
For Wales Don't (Always) See Scotland:

Adjusting the Welsh Block Grant after Tax Devolution

First Report on the 2016-17 Fiscal Framework
Negotiations for Wales

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Executive Summary

For the first 16 years of its existence, the Welsh Government was responsible for more than half of public spending in Wales but was almost entirely dependent on an annual block grant from the UK Treasury to fund this spending. Although Welsh ministers have been able to allocate expenditure to different policy areas, they have had no say over the total amount available to spend. Instead, changes in the Welsh block from year to year are largely determined by the Barnett Formula, leading to a highly unusual situation from an international perspective in which annual changes in the Welsh budget were determined by UK Government decisions on spending on public services in England and insulated from any changes in tax revenues raised in Wales.

Two government-sponsored commissions (Holtham 2008-2010 and Silk 2010-2012) argued that this basic imbalance in accountability between spending and raising revenue was not conducive to a successful and empowering devolution settlement over the long term, and both recommended a package of taxes to be devolved to the Welsh Government.

In April 2015 powers over business rates were fully devolved, and revenues from rates paid by Welsh businesses now accrue directly to the Welsh Government. From April 2018 the Stamp Duty Land Tax and Landfill Tax will be transferred, and the Wales Bill being considered by the UK Parliament could see a £1.9 billion share of Income Tax partially devolved to the Welsh Government without the requirement of an affirmative vote in a referendum.

Tax devolution and adjusting the Welsh Block Grant

When these taxes are devolved, a downward adjustment of at least £2 billion will be made to the existing block grant to compensate the Treasury for tax revenues they will no longer receive. At first glance, the question of block grant adjustment appears to be purely technical: surely the size of this adjustment should simply equal the amount of revenues being devolved? Although this is broadly true at the point of devolution itself, formulas that could be used to update this adjustment each year thereafter hold very serious implications for the amount of funding available to the Welsh Government, and have the potential to cause hundreds of millions in unfunded cuts over a short number of years. Certain methods that could be used to adjust the block grant could subject the Welsh budget to risks that run counter to the UK Government's objective of improving the Welsh Government's accountability and responsibility.

As Wales' tumultuous experience with the Barnett Formula should tell us, the devil in funding mechanisms is in the detail, and short-term solutions or temporary fixes can quickly become institutionalised. The formula will be determined by negotiations between the Welsh Cabinet Secretary for Finance and the UK Chief Secretary of the Treasury in a new body named the Joint Exchequer Committee this autumn.

In principle, there is a good argument for the block grant adjustment to reflect the “**opportunity cost**” of devolution for the Treasury, or in other words, the amount of revenue the Treasury would have collected in Wales had devolution not occurred.

Four methods of block grant adjustment were considered in the 11 month-long Scottish Fiscal Framework negotiations during 2014-15, and will likely be on the table again for the Welsh negotiations, namely:

- **Indexed Deduction**, which would index block grant adjustments to revenue growth in the rest of the UK

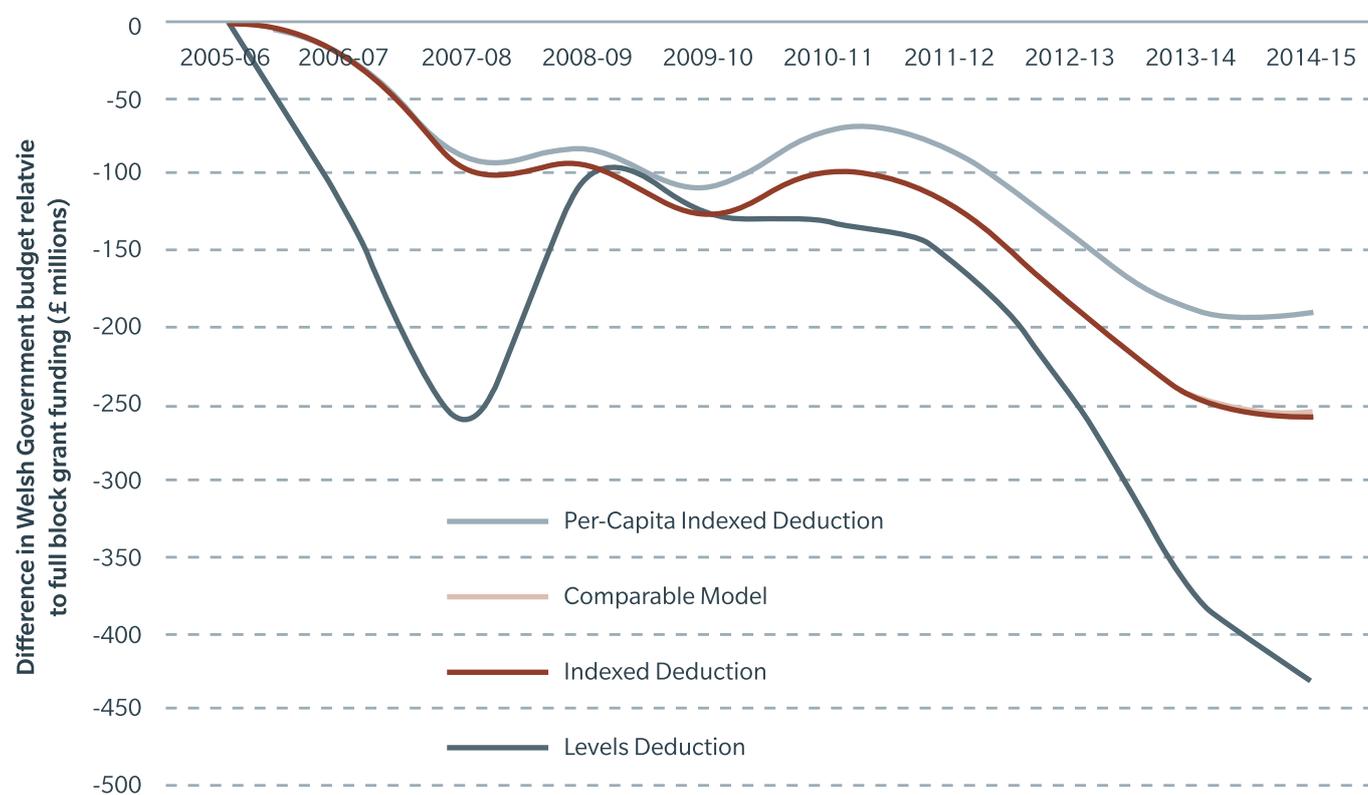
- **Per Capita Indexed Deduction**, which modifies the first method by taking population divergence into account, and is to be used for Scotland’s block grant reductions for a six-year transition period through to 2021-22
- **Levels Deduction**, which aims for “Barnett symmetry” on both the expenditure and revenue sides of the budget, and the
- **Comparable Model**, which also aims for this “Barnett symmetry” but takes into account Wales’ lower per capita revenues than the rest the UK

Each method would involve **changing the block grant adjustment according to growth in comparable revenues in the rest of the UK**. The size of the Welsh Government budget would then depend on the growth of devolved taxes relative to the rest of the UK.

Implications for the Welsh Government budget

Although forecasting the likely effects of tax devolution in the future is difficult, this report analyses ten years of historical data to take a hypothetical look at the Welsh budget had tax devolution been in place. **Over the past decade, the Welsh earned Income Tax base grew by only 3.2%, compared with 12.8% across the rest of the United Kingdom. Welsh Stamp Duty revenues actually declined by 3.1% over this time period, while revenues across the rest of the UK increased by 45.2%.** As shown in figure E1, if block grant adjustments had been indexed to revenues in the rest of the UK, this relatively poor performance of revenue growth in Wales would have resulted in budget cuts under all four methods above. We estimate that after ten years, the budget would have been £250 million per year smaller under the Indexed Deduction method and around £192 million smaller even under the more favourable Per Capita Indexed Deduction. If these trends were repeated after 2018, cumulatively this would mean over £1.9 billion less being available to the Welsh Government over the 10 years to 2028.

Figure E.1: Illustrative impact of tax devolution using historical data from 2005-06 to 2014-15



Although financial accountability of Welsh policy choices should be an inherent part of tax devolution, there is good reason to believe that growth in comparable revenues in the rUK may not be a good predictor of the future opportunity cost of tax devolution to the Treasury. This report argues that two factors will influence Wales' revenue trajectory, and that these are so material that they must be considered in the negotiations.

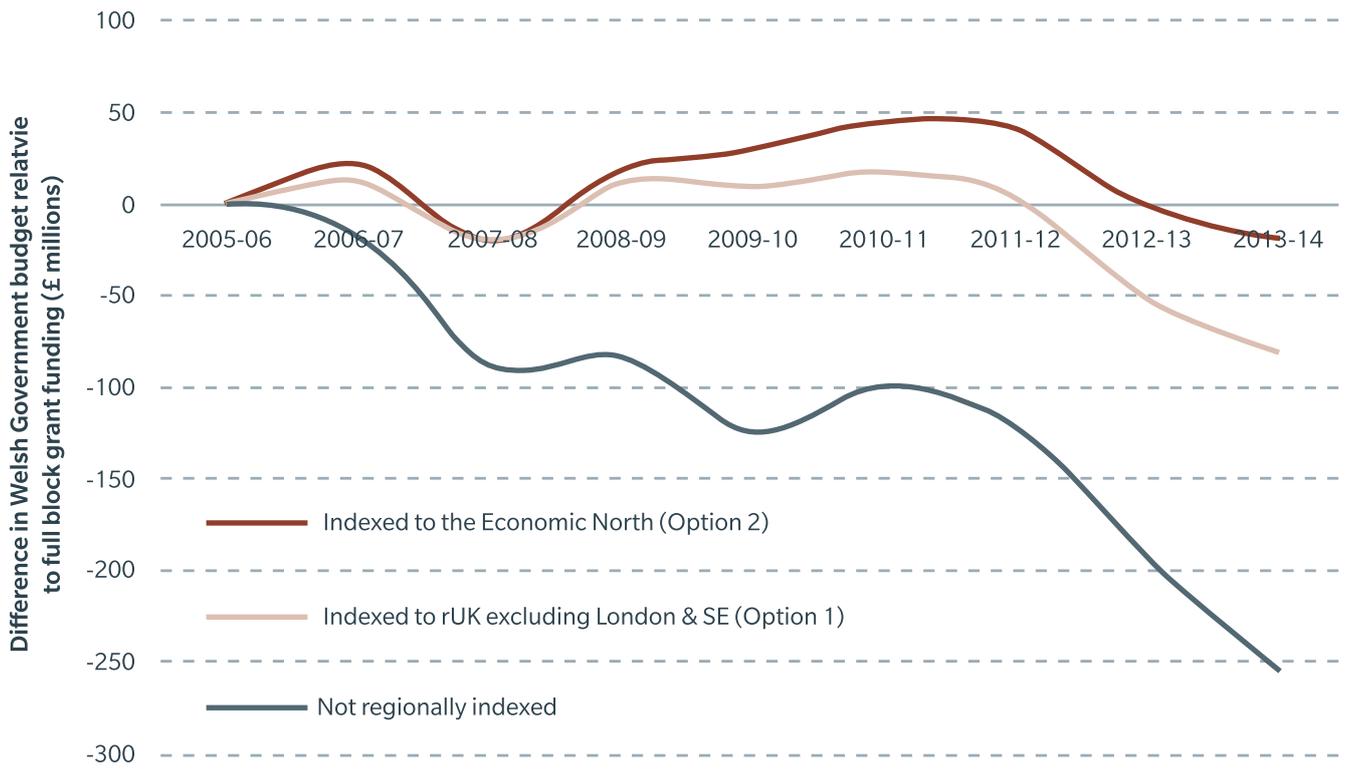
- First, **Wales shares with Scotland a relatively slower rate of population growth.** Recent ONS projections indicate that Wales' population will grow by 0.3% from 2018 onwards compared with 0.7% in the rest of the UK. This means that the overall size of the Welsh tax base will grow more slowly than England's regardless of Welsh government policy, but it also lowers the opportunity cost of devolution. Based on population projections and assuming revenues per capita in Wales keep pace with the rest of the UK, not accounting for relative population growth could mean that the Welsh Government budget would be £110 million lower after 10 years compared with full block grant funding, with the shortfall growing to £264 million after 20 years.
- Second, **and unlike Scotland, the size and distribution of the Welsh tax base is significantly divergent to that of the rest of the UK, with far more lower-income earners.** This means that factors outside of the control of the Welsh Government (e.g. UK Government policy on the personal allowance) could greatly impact the relative performance of Welsh taxes. Moreover, Stamp Duty revenue growth in Wales may evolve rather differently to revenues in the rest of the UK, due to the highly imbalanced nature of the UK housing market. These dissimilarities in the income and house-price distributions of the UK may result in large budget cuts if they are not appropriately factored in.

Alternative proposals for adjusting the Welsh Block Grant

Recognising these significant structural differences, the report concludes by presenting two broad alternative options that would ensure that the adjustments made to the Welsh block grant over time would better reflect the opportunity cost of devolution to the Treasury:

1. **Indexing Wales' block grant adjustments to each Tax Band rather than to total revenue growth in the rest of the UK.** For Income Tax, separate adjustments could be assessed for tax revenues raised from the basic rate (20% tax band); the higher rate (40%), and the additional rate (45%); and indexed to the growth rate of revenues from those bands in the rest of the UK. Differences in the proportion of income that is subject to the different tax bands will account for a large part of the differences in revenue growth attributable to differences in the Welsh and the rUK income distributions. Had Income Tax devolution been in place from 2010-11 to 2013-14, such an approach would have mitigated 80% of the forecast loss to the Welsh budget, reducing the forecast £155 million reduction to £31 million.
2. **Indexing Wales' block grant adjustments to UK Regional Data**, either by excluding the London and South East England property market, or by indexing Wales to the **Economic North** of Britain (a line from the Severn at Bristol to The Wash at Peterborough), or, drawing from the Holtham Commission, by constructing a "Counterfactual Wales" from most-similar English localities using indexes of multiple deprivation. Any of these approaches would more accurately represent the opportunity cost of tax devolution to the Treasury and would provide a closer approximation of likely tax revenue performance (figure E.2)

Figure E.2: Impact of Regional Indexation of Income Tax and SDLT, Indexed Deduction method from 2005-06



1. Introduction

For the first 16 years of its existence, the Welsh Government was funded entirely by a block grant from the UK Treasury.¹ No longer. In April 2015 powers over business rates were fully devolved, and revenues from rates paid by Welsh businesses now accrue directly to the Welsh Government. At the same time, the block grant the Welsh Government receives from the Treasury was proportionately reduced. This process of fiscal devolution is set to accelerate in the years ahead, with powers over (and revenues from) Stamp Duty Land Tax and Landfill Tax set to be transferred to Wales from April 2018.² And the Wales Bill passing through the Westminster Parliament at the time of publication could see Income Tax powers and revenues partially devolved to the Welsh Government without the requirement of an affirmative vote in a referendum.

These significant new tax revenues will be accompanied by a further reduction in the Welsh block grant – termed a block grant adjustment (BGA). The calculation of these BGAs may seem like a purely technical question with an obvious mechanical answer: Surely the adjustment should equal the amount of revenues being devolved? Although at the point of devolution a simple calculation is broadly possible, work for both Scotland³ and Wales⁴ has demonstrated that the formulas used to update the BGAs each year thereafter can have very serious implications for the amount of funding available to the devolved government. The formula chosen will also affect the budgetary risks and incentives faced by the Welsh Government for many years to come.

