Allocating grant to the UK’s devolved territories by needs assessment: lessons from school funding formulae in England and Scotland

Abstract

The UK’s devolved administrations (DAs) receive block grants to finance almost all their expenditure. The Barnett formula used to calculate these grants is often criticised because it does not consider the DAs’ spending needs. However, the feasibility of allocating block grants by needs assessment is often questioned, given the contestability of spending needs.

This paper compares the formula used within England to assess the education spending needs of local authorities there with the equivalent Scottish formula, by using each formula in turn to calculate the relative spending needs of the UK territories. The rationale is to consider how similar the two formulae are in how they estimate the territories’ relative spending needs for education, a major responsibility of the devolved governments.

The results show that the English and Scottish education allocation formulae produce similar estimates of the territories’ relative education spending needs. This suggests that it may be more feasible to allocate education resources to the UK’s devolved territories based on needs assessment than some have suggested. The results also suggest some inequity in current patterns of education spending across the UK.
I. Introduction

Recent decades have witnessed a trend of increasing decentralisation of public sector activity in many developed and developing countries (Lago-Peñas, et al., 2011). Consequently, a growing proportion of government revenues are used to finance decentralised or devolved levels of government. A study of 23 OECD countries found that on average around a quarter of Central Government tax revenue was spent on inter-governmental grants (Blöchliger and King, 2006), and the question of how such grants are allocated is receiving widespread attention. Many countries utilise some type of funding formula for allocating grant to decentralised levels of government, but these formula differ widely. Australia for example uses an extremely detailed formula to allocate grant to States based on spending needs and tax capacity (Commonwealth Grants Commission, 2010); Spain uses a much simpler formula to allocate grant to Autonomous Communities based on spending needs (Bosch, 2009); whilst Canada allocates grant to Provinces based wholly on tax capacity, with no consideration of spending need (Lecours and Béland, 2010).

The three devolved administrations (DAs) of the UK (the Scottish Government, the Welsh Government, and the Northern Ireland Assembly) have little ability to raise tax and are almost wholly reliant on a block grant from the UK government to fund their spending. Since 1979, these block grants (or more precisely, the annual changes in them) have been determined by the Barnett Formula. This formula determines the change to each DA’s grant based on changes in spending on devolved services in England, and the DA’s population (HM Treasury, 2010). For example, if the UK government announces a £100m increase in health spending in England, if 99% of all UK health spending is devolved, and if Scotland’s population is 10% of England’s, then the Scottish Government’s budget would increase by £9.9 million. Any Barnett-calculated change is added to the existing grant (the baseline). It follows that each territory’s current grant level is a function of the grant that the territory received in 1979, and all subsequent applications of the Barnett formula.

The Barnett formula was introduced on the assumption that it would be a temporary measure, and has frequently been criticised as inequitable because it takes no account of the spending needs of the DAs and England (McCLean, et al., 2008; Select Committee on the Barnett Formula, 2009; Independent Commission on Funding and Finance for Wales, 2010). The grant allocations have often been accused of being too generous to Scotland and Northern Ireland (NI), but less so to Wales (McCLean and McMillan, 2005; Mackay and Williams, 2005). Although the Barnett Formula bears the
brunt of this criticism, the DAs’ allocations are as much the result of arguably generous grant allocations in 1979 as with the formula itself.1

Recent years have seen growing calls for the Barnett formula to be replaced with a formula which takes some account of the territories’ spending needs. The Holtham Commission (Independent Commission on Funding and Finance for Wales, 2010), the House of Lords Select Committee on the Barnett Formula (2009), the Commission on Devolution in Wales (2012), the Local Government Association in England (Local Government Association, 2013) and the All Party Parliamentary Taxation Group (2013) have all recommended that the formula should be replaced by a needs based spending assessment.

