The Treasury's Union Dividend: Flawed and Meaningless

Jim Cuthbert
Margaret Cuthbert
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1. Introduction

1 On May 28th, to a great fanfare, and complete with insulting "lego man" graphics, the Treasury presented to the Westminster Parliament its report on the size of the union dividend which every Scot, it was claimed, received as part of the UK: (Treasury, May 2014). According to the Treasury, over the next twenty years, every man, woman, and child would be £1,400 better off each year for staying in the union.

2 The Treasury analysis involves a number of assumptions: for example, on oil revenues, and start up costs. These assumptions have, rightly, been strongly challenged by others: see for example MacKay, (2014). Our purpose in this paper is not primarily involved with challenging such assumptions. We will be concentrating on other aspects. We will show that there are serious technical flaws with the Treasury analysis: but, over and above that, we will argue that the basis of the Treasury's approach is so ill-conceived that it renders their attempt to calculate a "union dividend" essentially meaningless.

3 First, in Section 2, we examine the technical competence with which the Treasury carried out their analysis. The Treasury are, after all, carrying out a type of modelling exercise: but models are only useful if they adequately represent the real world – and they can be hugely misleading if they neglect important known factors. We show that there are important aspects which the Treasury fails to take into account in its analysis – particularly relating to the way that Scotland's government is financed under the union. Specific flaws include:

- Based on their own assumptions on growth and inflation, there will be a significant Barnett squeeze on public expenditure in Scotland over the next twenty years, if Scotland stays in the union: and yet the Treasury have neglected this in their calculation of the union dividend.
- Moreover, the Treasury have apparently assumed that the Scottish government will be compensated, (under the union), for extra costs associated with Scotland's relatively ageing population: however, there is no mechanism within the funding arrangements of devolution for compensating Scotland for that significant portion of those extra costs, (such as health, social and personal care), which will fall on the Scottish departmental expenditure limit.
- The Treasury fail to take into account its own policy of quantitative easing, which has important implications both for the amount of interest payments which should be imputed to Scotland under continuation of the union, and for negotiations about UK debt sharing.

4 As we show in Section 2, if the Treasury's own assumptions on growth are realised, then there will be a significant Barnett squeeze, which the Treasury ignores in its calculations. However, the Treasury's UK growth assumptions look implausible, given the UK has not resolved its fundamental economic problems. If in the event there is a continuation of austerity and low public expenditure growth in the UK, then as Section 3 explains, the Barnett formula itself will be unsustainable. So, implicit, and neglected, in the Treasury paper is a Catch 22 situation: if we get the growth the Treasury assume then we get a Barnett squeeze. If we do not get the Treasury's assumed growth at UK level, then Barnett is unsustainable – and the supposed union dividend disappears. Either way, a proper examination of the Treasury's arguments points to the disadvantages, and not the advantages, of the union.

5. Another problem with the Treasury approach is that they are taking the UK as the norm from which to measure their presumed union dividend: by doing so, they are failing to take into account the very significant downsides for Scotland which are, in effect, baked into the union baseline. It is meaningless to attempt to calculate a "union dividend" without subtracting off all of the dis-benefits. In Section 4 we list some of the dis-benefits: (this is inevitably only a partial selection out of a very large number). At one extreme of the range are the large, obvious political points – like having a Conservative government that we have not voted for, the illegal wars, Trident, etc. But at the other end of the range, and rarely brought to attention, are more technical points – like Scotland's inability to have different policies in important reserved areas like welfare and free personal care without facing Westminster obstruction and sanctions.

6 None of the above depends upon challenging the Treasury's assumptions on key areas like oil revenues, the share of UK debt an independent Scotland might take on, and set up costs. In Section 5 of the paper we list, for completeness, a number of such "arguable" assumptions: but we do not go into detail on the arguments in these areas – and the important point is that the basic conclusions of this paper do not depend on making any particular assumptions in these areas.

7 Finally, in Section 6, we draw conclusions. One thing that we have demonstrated in this paper is that there are basic technical flaws in the Treasury's approach, and that they have failed in their responsibility to set up a model which reflects sufficiently accurately known features which will affect the future. But our fundamental conclusion, in fact, goes deeper than this. Because the Treasury have adopted an inherently union-centric approach, under which the current state of the UK is regarded as the norm, they completely fail to take into account the dis-benefits and risks of the union. This failure makes their attempt to calculate the purported "union dividend" meaningless.