In this paper, we analyse the different methods of adjusting the Welsh Block and how these could affect the Welsh Government's budget and budgetary risks after tax devolution. This work is, we think, timely: the Welsh Government has commenced negotiations with HM Treasury on how its BGAs should be indexed over time, as part of more general negotiations over the 'Fiscal Framework' in which the Welsh Government operates, including borrowing powers and forecasting requirements. Our hope is that it helps inform stakeholders, the media, and the public about the key issues at stake during this negotiation – and about just how important this issue is. We find, for instance, that after 10 to 15 years, hundreds of millions of pounds of revenue could be at stake, if one formula is chosen that seriously disadvantages the Welsh Government. We also highlight two issues – differences in population growth, and differences in the size and distribution of the tax base, between Wales and the rest of the UK – that must be considered during the negotiations. Above all, we conclude that the approach to updating the BGAs adopted in Scotland⁵ might not be the best option for Wales.

The rest of this paper proceeds as follows. Section 2 describes existing funding arrangements and planned tax devolution, and the principles and existing options in relation to adjusting the Welsh block grant. In Section 3 we model the impact of various options on the Welsh Government's budget under different scenarios for revenue growth and population growth, and using historic revenue growth and population change between 2005–06 and 2014–15. Section 4 looks at the characteristics of Welsh incomes and property markets and argues that the existing options for indexing the BGAs – developed initially for Scotland – are not necessarily appropriate for Wales. Section 5 looks at alternative approaches that may better suit Wales' needs. Section 6 concludes.

1 Wales' devolved executive has also been known as the *Cabinet of the National Assembly for Wales* (1999-2002) and the *Welsh Assembly Government* (*de facto* after 2002, *de jure* after 2007).

2 The Welsh Government has already introduced legislation for its versions of these taxes – which will be called the Land Transactions Tax and the Landfill Disposals Tax, respectively.

3 Bell, D., Eiser, D., & Phillips, D. (2015). *Adjusting Scotland's Block Grant for new Tax and Welfare Powers: Assessing the Options*. University of Stirling and the Institute for Fiscal Studies.

4 Poole, E.G., Ifan, G., & Wyn Jones, R. (2016). *Income Tax and Wales: The Risks and Opportunities of New Model Devolution*; Ifan, G. & Poole, E. G. (2016). *Devolving Stamp Duty and Landfill Tax to Wales: Mitigating the Budget Risks after "Switching On" Wales' First Home-Grown Taxes*. Wales Governance Centre at Cardiff University.

5 HM Treasury and the Scottish Government. 25 February 2016: *The agreement between the Scottish government and the United Kingdom government on the Scottish government's fiscal framework*

2. Adjusting the Welsh Block Grant after Tax Devolution: the Multi-Million Pound Question

2.1 Current funding arrangements and planned tax devolution

Upon the establishment of devolution in 1999, the newly-established National Assembly for Wales and (later) the devolved executive, the Welsh Government, assumed control of more than half of Welsh public spending from the UK government's territorial office of state, the Welsh Office.⁶ For the first time, locally-elected politicians in an Assembly in Cardiff Bay could make decisions over spending in most of the important "bread and butter" issues of domestic policy, including education, the NHS, skills, apprenticeships and transport.

But this local accountability over public spending has never been matched on the revenue side of the Welsh budget. The vast majority of Welsh taxes have continued to be paid to the UK Government, forming a part of a central revenue pool, and local control was restricted to council tax and limited powers over business rates. With little capacity to raise tax revenues itself, the Welsh Government has depended on annual block grants from the UK Treasury to fund its current and capital spending. Although Welsh ministers have been relatively free to decide how to allocate the annual block grant across devolved services, they have had no say over the total amount available to spend in the annual budget. Instead, changes in the Welsh block from year to year are largely determined by the Barnett formula, which adjusts the amount of money available for Wales by a population share of changes in spending on 'comparable' services in England.

A series of government-sponsored commissions argued that this imbalance of accountability between spending and raising revenue was a not conducive to a successful and empowering devolution settlement over the long term. This basic mismatch meant that that most basic democratic choice at elections, where voters assess spending pledges based on the credibility of the parties' promises on tax, has never really gotten off the ground. Moreover, because there is no link between home-grown revenues and the Welsh budget, the Welsh Government bears no financial consequences from policy failures or successes. In its assessment of Wales' funding settlement, the Holtham Commission (2010) argued that this accountability deficit was the 'main weakness of the current funding regime'.⁷ The subsequent Silk Commission (2012) agreed with this assessment, and recommended a package of taxes to be devolved to the Welsh Government, which were largely implemented by the Wales Act 2014.

In 2015, non-domestic rates (business rates) were fully devolved, as it had already been in Scotland and Northern Ireland. From April 2018, the UK's Stamp Duty Land Tax (SDLT) and Landfill Tax will be "switched off" in Wales and replaced by two devolved taxes, to be collected by the newly-formed Welsh Revenue Authority. At some point in coming years, a £2 billion share of Income Taxes raised in Wales is also likely to be devolved to the Welsh Government, without the need for an affirmative vote in a referendum. Including local authority revenue, the revenues that will be under the control of the Welsh Government raised around £4.2 billion in 2014-15, almost a fifth of all revenues raised in Wales.⁸

After the devolution of SDLT, Landfill tax and a share of Income Tax, **a downward adjustment will be made to the existing block grant** to compensate HM Treasury for the tax revenue they will no longer receive. Given the amount of money being subtracted from the block (at least £2 billion per year), the ultimate effect of tax devolution on the Welsh budget and on financial accountability in Welsh politics

6 Poole, E.G., Ifan, G., & Wyn Jones, R. (2016). *Government Expenditure and Revenue Wales 2016*; Wales Governance Centre at Cardiff University

7 Independent Commission on Funding & Finance for Wales (2010) pp. 12.

8 Poole, E.G., Ifan, G., & Wyn Jones, R. (2016). *Government Expenditure and Revenue Wales 2016*; Wales Governance Centre at Cardiff University

will be determined as much by how this downward adjustment will change in future years, as it will be by the actual change in devolved revenues.

In order for the accountability link for a successful devolution settlement to work in practice, the Welsh Government needs to bear the financial consequences of its own performance and policy decisions. Equally, a transparent fiscal framework would, as far as possible, protect the Welsh Government from the impact of policy decisions by other levels of government, such as the United Kingdom Government, and would provide it with a degree of insurance against wider macroeconomic trends or shocks that adversely affect its revenues. In a state with many overlapping responsibilities, and given the complexity of disentangling policy effects from wider economic shocks and trends, it is not possible to apportion accountability between the tiers of government perfectly. This report focuses instead on the “possible” – considering ways of adjusting the Welsh block grant that would provide an appropriate mix of incentives and insurance for the Welsh Government.

2.2 Principles for adjusting the Welsh Block Grant

In the first year of tax devolution, the adjustment to the Welsh block grant is straightforward: the adjustment can simply equal the revenue being devolved to Wales, leaving the overall size of the Welsh Government budget initially unchanged. This would satisfy a ‘no detriment’ principle, as set out by the 2014 Smith Commission that recommended additional fiscal powers for the Scottish Parliament after the independence referendum, that neither government should be better or worse off simply as a result of the initial transfer of tax powers.⁹

Calculating how much the Treasury should deduct from the Welsh Block gets harder to do in future years. For several reasons, the annual block grant adjustment (BGA) will have to be indexed in some manner. The Treasury should not (and will not) agree to cut the block grant by exactly the amount of tax that Wales raises itself, because that would give the Welsh Government a strong incentive to make deep tax cuts which the Treasury would have to pay for. And if the BGA is simply set at the same level each and every year, then inflation and revenue growth would erode its value over time, at cost to the Treasury. The exact mechanism of indexation will ultimately determine what risks and incentives the Welsh Government will face after tax devolution.

As the Welsh Block is being adjusted to compensate HM Treasury for the loss of tax revenue that it otherwise would have collected in Wales, in principle there is a good argument that the BGA should reflect the “opportunity cost” of devolution: in other words, the amount of revenue the Treasury would have collected in Wales had devolution not occurred. Unfortunately, it is impossible to know precisely how much the Treasury would have otherwise raised in the years following tax devolution, because devolved Welsh Government policy may change the amount of revenue collected and also influence the underlying tax base. This means that the revenues foregone by the Treasury will need to be estimated or approximated using available indicators.

One option is to index the BGA to changes in comparable revenues in the rest of the UK (rUK). For instance, under the Indexed Deduction method (also known as the Holtham method after the namesake Commission report), if revenues in the rest of the UK grew by 10%, the BGA (the amount taken off the block grant) would also grow by 10%. Growth in Welsh revenues would then need to grow by 10% if the shortfall were to be made up. Such an approach is appropriate if it is thought the growth in revenues in the rest of the UK is a good predictor of what the growth in Welsh revenues would have been without devolution.

Indexation to revenues in the rUK also satisfies the need to create an incentive for the Welsh Government to grow the Welsh economy and its revenues, which is one of the primary objectives of tax devolution. In effect, the Welsh Government would be rewarded if its revenues grew relatively quickly, and penalised if revenues grew relatively slowly.

⁹ In the Scottish negotiations, the Scottish Government argued that the principle also implied no-detriment for subsequent years – akin to the “opportunity cost” discussed in this section.

It also means that the UK Government continues to manage fiscal risks and shocks that affect the whole of the UK. For example, if the UK falls into a recession, then devolved revenues will fall. However, since the recession would also reduce revenues in rUK, the BGA would fall, offsetting the Welsh Government's fall in tax revenues. Indexation in some way to revenues in the rUK therefore reduces the need for the Welsh Government to borrow to manage fluctuations in tax revenues under its control.

Drawing from the 2015-16 Scottish Fiscal Framework negotiations that determined the method for devolving taxes to Scotland, the following section outlines the various possible methodologies and the risks and opportunities for Wales and the Treasury from the various methods that could be used to calculate the adjustment to Wales' block grant after devolution.

2.3 Methods of indexation to comparable revenues in the rest of the UK

During the 11 month-long Scottish Fiscal Framework negotiations, several different methods of indexation were proposed and considered, and these will likely be on the table again for the Welsh negotiations. Each would result in very different BGAs and outcomes for the Welsh budget.

2.3.1 Indexation to revenue growth in the rest of the UK: Indexed Deduction (ID)

The simple Indexed Deduction (ID) approach, as previously mentioned, changes the BGA according to the percentage change in revenues in the rest of the UK (rUK). After devolution, in the first year (time period t), a simple block grant adjustment (BGA_t) is made to the Welsh block grant equal to the amount of revenue raised through the devolved tax (T_t^W):

$$BGA_t = T_t^W$$

This leaves the size of the Welsh budget unchanged in the first year of devolution: additional tax revenues are exactly offset by the reduction in the block grant. In subsequent years, the amount deducted will equal the previous year adjustment, multiplied by the annual percentage change in the equivalent tax revenues in rUK (T^{UK}). Therefore, in time period $t+1$:

$$BGA_{t+1} = BGA_t * \frac{T_{t+1}^{UK}}{T_t^{UK}}$$

The change in the size of the Welsh Government budget from year to year would therefore depend on the relative growth of Welsh revenues compared to growth in the rUK.

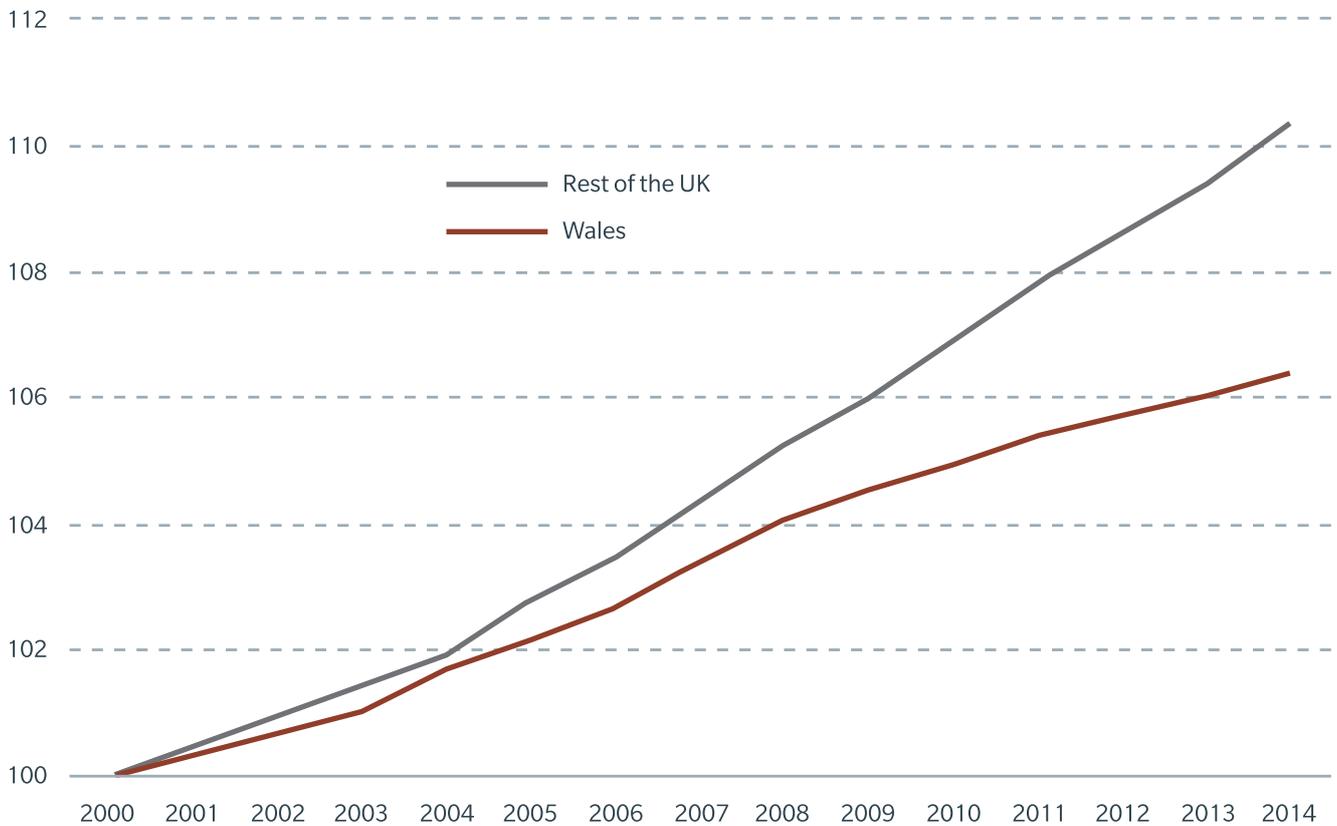
2.3.2 Taking population divergence into account: Per-Capita Indexed Deduction (PCID)

In the Scottish negotiations, one of the main points of contention was whether to account for Scotland's lower rates of population growth, which would negatively impact the likely growth in revenues over time. Although Scotland's relatively slow population growth is well documented and has featured prominently in debates over its future fiscal devolution, Figure 2.1 suggests population divergences need to be an important consideration in the Welsh case too.