Through the Scotland Act 2012, the Scottish Government will acquire powers to raise around one third of its budget revenue from income tax and some smaller taxes. The Commission on Devolution in Wales (2012) has recommended conferring similar tax raising powers on the Welsh Government. Nonetheless, a substantial level of block grant transfer from the UK to the devolved governments will continue to be necessary to address the imbalance between revenue raising and spending by the DAs, assuming of course that Scotland votes to remain in the Union at the Independence Referendum in September 2013. Indeed, two of the major proposals for Scotland’s future constitutional settlement within the UK - ‘Devo-More’ (Trench, 2013) and ‘Devo-Plus’ (Purvis, 2012) – propose that Scotland should have further fiscal devolution in tandem with a grant based on needs assessment instead of the Barnett formula. There is thus a strong groundswell of opinion in favour of developing a needs assessment formula to allocate resources to the DAs.

Needs assessment formulae are already used extensively to allocate resources within the DAs to health boards, local government and schools (Smith, 2006; National Audit Office, 2011). However, a major argument used against using needs formula to allocate resources to the DAs is that needs assessment is inherently subjective, so that it will be impossible for the DAs to agree on a needs assessment formula (McLean and McMillan, 2005; Midwinter, 2002).

This paper tests the hypothesis that the UK and devolved governments would be unable to agree on an assessment of spending needs, using spending needs for compulsory school age education as an application. Specifically, the paper compares the formula used by the UK government to allocate

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1 A mathematical property of the Barnett Formula is that it should induce convergence in per capita spending levels between the devolved territories and England over time. This is because, for a given nominal increase in ‘English’ spending, the per capita spending increment is the same across administrations, and thus the effect of the different initial spending levels should become proportionately less over time. However, it is clear that convergence has not occurred as quickly as would have been expected, especially for Scotland, due to the success of the devolved territories in periodically bargaining for additional grant increments outwith the operation of the Barnett formula (Christie and Swales, 2010).
education resources across local authorities (LAs) in England, with the formula used by the Scottish Government to allocate education resources across LAs in Scotland\(^2\). This is done by applying each formula in turn to every UK LA to calculate its relative spending need on each formula. Then, within each DA, the spending needs for each LA are summed to calculate the relative spending needs of each DA as a whole according to both formulae.

The rationale for this analysis is to compare how the English and Scottish formulae assess the relative spending needs of different DAs for school-age education. The more similar their allocations are, the greater is the likely scope for agreement on a spending needs formula to replace Barnett. This is not to say that a Barnett replacement should use either the English or Scottish formulae for assessing education spending needs, but rather to identify where disagreements around needs assessment are likely to arise, and the potential magnitude of any such disagreements.

This paper follows previous work which has compared the way that health spending needs are assessed in England to the way they are assessed in Scotland (Ball, et al., Forthcoming). Ball et al. demonstrate that the English and Scottish health allocation formulae provide similar estimates of the relative spending needs of the DAs. The similarity is perhaps surprising, as it follows over ten years of devolution, during which time the countries have pursued different policies regarding their respective health services. This indicates that the estimates of relative spending need may be less contestable than is sometimes suggested at least for health, which accounts for around one third of devolved spending in each DA.

We focus in this paper on school-age education spending partly because it is another major area of devolved spending, accounting for 15-23% of devolved government spending in each DA, and partly because there is already a long history of using needs formulae to allocate resources for education within the UK. England has used a variety of school funding formulae since 1981 and is currently consulting on a proposed new formula; Scotland has used its current system of formula-based allocations to LAs since 2000.

The remainder of the paper is structured as follows. Section 2 describes patterns of education spending across the UK territories. Section 3 describes the process for allocating education resources to LAs (and subsequently, to schools) in England and in Scotland, and highlights some current debates around schools funding. Section 4 sets out in more detail the formulae currently used in England and in Scotland to allocate education resources to LAs. Section 5 describes our approach to comparing the English and Scottish formulae. We compare the current Scottish formula with both

\(^2\) In the remainder of this paper, we use the term LA to refer to local authorities which provide education services, of which there are some 150 in England, 32 in Scotland, 22 in Wales, and 5 in Northern Ireland.
the current English formula, and with a proposal for a new simpler English formula. The results are presented in Section 6, focussing on how the English and Scottish formulae estimate the relative education spending needs of the DAs. Section 7 concludes.

