets, and distortionary taxation could be zero. If interest rates equalled the rate of time preference, it would not be optimal to reach that ideal level, but if interest rates were epsilon above impatience, it would be.

The reason that the tax smoothing model appears to produce a 'knife edge' result for the debt target is that it is not really a result about the long run debt target, but instead a result about the speed at which we get there. In this simple framework, the debt target is always the level which will eliminate distortionary taxes. What changes as interest rates approach the rate of time preference is the speed at which we approach this target. In the limit, when the two are equal, we take an infinite time to get to this debt target, which means that we make no attempt to reach it. (This argument is made in the context of an OLG model which has the standard model as a special case in Leith et al, 2011.)

In overlapping generation (OLG) models the rate of interest will not in general equal the real interest rate. As a result, we will not observe the random-walk steady-state debt result. In addition, because consumers are not Ricardian, changes in government debt will have real effects. Increases in government debt will crowd out capital. In a two period OLG model, where the second generation is retired and all generations are selfish, the stock of capital in that model is simply a by-product of the need for the young to save for their retirement. Government debt substitutes that role, so any increase in government debt will crowd out capital one for one. In addition, lower capital will reduce first period wage income, so savings will fall further. Although lower capital will raise interest rates, if utility is log this will have no impact on the amount saved.

In an OLG model, the level of capital without any government debt is unlikely to be optimal. In principle we could have too much capital (dynamic inefficiency), although the general view is that this does not occur in practice. As a result, the extent of crowding out of capital by debt implied by the simple two period OLG model is substantial. It therefore follows that a clear candidate for a debt target would be the level of debt that got us as close to the optimum (golden rule) level of capital as possible. Once again, that target could well involve the government having assets rather than debt. However, getting there would impose a net cost on the transition generations, which is why we do not describe having too little capital as dynamic inefficiency.

The interaction between public debt and private capital provides a second set of factors (other than a desire to reduce distortionary taxation) which should influence the long run target for government debt. However large areas of uncertainty remain. How will public capital (roads, hospitals etc) enter the analysis, for example? The answer is likely to be more complex than the simple idea that we should net off such capital from public debt. Unless this capital yields a pecuniary return (such as road toll charges), it does not directly enter the government's budget constraint, but it does increase output and therefore indirectly increases tax revenue.

The extent of the long run trade-off between government debt and private capital is also very unclear. In the simple two period OLG model described above, the impact of additional debt on capital was very large, with greater than 100% crowding out. However, the assumption that the period of retirement is as long as the period of work is too extreme. Once we allow agents to receive some wage income in the second period, then any change in interest rates will have a mitigating impact on savings. We can see this most clearly in an alternative OLG model, due to Blanchard and Yaari, which is the Model of Perpetual Youth. In an appendix we show that for simple parameterisations of this model, the degree of crowding out is much smaller.

With so much uncertainty about what constitutes an optimal long run target for government debt, it would seem that we are a long way away from the kind of consensus that Alesina and Tabellini (2007) suggest is required for the successful *delegation of decisions*. (Even with consensus on the long run target, the issue of how quickly we get there remains both politically sensitive and quantitatively unexplored.[14]) In the absence of any consensus on these issues, any action that a Fiscal Agency might take in setting deficits is likely to be too sensitive politically.

Exactly the same point can be used to make a positive case for *delegation of advice*. Fiscal councils can play two important roles here. First, they can help stimulate additional research. Of course governments can do the same thing, but there is always a danger that a government may interfere with such research for political ends. Ideally research on optimal government debt would spring unassisted from the academic sector, but this has not happened to any great extent so far. Furthermore, academic research may shy away from the very specific quantitative analysis that is ultimately required. It is perhaps indicative that the closest we currently have to this kind of analysis was undertaken by the US Fiscal Council (see the 2010 long term budget projections by the Congressional Budget Office).

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[14] Current debates in the UK illustrate the political sensitivity. Academic analysis is fairly clear that any adjustment should be slow, but it is less clear what slow means in practice?