Although Welsh population growth kept pace with the rest of the UK for the early part of the last decade, a significant divergence has occurred in more recent years, especially since 2008. Whereas the UK population grew by 4.5% from 2008 to 2014, Welsh population growth in this period was less than half that, at 2.2%. Notwithstanding Welsh Government efforts to increase the rate of economic

growth, this divergence will mean slower growth in the Welsh tax base over time. Lower population growth in Wales means the amount of revenue that would have been collected in Wales without devolution, and hence the Treasury’s ongoing opportunity cost, would also be lower.

Figure 2.1: Population growth in Wales and the UK (2000 = 100)



The **Per-Capita Indexed Deduction (PCID)** method takes relative population growth into account in calculating the BGA. Where P^{UK} denotes the population of the UK, and P^W is the population of Wales, the PCID method can be calculated as:

$$BGA_{t+1} = BGA_t * \frac{T_{t+1}^{UK}}{T_t^{UK}} * \frac{P_t^{UK}}{P_{t+1}^{UK}} * \frac{P_{t+1}^W}{P_t^W}$$

If population growth is the same for Wales and the rest of the UK, then the PCID method gives the same result as the ID method. However, if Welsh population growth is lower than that of the UK, then the BGA is reduced; the reverse is the case when Welsh population growth rates are higher than those of the UK. This would protect the Welsh Government budget from the effects of relatively slower population growth, though it would also prevent it from gaining from the effects of relatively faster population growth.

2.3.3 “Barnett symmetry” on both the expenditure and revenue sides: Levels Deduction (LD)

Another method of adjustment discussed in the Scottish negotiations was the Levels Deduction (LD) method. This method would calculate the change in the block grant adjustment as a **population share of the absolute change in revenues in the rest of the UK**. A similar approach has been implicitly used in relation to the devolution of business rates. Formulaically:

$$BGA_{t+1} = BGA_t + \frac{P_t^W}{P_t^{UK}} (T_{t+1}^{UK} - T_t^{UK})$$

For example, if revenues in the rest of the UK grew by £1 billion, then Wales' BGA would increase by a **population share**, or close to £50 million. This method would be symmetrical to the population-based Barnett calculations that determine devolved expenditure changes. It would ensure that any increase in the Welsh Block Grant due to growth in revenue in England would be clawed back by a corresponding amount through the BGA. As pointed out by Bell et al.,¹⁰ this method strictly satisfies the so-called “taxpayer fairness” principle (as set out by the 2014 Smith Commission in Scotland), where increases in tax revenues in the rUK should not lead to unmerited increases in expenditure levels in the devolved countries. **Adopting the Levels Deduction would mean no further pooling or sharing of the revenues devolved to Wales, or essentially ‘no more distribution between rich and poor in the UK so far as that redistribution might have a geographical dimension’.**¹¹

Although we analyse the hypothetical impact of Levels Deduction to the Welsh budget in the next section, and whatever its suitability in the Scottish case, we argue that the “taxpayer fairness” principle should not apply to Wales because the Welsh Income Tax base will only be partially devolved. Any increase in tax rates by the UK Government will also increase the non-devolved Income Tax rates in Wales. Welsh taxpayers will still contribute fully towards any increase in spending financed by increased UK tax rates by way of the non-devolved share of their Income Tax liabilities.

Not only is LD an unsuitable method on principle in the Welsh case, but the method would also place the Welsh budget under very significant strain over the medium to long term. **An acute and very serious problem with this method is that Wales has far lower levels of revenues per capita than the rUK.** Wales' devolved Income Tax as a share of total comparable UK revenues is only 3.5%, but Wales' population as a share of the rest of the UK is 5.1%. **This gap in fact means that under the Levels Deduction method, Welsh revenues would need to grow 46% faster than comparable UK revenues just in order to maintain the same level of funding.** (For example, if revenues grew by 4% in rUK, given current relative revenues, they would need to grow by more than 5.8% in Wales to keep up with a BGA indexed using the LD approach).

The fact that Welsh revenues would be required to grow at a probably impossible rate to avoid large cuts to the Welsh budget would appear to be in conflict with the previously mentioned “no detriment” principle.

2.3.4 “Barnett symmetry” taking account of Wales' lower per capita revenues: *The Comparable Model (CM)*

A letter published by the Chief Secretary to the Treasury late in the Scottish negotiations introduced a fourth method of adjusting the Scottish block grant.¹² The Treasury's **Comparable Model (CM)** addressed the concern over the effect of differences in per capita revenues under Levels Deduction. The method introduces a “comparability factor”, which would reflect the difference between per capita revenues in Wales and the rest of the UK. For instance, if revenue per head in the rest of the UK for a particular tax is £100, but the equivalent figure for Wales was £89, then the comparability factor would be 89%.¹³ Therefore, the change in the BGA would be a population share of the absolute change in UK revenues, multiplied by the comparability factor:

10 Bell, D., Eiser, D., and Phillips, D. (2015). *Adjusting Scotland's Block Grant for new Tax and Welfare Powers: Assessing the Options*. Institute for Fiscal Studies. Available at: <http://www.clickonwales.org/2016/03/wales-should-play-hard-ball-with-the-treasury/>

11 Holtham, G. (2015) *Tax devolution and the block grant: a solution for Scotland that doesn't work anywhere else?* (22 December 2015: Devolution Matters blog)

12 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/500284/CST_response_SAC.pdf

13 We assume that the Comparability Factor is held constant at the level at the point of devolution.

$$BGA_{t+1} = BGA_t + \left(\frac{P_t^W}{P_t^{UK}} (T_{t+1}^{UK} - T_t^{UK}) CF \right)$$

For Landfill Tax, Wales' comparability factor would have been 91% in 2014-15, while for SDLT Wales' comparability factor would have been only 34% in 2014-15, reflecting the very significant difference in the amount of revenues per head collected annually through this tax. The comparability factor for Income Tax would have been 69% in 2014-15.

Under the Scottish fiscal framework, the Comparable Model will be used to calculate block grant adjustments; however, an annual reconciliation payment will be made every year until 2021-22 to substitute the result for the outcome that would have been achieved using the Per Capita Indexed Deduction method. As Bell, Eiser and Phillips (2016) argued:

“This may be sound like a compromise but it is not. Making an initial adjustment by the CM approach but then reconciling it with what would have happened under the [PCID] approach is ultimately no different from using the [PCID] approach all along. In effect the Scottish Government has got its preferred approach, at least for the first five years of devolution. This protects Scotland from revenue risks associated with its slower population growth and satisfies the Scottish Government’s interpretation of the principle that there should be ‘no detriment from the decision to devolve’. In agreeing to this, the UK government has effectively conceded its objections to the IPC approach – that it does not satisfy the ‘taxpayer fairness’ principle, and that it treats population growth in a way inconsistent with the Barnett formula.”¹⁴.

This unusual arrangement may reflect a desire on the part of the Treasury to retain the Comparable Model for the next round of negotiations; however, despite the ambition for transparency and simplicity, the uncertainty of the reconciliation mechanism after the transition period has the potential to generate confusion and ambiguity in the Scottish settlement.

The following section illustrates the effects of these four possible methods for reducing the Welsh block after devolution – Indexed Deduction (ID), Per Capita Indexed Deduction (PCID), the Levels Deduction (LD) and the Comparable Model (CM) – and their potential implications for the Welsh budget.

14 Bell, D., Eiser, D. & Phillips, D (2016) *Scotland's Fiscal Framework: Assessing the Agreement*. IFS Working Paper W16/05. p7-8

3. Implications for the Welsh Government budget

After tax devolution, the Welsh Government budget will begin to vary depending on the levels of growth in Welsh devolved revenues and block grant adjustments over time. In this section we analyse the potential impact on the Welsh Government budget if future tax revenue or population growth in Wales diverges from the rest of the UK, under the methods of indexation discussed in the previous section.

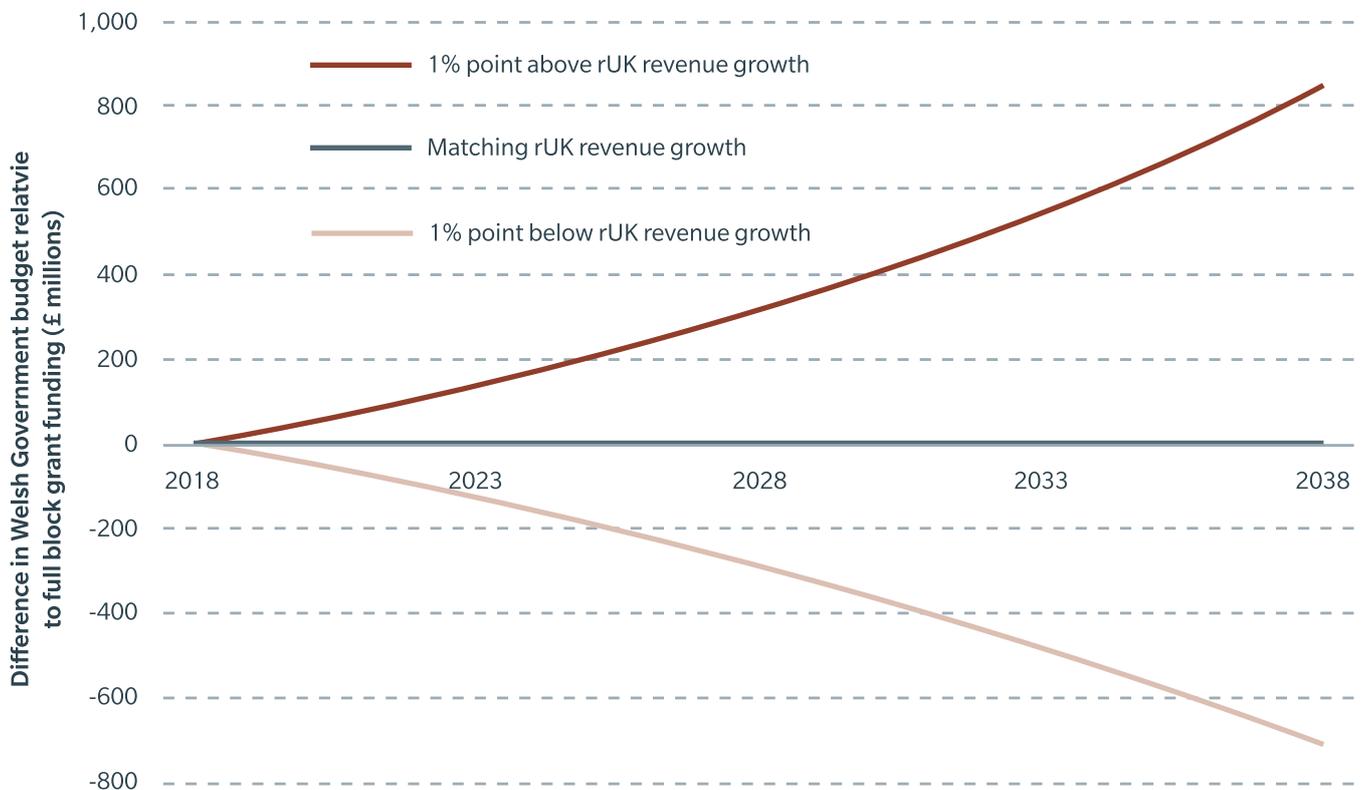
3.1 Divergence in tax revenue growth

Firstly, to illustrate the impact of diverging tax revenue growth on the Welsh budget, we assume that population growth in Wales matches the rest of the UK after devolution in 2018. We analyse the impact of differential revenue growth on the Welsh Government Budget compared with full block grant funding over a 20-year period after devolution.

We assume that comparable tax revenues in the rest of the UK (rUK) grow by 4% in nominal terms per year after devolution, and assume annual inflation of 2%. We then analyse the effect of devolved revenues growing by 1 percentage point slower (i.e. 3% annual growth in nominal terms), the effect of devolved revenues matching rUK growth of 4%, and the effect of devolved revenues growing by 1 percentage point faster (at 5% per year in nominal terms).

When population grows at the same rate in Wales as in the rest of the UK, the ID, PCID and CM methods of indexation produce the same outcomes for the BGAs. This case is illustrated in figure 3.1.

Figure 3.1: The impact of differential growth of revenues on Welsh Government Budget under the ID, PCID and CM approach (real terms)

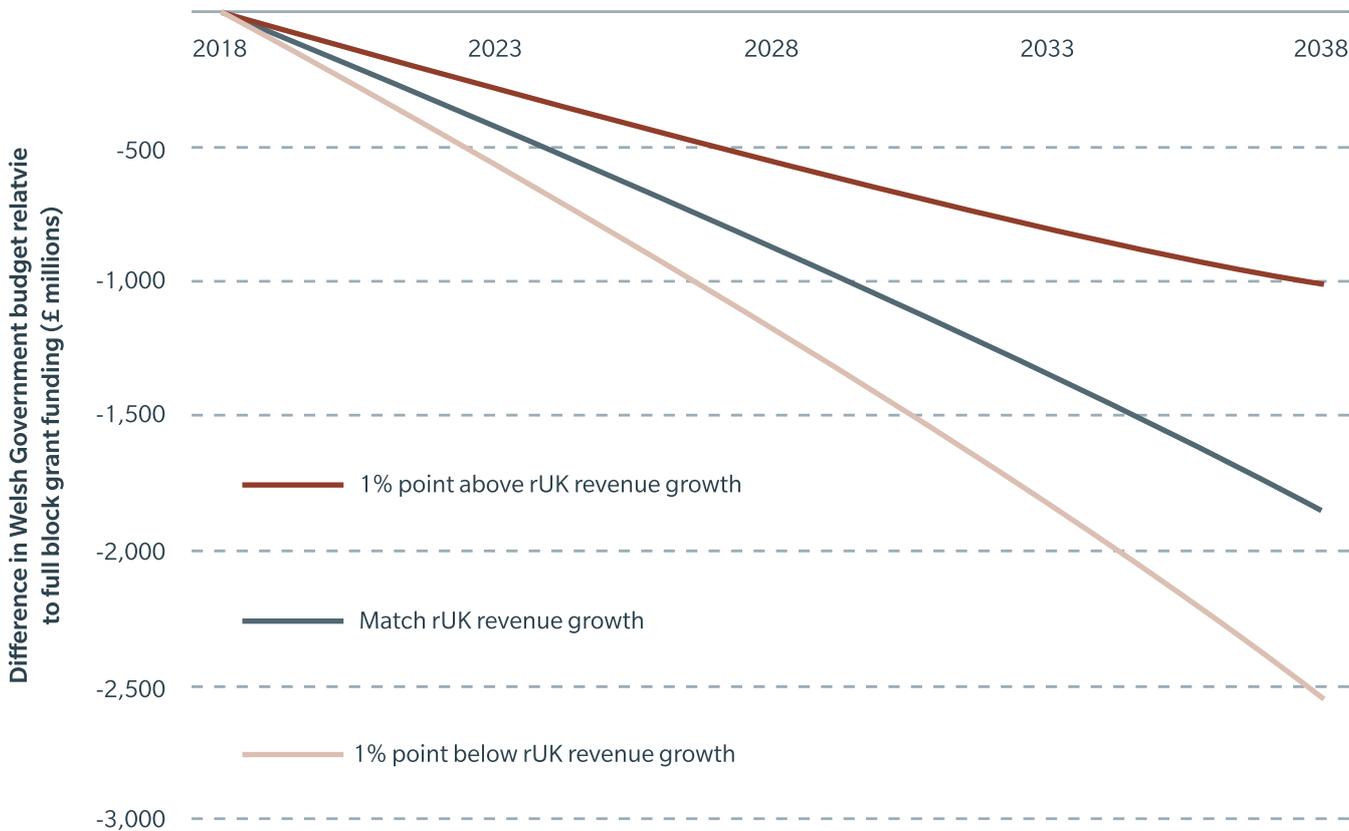


Under these three methods of indexation, the Welsh Government budget remains the same as under full block grant funding when revenue is growing at the same rate as in the rest of the UK. The Welsh Government would gain extra funds if devolved revenues grew faster than comparable revenues in rUK, while it would lose out if devolved revenues grew more slowly. After 10 years of devolution, the Welsh budget would be over £317 million higher (in real terms) with annual revenue growth of 5% (compared with 4% in rUK). If we assume that the Welsh Block Grant also grows at 4% annually over this period (due to growth in comparable spending in England), this extra funding would equate to 1.8% of the Block Grant. With revenue growth of 3% however, the Welsh Government budget would be £291 million (or 1.6% of the projected block grant) lower compared with full block grant funding. After 20 years of higher tax revenue growth, the Welsh Government budget would be nearly £846 million higher (around 3.8% of the projected Block Grant), while lower tax revenue growth over the same time period would result in nearly a £705 million of cuts compared with full block grant funding.