2. Technical Flaws in the Treasury Analysis.

1 The UK dividend is described in the Treasury document, (Treasury, May 2014, page 8), as follows:
"This UK dividend is estimated to be worth £1,400 per person in Scotland, (in 2016-17 prices), in each year from 2016-17 onwards. Under independence, the loss of the UK dividend would mean £1,400 per year for each Scottish person in higher taxes and lower public spending (over and above the current UK Government's fiscal consolidation plans.)"

2 It is, in fact, by no means clear from this description exactly what the union dividend means. A more accurate definition which brings out what the "dividend" is being calculated relative to, would be as follows. These are our words, but they capture as accurately as we can what the Treasury actually means by the union dividend:
"Each year, for at least the next twenty years, this is by how much per head an independent Scotland would have to have higher taxes, or lower public spending, relative to what would have been the case if you had stayed in the UK, in order that the amount of public borrowing per head in Scotland would be the same as public sector borrowing per head would have been in the UK as a whole."

3 It is worth pointing out one immediate peculiarity of this definition: namely, that it takes as the appropriate norm projected levels of UK public sector borrowing. Taking the UK as the norm glosses over the possibility that there might be substantial dis-benefits in the UK figure – e.g., through the effects of UK public expenditure cuts on the poorest in society. That is, any negative union dividend implicit in the UK baseline is just forgotten.

4. The way the Treasury calculates the union dividend is as follows. Their starting point is to analyse Scotland's public finances as they are now under the union, (or rather, as projected forward in the medium term to the possible date of independence in 2016). Their analysis is based heavily on the work of "independent commentators" who have in turn been heavily influenced by the Office of Budget Responsibility (OBR): and implies that Scotland has a public sector deficit which is £800 per head higher than the deficit per head for the whole of the UK in 2016/17. (The public sector deficit is defined as the difference between government revenues and expenditure, where, in calculating the Scottish deficit the Treasury has allocated to Scotland a geographic share of North Sea revenues.). In addition, the Treasury assumes that, if Scotland stays in the union, it will further benefit, to the tune of £130 per capita per annum, as oil revenues decline in the long run, and this decline is absorbed across the UK. And that, in the union, Scotland would benefit as additional costs of Scotland's relatively ageing population are absorbed across the UK, (£163 per head). If Scotland became independent, not only would it have to absorb the above costs, but in addition it would have start up costs on independence, (estimated by the Treasury to be equivalent to £4 per head per annum): it would have higher borrowing costs, (£47 per head per annum), and there would be other direct costs of independence (like higher EU contributions) and also net costs of Scottish government White Paper policies (together amounting to £257 per head per annum). The total sums to approximately the £1,400 per head per annum union dividend: (Treasury, June 2014, page 27).

5 A major problem with the Treasury paper is the way the analysis is presented. Insufficient detail is given on how the calculations were carried out – so it is not possible to replicate, and hence check, the validity of a lot of what the Treasury claims. This in turn reflects another, more basic, weakness. In trying to boil the case for the union down to a single number, (suitable for simpletons to understand with the aid of lego), they are

inherently oversimplifying what is intrinsically a complex situation. The different elements constituting the costs and benefits of the union will inevitably vary through time. Inherent in the Treasury's own guidance on assessing time varying costs and benefits is the principle that this can only be done properly by suitable use of appropriate discount factors: (HM Treasury, Green Book). And yet, in their search for over-simplicity, the Treasury have totally ignored their own advice.

6 Leaving these fundamental weaknesses aside, however, it is still possible to discern enough about the Treasury's opaque methodology to identify serious specific flaws. Here are some of them.

Failure to model the operation of the Barnett formula under continued devolution

7 As noted in paragraph 4, in building up its estimate of the union dividend the Treasury starts with an estimate of how much higher Scotland's deficit is as at 2016/17, and then adds to this an element to allow for declining oil revenues, and the additional costs of Scotland's relatively ageing population, under the assumption that all these elements will be absorbed in the union. This is an inaccurate way to model how Scotland's public finances will evolve under devolution. About half of public expenditure in Scotland falls within Scotland's Departmental Expenditure Limit: (the DEL is that element of expenditure which is the responsibility of the Scottish government). The size of the DEL is in itself primarily determined, not by the decisions of the Scottish government, but by the Barnett formula. This will be slightly less true after the implementation of the Calman tax proposals under the Scotland Act: but since the 10p income tax rate which a Scottish government will control under Calman will only represent about £4 billion out of a DEL of about £28 billion, it is still true that Barnett will dominate variations in the DEL.