To preview our results, we find that the English and Scottish education allocation formulae produce very similar estimates of the relative education spending needs of the DAs; this similarity holds both for the comparison of the existing English formula with the Scottish formula, and for the comparison of a proposed new English formula with the Scottish formula. This must be seen as good news by those who favour establishing a spending needs formula for the DAs. The results, if the formulae are considered reliable, also confirm that there are significant inequities in the level of education spending across the UK.

II. Education spending in the UK territories

School-age education spending in England increased significantly under the Labour governments of 1997-2010, both in real terms and as a percentage of GDP (West, 2009). Indeed, during the first ten of these years, 1997-2007, annualised growth in per pupil schools spending was 6.4% (Chowdry, et al., 2008). This increase in spending on education in England fed through to increases in the Barnett Formula grant allocations to the DAs. These allocations are not hypothecated, but broadly they enable the DAs to increase spending on particular policy areas in line with any increase in spending on that policy area in England.

Table 1 shows some statistics on education spending in the DAs. The figures on spending per pupil are for pupils aged 5-15 and exclude spending on pre-primary and post-secondary education (HM Treasury 2013). Data on primary and secondary pupils enrolled in state schools were taken from the Pupil Censuses that are managed by the education departments in each territory. To ensure comparability, we have controlled for somewhat different start dates for compulsory school age education across the territories; these figures indicate the number of pupils in state schools between the ages of 5-15 years, including the various types of academies, faith schools, city technology colleges etc., but excluding special schools.

Spending per pupil is shown in Row A. Row B gives these results as indexes, with Scotland at 1.018, spending 1.8% more per pupil than England, and Wales at 0.941, spending 5.9% less than England. NI has an index of 0.707, implying that it spends 29.3% less per pupil than England. NI’s result seems surprising, and its robustness can be checked in two ways.
First, we consider whether the result stems from an erroneous estimate of pupil numbers. To do this, we repeated our calculations using ONS data on the population aged 5-15 in each territory as the denominator, instead of pupil numbers. Doing this results in only a slight increase in estimates of spend per individual in all three DAs, relative to spending in England (row C), and does not radically alter the estimate of NI’s relative spending. The slight increase occurs because a higher proportion of pupils attend private (non-state funded) schools in England relative to the DAs, so the difference between the estimates of state school pupils and all individuals aged 5-15 is greater for England than for the DAs.

Second, we consider whether there may be inconsistencies in how spending on primary and secondary education, published in PESA (HM Treasury 2013), is collated across the territories. To do this, we combine PESA’s estimates of spending on primary and secondary education with its estimates of spending on ‘subsidiary services to education’, ‘education not definable by level’ and ‘education not elsewhere classified’ (we continue to exclude estimates of spending on pre-primary and post-secondary education). With this wider definition of education spending, our estimated figures for spending per pupil, indexed to English per pupil spending (row D), fall to 1.010 for Scotland, rise to 1.048 for Wales, and rise substantially to 0.914 for NI. This indicates that a substantial part of the apparent per pupil funding ‘deficit’ identified above for NI is simply due to a higher proportion of NI’s education spending being classified in one of these more general spending categories.

**TABLE 1**

<table>
<thead>
<tr>
<th>Spending on primary and secondary education (2009/10)</th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>NI</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Spending per pupil</td>
<td>£8,652</td>
<td>£8,806</td>
<td>£8,138</td>
<td>£6,115</td>
</tr>
<tr>
<td>B: Index of per pupil spending (England = 1)</td>
<td>1.000</td>
<td>1.018</td>
<td>0.941</td>
<td>0.707</td>
</tr>
<tr>
<td>C: Index of spending per individual aged 5-15 (England = 1)</td>
<td>1.000</td>
<td>1.059</td>
<td>0.985</td>
<td>0.748</td>
</tr>
<tr>
<td>D: Index of per pupil spending – wider definition (England = 1)</td>
<td>1.000</td>
<td>1.010</td>
<td>1.048</td>
<td>0.914</td>
</tr>
<tr>
<td>E: Index of education spending per head (England = 1) – wider definition</td>
<td>1.000</td>
<td>0.997</td>
<td>1.092</td>
<td>1.111</td>
</tr>
</tbody>
</table>

*Source: Spend data from Public Expenditure Statistical Analysis (HM Treasury, 2012); Population estimates from ONS; Pupil data from individual territory Pupil Censuses*

In summary, differences in education policy and data collection methods make definitive comparisons of spending per pupil across the UK territories difficult, a fact that has been noted by others (Bain, 2006). Nonetheless, it is apparent that NI spends notably less on education per pupil than the other DAs territories, even if we take the wider definition of pupil spending (row D). This is chiefly because the Barnett formula is based on a per head of population basis with no other
adjustment for spending need. NI’s education spending per head of total population is about 11% higher than that of England (row E), but this falls to at least 8% lower than English spending on a per pupil basis.