These scenarios illustrate that sustained revenue growth divergence over a period of time would vary the size of the Welsh Government budget significantly.

The Levels Deduction method is different however, as shown in figure 3.2 below. For reasons described in the previous section, even if Welsh revenues grew at the same rate as in the rUK, the Welsh Budget would be cut by a large and an ever-increasing amount over time. Even if Welsh revenue growth matched the rUK, the Welsh Government budget would be over £872 million smaller (nearly 5% of the projected block grant) after 10 years, growing to a shortfall of over £1.9 billion after 20 years. Only with revenue growth far exceeding the rUK would the Welsh Government be able to increase its budget under the Levels Deduction method.

Figure 3.2: The impact of differential growth of revenues on Welsh Government Budget under the Levels Deduction approach



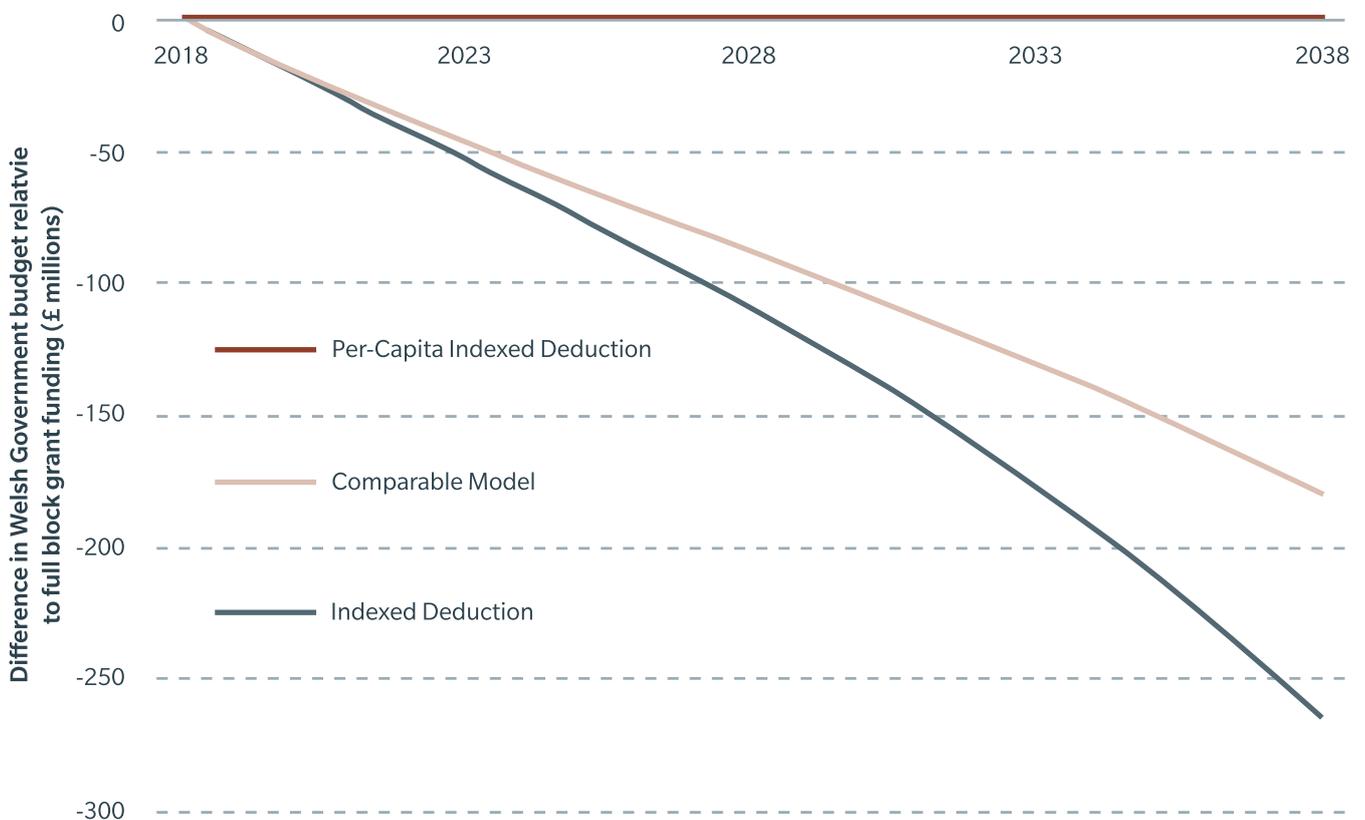
3.2 Divergence in population growth

Diverging population growth rates between Wales and the rest of the UK will also lead to significant variations in the total Welsh budget under the four methods of indexation outlined in the previous section. To isolate population effects, in this section we assume that revenues per capita grow at the same rate in Wales as the rest of the UK from 2018-19 onwards, but use Office for National Statistics population projections for Wales and the rUK to assess the likely impact of Wales' slower population growth under the different indexation methods.

From 2018, annual population growth in Wales is projected to be 0.3%, falling to 0.24% after 10 years. This compares with projected annual population growth of 0.72% in the rest of the UK. We assume that per capita revenues in Wales and rUK grow by 3.33% over this period, so that overall revenue growth in the rUK is around 4%.

Figure 3.3 shows the effect of tax devolution on the Welsh Government budget under these projected population growth rates.

Figure 3.3: The impact of differential growth in population under various indexation approaches (real terms)



Because the PCID approach is designed to insulate Wales from the effects of slower population growth, this method results in no change in the Welsh Government budget relative to full block grant funding as long as per capita revenues grow at the same rate. Under the ID method however, the Welsh budget would be £110 million lower after 10 years compared with full block grant funding, with this shortfall growing to £264 million after 20 years. As the population factor is updated every year in our modelling, the Comparable Model results in lower Block Grant Adjustments than the ID method, although it does not fully compensate for the effect of slower population growth. After 10 years, the cut in the Welsh budget compared to full block grant funding would be £88 million, growing to £180 million after 20 years of tax devolution.

This analysis demonstrates the high stakes in the decision on whether to account for Wales' relatively

slower population growth when calculating BGAs. Even if per capita revenues in Wales kept pace with the rUK, the cumulative projected difference in Welsh Government funding between the ID and PCID methods is around £593 million after 10 years (in real terms). This difference grows to a cumulative £1.3 billion after 15 years, and £2.5 billion over a 20 year period. How relative population growth is accounted for will therefore play an extremely important element in the future of Wales' fiscal devolution regime.

3.3 Analysis of historical data

Although forecasting the likely effects of tax devolution in the future is difficult, we can use historical data to take a hypothetical look at what would have happened to the Welsh Government budget had tax devolution taken place at some point in the past. This can help illustrate the magnitude of changes that could occur over a certain number of years. It should be noted that the exact numbers produced in this type of analysis are extremely sensitive to the start year chosen: a single year can result in very substantive annual and cumulative differences in the relative performance of tax devolution against full block grant funding. It does however highlight trends in the recent performance of Welsh taxes and the impact this would have had on the Welsh Government budget.

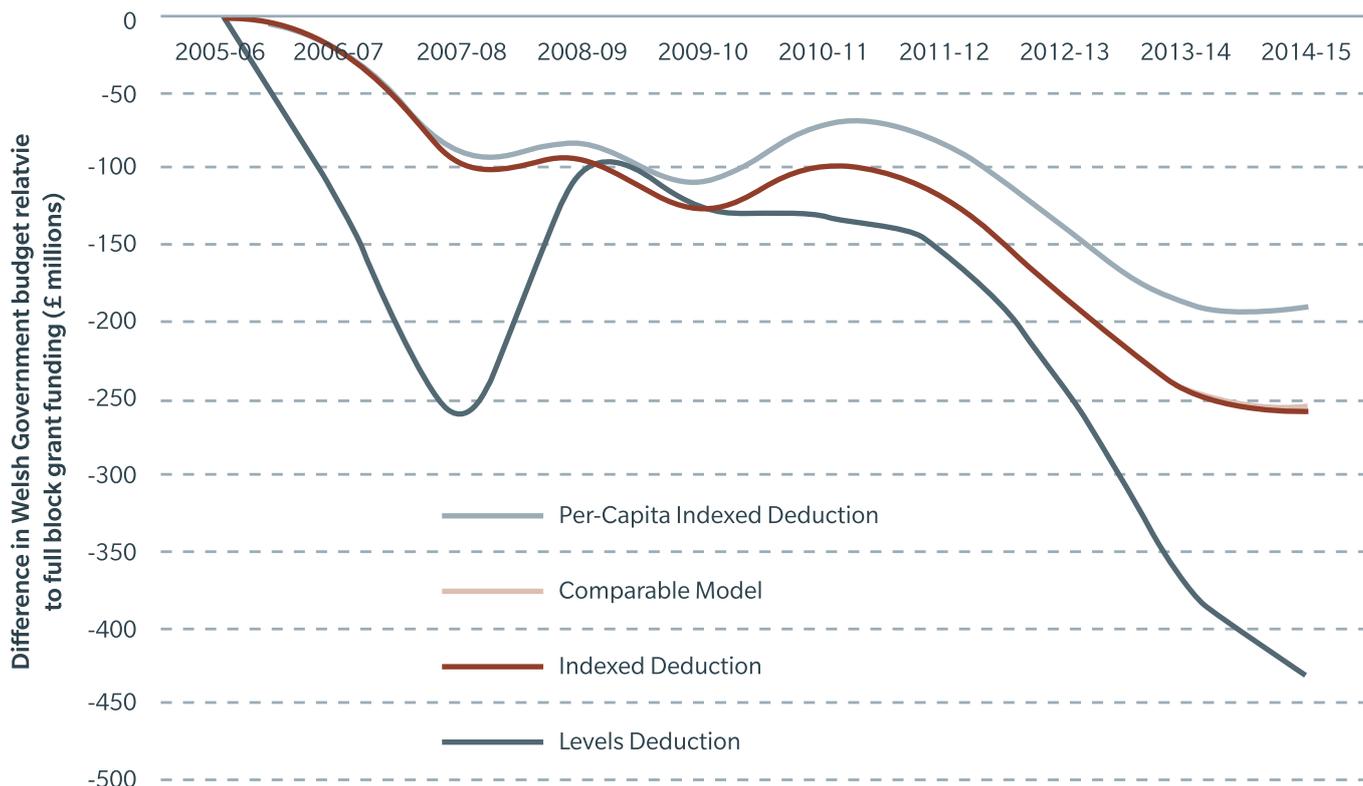
In this case we begin our analysis from 2005-06, as this was when Wales-specific estimates of SDLT revenue were produced by HMRC. It also allows us to analyse ten years of historical data through 2014-15.

Under the funding system that was actually in place during this period, the block grant was set by the Treasury and was primarily influenced by changes in comparable spending in England. But if the new system had applied in previous years, the size of the budget would have also depended on the relative growth of devolved tax revenues in Wales and the rUK over time, and adjustments to the block grant to reflect this.

Over this ten year period, the Welsh earned Income Tax base has grown by only 3.2%, compared with growth of 12.8% across the rUK. Welsh Stamp Duty revenues actually declined by 3.1% over this time period, while revenues across the rUK increased by 45.2%. As the Welsh population grew at a slower rate than the rUK during this period, the difference in the growth of revenues per capita was less than this; however, these divergences remain very significant. Proceeds from the Landfill Tax grew more quickly in Wales than in the rUK, although this source is much less significant in revenue terms.

Figure 3.4 shows the hypothetical impact of tax devolution from 2005-06 on the Welsh Government budget compared with full block grant funding, under various options for adjusting the Welsh Block Grant. Note the highly similar trajectories of the Indexed Deduction and Comparable Model approaches in this figure.

Figure 3.4: Illustrative impact of tax devolution using historical data from 2005-06 to 2014-15



The relatively poor performance of revenue growth in Wales over this period would have resulted in cuts to the Welsh Budget under all four methods that were considered in the Scottish negotiations. Although the annual changes would have been relatively small, compared with full block grant funding, under the simple Indexed Deduction method the Welsh budget ten years after devolution would have been around £258 million lower. Around £181 million of this shortfall can be attributed to slower growth in Income Taxes, while £85 million can be attributed to SDLT revenues. Under Indexed Deduction, if the average growth rates in Welsh and rUK revenues during this period were replicated after devolution in 2018, then the Welsh Government would have £1.9 billion less to spend cumulatively over a 10 year period.

The PCID method would have shielded the Welsh Government from the effects of slower population growth, but the Welsh Government would still have seen cuts of around £192 million a year compared with full block grant funding by 2014-15. Cumulatively, the Welsh Government would have had just under £1 billion less to spend over the 10 year period.

As well as showing the risks of slower revenue growth that the Welsh Budget would be exposed to, the analysis of data from this time period also illustrates one of the advantages of indexation to revenues in the rest of the UK. Between 2007-08 and 2009-10, devolved revenues would have fallen by more than £233 million. However, as comparable revenues across the rUK also fell in these years, the Welsh budget would only have been cut by around £36 million under the Indexed Deduction method. This shows how indexation pools UK-wide cyclical risks at the UK level, limiting the need for current borrowing by the Welsh Government.

4. For Wales Don't (Always) See Scotland: Problems of Indexation in the Welsh case

The previous section showed that had adjustments to the Welsh Block been indexed to revenues in the rest of the UK, slower relative growth in Welsh revenues sustained over a period of time would have resulted in material cuts to the Welsh budget. Although financial accountability of Welsh policy choices should be an inherent part of tax devolution, there is good reason to believe that growth in comparable revenues in the rUK may not be a good predictor of the future opportunity cost of tax devolution to the Treasury. This could lead BGAs growing faster than devolved revenues, leaving the Welsh Government budget far worse off. Crucially, this could also lead to the Welsh Government bearing the costs or benefitting financially from policy decisions and factors outside of its control.

This section presents a variety of factors which mean that indexation to revenues in the rest of the UK may be problematic in the case of Income Tax and Stamp Duty devolution to Wales.