8 Despite the fact that Scotland's public expenditure under the union, (and hence the size of Scotland's deficit under the union), will be heavily influenced by Barnett, the Treasury appear to have made no attempt to model the implications of Barnett in their calculation of the union dividend, even though the union dividend is meant to be looking forward at least twenty years. This is an incredible omission, and the consequences for the Treasury's calculations are serious.

9 One of the things which is very important in practical, and political, terms is what happens to levels of public expenditure per head. If nominal expenditure in England is growing then, other things being equal, Barnett would eventually bring about convergence to equality between Scottish and English spending levels per head on devolved services. But in the real world, other things are rarely equal. In particular, if population in England is growing relative to Scotland, (as it is), then this too will affect per capita spending levels in the two countries. The interaction between these two factors, (that is, the Barnett formula combined with relative population growth), in fact gives rise to complicated effects on relative spending levels per head between Scotland and England. The relevant algebra describing the interaction is set out in Cuthbert, J.R., (2001). But the important points are:

a) If expenditure growth in England is high compared with the rate of relative population growth, then there will be a "Barnett squeeze" on the Scottish DEL. That is, levels of DEL per head in Scotland will be pushed down through time relative to DEL on devolved services per head in England.

b) But if, on the other hand, nominal expenditure growth in England is low compared to the relative rate of population growth then there will be Barnett expansion: that is, DEL per head in Scotland will increase compared to DEL per head in England.

10 There is enough information given in the Treasury paper to work out what the implications of the Barnett formula will be for the Scottish DEL over the twenty year projection period. The Treasury assume that, after 2018/19, UK productivity will be growing at 2.2% per annum per head, and inflation will also be 2.2%. With population in England growing at 0.5% per annum, this would give a growth of around 5% per annum in nominal GDP: and the OBR, and the Treasury, assume that departmental budgets will grow in line with this. This gives us an approximate figure of 5% per annum for growth in nominal English departmental budgets. On population growth, the Treasury assume under their devolution scenario that the "low migration" variants of the ONS 2012 population projections will apply in both England and Scotland. For these population projections, the relative rate of population growth, (that is English population growth divided by Scottish population growth), averages 1.003 per annum. Importing these values into the formula in Cuthbert, J.R., (2001), gives a significant Barnett squeeze in the Scottish DEL over a twenty year period. After allowing for that portion of the DEL which will be resourced, not by Barnett, but by the Scottish rate of income tax, we calculate that the effect of the Barnett squeeze will be to reduce the claimed union dividend of £1,400 by £250 after twenty years: (both figures in 2016/17 prices). And the reduction could be considerably more if inflation was significantly above the assumed level of 2.2%, since this would have the effect of intensifying the Barnett squeeze.

Failure to model implications of Calman

11 But this is not the end of the story. There is also likely to be a squeeze, but a different sort of squeeze, on that part of the DEL, which, under continued devolution, will be funded by the Scottish rate of income tax. This happens because, since the Scottish rate of tax will be the same number of pence in the £ in each tax band, Scottish tax will represent a lower proportion of the higher rate tax bands than the lower rate tax bands. With fiscal drag, as a greater proportion of income tax through time tends to come from the higher tax bands, this means that a given Scottish rate of tax will yield a progressively lower percentage of the overall Scottish income tax take: (Cuthbert and Cuthbert, 2010). In order just to maintain their position, therefore, it is likely that any Scottish government will have to periodically increase the Scottish rate of tax under devolution. The effects are likely to be significant, (not just on public expenditure but also on overall economic activity), but cannot be quantified at present.

