

Block Grant Adjustment mechanisms, the redistribution of rUK revenues, and the no-detriment principles: additional comments and clarifications

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In an IFS paper “Adjusting Scotland’s Block Grant for new tax and welfare powers: assessing the options” (<http://www.ifs.org.uk/publications/8060>) published in November 2015, David Bell, David Eiser and David Phillips assess what various block grant adjustment (BGA) options imply for the path of the Scottish budget, and the extent to which they satisfy the ‘no detriment’ principles set out in the Smith Commission’s report. This note adds to that paper and seeks to clarify:

- 1) What we mean by the ‘per capita indexed deduction’ (PCID) method for indexing the BGAs.
- 2) What we have interpreted the ‘no detriment’ principles to mean.
- 3) What the different BGA indexation methods mean for whether future devolved tax revenue growth in rUK remains in rUK or continues to be partially redistributed to Scotland.

1. The options for indexing the BGAs

The paper analysed three options for indexing the BGA after it had been initially set:

- The first approach is **Indexed Deduction (ID)**. This indexes the change in the BGA to the percentage change in total comparable tax revenues in the rest of the UK (rUK). For example, if comparable revenues in rUK grow by 5%, the BGA also grows by 5%. Under the ID adjustment method, growth in either the number of people or revenue per person in rUK would lead to an increase in Scotland’s BGA. This approach therefore exposes Scotland to the risk of relatively slower population growth than in rUK. On the other hand, this mechanism would allow Scotland to capture the reward of relatively faster population growth. Scotland would therefore gain from attracting and retaining more income tax payers, for instance.
- The second approach is **Per Capita Indexed Deduction (PCID)**. This indexes the BGA to the percentage change in comparable rUK revenues *per person* and the rate of growth of the *Scottish* population. This option clearly protects the Scottish budget from the risk that its population grows relatively slower than the rUK’s. But equally the Scottish budget would not benefit from revenue increases that resulted from population growth. The Scottish Government would therefore lack incentives to boost growth through attracting more people to Scotland.
- The third approach is the **Levels Deduction (LD)**. This calculates the change in the BGA as a population share of the change in comparable revenues in rUK. For example, if income tax revenues increased by £10 billion in rUK, then if Scotland’s population was 9% of rUK, Scotland’s BGA would increase by £900m. The rationale for the LD approach is that, by being based on a population share of a cash terms change in revenue, it is symmetric with the spending side of the Barnett Formula (which calculates the change to Scotland’s block grant as a population share of the cash terms change in English spending).

The first point to bring out from this is that the PCID approach *does not* index the BGA solely to growth in revenues per capita in rUK. It also takes into account Scottish population growth. Hence, if revenues per capita in rUK go up by 4%, and the Scottish population goes up 0.5%, the BGA increases by (approximately) 4.5%. The result is Scotland wins or loses depending on whether its revenues per capita go up by more or less than the equivalent UK figure (4%).

Thus, the difference between the PCID and ID approaches is not that the former strips out all the effects of revenues generated by population growth; the difference is that it strips out the effects of *differential* population growth. **It would be inappropriate for the BGA to increase in line solely with revenue growth per capita in rUK**, because that would ignore the fact that the Scottish government will also see changes in its devolved revenues that reflect population change – whether increases in population (albeit likely slower than in rUK) or decreases in population – as well as changes in the amount of taxes paid per person.

2. The ‘no detriment’ principles

This brings us to a discussion of the ‘no detriment’ principles contained in the Smith Commission report. There are two such principles. Paraphrasing slightly, the first states:

95.3 “There should be no detriment as a result of the decision to devolve further powers. In particular, the Scottish and UK governments’ budgets should be no larger or smaller simply as a result of the initial transfer of tax and/or spending powers, before considering the use of these.”

In other words, Scotland should not be left worse or better off simply as a result of devolving powers. In order to achieve this, an adjustment would need to be made to the block grant (the BGA) in year one that were equal to the tax revenues or welfare spending being devolved. **The Smith Commission was not explicit about whether this principle is for year one only, or has implications for subsequent years.** Instead it simply said that the initial BGAs should be ‘indexed appropriately’.

Clearly there must be the *potential* for detriment in subsequent years – if Scotland’s revenues perform relatively poorly, the Scottish Government must bear (at least some of) the consequences in terms of a lower budget, and vice versa if revenues perform relatively well, in order for Scotland to bear a degree of fiscal and economic responsibility. The indexation method chosen should therefore not offset the effects of good or bad revenue or spending performance. **However, one may think that a system that has a systematic bias towards detriment to either the UK or Scottish government even if Scotland’s revenue performance is “in line” with those in rUK violates at least the spirit of this principle.** This is the position we (David Bell, David Eiser and David Phillips) took in our November 2015 paper. Although that does leave open the question of how one defines performance “in line” with that of the rest of the UK – a point to which we return later.