4.1 Income Tax

The Office for Budget Responsibility's most recent Devolved Taxes Forecast publication (March 2016) observes that there has been a downward trend in the Welsh share of UK Income Tax liabilities since around 2003-04.¹⁵ As demonstrated in section 3.3, this relatively poor performance of the Welsh Income Tax base would have resulted in cuts to the Welsh Government budget compared with full block grant funding. Understanding the divergence of Income Tax growth between Wales and the rest of the UK is of paramount importance in anticipating the risks and potential rewards from Income Tax devolution.

The OBR's report also notes that one of the main factors explaining the fall in the Welsh share of UK Income Tax liabilities since 2009-10 has been the asymmetric effects of tax policies across the UK since the start of the current decade. Revenue-raising policies, such as the additional rate of Income Tax for incomes over £150,000 and the tapered withdrawal of personal allowances from those with incomes over £100,000, have primarily affected the highest earners. On the other hand, policies that have cut tax burdens, such as the rapid raising of the Personal Allowance (as shown in table 4.1) have impacted the lower end of the income distribution.

TABLE 4.1: Income Tax - Personal Allowance Increases by Year

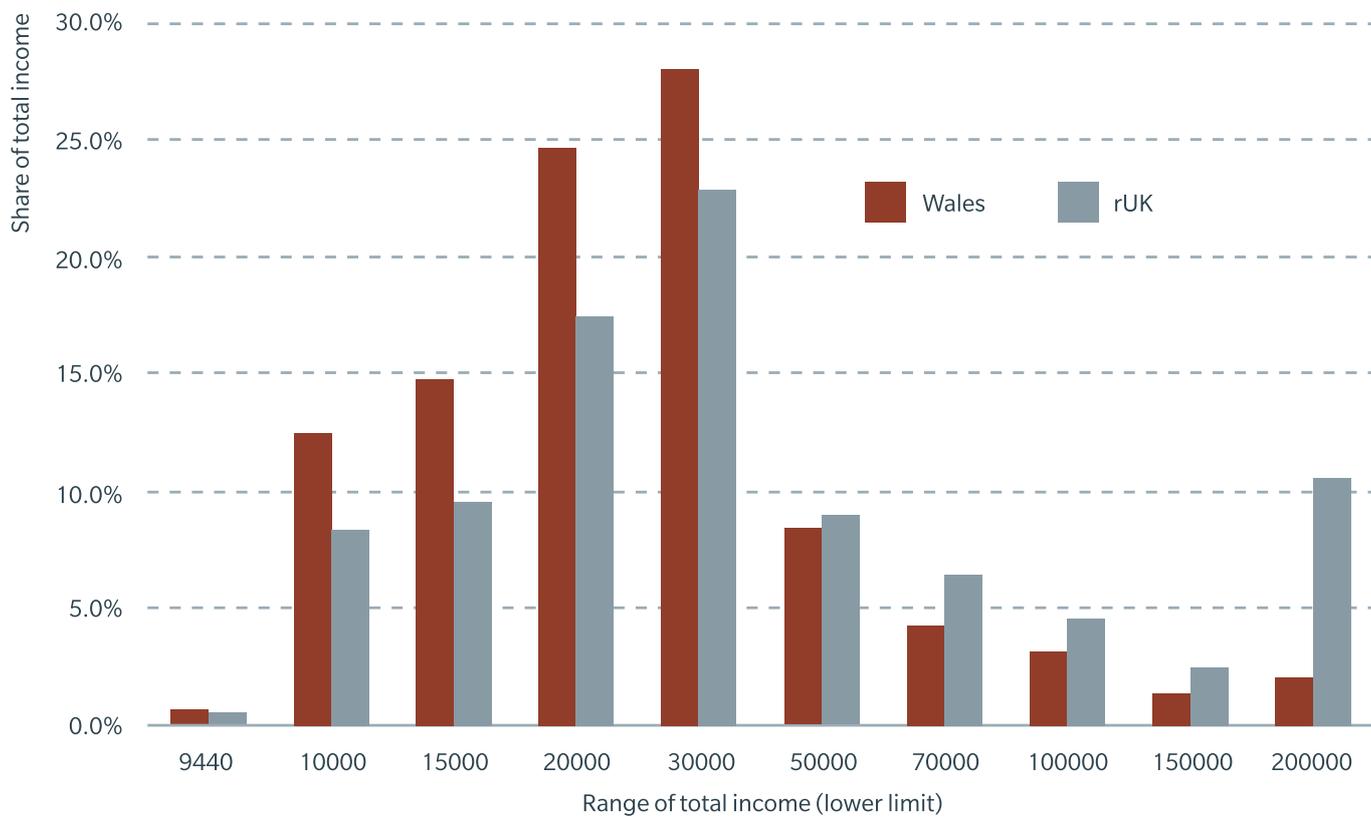
2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
£6,475	£7,475	£8,105	£9,440	£10,000	£10,600	£11,000
Growth Rate:	15%	8%	16%	6%	6%	4%

To see why UK tax measures will have had a disproportionate negative impact on the Welsh share of UK Income Tax, we can look at how distributions of incomes in Wales compare to the rUK (figure 4.1). The average incomes of Welsh taxpayers are below the UK average, so the Welsh tax base is more heavily skewed towards the lower ranges of income. 52.5% of taxpayer's earned income in Wales is earned by individuals earning less than £30,000 a year, compared with 35.9% across the rUK. Moreover, around 6.6% of total income in Wales is earned by those earning £100,000 and above, compared with 17.8% across the rUK. The significant increases in the personal allowance will

¹⁵ Office for Budget Responsibility (2016). *Economic and fiscal outlook: Devolved taxes forecast (March 2016)*. Available at: [http:// budgetresponsibility.org.uk/docs/dlm_uploads/Devolved-taxes-forecast.pdf](http://budgetresponsibility.org.uk/docs/dlm_uploads/Devolved-taxes-forecast.pdf) .

therefore have drawn disproportionately more of Welsh taxpayers' income out of the Income Tax base than was the case across the rUK.

Figure 4.1: Share of total taxpayer income by range of taxpayer income in Wales and rUK, 2013-14



Source: HMRC: Survey of Personal Incomes 2013-14

We can use data from the recently published 2013-14 Survey of Personal Incomes to approximately estimate the magnitude of the impact of personal allowance increases since 2010-11. **Supposing that the Personal Allowance had stayed at its 2010-11 level of £6,475, we estimate that revenues from the Welsh Rates of Income Tax would have been around £420 million (or around 22%) higher in 2013-14 than they actually were.** For the rest of the UK, we estimate that comparable revenues would have been only 16% higher had the Personal Allowance stayed at its 2010-11 level. Although this crude estimate does not factor in any behavioural response from taxpayers, it does indicate that the disproportional effect on Welsh revenues of the personal allowance increase is significant. Note in Table 4.1 that the Personal Allowance has subsequently increased further from its 2013-14 level.

After partial Income Tax devolution, powers over allowances and reliefs will be reserved to the UK Government. The Silk Commission argued that one of the main advantages of the Indexed Deduction method is that it would 'not transfer UK policy risk' to the Welsh Budget. The Commission argued that correct application of the indexed deduction method would mean that any policy changes to the UK tax base that impacts upon the Welsh tax base would automatically be compensated by a corresponding adjustment to the block grant. The report gave the following example:

"If... the UK Government increased the personal allowance for Income Tax then Welsh tax revenues would fall. However, so would the deduction to the block grant as revenue across the rest of the United Kingdom would also fall as a result of this policy change."

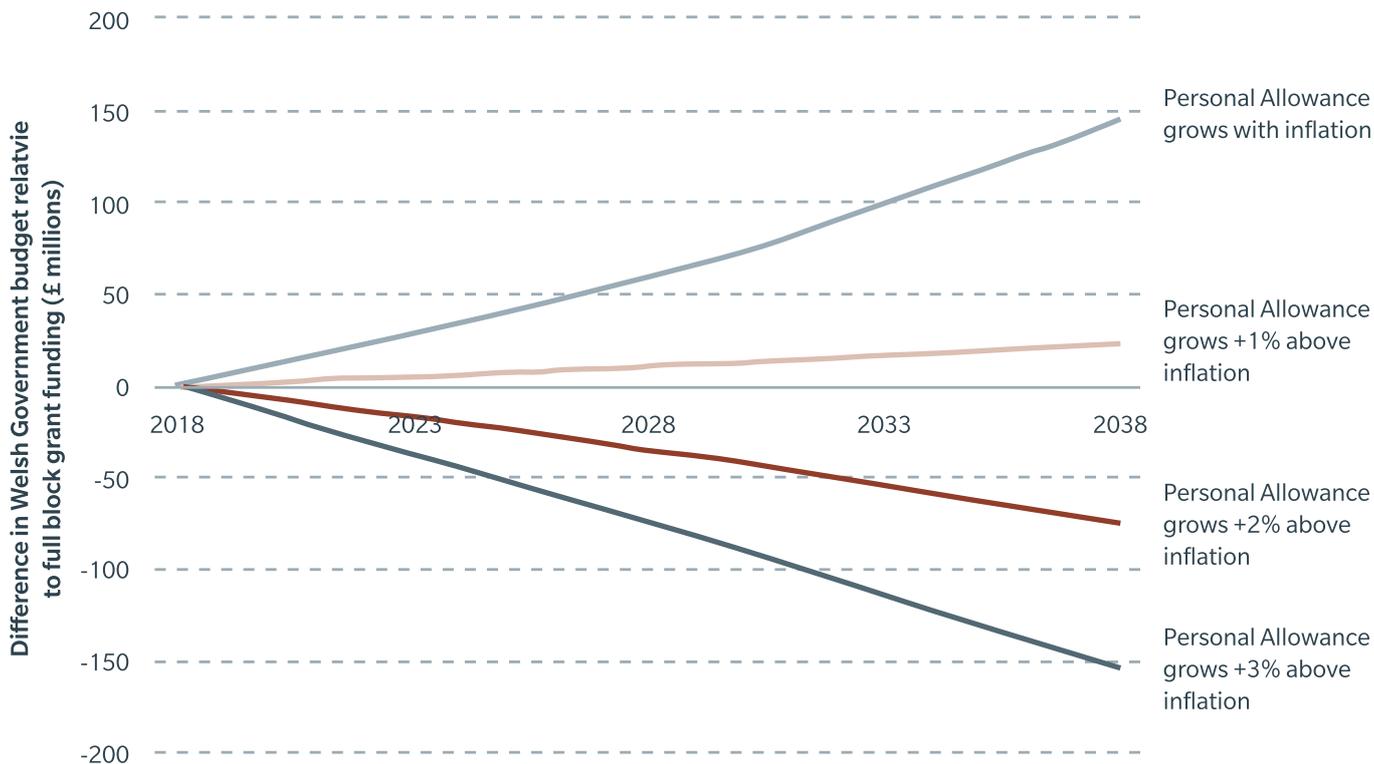
Concurring with the Silk Commission, the Wales Bill 2014 command paper Financial Empowerment and Accountability claimed that the Indexed Deduction method would "automatically incorporate

the principle of ‘no detriment’”, as the BGA would “reflect decisions made by the UK Government in relation to thresholds, allowances and reliefs”.

However, the distributional differences in the tax bases of Wales and the rest of the UK as outlined above means that UK Government policy may have different impacts on Welsh revenues compared with elsewhere in the UK. Indexing BGAs to revenues in the rUK will therefore potentially lead to the BGAs diverging from the opportunity cost of devolution for the Treasury (or the amount of revenue that the Treasury would have raised in Wales without devolution). This may mean that the Welsh Government budget gains or loses out from decisions taken by the UK Government impacting on the Income Tax base.

Although the above-inflation changes in the personal allowance since 2010-11 have averaged around 7% per year, changes to the personal allowance in future years are unlikely to be as dramatic as recent increases. However, small deviations in the rate of growth of the personal allowance compared with inflation and earnings growth could greatly impact the relative growth of Welsh revenues over time. Using the 2013-14 Survey of Personal Incomes data, we assume total earned incomes of taxpayers grow by 3% (in nominal terms) in Wales and the rUK, and 2% inflation. We then analyse the impact of various rates of growth in the personal allowance on devolved revenue. Taking the distributions of incomes in Wales and the UK from 2013-14, there are clear differences between the effects of the personal allowance level on tax revenues in Wales and rUK: Relative Welsh tax growth is faster when the personal allowance grows with inflation, and slower when the personal allowance grows above inflation. Figure 4.2 shows the projected effect on the Welsh Government budget if these trends were replicated for 20 years after devolution, under indexation to revenues in the rUK.¹⁶

Figure 4.2: Impact of partial Income Tax devolution under various growth rates in the personal allowance



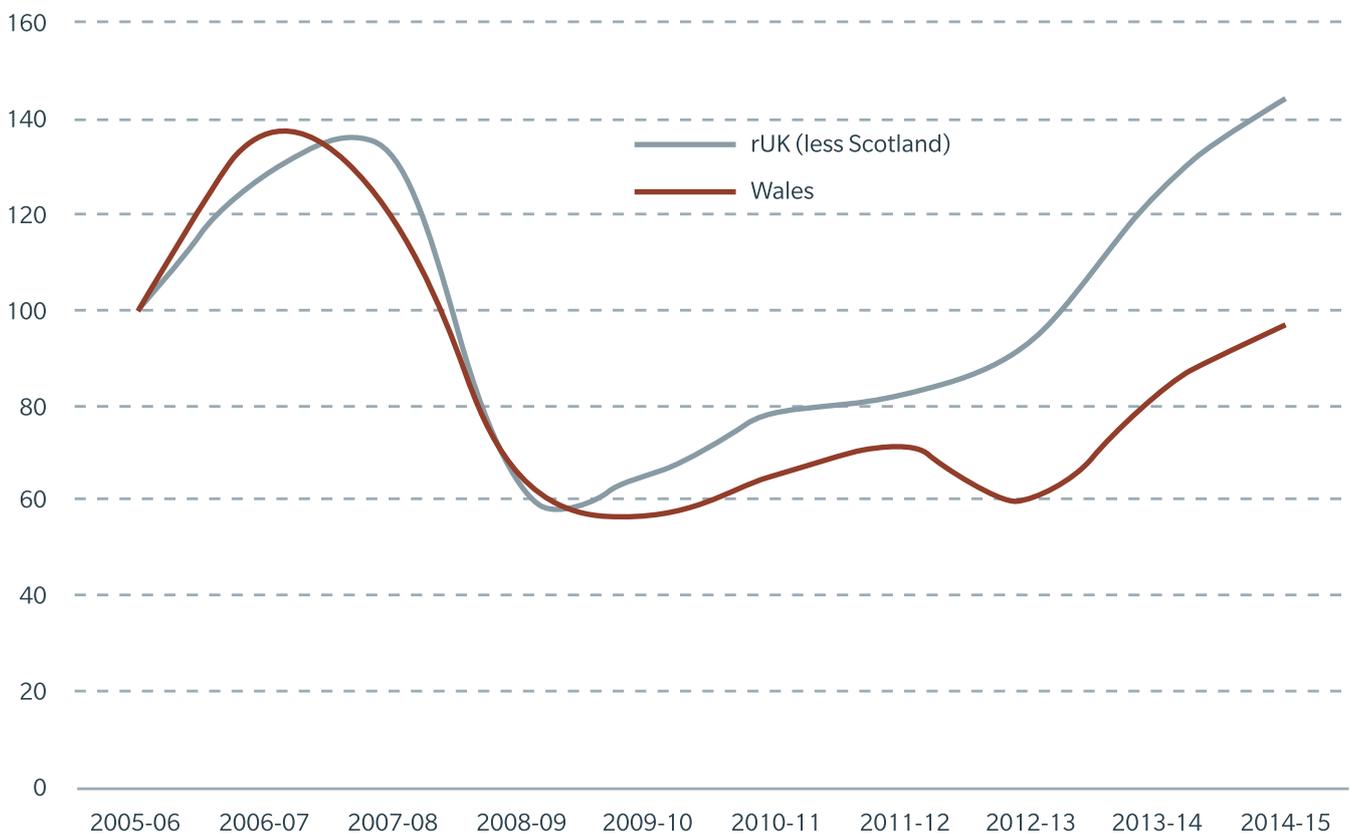
¹⁶ This methodology is imperfect in projecting the likely future effects of changes in the personal allowance. The personal allowance has increased since 2013-14 and the distribution of taxpayer incomes in Wales and the rUK may have changed also. As the calculations are based on survey data, there is also a significant degree of uncertainty surrounding these estimates of the effects on taxable earned income in Wales and rUK, and so figures should be treated with caution.