Failure to recognise that not all additional demographic costs will be resourced by the UK under devolution

12 As noted above, £163 of the claimed union dividend arises because the Treasury assumes that the additional costs which will fall upon Scotland because of its projected relatively greater number of old people will be absorbed under the union. In assessing these costs, it seems that the Treasury has included not just additional pension costs, (which will fall upon the DWP budget), but additional costs of health and personal care, which will fall upon the Scottish DEL: (see, for example, Chart 1E of the May 2014 Treasury paper, which clearly includes health costs). There is nothing, however, in the funding arrangements for devolution which would allow such relatively greater Scottish costs to be reflected in adjustments to the Scottish DEL. What Scotland will get will be the Barnett consequentials of any extra English costs for an ageing population: it will not receive any additional supplement to the DEL for the extent to which Scotland's cost of ageing might be relatively greater. So the Treasury is being disingenuous in stating that these costs will be absorbed by the union. Since about one third of expenditure on the elderly relates to services that are covered by the Scottish DEL, the implication is that the £163 contribution to the union dividend should be reduced by one third, or just over £50.

White Paper manifesto proposals wrongly included

13 Of the £257 element of the union dividend which relates to the aggregate of direct costs of independence, and policy proposals made by the Scottish government in their White Paper, about 90% , (or £230), relates to the White Paper element. However, these proposals are illustrative proposals put forward by one particular party, who may well not actually form the government in an independent Scotland. It is quite wrong, therefore, to include these costs as inevitable costs of independence, and it is therefore wrong to include the avoidance of these costs in the "union dividend".

Interest payments on quantitatively eased debt

14 The whole question of how much debt an independent Scotland should take on from the UK is one of the big arguable issues which, as we noted earlier, we are not primarily concerned with in this paper, (but which are listed for completeness in section 5). Within the overall question of debt interest payments, however, there is one important technical issue which it is appropriate to address here. This is the question of the interest payments on quantitatively eased debt: that is, on the £375 billion of gilt edged securities which, under quantitative easing, have been bought back from the banks by the Bank of England effectively using printed money. One interesting thing about this debt is that the interest which the government pays on it just recycles back to the Treasury: that is, this element of government debt is, at present, essentially interest free.

15 A critical question is: what happens to this debt in the longer term. The orthodox theory of quantitative easing says that this debt will be sold back into the market in due course: at this point, interest payments on this debt would resume. However, it is now looking extremely unlikely that this sale will actually happen. For example, a serious commentator like Ambrose Evans Pritchard, writing in the Telegraph, recently stated that by quantitative easing "*Britain…is in effect wiping out public debt worth 20% to 25% of GDP – on the sly*." Ambrose Evans Pritchard's view is surely right, and is just a realistic appraisal of the fact that any attempt to unwind quantitative easing is likely to fundamentally destabilise the bond market.

16 This has important implications for the union dividend. The UK government might wish to maintain the fiction that quantitative easing will be reversed, and that the interest payments on the quantitatively eased debt will in due course resume. They have to maintain this position, to paper over what otherwise would appear to be a glaring hole in the balance sheet of the Bank of England. But there is no reason for an independent Scotland to go along with this fiction, and to agree to make interest payments on non-existing debt. So the union dividend should be reduced accordingly. This is equivalent to about £250 per head in cash terms per annum, which would be equivalent to over £150 in real terms by the end of the Treasury's forecast period.

17 Overall, the most glaring feature identified in this section has been the Treasury's complete failure to model the implications of the funding mechanisms for devolution. We know that the Scottish DEL will be primarily determined by the operation of Barnett and Calman. The Treasury's failure to model the implications of these known effects appears inexplicable, and is certainly inexcusable. As we will show in the next section, there are further significant implications of this failure, which arise if the Treasury's optimistic assumptions about future GDP and public expenditure growth are not, in the event, realised.

3. Further Implications of Barnett: What happens in the event of continued austerity?

1 As noted in the previous section, the Treasury's assumptions on growth and inflation imply that Scotland's public finances under the union will suffer a significant Barnett squeeze over the forecast period: an implication which the Treasury ignore. But what if the Treasury's relatively optimistic assumptions about future public expenditure growth in England are not realised? In this case, there are other implications of the Barnett formula – implications which are also likely to ultimately be adverse for Scotland.

2 The problem arises when nominal public expenditure growth in England is either below, or only slightly above, the rate of relative population growth between England and Scotland. In these circumstances, the second feature pointed out in paragraph 2.9 above comes into play: namely, there is a Barnett expansion rather than a Barnett squeeze, with levels of DEL per head in Scotland then increasing relative to DEL per head in England.