This brings us to the second no detriment principle. Again, slightly paraphrasing, it states:

95.4 “There should be no detriment as a result of UK government or Scottish Government policy decisions post-devolution.

a) In particular where either the UK or Scottish governments make decisions that affect the revenues or expenditures of the other, compensatory transfers should be made between the two.

b) And, that changes to taxes in the rest of the UK, for which responsibility in Scotland has been devolved, should not affect total public spending in Scotland”.

Evidence, including from myself, has indicated that fully satisfying part (a) is likely to be impossible given the complexities of working out whether, and if so how big, any such knock-on effects are.

As discussed below, the way in which the BGAs are indexed also has implications for part (b) – a sub-principle that we term the ‘taxpayer fairness’ principle.

3. BGA indexation and 'no detriment'

rUK tax rate changes, the taxpayer fairness principle, and BGA indexation

Recall that by being based on a population share of the cash terms change in revenue, the **LD** approach is symmetric with the spending side of the Barnett Formula (which calculates the change to Scotland's block grant as a population share of the cash terms change in English spending). Our analysis showed that this symmetry property is useful when it comes to meeting the 'taxpayer fairness' sub-principle.

Consider an increase in rUK tax rates that increases revenues by £10 billion. When the additional rUK revenues are spent on services like health or education that are devolved to Scotland, Scotland gets an equivalent population share of this spending via the Barnett Formula, equal to around £900 million. Under the **LD** approach, Scotland's BGA also increases by a population share of the change in UK revenues: again £900 million. So the increase in the BGA exactly offsets the increase in the underlying block grant, leaving Scotland unaffected. The 'taxpayer fairness' principle is satisfied.

In contrast, under the **ID** or **PCID** approaches, Scotland would gain from such a tax increase. This is because tax revenues per person are lower in Scotland than in rUK. A percentage increase in the BGA is therefore smaller than a population-share based increase. Our report shows that for a £10 billion income tax increase in rUK, equal to about 2p on each income tax rate, such gains to Scotland would amount to over £100 million a year, even though Scots were paying no more tax themselves. Or vice versa for an income tax cut. These methods therefore do not fully satisfy the 'taxpayer fairness' principle.

Underlying tax base growth, the 1st no detriment principle, and BGA indexation

Tax revenues change not only because of policy changes though. Underlying growth in the economy and the tax base also affect revenues. Depending on the initial starting levels of revenues per person, revenue growth per person, and population growth, the different options we consider can have markedly different effects of the Scottish Government's budget.

Consider the following scenario: revenues start off lower per person in Scotland, grow at the same percentage rate per person as in rUK, but the population grows less quickly than in rUK. Under the **PCID** approach, the BGA increases in line with the rate of growth in revenues per person (which is the same in Scotland and rUK) plus Scottish population growth. Hence Scottish revenues grow at the same rate as the BGA meaning it does no better or no worse than if taxes were not devolved. In other words, neither the Scottish Government nor UK government suffer detriment in this scenario. If one deems equal revenue growth per person as "equivalent performance", one might think that this method therefore satisfies the spirit of the 1st no detriment principle.

On the other hand, Scotland does lose out somewhat under **ID** approach because of its lower population growth. And, under the **LD** approach it loses out even more, at least initially, because a given rate of growth in its revenues translates into less than a population-based share of the equivalent growth in rUK revenues (because its revenues per person start off lower than rUK's). Indeed, there will be detriment to Scotland under the LD approach, unless revenues in Scotland grow at a faster percentage rate both per person, and in aggregate than in rUK. The **LD** approach therefore does not seem to satisfy the spirit of the 1st no detriment principle, if one thinks this faster rate of growth is unlikely and an unfair challenge for Scotland to meet.

Conflicts between the no-detriment principles

This led us to conclude that it is **impossible to design a block grant adjustment system that satisfies the spirit of the ‘no detriment from the decision to devolve’ principle at the same time as fully achieving the ‘taxpayer fairness’ principle: at least while the Barnett Formula remains in place.**

The **LD** method’s symmetry with the Barnett Formula mean it satisfies the ‘taxpayer fairness’ principle, but by requiring a faster rate of growth in revenues per person to avoid Scotland losing out from devolution, it may be seen to violate at least the spirit of the 1st ‘no detriment’ principle.