There has been academic analysis of fiscal policy rules, stimulated in part from rules imposed by the Euro area and national governments. However it seems highly unlikely that optimal fiscal policy could be embodied in the form of a simple rule. This is one of the main arguments that Kirsanova, Leith and Wren-Lewis (2007) put forward for establishing Fiscal Councils. (See also Wyplosz, C (2005), and Debrun et al, 2009.) Here a comparison with monetary policy is revealing. Although there has been considerable academic work on optimal monetary policy rules, no government or central bank has ever committed itself to such a rule. While these rules might describe the average behaviour of some central banks, these banks value the discretion to deviate from those rules when appropriate. Calmfors and Wren-Lewis (2011) discuss the relationship between Fiscal Councils and fiscal rules in practice. When such rules exist, Fiscal Councils can play an important role not just in assessing whether the rules have been adhered to, but also in signally when it might be legitimate to depart from these rules. (For example, the Swedish fiscal council suggested that the government could undertake more countercyclical fiscal action following the 2008 recession.)

The second way Fiscal Councils can further the debate is by acting as an assessor of the implications of any academic or other research on this issue. A possible analogy here might be with research on climate change. The issue of climate change has become highly political, and as a result each new piece of research is in danger of becoming politicised. In this situation, governments have found it useful to establish bodies (either on a permanent or temporary basis) to collect and evaluate this research. A Fiscal Council could play this role for work on fiscal policy, as such work is as likely to be politically sensitive.[15] One of the striking features of delegated monetary policy is how well central banks network in processing academic research, but at present there is no formal apparatus to network Fiscal Councils.

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[15] One, but not the only, reason for this is that for both issues intergenerational comparisons are likely to be central.

5. A Case Study: the UK Office for Budget Responsibility

A key difference between the delegation of monetary and fiscal policy is that the former involves delegation of control, while the latter (at least so far) only involves the delegation of evaluation and advice. The reasons for this were outlined in section 3. Despite this important difference, it might still be possible to model the delegation of fiscal policy using the monetary policy experience. A possible example of this involves the UK Fiscal Council, which has very recently been created. In this section, after briefly examining the formation of the Office for Budget Responsibility, we look at the extent to which equating the two models of delegation can be revealing or misleading.

The Conservative Party first proposed establishing an Office for Budget Responsibility (OBR) in 2008. Before the election in 2010, an 'interim' OBR was established, which would provide a forecast of the government accounts immediately after the election, and subsequently a post-Budget forecast after an initial 'emergency' budget. At the time of writing, legislation establishing the 'permanent' OBR is proceeding, but the broad outlines of the body are clear.

Calmfors and Wren-Lewis (2011) suggest that the historic context in which the OBR was formed is crucial to understanding its nature. The key task of the OBR is to take over budgetary forecasting from the finance ministry. It now produces the pre-budget forecast on which aggregate fiscal decisions are based, and concurrent with these decisions a post-budget forecast. Part of this post-budget forecast involves an evaluation of whether the budget has a better than 50% chance of achieving a forward looking mandate set by the Chancellor. This mandate involves eliminating the 'structural' budget deficit within 5 years.

UK monetary policy is controlled by the Bank of England's Monetary Policy Committee (MPC), which was set up in 1997. When the OBR was established, giving independence to the Bank of England, and more specifically the MPC framework, was widely regarded as a success. Perhaps as a result, it is possible to draw some parallels between the MPC framework and the way the OBR is designed to operate. In both cases, the government lays down the objective of policy: with monetary policy, this is the inflation target, while for fiscal policy it is the mandate noted above. The process of forecasting whether this target will be met is then delegated to the Bank of England and OBR. What clearly differs is the response to this forecast. With monetary policy this is decided by the MPC, whereas for fiscal policy the government responds. However evaluation is again delegated. The most well known part of the evaluation procedure for UK monetary policy is the letter the governor has to write to the finance minister if the target is missed by more than 1%. The evaluation procedure for the OBR is to give its view on the probability that the fiscal mandate will be met.

It is not possible to say how much such parallels were in policymakers minds when the OBR was established: the quote by George Osborne given in section 1 is suggestive, and we may also note that the three senior members of the OBR are called the 'Budget Responsibility Committee'. Whether deliberate or not, an obvious question to ask given the subject matter of this paper is whether such parallels make sense. We consider two areas: the objectives of policy and forecasting.