3 This is actually the situation we are currently in: a little noticed consequence of the cuts in public expenditure since the financial crisis is that it has moved us into an era of relative Barnett expansion. This has proved a useful bonus for the Scottish government, (and, together with a recent downward fluctuation in oil revenues, has also contributed to the recent relative increase in Scotland's public sector deficit compared to England.) But it is also important to note that this type of Barnett expansion is not just a feature of expenditure cuts: Barnett expansion will continue even when nominal public expenditure in England starts to grow again, as long as there is relative population growth between England and Scotland, and while nominal public expenditure growth in England is not much above the rate of relative population growth.

4 This latter scenario is, in fact, not at all unlikely. The major economic problems which led up to the 2008 crisis have not been resolved. The financial sector in the UK is still seriously bloated, with a balance sheet still around 14 times GDP, not significantly less than the 16 times it reached in 2008. In terms of its trade and its other international relations, the UK is running a current account deficit of almost 4% of GDP – almost unprecedently high in UK post war history. The UK's recent record on productivity is abysmal, as is its investment in research and development. And we are in the grip of another housing bubble, which has been deliberately stoked up. This means that the current apparent recovery is likely to be short lived: and the UK could be looking forward to a period of almost indefinite public sector austerity.

5 In these circumstances, the Barnett formula could deliver a prolonged period of Barnett expansion. The effects of this could be significant. For example, if nominal public expenditure growth in England was 1%, and relative population growth was 1.003, then, (using the formula set out in Cuthbert, J.R., 2001), the ratio of DEL per head in Scotland would increase slowly but steadily relative to DEL per head in England, converging to a limit where DEL per head in Scotland would ultimately be 44% higher than in England.

6 A naïve view might be that this type of possibility strengthened the case for the union, since it implies that, in the event of austerity, Scotland would benefit in relative terms. But this naïve view is to ignore political realities. There has already, in the current period of austerity, been considerable political pressure to scrap Barnett, coming not just from sections in England but also from Wales. In the run-up to the referendum, the leaders

of all three UK political parties have recognised the current political impossibility of this – and have stated their commitment to Barnett. As the Treasury paper says (page 13), "While the current UK Government cannot commit future governments to retain the Barnett formula, all three of the main UK political Parties have made clear that no changes are in prospect." But it would be politically impossible to maintain this commitment in the long term – if a prolonged period of austerity led to marked Barnett expansion, and once the Scottish referendum was, as far as Westminster was concerned, safely out of the way. In a continued period of austerity, there is no doubt Barnett would be scrapped.

7 In effect, Barnett puts Scotland in a lose/lose situation. If strong nominal public expenditure growth resumes, then the Barnett squeeze will steadily and remorselessly erode any "union dividend". If there is prolonged austerity, however, then it will be politically impossible to retain Barnett in the face of the resulting inflation in Scottish spending per head relative to England. In either event, Scotland loses out. When viewed in this light, the Treasury's failure to do any modelling of the implications of Barnett in their paper suddenly becomes all too explicable – if none the less completely inexcusable.

4. Dis-Benefits of the Union

1 As noted in Section 2, the Treasury approach takes the status quo of the union as the norm relative to which they calculate their "union dividend". What their approach fails to do is to take into account the dis-benefits which are, in effect, baked into that baseline. In this section, we outline just some of these dis-benefits. This is a big subject: we do not attempt anything like a full account.

2 At one extreme are the big political/economic dis-benefits. A few examples are:

- Being saddled with a UK government which, much of the time, is of a different political complexion from what Scotland would elect on its own. Since 1979, Scotland has never voted Conservative – indeed Conservative MPs in Scotland have become vanishingly rare – and yet there has been a Westminster Conservative or Conservative coalition government set over us as part of the union in 22 out of these 35 years.
- Also being saddled with the UK government's approach to Europe. It is not just that the UK seems to go out of its way to make enemies in Europe: if it is still part of the union, Scotland could find itself out of the EU in 2018 – not on the basis of decisions Scotland made itself, but through a UKIP inspired UK referendum on the EU.
- Involvement in the UK's imperial wars. This is not just a question of recent illegal wars like Iraq, or ill-judged adventures like Afghanistan. On the 100th anniversary of the First World War, it is relevant to remember that
  "Of the 557,000 Scots who enlisted in all services, 26.4 percent lost their lives. This compares with an average death rate of 11.8 percent for the rest of the British army between 1914 and 1918. Of all the combatant nations, only the Serbs and the Turks had higher per capita mortality rates, but this was primarily because of disease in the trenches rather than a direct result of losses in battle." (Devine, 2006)
  And going further back, one remembers the notorious phrase used by Wolfe, in the eighteenth century, when he was extolling the virtues of using Highland troops in North America: namely, "no great mischief if they fall".
- Exposure to the risks associated with the UK economy. As noted in Section 3, the UK has not resolved the problems which led to its 2008 crisis: and a resumption of the crisis is very likely. But even when the UK is not in immediate crisis, the way the UK economy has been managed, at least since 1980, has been in the interests of the financial sector and the South East – to the grave detriment of Scotland, and indeed other parts of the UK.
- Having, whether we like it or not, to take on board the socially divisive policies favoured by Westminster: the neo-liberal economic orthodoxy: the extremes of wealth and poverty: a benefit system which devalues and penalises those in need: and so on. To give just one example: of 17 Western European economies analysed by the OECD, the UK had the second most unequal income distribution, after Portugal, as measured by the standard Gini co-efficient: (OECD, 2013).
- And then there are the specific things in which Scotland would want no part: for example, Trident, and the way Prestwick has almost certainly been used for rendition.