On the other hand, the **PCID** method would mean neither government would see detriment if Scottish revenues per person grew at the same percentage rate as those in rUK – the outcome would be the same as under the existing non-devolved system. But its lack of symmetry with the Barnett Formula means it does not fully satisfy the ‘taxpayer fairness’ principle.

The decision of which BGA indexation method to choose would then seem to turn on which principle to prioritise. But without some set of broader principles to guide this, there seems little alternative to taking partisan positions based on which option is most financially beneficial to a particular side – PCID in the case of the Scottish Government, and LD in the case of the UK government. Perhaps the negotiations between the two governments were always going to thus. But are there broader principles or issues at stake that other stakeholders can use to assess the different approaches?

4. BGA indexation and the redistribution of rUK revenues

The question of how to index the BGAs is fundamentally about which risks and incentives one wishes to devolve, as well as the extent to which any equalisation of the tax base in question continues post-devolution. The BGA methods presented above differ in each of these regards, but it is an understanding of their differences with respect to equalisation that may prove more instructive in understanding the differences between the PCID and LD methods.

At present, less is raised per person in Scotland than in rUK from those taxes set to be devolved or assigned – mainly because of income tax. This means there are implicit transfers of these tax revenues from rUK to Scotland via the Barnett formula block grant.

To see the implications of this, consider the simple stylised example set out in Table 1 overleaf, where revenues per person in Scotland are lower than in rUK and spending per person is equal. Taxes are then devolved, and subsequently grow at the same percentage rate per person in both countries. For simplicity, assume also that population is constant in both countries.¹

In this example, Scottish revenues are initially being topped up by the equivalent of £18 per person so that spending can be the same as in rUK. Under Barnett (no-devolution) that top up grows over time so that spending per person in Scotland can remain at the same level as in rUK. (Because Barnett leads to convergence in spending per person when population is unchanged or growing at the same rate). What about after tax devolution?

¹ In what follows we restrict attention to the LD and PCID approaches. We do this for two reasons. First, when population is constant (or growing at equal rates) as in the scenario considered, the PCID and ID approaches are equivalent. Second, our November paper shows that when population growth differs, that the ID approach is problematic in the long run as it never accounts for changes in the relative population of Scotland.

Barnett Formula: no devolution	Year 1		Year 2		Year 3		Year 15	
	Scotland	rUK	Scotland	rUK	Scotland	rUK	Scotland	rUK
Population	10	90	10	90	10	90	10	90
Revenues	800	9000	880	9900	968	10890	3038.0	34177.5
Revenues per person	80	100	88	110	96.8	121	303.8	379.7
Barnett Grant = Spend	980	8820	1078	9702	1185.8	10672.2	3721.5	33493.9
Spend per person	98	98	107.8	107.8	118.58	118.58	372.2	372.2
Redistribution per person	18	-2	19.8	-2.2	21.78	-2.42	68.4	-7.6

Levels Deduction (LD)	Year 1		Year 2		Year 3		Year 15	
	Scotland	rUK	Scotland	rUK	Scotland	rUK	Scotland	rUK
Population	10	90	10	90	10	90	10	90
Revenues	800	9000	880	9900	968	10890	3038.0	34177.5
Revenues per person	80	100	88	110	96.8	121	303.8	379.7
Barnett Grant	980	8820	1080	9720	1190	10710	3777.5	33997.5
BGA	800		900		1010		3597.5	
Spend = Revenues + Grant - BGA	980	8820	1060	9720	1148	10710	3218.0	33997.5
Spend per person	98	98	106	108	114.8	119	321.8	377.7
Redistribution	18	-2	18	-2	18	-2	18.0	-2.0

Per Capita Indexed Deduction (PCID)	Year 1		Year 2		Year 3		Year 15	
	Scotland	rUK	Scotland	rUK	Scotland	rUK	Scotland	rUK
	Population	10	90	10	90	10	90	10
Revenues	800	9000	880	9900	968	10890	3038.0	34177.5
Revenues per person	80	100	88	110	96.8	121	303.8	379.7
Barnett Grant	980	8820	1078	9702	1185.8	10672.2	3721.5	33493.9
BGA	800		880		968		3038.0	
Spend = Revenues + Grant - BGA	980	8820	1078	9702	1185.8	10672.2	3721.5	33493.9
Spend per person	98	98	107.8	107.8	118.58	118.58	372.2	372.2
Redistribution	18	-2	19.8	-2.2	21.78	-2.42	68.4	-7.6

The LD approach and the slow unwinding of redistribution

Under the LD method, Scottish revenues continue to be topped up by £18 per person every year going forwards. This is because the BGA increases by a population share of the revenue increase each year, exactly offsetting the additional money Scotland receives via the Barnett formula. Thus the initial £18 transfer continues unchanged – it neither grows nor shrinks in cash terms.