### III. Allocating education resources by formula

Education funding formulae are used in at least 13 EU countries (Fazekas, 2012). These formulae typically aim to achieve horizontal equity, so that schools with the same characteristics are funded at the same level, and to do this in a way which is transparent and efficient (Levačić, 2006). Although they differ in their precise form, education formulae typically include a basic pupil allocation (often differentiated by grade level), pupil-specific factors for special education needs, a number of school specific indicators to reflect structural factors that a school cannot alter, and components to reflect the type of curriculum or provision offered by the school (Smith, 2006; Levačić, 2006).

Education funding formulae have been used in the UK since the 1960s. The formulae have evolved through many iterations during this time, although many of the current debates around their design also arise in other countries which use such formulae. The key debates in the UK context include: whether the central government should use formulae to fund schools directly or to fund LAs who then use their own allocation mechanisms for funding schools in their area; the extent to which funding formulae should operate on the basis of inputs (e.g. numbers of pupils with given characteristics) or some measure of school value-added in attainment; the level of resources that should be allocated to address educational disadvantage; and the autonomy that individual schools should have in deciding how these resources are spent. The rest of this section reviews some of the recent changes to school funding in England and Scotland, and describes some of the current debates.

Between 1997 and 2006, LAs in England received funding for school-based education via the Revenue Support Grant (RSG). The amount of RSG allocated to each LA was based on an assessment of the LA’s spending needs for a range of service blocks – including education, social services, roads, etc. – and also on the LA’s ability to raise income through taxes on property. The RSG was not hypothecated, so the LA was not obliged to match its actual spend on each block to its assessed need for that block. Spending needs were estimated using the so-called Formula Spending Share (FSS) approach. The FSS for education is described in the following section.

In 2006-07, there was a major change to the way each LA’s education was funded, with the introduction of the Dedicated Support Grant (DSG), a specific (ring-fenced) grant which the LA must
spend on education. Although it cannot spend less on education than it receives through the DSG, it can spend more by using other sources.

DSGs are calculated on the ‘spend-plus’ methodology, whereby grants equal a flat-rate increase on the previous year’s allocation, plus a formula determined uplift. Thus although the DSG allocations are not directly informed by estimates of LA’s education spending need, the pattern of allocations of DSG to LAs is implicitly predicated on the spending needs of LAs as estimated by the former FSS model.

Under both the DSG system and the preceding SSA/FSS approach, LAs are free to allocate funds between schools within their jurisdiction as they choose. On average, LAs spend around 13% of the DSG on LA ‘central services’ and allocate the remainder between schools using formulae of their own. Because different LAs use different formulae, and because schools have differences in pupil characteristics, the level of per pupil funding varies widely across schools (Chowdry and Sibieta, 2011). Consequently, there are moves to harmonise the LAs’ own formulae for distributing resources between schools.

Several further changes were made to school funding in 2011-12, most notably the introduction of the pupil premium. This premium is a fixed extra amount (i.e. additional to the underlying DSG) of £488 per pupil eligible for free school meals (FSM). The premium is usually allocated to schools (not LAs), and aims to address ‘underlying inequalities between children eligible for free school meals and their wealthier peers’ (Department for Education, 2010). In future years the government plans to increase the pupil premium funding: thus in 2012-13 the premium was increased to £600, and coverage was widened to include pupils who had received FSM at any point in the last six years.

As the pupil premium is allocated directly to schools, not LAs, its introduction can be seen as part of a move towards a national funding formula for schools in England. The UK government has published proposals for the development of a ‘fairer’ system of national funding formula for schools, where funding for individual schools is based on the characteristics of pupils, schools and the local area, and LAs have limited scope to deviate from these allocations when allocating funds between schools (Department for Education, 2012).