3 While this type of union dis-benefit is well known, there are a number of more technical dis-benefits, which are less well known. For example,

a. ***Funding under devolution limits Scotland's freedom of action***

Although, in theory, a Scotland operating under devolution is in charge of its own policies on areas like health and education, in actual fact the funding arrangements for devolution imply severe constraints. In particular, if the decision is taken in England to privatise a major aspect of a service, then the resulting restriction in public expenditure in England will have Barnett consequentials for Scotland which will put Scotland under severe pressure to follow suit. This has already been seen in the case of PFI. But in fact the PFI example, serious though the consequences were, is dwarfed by the implications for Scotland if, as seems likely, England embarks upon major privatisation of the NHS. A privatised NHS would be anathema to the vast majority of Scots. But if England goes down this road, the resulting financial pressures would mean that any devolved Scottish government would be under severe pressure to follow suit.

The example of student fees is actually very relevant here. When England introduced very high student fees, it was moving counter to the rest of Europe. Scotland, quite justifiably, chose not to follow suit. But its ability to do this tested to the limit its freedom of manoeuvre to have different policies within the union. If England were to introduce a radical privatisation policy for a major budget like the NHS, Scotland would have no ability under the union to maintain a radically different policy. In a very real sense, the apparent freedoms available to Scotland under devolution are in fact illusory.

b. ***Effect of EU Regulations***

The way that EU regulations operate, (on areas like state aid), means that there are certain measures which a member state may permissibly introduce if they are operational across its whole territory, but introducing the same measure over part of its territory would not be permissible. Since Scotland itself is not a member state, this means that Scotland can be prevented from doing things which would be permissible if it were a member state. An example is the living wage: it was the clear wish of the Scottish Parliament to introduce a living wage for Scotland. However, since Scotland, under the union, is only part of a member state, the Scottish government was informed by the Commission that this was not permissible.

c. ***Losing out on CAP***

One of the downsides of being part of the union is not having direct representation as a full EU member on negotiations in areas like the Common Agricultural Policy. The effects have been dire. For example, in the latest CAP negotiations for 2014-2020, the guiding principle was that member states whose receipts fell below 90% of the EU average rate per hectare should receive a convergence payment. Now Scotland has a per hectare payment of 45% of the EU average, while England, Wales and Northern Ireland are above the EU average. Since the UK as a whole falls just below 90%, the UK did receive a convergence payment. But, despite representation from the Scottish government, the Westminster government chose to allocate this proportionately to the different parts of the UK. As a result, the per hectare payment which Scotland receives is lower than that of any member state in the EU.

d. ***Losing out on Reserved Functions***

In various respects, the reserved functions run for the whole of the UK by Westminster are administered so inefficiently for Scotland, or are so out of line with Scottish preferences, that the Scottish government has in the past wished to do certain things differently. In these circumstances, the Scottish government has to make representations to Westminster to be allowed to use its own Scottish budget to make good the deficiency: not merely is this demeaning and inefficient – but sometimes Scotland is actively penalised for daring to be different. A classic example of the latter was free personal care for the elderly, where the

Scottish government hoped to use the attendance allowance of those in care homes to help meet the overall costs. The UK government refused to transfer the attendance allowance monies, so Scotland was penalised by over £20 million per annum. Another example is the bedroom tax where, after much dragging of feet by the UK government, the Scottish government was finally allowed to use its own money, albeit at the expense of other budgets, to reverse the damage caused to families by the tax.