This projection illustrates is that different rates of growth in the personal allowance in future years may impact the relative performance of the Welsh tax base compared with the rUK, and may lead the BGA to deviate from the revenues foregone by the Treasury (in either direction), with the Welsh Government benefitting or bearing costs from policy decisions outside of its control. It should also be noted that this projection assumes that rates of income growth are the same across the income distribution, which may not be the case (see section 5.1 for further discussion on the effects of unequal growth).

4.2 Stamp Duty Land Tax

As shown in figure 4.3, growth in SDLT revenues in Wales in recent years has fallen behind that of the rUK. Whereas revenues in the rUK surpassed their pre-crisis peak in 2014-15, Welsh revenues still remain well below the £240 million raised in 2006-07. This means that the Welsh share of total UK SDLT has fallen from its peak of 2.5% in 2006-07 to less than 1.6% in 2014-15. As discussed earlier, this trend would have led to cuts in the Welsh Government budget had the tax been devolved during this period and had the accompanying BGAs been indexed to revenues in the rest of the UK.

Figure 4.3: Growth in SDLT revenue in Wales and rUK (2005-06 = 100)



Source: HMRC, *Disaggregation of HMRC Tax Receipts*

Some of this divergence is the result of the highly imbalanced nature of the UK housing market, as evidenced by an October 2016 bulletin on house price growth by the Office for National Statistics.¹⁷ Even following the June 2016 vote to leave the European Union, UK house price growth continues to be driven by increases in eastern and southern England. While the annual rise in UK property prices as a whole reached 8.4% in August 2016, growth reached 13.3% in the East of England, 12.2% in

¹⁷ Office of National Statistics, *Statistical bulletin: House Price Index: Aug 2016* (October 18, 2016)

the South East of England and 12.1% in London.¹⁸ If such trends were sustained over a period of time after devolution, then indexation to revenues in the rUK would lead to BGAs far above the Treasury's opportunity cost, or the revenue that would have been raised in Wales without devolution. It could be argued that linking BGAs to rUK revenues will provide a strong incentive for the Welsh Government to promote growth in the Welsh housing market, but this would require an extraordinary change in UK housing market trends for the Welsh Government to have any chance of succeeding in growing its budget.¹⁹

Some of the divergence is also explained by the disproportionate impact of UK Government tax policy changes. The OBR notes that the distribution of house prices in Wales is considerably different from that of the UK as a whole, with a higher proportion of Welsh transactions being below the 2 per cent threshold in the new UK SDLT regime (£125,000), and proportionally far fewer higher value transactions taking place in Wales.²⁰ This means that any UK Government changes in SDLT tax policy may have proportionally different effects in Wales compared with the rest of the UK. After devolution, if the BGA changed according to the impact of UK Government policy on revenues in the rest of the UK, this again may result in the BGA diverging from the opportunity cost of devolution to the Treasury.

18 *BBC News* (October 18, 2016) UK house prices: East and South driving rises, says ONS. <http://www.bbc.co.uk/news/business-37689595>

19 Holtham, G. (2016). Wales should play hard ball with the Treasury. *Clickonwales*. Available at: <http://www.clickonwales.org/2016/03/wales-should-play-hard-ball-with-the-treasury/>

20 Office for Budget Responsibility (2016). *Economic and fiscal outlook: Devolved taxes forecast (March 2016)*. Available at: http://budgetresponsibility.org.uk/docs/dlm_uploads/Devolved-taxes-forecast.pdf pp.25

5. Mitigating the Risks to Wales' Funding: Alternatives for adjusting the Welsh Block Grant

The previous section demonstrated that if block grant adjustments are indexed in some way to comparable UK revenues, tax devolution could result in significant cuts to the Welsh budget at no "fault" of the Welsh Government. Recognising the significant structural differences in the underlying tax bases of Wales and the rUK, this section presents some alternative options that may alleviate some of the more serious negative budgetary consequences. As well as modifying the budgetary risks for the Welsh Government, these alternative options may address UK Government policy effects in a more systematic and mechanical way, reducing the need for frequent ongoing reviews and negotiations between the Welsh Government and the UK Government.

5.1 Alternative Method 1: Separate Indexation for Each Tax Band

As shown in this report, the rate of growth in taxable earned income at different points along the income distribution of taxpayers can vary significantly. Similarly, changes in tax policy – such as changes in tax rates and changes in thresholds – can affect the relative amounts of tax paid by people at different points of the income distribution. As the distribution of taxpayer income is very different between Wales and the rest of the UK (see section 4.1), unequal growth across the distribution, and tax changes that differentially affect different parts of the distribution, are likely to affect Welsh Income Tax revenues differently to those of the rUK. Similarly, in the case of Stamp Duty revenue, the number of transactions and revenues may change differently at either end of the housing market, and reforms to SDLT may affect the relative amount of tax paid on transactions with different values. As the distribution of house prices for SDLT transactions is different in Wales, these factors mean Welsh revenues could evolve quite differently to those in rUK, even if the change in the number of transactions and values at each part of the house-price distribution exactly matches rUK.²¹

As a consequence of this unevenness, BGAs indexed to overall revenue growth in the rUK – whether measured in aggregate or per capita terms – may change rather differently to devolved Welsh Government revenues (and the revenues forgone by the Treasury through devolution). This would be the case even if underlying economic performance is similar between Wales and the rUK. Given that macroeconomic factors causing unequal growth across the income distributions in the UK are arguably largely outside Welsh Government control, and decisions on tax policy changes in rUK that affect the relative amount of taxes paid at different parts of these distributions are *definitively* outside the Welsh Government's control, it may be desirable to insulate the Welsh Government from such risks.

In principle (although not in practice), this could be done as follows:

- At the point of devolution, for each 1% band²² of the income or house-price distribution in the rUK (e.g. the band between 10% and 11% up the income distribution), calculate the bands in the Welsh income/house-price distribution that span the same income/price range (e.g., for the aforementioned group, between 12% and 13.2% up the Welsh income distribution). Each of these calculated Welsh bands would have its own BGA.
- Estimate the rate of growth of revenues for each 1% band of the income/house-price distribution in rUK (e.g. the 10% to 11% band), and use this to index the BGAs for the associated band in the Welsh income or house-price distribution (i.e. the 12% to 13.2% band).

²¹ Note that under a tax system where the marginal rate is not constant with respect to income/price, even if growth in incomes is equal across the distribution

²² The choice of 1% band in this example is essentially arbitrary. In principle, the narrower the band the better, especially towards the very top of the income/price distribution, where the biggest proportional differences between Wales and rUK can be found.

By matching changes in revenues at different parts of the rUK distributions with separate BGAs for the equivalent parts of the Welsh distributions, Wales would thus be insulated from differences in revenue growth that result from differences in income and house-price distributions.

However, such an approach is complicated and is unsuitable for a transparent method of reducing Wales’ block grant after devolution. A simpler and more transparent option to address the issue may be to use income and house-price bands that already exist, and **create separate block grant adjustments for each tax band**. For example, for Income Tax, separate BGAs would be assessed for tax revenues raised from the basic rate (20% tax band); the higher rate (40%), and the additional rate (45%); indexed to the growth rate of revenues from those bands in the rUK. Differences in the proportion of income that is subject to the different tax bands will account for a large part – but not all – of the differences in revenue growth attributable to differences in the Welsh and the rUK income distributions.

The effects of this option can be illustrated by analysing revenue trends in recent years. As shown in figure 5.1, the growth of taxable earned income at the different tax bands was very uneven between Wales and rUK between 2010-11 and 2013-14. Partly due to the increase in the personal allowance, taxable earned income at the basic rate in Wales fell by around 12%, a similar rate to the 10% reduction across the rUK. However, because a much higher share of Welsh income is earned at the basic rate (91% in 2010-11 in Wales compared with 78% in rUK), this fall had much larger impact on total revenues in Wales. Conversely, because only 1% of Welsh income was earned at the 45p additional rate in 2010-11 (compared with 8% in the rUK), the large percentage increase in additional rate income in Wales had only a negligible impact on total revenues in Wales. This explains why total taxable earned incomes fell significantly in Wales rather than increasing slightly as in the rUK. In the rest of the UK but not in Wales, growth in taxable earned income at the higher and additional rates compensated for the drop in incomes at the basic rate.

Figure 5.1: Change in taxable earned income by tax band in Wales and rUK, 2010-11 to 2013-14

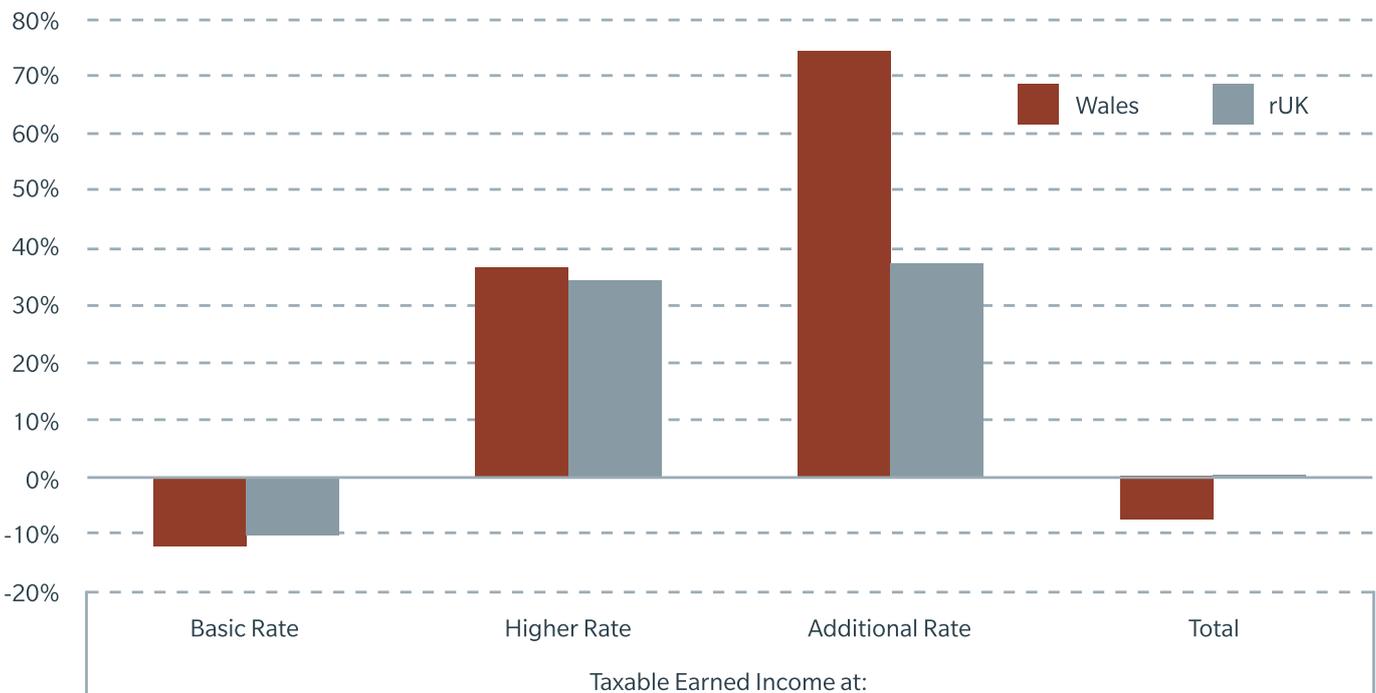
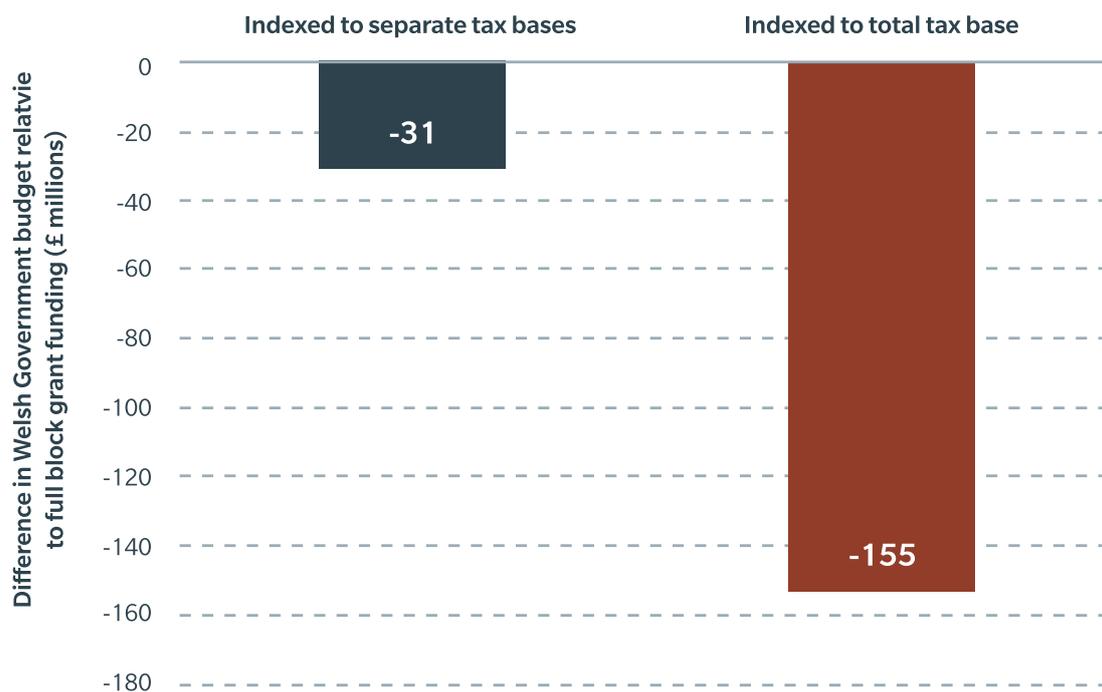


Figure 5.2 shows the difference that indexing separately to each tax base would have made from 2010-11 to 2013-14 compared with indexation to the tax base as a whole.²³ Whereas the Welsh budget would have been around £155 million lower compared with full block grant funding in 2013-14 if it had been indexed to the whole tax base of the rUK, the shortfall would only have been £31 million with indexation to separate tax bases. It can be said therefore that for recent years, indexation by each tax base would have produced BGAs much more in line with the opportunity cost of devolution to the Treasury, and mitigated some of the large budget shortfalls for the Welsh Government. In addition, a population adjustment could also be applied with this approach to mitigate the risk of population growth divergence for the Welsh Government too.