Ultimate objectives and intermediate targets

The schema discussed in section 1 suggests that the comparison between UK monetary and fiscal delegation just outlined is misleading in one crucial respect. The inflation target and the fiscal mandate are rather different types of objective. The inflation target can be seen as an ultimate goal for monetary policy, which directly influences social welfare. A fiscal mandate involving a goal for the structural budget deficit is much closer to an intermediate target. Governments have not tended to be that specific about what the ultimate goals of aggregate debt policy are, but they would certainly include sustainability, and might also involve intergenerational equity. More specifically, we might aim to maximise social welfare (subject to decisions about how to handle intergenerational distribution), which would imply the desirability of tax smoothing, for example. The links between these higher level objectives and particular targets for debt or deficits are far from clear, as section 4 discussed.

If this distinction between ultimate goals and specific objectives is accepted, then an important difference emerges between the MPC and OBR. The MPC is clearly delegated to decide how best to achieve the inflation target. The monetary policy framework is often called 'flexible inflation targeting' as a result. The MPC decides how quickly inflation should be brought back to target, and in some cases (like the present) it may be prepared to see periods in which inflation exceeds the target by a significant amount in the short term. There is no equivalent delegation in the case of the OBR.

Is this difference inevitable, or does it reveal that delegation in the case of UK fiscal policy has been rather restricted? To answer this question it may be helpful to imagine if the situation could be different. Take monetary policy first. Rather than setting an inflation objective to be achieved at some unspecified time horizon, a government could lay down much more specific and detailed target paths for inflation and the output gap. It could argue that in doing so, it was making explicit its own judgement about the relative costs of output gaps versus deviations from the inflation target, and rightly so because this judgement is political. Equally, it is possible to imagine a government specifying social welfare and rules about how to value utility across generations, and tasking a fiscal council to derive a path for fiscal deficits or surpluses that maximised this goal.

If governments were much more prescriptive about target paths for inflation and output, one concern would be that this would compromise the independence of the central bank. Others might object that deriving optimal paths for output and inflation was a rather technical matter (involving the nature of macroeconomic constraints as well as preferences), which was as a result best delegated to experts. Yet why should such a position be undesirable for monetary policy, but thought unproblematic for fiscal policy? The issues involved in translating ultimate goals for fiscal policy into intermediate targets are just as technical as in the monetary policy case, so should these also not be delegated to experts?

The argument of the previous section suggested that, at present at least, there was an important distinction between monetary and fiscal policy here: while there was a broad consensus about how monetary policy should operate, this was lacking for fiscal policy. As a result, the *delegation of decisions* about what intermediate fiscal objectives should be was not appropriate.

However, this discussion also suggested that for exactly the same reason there was a strong case for the delegation of advice on this issue. As the Institute of Fiscal Studies has commented (Chote et al, 2010), 'it would seem appropriate (and helpful for external credibility) if an OBR were to assess publicly whether it believes any changes to the rules it is tasked with policing are consistent with the ultimate objective of long-term sustainability'. Of course, 'long-term sustainability', taken literally, is a very weak criteria: debt may be sustainable at very high levels, even if it crowds out capital and reduces national prosperity. Let us assume what is meant here is a more general aim of finding paths for debt that improve social welfare.

I would agree with this view. It would seem to me to be very helpful if a Fiscal Council can comment on the desirability of any debt or deficit targets (or more generally, any fiscal rules) that the government sets. This is because the optimality or otherwise of particular fiscal rules is to a considerable extent a technical matter, involving macroeconomic theory and evidence. The last few decades in the United States suggests that politicians may not be very good at evaluating such technical advice, choosing instead what is politically convenient. (Krugman (1994) documents the treatment of the Laffer curve under Reagan. The belief that cutting taxes increases revenues still appears to be well entrenched within the Republican party. This may be an example of 'pandering' as discussed in Maskin and Tirole (2004).) A Fiscal Council can have a central role in evaluating these technical issues, and providing a politically neutral public account of them.

Some Fiscal Councils do have this role, but others do not (see Calmfors and Wren-Lewis, 2011). One reason why they may not is that it may be felt undesirable for a policeman to comment on the desirability of the laws they are employed to enforce. Can a fiscal council keep separate the evaluation of whether a government achieves its existing rules or targets, and the desirability of meeting those targets? In a political context, comment can be misread as criticism. Again the current UK debate is indicative. One of the dividing lines between the two main political parties during the election was the timing and speed of reductions in government debt. If a UK Fiscal Council were already in place, then its comments on this issue would be highly political.