5. Arguable Assumptions Made by the Treasury

1 As we noted in the introduction, the primary thrust of this paper has been to point out technical flaws in the Treasury approach. But, quite separately, the Treasury analysis could, and should, be challenged on some of the key assumptions it makes. There needs to be proper debate and scrutiny of these assumptions: so, for purposes of completeness, we list some of these key dubious assumptions in this section. Such challenges would represent a separate piece of work. They do not affect the fundamental conclusions of this paper.

Amount of UK debt an independent Scotland would take on

2 The Treasury paper assumes that Scotland would take on a population share of the UK's debt as projected at the time of independence. This is an important assumption for the finances of a newly independent Scotland, since interest payments on a Scottish population share of current UK headline debt amount to about £4 billion per annum. It is extremely doubtful, however, if an independent Scotland either should take on, or would be willing to take on, anything like this level of debt. There are a number of very good reasons for this:-

a) The Scottish government's White Paper did indeed envisage that Scotland might take on a population share of debt – or a slightly smaller share based on a (flawed) calculation of relative historic deficits. But this negotiating stance was conditional on rUK being willing to play ball on the Scottish government's preferred choice of Scotland remaining part of the Sterling currency union. Since rUK has taken this option off the table, the White Paper options on debt sharing fall too.

b) Scotland has a very strong moral case that, far from taking on any rUK debt, it should be compensated for the Scottish oil revenues which have been squandered by reckless decisions taken by the Westminster government. If Scotland had become independent in 1980, then on conservative assumptions it would have accumulated an oil fund of around £150 billion: (Cuthbert and Cuthbert, 2014). It is sometimes argued that this kind of historic calculation is irrelevant, because there is no logic in selecting any specific historic starting point. But, in fact, the choice of 1980 is far from arbitrary. This is immediately after the 1979 referendum, when Scotland expressed a clear democratic majority for self-determination, which was arbitrarily overturned by Westminster. (It is relevant to note that the Treasury paper itself makes considerable play of the start date of devolution, 1999, as the starting point of their analysis of Scotland's historic finances. But this very logic implies that the relevant date to take should be when Scotland first expressed a majority vote for self determination, that is, 1979 rather than 1999).

c) There is also the question of how big the current UK national debt actually is, because a large portion of it has effectively been monetised through quantitative easing.

Set-up costs

3 The set-up costs for the machinery of government in the Treasury paper look excessive and were immediately challenged – not least by Professor Dunleavy, whom the Treasury had cited as authority for their estimates: there is a good summary in MacKay (2014).

Oil forecasts

4 The Treasury analysis is based upon the projections of oil revenues in the OBR's assessment of the UK's fiscal outlook. There are two potential problems with this:

a) A number of experts, (for example, MacKay (2014), Kemp (2013)), illustrate how the OBR's forecasts are very pessimistic.

b) The OBR's forecasts, which are based on the existing North Sea tax regime, neglect the possibility that an independent Scotland might introduce a more rational tax regime –

thereby increasing production and tax take. As an indication of the adverse effects of the current tax regime, the US Government's Energy Information Administration recently stated that the UK tax regime had choked North Sea exploration and paralysed a string of major projects: (US Energy Information Administration, 2014).

UK risks underplayed

5 As regards the overall UK economy, the Treasury's basic assumptions are that steady real growth will resume from 2018/19, and inflation will also be stable at 2.2%, close to its target level. (And interestingly, the corresponding assumptions the Treasury make for Scotland imply that, under independence, real GDP per head in Scotland will be some 33% higher in twenty years than it is now: see Treasury May 2014, Chart A.1.) The Treasury's UK assumptions are taken from the OBR's fiscal assessment. In founding its analysis on these OBR assumptions, the Treasury is actually significantly underplaying the risks attaching to the UK economy. To understand why, it is necessary to look in more detail at the way the OBR conducts its economic forecasts. For a fuller account of OBR economic forecasting, and in particular, of the OBR's assessment of risk, see Cuthbert, J.R., (2013). But the important point is that the OBR's economic forecasts involve limited assessment of risk, and are themselves based on the assumption that policy will quite quickly get the economy back on a path of stable growth and low inflation. There is therefore a circularity here: with the Treasury basing their assumptions on the OBR, who themselves base their forecasts on the assumed success of government policy. And the circularity does not stop there. The "independent forecasters" that the Treasury cite themselves use the OBR forecasts as the basis for their work.