The Scottish system of funding education is similar to the system that operated in England before the DSG was introduced. The Scottish Government allocates a block grant to each of the 32 Scottish LAs. Each LA’s grant allocation is based on an assessment of its spending need, known as its Grant

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3 Pupils are eligible for FSM if their parents are eligible for one or more low-income or workless benefits. Eligibility for FSM is thus often used as an indicator of potential educational disadvantage.
Aided Expenditure (GAE), and its capacity to raise income through taxes on property. Each LA’s GAE is broken into a number of service areas, of which education is the largest. The block grant is not hypothecated, so each LA can spend more or less on education than the figure calculated by the education GAE. As in England, LAs then allocate grant to schools within their jurisdiction.

In summary, both England and Scotland have, until recently, allocated unhypothecated grant to LAs to spend on education, and allocate to schools, as they see fit. Although the schools grant in England is now ring-fenced, there are similar concerns in both countries as to the variation in resources received by schools of similar characteristics. Both England and Scotland are therefore investigating the potential for more nationally-based allocation arrangements that would in effect reduce the level of freedom of LAs to determine how education resources are spent (Department for Education, 2012; Cameron, 2012).

Both the English and Scottish formulae have been developed by predicting existing expenditure patterns from need and cost influencing indicators. Longer term, there is interest in the possibility of allocating resources to schools in such a way as to achieve explicit outcomes or levels of attainment. Bramley et al. (2011) demonstrate how such an approach might be applied, but it is clear that there remain difficulties with the outcome-based approach both in terms of how attainment is defined, and the uncertainty of the causal relationship between education spending and student performance (Dearden and Vignoles, 2011; Gibbons, et al., 2012; Holmlund, et al., 2010; Hanushek, 2010; Machin, et al., 2010). It is clear therefore that needs based formula funding will continue to be used in England and Scotland to allocate school resources to local authorities. The main debates are around the extent to which local authorities should have autonomy to deviate from national formulae when passing resources on to schools, and the extent to which there is an appropriate balance between transparency and sensitivity to local need (i.e. simplicity and complexity).

IV. Comparing the FSS and GAE

Both the English FSS and the Scottish GAE systems attempt to measure the relative spending needs of LAs for school education, and allocate grant to LAs on the basis of these assessments. It is worth re-iterating that, although the FSS formula is no longer explicitly used to allocate grant to English LAs, the level of DSG that is allocated each year to each English LA is heavily dependent on the allocation that it received under the FSS. So it is arguable that the current pattern of LA education grant allocations continues to reflect the outcomes of the FSS. In this section we outline the structure of the English FSS and Scottish GAE formulae for allocating schools grants, and describe the
data used by the two formulae. In section 6 we also briefly describe some of the proposals for a new simplified schools funding formula that are expected to be introduced in England in 2013/14.

The Scottish education GAE, as applied during the 2008/11 spending period, assesses LA spending needs for compulsory-age education across 13 separate components (Table 2). Three of these components (primary school teaching staff; secondary school teaching staff; and school non-teaching staff and property) account for 68% of the total allocation. The remaining components include amounts for special education, school transport, school meals, education deprivation. For each component, LA spending need is derived by reference to a primary indicator and a secondary indicator. The primary indicator is used to allocate the total level of resources available for a given component among Scotland’s LAs based on their respective shares of that indicator. For example, the primary indicator for the Primary School Teaching Staff component is the number of primary school pupils. If a given LA has 5% of Scotland’s primary school pupils, then it will initially be allocated 5% of the £902 million available for this component. The secondary indicator is used to redistribute those initial shares between authorities based on needs additional to the per capita amount. In the primary school teaching staff component for example, the secondary indicator adjusts the initial per pupil shares based on a measure of rurality and school size. The strength of the secondary indicator relative to the primary indicator varies depending on the component in question. A LA’s total spending need for education is derived by summing its needs over each component.