But perhaps this hypothetical example is internally inconsistent. If a UK Fiscal Council were already in place, and had given advice on the speed and timing of debt reduction, it might not have become such a central issue of political debate. Or perhaps its advice, although it might have clarified the debate, would still leave plenty of room for legitimate political argument. In the absence of a Fiscal Council, the public debate has been at a fairly basic level.[16] A similar point can be made in the context of a member of a monetary union. There is no analytical macroeconomic reason why fiscal policy cannot be used for countercyclical purposes and the long run control of debt be maintained (although many coordination issues arise, which have been discussed in a large literature), but the public debate and indeed governments often confuse the two. It can be argued that many of the current problems in the Eurozone stem from an obsession with fiscal policy

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[16] Evidence for this is the recent 'battle of economists letters': an initial letter from some 20 or so well respected, mainly academic, economists largely supporting the Conservative Party's line was followed by two letters from around 80 others arguing the opposite. The debate could be summarised as cuts now would hurt the recovery, but cuts later would risk financial ruin. Hopefully the existence and advice of a Fiscal Council would allow a rather deeper debate. In this context we can again note that the Swedish Fiscal Council argued in its 2009 report that there was more scope for countercyclical fiscal action during the recent recession. (See http://www.finanspolitiskaradet.se/download/18.75eae27c1223be52adb800042551/Summary+2009b.pdf.)

meeting certain deficit criteria, and the complete neglect of the need for countercyclical policy. For example, from 2000 to 2007 Ireland had an inflation rate well above that in Germany, which indicated the need for a much tougher fiscal policy than was actually pursued. A Fiscal Council, by setting out the issues clearly, could substantially improve the public debate.

There are good reasons for thinking that it is possible to give advice both on whether government targets will be achieved, and whether those targets are sensible. These two types of advice do not have to be given at the same time. The Fiscal Council can also make it clear where the political aspects of its advice come in (such as any implications for intergenerational equity, for example), leaving plenty of scope for additional political judgement.

Furthermore, it seems questionable whether a policy of not commenting on the desirability of any government mandate is tenable in the longer term. In the UK, the mandate is the elimination of the structural (cyclically adjusted) deficit within 5 years. Suppose, a year or so before the five years is up, some non-cyclical event occurs which temporarily reduces tax revenues. As a result, without corrective fiscal action the mandate would not be met. In such circumstances, tax smoothing might suggest taking little or no corrective fiscal action, allowing the deficit to temporarily rise. If the government did this, would it really want the OBR to just report that the mandate had not been fulfilled, giving no further comment on whether this was sensible or not? Whether one agrees with this view or not, I think it is an important debate. A comparison between monetary and fiscal policy has in this respect been helpful in at least highlighting the issue, and possibly clarifying alternatives.

Forecasting and independence

One area where a comparison between monetary and fiscal delegation may seem straightforward, but in fact hides important problems, is forecasting. In the UK the forecast is now delegated for both monetary and fiscal policy. There are two issues here. First, the nature of the forecast required for fiscal projections is rather different than that required for monetary policy. Second, it remains unclear whether delegating forecasting in a situation where governments control fiscal instruments may compromise the independence of the fiscal council.

The OBR is tasked with providing the pre and post budget forecasts on which government plans are based. Only some fiscal councils take on this role (see Clamfors and Wren-Lewis, 2011). An important factor behind this delegation in the UK was a belief that previous government forecasts were over-optimistic because of pressure from politicians. The UK experience here is almost certainly not unique: see Jonung and Larch (2006). However this delegation creates a problem in the use of the OBR's resources.

The UK government, before the creation of the OBR, published fiscal projections for the next 50 years, and this seems like an appropriate horizon for assessing sustainability. As the previous section suggested, ultimate targets for government debt may be quite low (or even negative), but they should also be reached gradually. The latest projections published by the CBO go to 2080. Only by going well beyond a five year horizon do the liabilities implied by public health care and pension schemes become apparent. This suggests that it may be a misdirection of resources for a Fiscal Council to spend much time undertaking short term macroeconomic forecasts, although it clearly should spend time examining the fiscal implications of any projection. It is highly unlikely to be

better at forecasting short term GDP or inflation than the central bank, and it lays itself open to the danger of having its forecasting ability ridiculed as projections for short term government deficits turn out to be wide of the mark. It might be wiser to use the short term forecasts of others. One obvious possibility, but not the only one, is to use the central bank's own forecast. Given the public interest in short term forecasting, it would be wise if the Fiscal Council avoided getting distracted by that interest.