Figure 5.2: Impact of Income Tax devolution from 2010-11 to 2013-14, under the Indexed Deduction method



It should be noted that there is an additional UK Government policy risk that should be considered in indexing to separate tax bands. This risk relates to future changes in the higher and additional rate thresholds. When the Welsh Government sets rates of 10p in each band and BGAs are indexed to the total tax base, changes in the higher rate threshold will make no difference to the amount of revenue raised in Wales or the BGA, as a pound of earned income has the same effect on the Welsh budget whether it is earned above or below the higher rate or additional rate thresholds. However, when indexing to separate tax bands, increases or decreases in the higher rate threshold may make a difference to the relative growth in the basic and higher rate bands in Wales compared with the rUK. Because the distribution of incomes within each band are relatively close in Wales to the rUK average, we estimate that it would require relatively large policy changes to the higher and additional rate thresholds to have a material impact on the Welsh Government budget.

A similar method could be applied to the case of Stamp Duty revenue.²⁴ Separate BGAs could be created for revenues generated at each tax rate (2%, 5%, 10% and 12% for residential transactions). As more of Welsh SDLT revenue would be generated by transactions in the lower bands than the rUK, indexation by tax band would likely reduce the risks of growth in revenues from very high-value

²³ Data for the years 2011-12 and 2012-13 were unavailable.

²⁴ No detailed data were publicly available for analysing the potential effects of this option in the case of Stamp Duty.

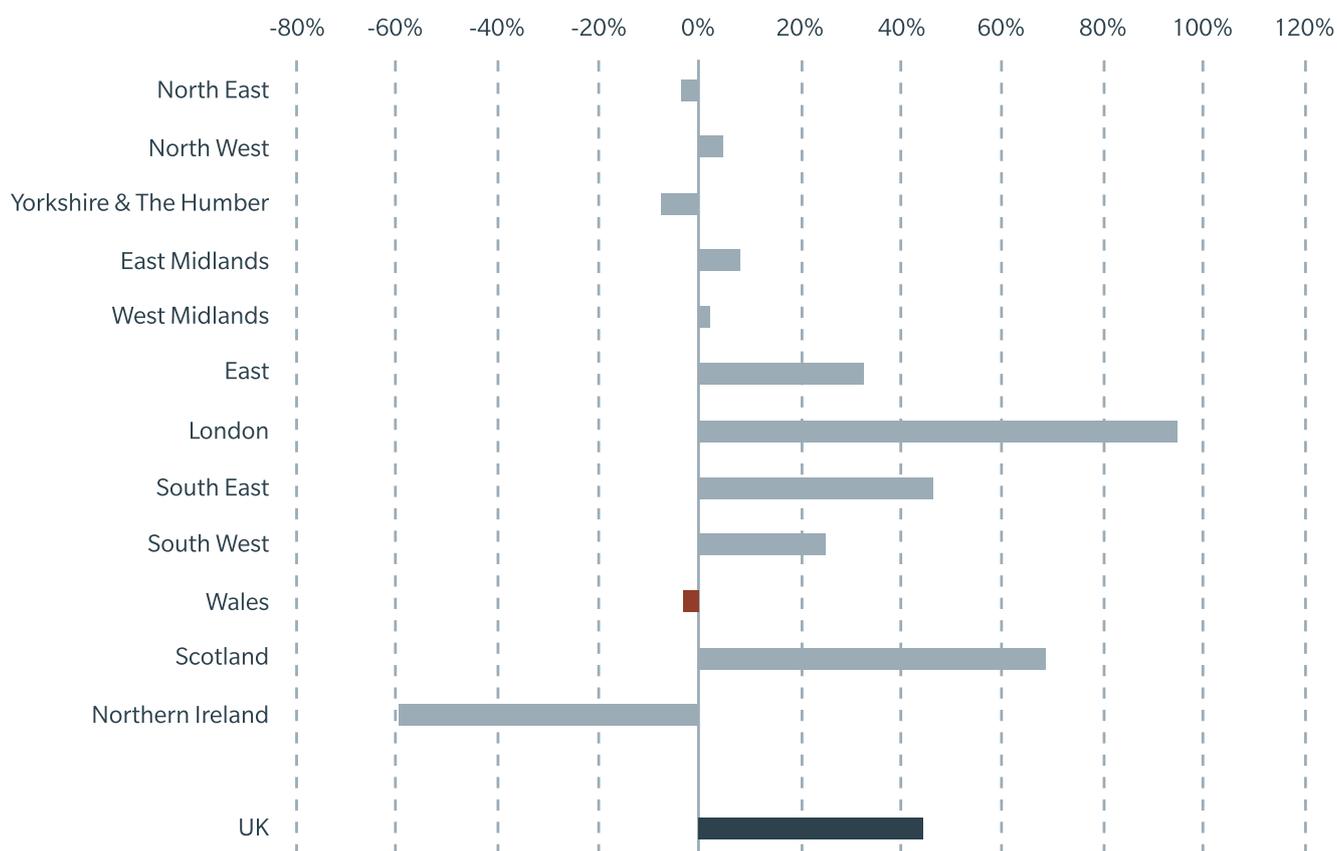
transactions elsewhere in the UK adversely impacting the Welsh Government budget. However, these different bands would need to reflect the complexity of the SDLT regime, such as revenues arising from commercial or residential transactions.

5.2 Alternative Method 2: Indexing to UK Regional Data

Rates of tax revenue growth vary significantly between regions across the UK, reflecting a wide range of economic and demographic indicators. A recent Wales Governance Centre paper suggested that one option to mitigate the risk of Welsh Stamp Duty Land Tax revenues falling significantly behind BGAs (indexed to revenues in rUK) would be to use regional data on SDLT revenues, and exclude certain regions whose growth greatly influence the change in total UK revenues.²⁵ This section explores the possibility of using regional indexation in the case of Income Tax and SDLT devolution. Such an approach could be aided by the recent decision by the Office for National Statistics to begin producing annual Country and Regional Public Sector Finances publications next year.²⁶

Figure 5.3 shows the change in SDLT revenue in each major UK region or nation from 2005-06 to 2014-15. Revenues in the rUK (excluding Wales and Scotland) grew by 45% in this period, compared with a slight decrease in Welsh revenues.

Figure 5.3: Change in Stamp Duty Land Tax revenue in NUTS1 regions, 2005-06 to 2014-15



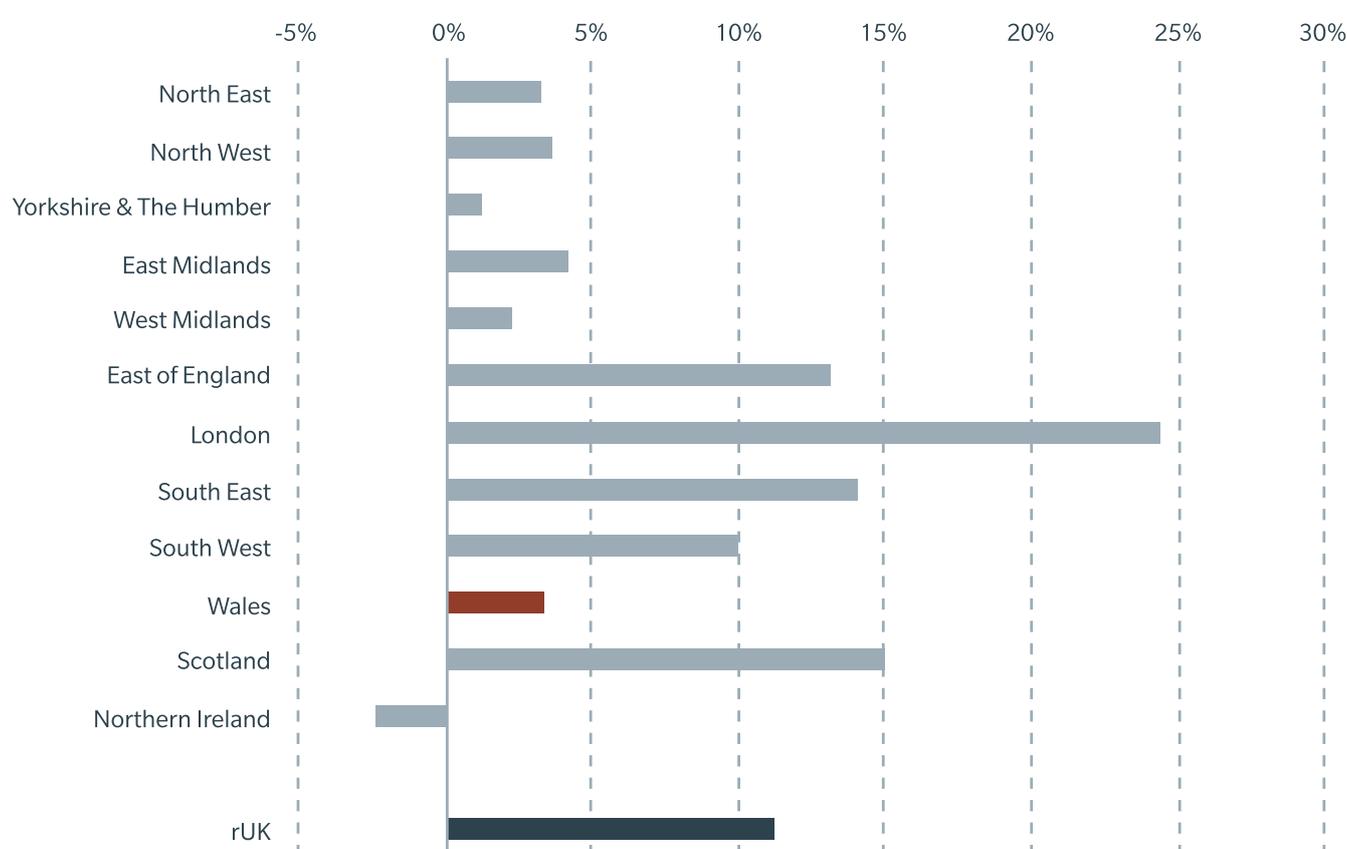
25 Ifan, G. and Poole, E.G., (2016). Devolving Stamp Duty and Landfill Tax to Wales. Wales Governance Centre. July 2016. Available at: <http://sites.cardiff.ac.uk/wgc/files/2013/10/Devolving-Stamp-Duty-and-Landfill-Tax-to-Wales.pdf>

26 <https://www.ons.gov.uk/aboutus/whatwedo/statistics/consultationsandsurveys/allconsultationsandsurveys/consultationoncountryandregionalpublicsectorfinances>

Note that growth in SDLT revenues varied significantly between the regions of England. Revenues in London grew by 95% over these ten years and by 47% in South East England. Revenues in the East of England and South West England also grew strongly, by 32% and 25% respectively. The small fall in Welsh revenues over this period appears to be much more in line with revenue growth in the other English regions.

In relation to Income Tax, a very similar pattern can be seen in the change in taxable earned income by region from 2005-06 to 2013-14. Figure 5.4 shows the estimated change in taxable earned income (the tax base being partially devolved to Wales) across the twelve UK regions from 2005-06 to 2013-14, based on analysis of Survey of Personal Incomes Public Use Tape data.²⁷ Taxable earned income in rUK (i.e. excluding Wales and Scotland) grew by 11% over this 10-year period, compared with an increase of just 3 % in Wales over this period. Of the English regions, taxable earned income grew most strongly in London (at 24%) and the South East (14%), followed by the East of England (13%) and the South West (10%).

Figure 5.4: Change in taxable earned income in NUTS1 regions, 2005-06 to 2013-14



There are a number of ways in which regional data could be used to index the adjustment of Wales' block grant. For example,

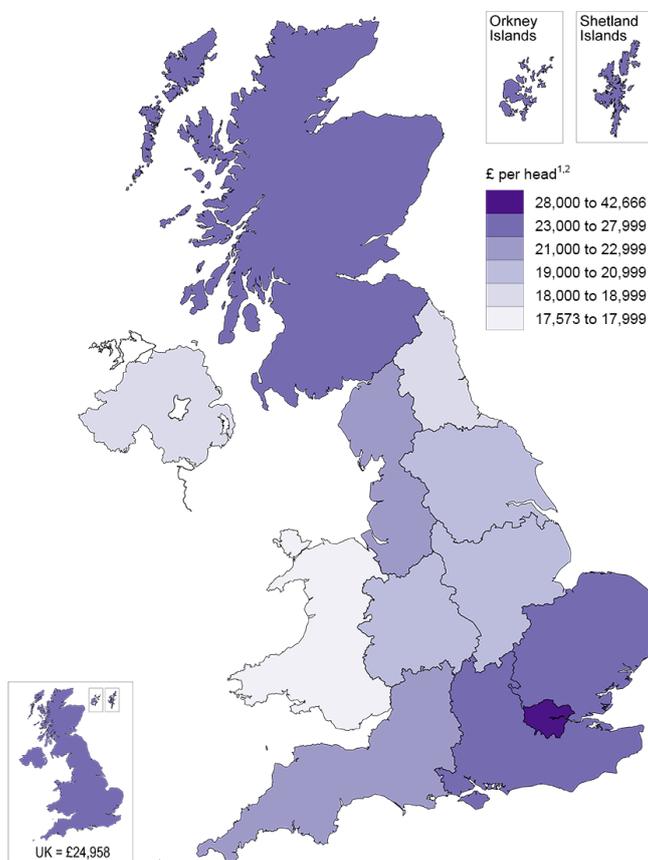
- (1) **Exclude Revenues from London and South East England:** In the context of Stamp Duty devolution, Ifan and Poole (2016) suggested excluding revenues from London and the South East, finding that this would have mitigated most of the budgetary impact to the Welsh Government had tax devolution been in place in the last 10 years.

²⁷ A complication in the analysis of the SPI PUT data is the data for composite records which combine the survey data of several individuals for anonymity purposes. These composite records are assigned to each region according to the regional % share given.

- (2) **Index Wales to the UK's Economic North (from the Severn to the Wash):** An alternative option would be to use an oft-analysed geographical divide between the Economic North and South of Britain, an approximate line from the Severn at Bristol to the Wash near Peterborough. This line roughly divides England's population in half, and clear differences in economic, social and demographic trends exist above and below this line.

Divergences between the Economic North and South of Britain emerge in relative economic measures such as levels of negative equity and regional Gross Value Added (see Figure 5.5), and health measures including life expectancy and rates of coronary heart disease. GVA per capita levels in Wales are around 89% of the average in the Economic North of Britain, as opposed to being only 69% of the average in the rUK (excluding Scotland). Economic inactivity levels in Wales (at 24.2%) are also closer to Northern regions (23.5%) compared with the rUK (21.7%). Indexing Wales' BGAs to comparable regions in the Economic North of the UK would provide a closer approximation of likely tax revenue performance than would be the case if indexed to the rest of the UK as a whole.