6 The essential circularity between the Treasury and the OBR should not be interpreted as implying any criticism of the OBR's independence and integrity. Rather, this is an inevitable consequence of OBR having accepted a basically forecasting remit – since, (for the reasons set out in more detail in Cuthbert, J.R., 2013), a rational forecaster in a policy influenced environment will usually assume the success of policy.

7 The effect, however, is that the OBR forecasts, and hence the Treasury analysis, as well as the work of "independent forecasters", are unduly reassuring about, or even totally ignore, the risks attaching to the UK economy. The latter risks are non-negligible, as we have already noted in paragraph 3.4. Given the scale of UK risks, a proper analysis of the union dividend should factor in a substantial discount for the downside of being exposed to these risks within the union – but this the Treasury analysis fails to do.

6 Conclusion

1 In this paper we have looked at a number of aspects of the Treasury's calculation of their "union dividend". What we have found is that

a. There are large technical flaws in the Treasury analysis and calculations: in particular, the model the Treasury has used fails to account for various known features which will inevitably affect the future they are trying to predict. The identified flaws include, among others:

- the Treasury's failure to allow for the Barnett squeeze which, on the Treasury's own growth assumptions will automatically begin and adversely affect the Scottish government's funding under a continued union.
- Failure to recognise that the funding model for the devolved Scottish government has no mechanism for making provision for a significant element for the extra costs associated with Scotland's relatively ageing population.
- Failure to allow for the implications of quantitative easing.

b. However, the problems with the Treasury's approach go much deeper than these technical flaws. Their failure to model the way the Scottish government is funded under the union, allied to their failure to look at variant scenarios for UK public expenditure growth, means that they entirely miss the lose/lose situation which Scotland is in under continuation of the union. On the one hand, if the Treasury's optimistic growth scenario is realised, then there will be a Barnett squeeze. But on the other hand, in the very likely case of continued austerity, then the Barnett formula would mechanistically deliver increasing levels of per capita expenditure on devolved services to Scotland relative to England: in the face of universal austerity in the UK, this would make the continuation of Barnett politically impossible. Either way, Scotland loses.

c. The Treasury calculations also fail to allow for the adverse effects which are, in effect, baked into the UK baseline from which the Treasury attempt to measure their "union dividend". These negatives include:

- The very serious risks of a UK financial crisis.
- Having successive Conservative governments whom we have not voted for.
- Illegal wars.
- Trident.
- The adverse effects of Scotland's lack of direct representation in international bodies like the EU and the UN.
- The inefficiencies in the operation of reserved functions in the UK, which means that Scotland has at times to seek permission to allocate part of its own budget to overcome deficiencies – and is on occasion even penalised for so doing.
- The fact that Scotland has to take on board, without any option, divisive UK policies in areas like social security.

The Treasury approach is fundamentally and implicitly union-centric: so that the present state of the union is inherently regarded as being natural, beneficial, and risk-free – almost divinely ordained. What should have taken place was a proper assessment of the pros and cons of the union, going into the risks and costs attaching to continued membership of that union.

d. And last, but not least, is the question of the assumption that the Treasury made about the independence scenario - in areas like start-up costs, oil, and debt. While, as we have made very clear, it is not the primary purpose of this paper to go into these areas in

detail, there are good grounds for believing that the Treasury have chosen to be unduly pessimistic.

2. So where does this leave us on the overall "union dividend"? Is it just a question of reducing the Treasury's assessed dividend in relation to those technical mistakes that we have identified and which can be quantified? Absolutely not. What we argue is that the whole concept of a single figure "union dividend" is nonsense and must be abandoned. The decision that the Scottish people will take on independence involves many factors. To try to boil that decision down to a single monetary amount is basically meaningless: and when the method adopted essentially assumes away all the risks and costs attaching to staying in the union the result is not merely meaningless, it is intrinsically biased. When the Treasury produced their results, their use of children's lego men to explain their findings to the simple minded Scots was widely, and rightly, seen as insulting. In fact, the real insult was not in the use of lego men to present the results: but in the fact that the Treasury adopted a flawed and biased methodology in the first place.

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