However, central to the Fiscal Council's views about the long term sustainability of debt will be its assessment of the level and growth of productive potential. It would equally be a mistake, in my view, for the Council to delegate that assessment to others. As these assumptions are so critical, the Council needs to take ownership of its views on this matter. Equally, it will need to make its own assessments of the medium term levels of taxes that go with these output projections, and also what government plans imply for public spending in the medium term. If the resources are available, these projections should be made in house.

So it would make sense for the Fiscal Council to use the short term forecast of others, but make its own medium to long term projections. Are these two goals contradictory? In principle, they are not. Unless we think that hysteresis is endemic and important in macroeconomic behaviour, then it is possible to assess medium term levels of most key macro variables without having any view of the path taken to get there. In essence, we require a supply side forecast for the medium term, and we do not need to worry about short term movements in demand. The recent recession is probably an exception to that rule, but hopefully such large demand shocks will not happen too often.

One variable which is of course hysteretic, in that its medium term level depends on short term developments, is the level of public debt. For this reason alone, the Fiscal Council cannot avoid the need to make some assumptions about the short term (or more specifically, the extent and duration of any short term deviations from its assessment of medium term trends). However, it should not be too difficult for the Council to splice on an outside assessment of the strength and duration of the cycle to its own medium term projections. Given the uncertainty involved in short term deficit projections, it would also seem wise to examine alternative forecasts for this right from the start.

These points are important when we consider the second issue in relation to forecasting, which is whether it is wise to delegate the forecasting process at all. Most fiscal councils do not produce the official fiscal forecasts, although those that do not may nevertheless comment on the government's projections, or produce their own alternative forecasts. The problem with producing the official forecast, apart from the possible misdirection of resources already discussed, is that it may compromise the council's independence. This issue simply does not arise for monetary policy. However a fiscal forecast, even over a short term horizon, is a rather different from the aggregate macroeconomic forecast required for monetary policy decisions. It involves quite detailed knowledge of government spending plans and tax receipts.

A Fiscal Council that is required to produce the official budgetary forecast has two choices. One would be to attempt to forecast all tax and spending items itself, without any assistance from government. The CBO in the US is able to do this, but only because it has substantial resources, and because it requires this detailed knowledge for its additional task of costing particular individual

programmes.[17] The other choice, which is the one taken for the OBR, is to work with more limited resources using the expertise already in government. The danger is that, by relying on government officials, the OBR could have its views influenced by government in strategic ways. The situation is likely to be particularly difficult during the post-budget forecast. As this forecast is published with the budget, the forecasting process is taking place as policy decisions are being made. It may therefore be inevitable that negotiations about numbers between the OBR and government take place, which given budget secrecy cannot be transparent (see Calmfors 2010b).

One longstanding Fiscal Council that does produce the official forecast is the Central Planning Bureau (CPB) in the Netherlands. However, the CPB is also allowed to evaluate the budget proposals of opposition parties before an election, an offer that is normally taken up. At the very least, this allows the Fiscal Council to establish contacts with parties outside government. A public perception of lack of independence could also be countered if the council, besides producing forecasts, also produced an analysis of the different ways in which ultimate objectives could be translated into fiscal targets or rules, of the kind suggested above. At present the OBR is precluded from playing such a role. However, it is also worth recording what the CPB notes on its website. "In the end, our independence is guaranteed best by the scientific quality of the work we accomplish." Unfortunately scientific quality will never be established through the production of short term forecasts.

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[17] Under the previous government, forecasts were audited by the National Audit Office. However, there is a clear difference between deciding whether a forecast is reasonable (because reasonable forecasts are a set greater than one), and deciding what the best forecast is. The latter requires considerably more resources.

5. Conclusions

Comparing monetary and fiscal policy delegation is useful, if only because it shows in what ways an over simplified equating of the two may be misleading. Take for example the reason why we might want to delegate policy, or policy advice, to an independent body in the first place. Section 2 argued that explanations based on time inconsistency, so popular for monetary policy, do not carry over in a simple way to fiscal policy. Deficit bias may have rather different causes from inflation bias, as Section 3 discussed.