Figure 5.5: Regional Gross Value Added Per Head (2014)

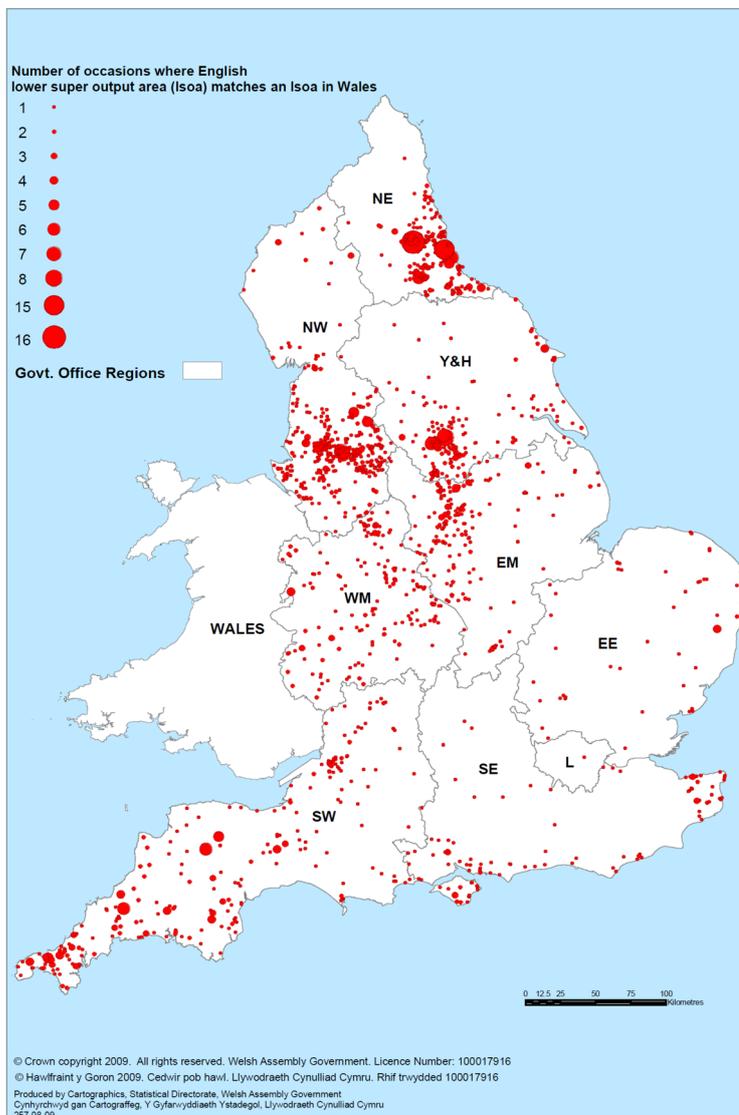


¹ Regional Gross Value Added (GVA) per head has been calculated using the 'Income Approach'.
² Boundaries shown are for nomenclature of territorial units for statistics (NUTS) level 1 areas.
 Source: Office for National Statistics licensed under the Open Government Licence v.3.0.
 Contains OS data © Crown copyright 2015

Source: Office for National Statistics, Regional Gross Value Added (Income Approach): December 2015

- (3) **Index Wales to a “Counterfactual Wales” constructed from English regions using indices of multiple deprivation:** The first report of the Holtham Commission (2009) developed a mechanism to use socio-economic indicators to identify English local areas most similar to areas in Wales, and aggregating them to create a subset of English localities that closely resemble Wales.²⁸ If regional and/or local data for this set of localities is available, it could be used to predict the Welsh equivalent (either in terms of needs or tax revenues). Statistical modelling would provide weights for each region, so that rUK areas sharing socio-economic similarities with Wales would be weighted more prominently in the index. Figure 5.6, drawn from the first report of the Holtham Commission, illustrates the local areas of England that most closely match areas in Wales. As with options 1 and 2, note that the relatively prosperous regions of London, the South East and the East of England provide few matches with areas in Wales. It may also be possible to create a weighted index of regional revenue growth, giving more weight to regions with historically similar revenue growth to Wales and less to those with historically dissimilar growth.

Figure 5.6: Areas of England that most closely match areas in Wales

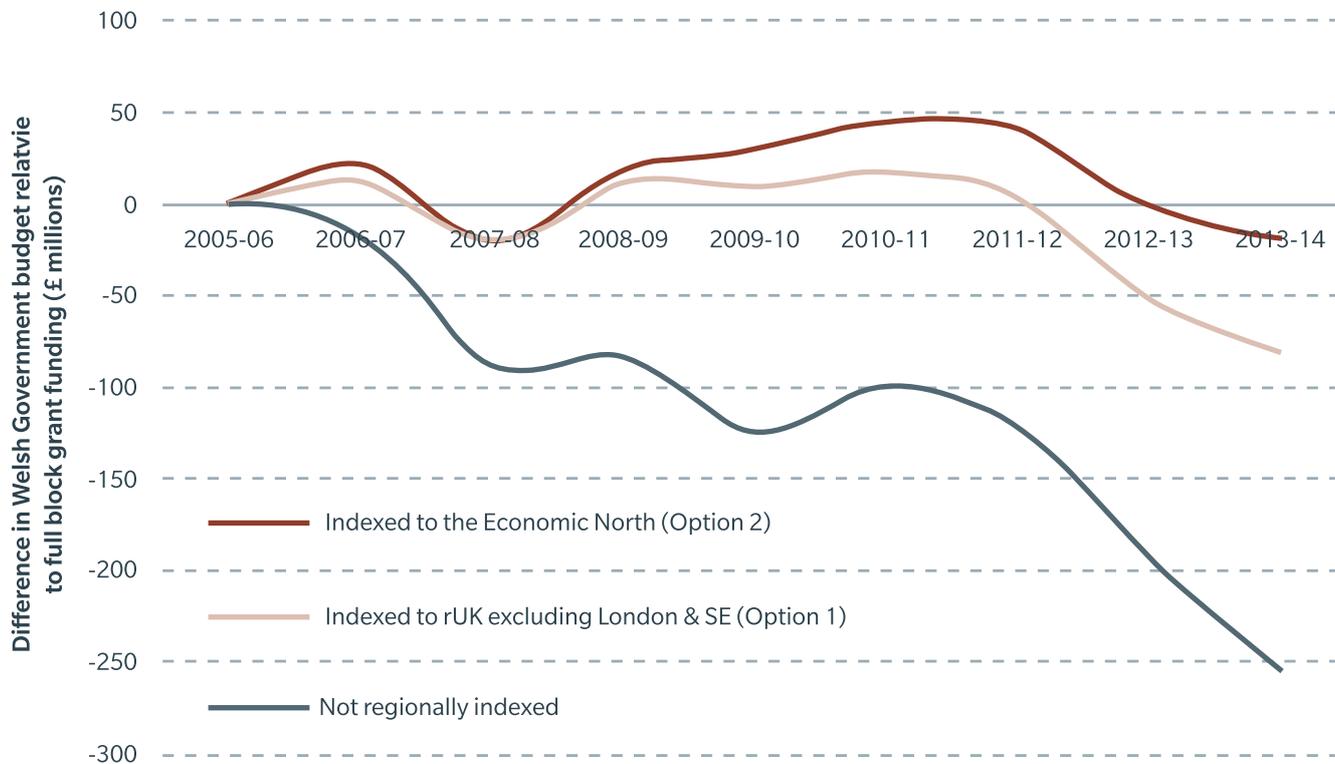


Source: Independent Commission on Funding and Finance for Wales (July 2009).
 First Report, Funding Devolved Government in Wales: Barnett and Beyond. Chart 4.10, p. 44

28 See pp 43-45 and Annex 2, a2.13-a2.16, in Holtham, G. (2009). *First Report, Funding Devolved Government in Wales: Barnett and Beyond*.

An analysis of the first two options is explored in figure 5.7, which shows the hypothetical impact of tax devolution from 2005-06, under the Indexed Deduction method, showing the budget impact from excluding London and the South East (option 1) or indexing to the UK’s Economic North (option 2).

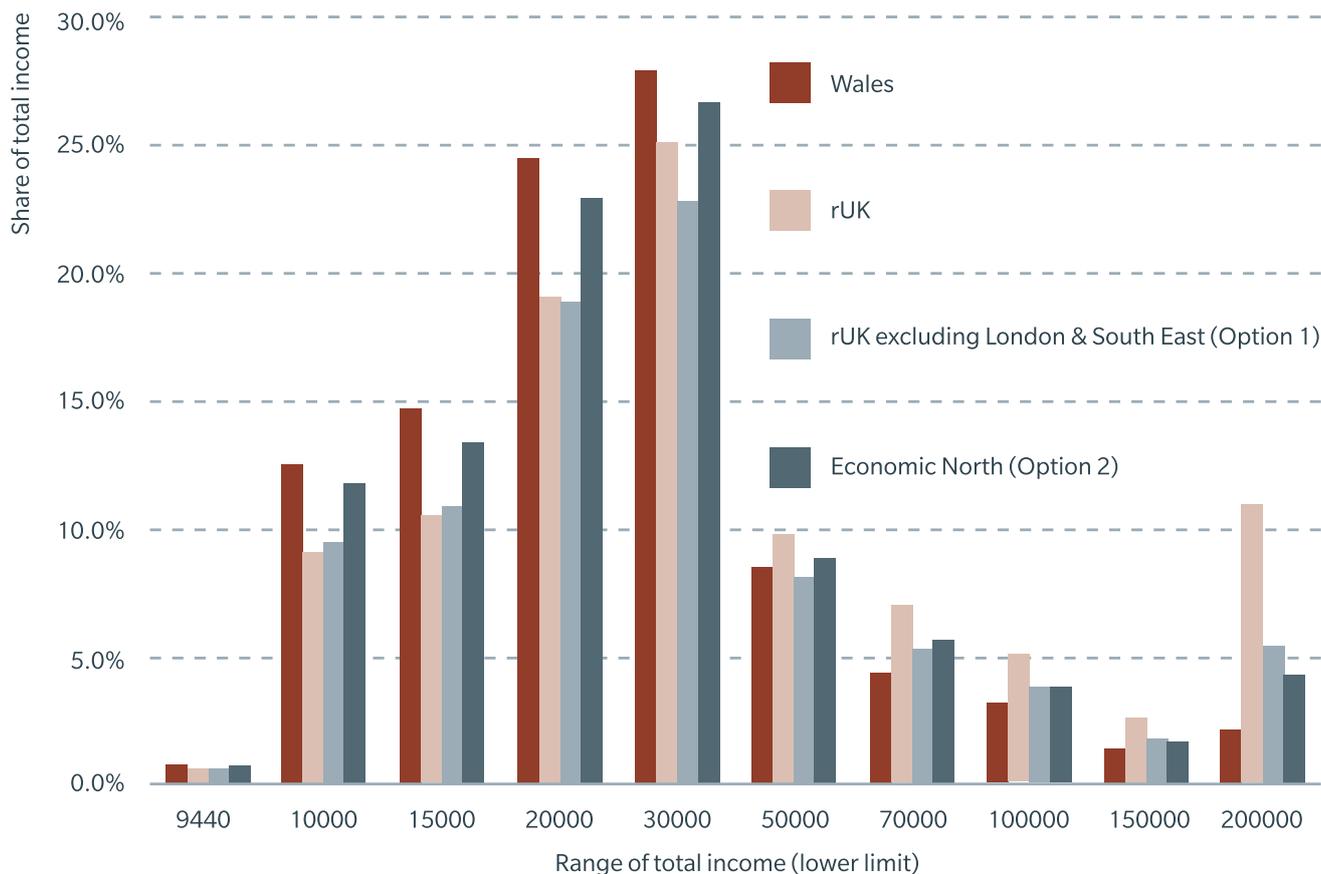
Figure 5.7: Impact of tax devolution (Income Tax and SDLT) with Indexed Deduction method, from 2005-06 to 2013-14²⁹



As can be seen from figure 5.7, the hypothetical effect of tax devolution on the Welsh Government budget in this period varies with the basket of regions that are included in the index. Whereas indexation to revenues in rUK would have led to significant cuts in the Welsh Government budget, excluding revenues from London and the South East or indexing to the Economic North of the UK would have led to BGAs that much more closely approximated the revenue that would have been devolved to Wales in this period.

29 These trends should be viewed as approximations only. Straight line estimates have been drawn between years for which there was no data.

Figure 5.8: Distribution of taxpayer incomes by regional criteria



Source: HMRC: Survey of Personal Incomes 2013-14

For Income Tax, one of the advantages of using regional data is that the distribution of taxpayer incomes in Wales is far closer to regions in the Economic North than is the case in the rUK as a whole. This is illustrated in figure 5.8. Excluding revenues from London and the South East, or using revenues from the Northern regions, reveal distributions of taxpayer incomes much more aligned with Wales. If Wales BGAs were indexed to a regions that share greater similarities to Wales than Wales shares with the UK as a whole, factors which influence the income distribution asymmetrically (such as UK Government policy on allowances and reliefs) would be much more balanced in their impact on devolved taxes and the corresponding reduction to the block grant.

Conclusion

At first glance, the question of how to adjust the Welsh block grant after tax devolution seems a purely technical one. In truth, however, it reaches to the core of how to deliver the more accountable Welsh Government and National Assembly that was recommended by the Holtham and Silk Commissions and endorsed by the major political parties during the Fourth Assembly.

For this long sought-after accountability link to work in practice, the Welsh Government needs to bear the financial consequences of its own performance and policy decisions. But equally, and as far as possible, its budget should be protected from policy decisions by other governments that affect its devolved revenues and, given the likely major constraints on its ability to borrow and save to smooth revenues, wider macroeconomic shocks outside its control. The fiscal framework negotiations for Wales will weigh these issues in the attempt to reach a fiscal devolution settlement that is sustainable and fair to both the Welsh and UK Governments over time.

In this report, above all, we conclude that the agreed approach to block grant adjustment in Scotland after tax devolution may not be the most appropriate option for Wales. Although Wales shares with Scotland a rate of population growth substantially below that of England, it differs from Scotland in the extent to which the size and distribution of its tax base departs from that in England: Wales has substantially lower incomes than Scotland and England. These dissimilarities may result in hundreds of millions of unfunded cuts (or, in some circumstances, unfunded increases) to the Welsh budget if they are not appropriately factored in the Fiscal Framework agreement this autumn.

Population divergence will almost certainly be a feature in the relative performance of Welsh tax revenues in future. Factors that may cause unequal revenue growth across the income and house-price distributions in the UK, including the effects of future UK Government tax policy changes, are harder to predict. But we argue that both elements must be considered during the current negotiations.

Wider issues at stake in this autumn's negotiations will include the operation of the Barnett Floor beyond the end of the current parliamentary term in 2020, mechanisms for cash flow management, and the future borrowing powers of the Welsh Government to fund large-scale infrastructure projects such as the M4 relief road, A55 improvements or the South Wales Metro.

At its heart, Wales' partial income tax system is a very different creature from the fuller model of income tax devolution that is to be introduced in Scotland. This shared tax system will require careful consideration of the institutional arrangements necessary to coordinate management of the partially-devolved taxes and manage disputes that will inevitably arise between the two governments.

Among other questions, these subjects will feature in a series of forthcoming papers published by the Wales Governance Centre and the Institute for Fiscal Studies to accompany the 2016-17 Fiscal Framework negotiations for Wales.