However, in relative terms, it shrinks consistently over time. As revenues and spending grows, these constant £18 per person transfers represent a proportionally smaller and smaller top up to Scotland's relatively low revenues. Thus the Scottish government no longer benefits from redistribution of revenue growth from rUK, and it therefore sees its budget fall relative to that in rUK unless its revenues per person converge to rUK levels (requiring a faster percentage rate of growth),

The LD method therefore means that any increases in revenue in rUK from taxes that are devolved to Scotland remain in rUK. Some would view anything other than this as unfair.

The flip side is that the degree of redistribution of these revenues gets proportionately smaller and smaller over time. Scotland has to increasingly stand on its own two feet when it comes to devolved taxes. Some would suggest that tax devolution is being used to unwind redistributive flows of revenues around the UK: a major change, which has not been debated, and may not be fair in the context of a fiscal and social union.

The PCID approach and the continuing redistribution of revenue growth to Scotland

On the other hand, under the PCID method, cash-terms top ups to Scotland's revenue grow over time, just as they would have under the Barnett formula. The BGA increases each year in percentage terms, and because Scotland's revenues per person start off lower, this is not enough to fully offset the additional money Scotland receives from the Barnett consequentials flowing from the additional spending in rUK.

Instead, it is in relative terms that the top-ups remain constant: they grow in line with revenues and spending. The Scottish government continues to benefit from the redistribution of revenue growth from rUK, and in this scenario, its budget per person remains equal to that available in rUK. If Scotland's revenues grow at a faster percentage rate than those in rUK, the Scottish government would see its budget per person increase relative to rUK, and vice versa.

The PCID method therefore means that some of the additional revenues raised in rUK from taxes that are devolved to Scotland do not remain in rUK – instead they get redistributed towards Scotland to maintain the relative value of transfers to Scotland. As already mentioned, some would view this as unfair, particularly as there is no mechanism for transfers the other way if Scottish revenues per person were to exceed those in rUK at some future point.

The flip side is that the relative degree of redistribution of these revenues remains constant. Tax devolution would not be unwinding redistributive flows of revenues around the UK: which may be seen as more consistent with the idea that the 'decision to devolve' should not by itself lead to detriment to either Scotland or rUK.

The question condensed

Therefore when deciding whether to use the PCID or LD methods, key questions to consider are:

- a) **Should, as far as possible, any increases in revenues from devolved taxes in rUK remain fully in rUK, even though this means that the redistribution of these revenues shrinks in relative terms over time?**

If so, then one would want to choose LD.

Or

- b) **Should existing redistributive flows be maintained in relative terms, even though this means that some of the additional revenues raised in rUK from these devolved taxes will be redistributed to Scotland?**

If so, then one would want to choose PCID.

One can easily imagine different positions being taken on these questions. But they are at least questions that one can take more principled stands on, and they are more concrete than questions about the somewhat ill-defined 'no detriment' principles.

5. Final comments

The choice of BGA indexation method therefore relates to one's position on how much redistribution of taxes that are devolved there should be. This is a debate we have not had in the UK. Nor have we had a proper debate about what risks and incentives should be borne by each level of government, which is also affected by the BGA indexation method chose. For instance, how should demographic and economic risk be shared between governments? Should there be consistency in how risks are shared on the revenue and spending side?²

Instead, decisions about financing arrangements have tended to be seen as a zero-sum game of methods more or less beneficial to each government, and viewed through the Smith Commission's principles, which whilst intuitively appealing, are on closer inspection incompatible with each other, and thus cannot on their own determine policy.

The benefits of a more fundamental debate about just what risk sharing and revenue and needs equalisation there should be in the UK and possible directions for reform are discussed in Bell, Eiser and Phillips (2015): pages 5-7 in the Executive Summary, and Chapter 8, pages 42-45. Whilst these issues may be seen as beyond the scope of current negotiations on Scotland's fiscal framework, they are issues that deserve attention. The UK has traditionally muddled through when it comes to devolution, creating a system of devolved finance that is increasingly complicated and increasingly ad-hoc. A first-principles approach to reform could help simplify the system and make it more sustainable for the long term – although there would clearly be political difficulties along the way.

² Consistency of the spending side and revenue side would point towards the LD approach – which is, as we have noted, symmetric with the Barnett Formula.