The most obvious difference between monetary and fiscal policy delegation in practice is that the former involves the delegation of decisions, whereas the latter involves the delegation of advice and evaluation. The normal explanation for this is that tax and spending decisions involve redistributions of income and resources that are inherently political. However, interest rate decisions also involve significant redistributions, and are also politically sensitive. We discussed in detail two alternative reasons for this difference in the form of delegation. The first is that it could reflect a much greater importance of informational problems is explaining deficit bias compared to inflation bias. The second was that there was much less consensus about the objectives of long term debt policy compared to monetary policy.

Section 4 suggested that the benchmark theory which implied that debt should follow a random-walk in steady-state was not an adequate basis for policy in this area. However, there was little research on what alternatives might imply. This lack of knowledge, let alone consensus, makes the delegation of decisions in this area unwise, but it increases the usefulness of the delegation of advice. A Fiscal Council can not only stimulate research directly, but it can also play an important role in evaluating research and avoiding unhelpful politicisation. This point seems particularly relevant to the Fiscal Council recently established in the UK.

The UK Fiscal Council is primarily charged with producing the official forecast on which budgetary decisions are based. It is unclear whether it can do this while retaining its independence. However over-optimism in the production of forecasts is only one potential reason for deficit bias, and it seems unlikely that it will be the only factor for the UK in the future. It would therefore seem sensible to allow Fiscal Councils in general to comment on what appropriate intermediate targets for policy should be (as some already do), particularly as this may enhance their perceived credibility and independence.

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Appendix

Crowding out in the Model of Perpetual Youth

In this model there is a constant probability of death, but agents continue to work in every period of their lives. Aggregate consumption is given by

$$C_t = (p + \theta)(H_t + A_t)$$

where p is the probability of death, θ is the rate of time preference, A are financial assets, and H is human capital given by

$$\frac{dH_t}{dt} = (r_t + p + \alpha)H_t - w_t$$

where r is the real interest rate, α is the rate of decline of individual income, and w are wages. $\alpha > 0$ allows us to crudely capture retirement in this model by allowing wage income to decline with age.

In a very simple closed economy version of this model, the aggregate steady state relationship between aggregate consumption and asset holding is given by the following expression:

$$C(r + \alpha - \theta) = A(p + \theta)(p + \alpha)$$

For given parameters, if real interest rates and consumption were unchanged (which they will not be), any increase in debt will crowd out capital one for one. As a result, consumption will actually fall, amplifying this crowding out, just as it did in the two period model. However, any increase in interest rates will increase the overall demand for assets, providing a countervailing effect.

Consider the simple calibration outlined in Table 1. (The equations above are supplemented by the government's budget constraint

$$\frac{dB_t}{dt} = r_t B_t - G_t + T_t$$

and we have

$$\frac{dK_t}{dt} = F(K_t) - C_t - G_t$$

together with an equation that says assets equal capital plus government debt.) Consider first the standard calibration with this model, with $\alpha = 0$. We choose a capital output ratio of four, which with 5% annual depreciation and 4% impatience implies a real interest rate of 5%. We start with a stock of debt equal to 100% of GDP. Now reduce government debt to zero. Interest rates fall to 4.8%, but this is sufficient to reduce desired assets by almost the decline in government debt itself. As a result, capital increases by only a little over 3%, and steady state consumption rises by just 1%. This gain is still worth having, but it is much less than the gain implied when we had more than one for one crowding out of capital by debt.

If we raise α to 3% a year to proxy the effect of retirement on income, then the impact of abolishing debt on steady state consumption roughly doubles. With this parameterisation, however, capital may exceed the consumption maximising level, so we would not necessarily want to reduce debt so much. What these simple calibrations show is that the extent of capital crowding out is very sensitive to the OLG model we use, and its parameterisation.

Table 1 Calibrated Blanchard Yaari Model

	Base calibration	Impact of abolishing debt
Capital stock	1	3.13%
Output	0.25	1.24%
Government Debt	0.25	-0.25
Private consumption	0.15	1.02%
Government consumption	0.05	0
Real interest rates (pa)	0.05	-0.002
Depreciation rate	0.05	0
Impatience	0.04	0
Probability of death	0.02	0