In the English education FSS (last used in 2006) there are six sub-blocks within the education service block that pertain to compulsory school-age education. These are:

- Primary education
- Secondary education (up to age 15)
- High cost pupils
- Schools damping
- Local Education Authority (LEA) central functions
- LEA damping

The two damping sub-blocks, schools damping and LEA damping, are designed to ensure that each school/LEA receives a minimum increase in funding, taking into account previous grant, and are thus not directly measures of spending need per se.
Within each block, LAs receive a ‘basic amount’ for each individual of the respective client group, plus one or more ‘top-ups’ (Table 3). For the Primary education block for example, LAs receive a basic amount of £2,266 for each primary education pupil, plus top-ups for ‘additional education needs’ and ‘sparsity’. The level of the top-up for each LA is calculated by reference to various indicators. The primary education additional needs top-up is calculated using data on the number of pupils whose mother tongue is not English, the number of children of income support or income based jobseeker’s allowance claimants, and the number of children of working families tax-credit claimants. Additionally, the English FSS contains an area cost adjustment (ACA) which compensates LAs which face particularly high wage and other factor costs (principally those in London and the southeast region).
TABLE 2

Summary of indicators used in Scottish education GAE for 5-15 year olds

<table>
<thead>
<tr>
<th>Component</th>
<th>Indicators used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school teaching staff</td>
<td>Primary sector pupils&lt;br&gt;Percentage pupils in small schools</td>
</tr>
<tr>
<td>Secondary school teaching staff</td>
<td>Secondary sector pupils&lt;br&gt;Island LA adjustment</td>
</tr>
<tr>
<td>School non-teaching staff, property etc</td>
<td>All education authority pupils&lt;br&gt;Urban settlement pattern</td>
</tr>
<tr>
<td>Special education</td>
<td>Population aged 2-19</td>
</tr>
<tr>
<td>School transport</td>
<td>Population aged 5-15&lt;br&gt;Population dispersion</td>
</tr>
<tr>
<td>School meals</td>
<td>Pupils taking meals&lt;br&gt;Income support dependents per 1000 aged 0-19</td>
</tr>
<tr>
<td>School hostels and clothing</td>
<td>All education authority pupils&lt;br&gt;Hostel places per 1000 pupils&lt;br&gt;Income support dependents per 1000 aged 0-19</td>
</tr>
<tr>
<td>School security</td>
<td>Number of pupils&lt;br&gt;Number of establishments</td>
</tr>
<tr>
<td>Gaelic education</td>
<td>N/A</td>
</tr>
<tr>
<td>Teachers for ethnic minorities</td>
<td>Number of ethnic minority pupils</td>
</tr>
<tr>
<td>Education deprivation</td>
<td>Primary schools – weighted free meals registration&lt;br&gt;Secondary schools – weighted free meals registration</td>
</tr>
<tr>
<td>National Priorities Action Fund</td>
<td>Government-determined</td>
</tr>
<tr>
<td>Former Excellence Fund</td>
<td>Share of previous settlement</td>
</tr>
</tbody>
</table>

Notes: Indicators in italics are secondary indicators. Source: Scottish Government (2008)

TABLE 3

Summary of indicators used in English education FSS for 5-15 year olds

<table>
<thead>
<tr>
<th>Sub-block</th>
<th>Top-ups</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary education</td>
<td>Basic amount</td>
<td>Pupils aged 5-10</td>
</tr>
<tr>
<td></td>
<td>Additional education needs top-up</td>
<td>Pupils whose mother tongue is not English&lt;br&gt;Children of IS/ income based JSA claimants&lt;br&gt;Children of working families tax-credit claimants</td>
</tr>
<tr>
<td></td>
<td>Sparsity top-up</td>
<td>A function of population density</td>
</tr>
<tr>
<td></td>
<td>Area Cost Adjustment (ACA)</td>
<td>Based on earnings data</td>
</tr>
<tr>
<td>Secondary education</td>
<td>Basic amount</td>
<td>Pupils aged 11+</td>
</tr>
<tr>
<td></td>
<td>Additional education needs top-up</td>
<td>Pupils in low-achieving ethnic groups&lt;br&gt;Children of IS/ income based JSA claimants&lt;br&gt;Children of working families tax-credit claimants</td>
</tr>
<tr>
<td></td>
<td>ACA</td>
<td>As above</td>
</tr>
<tr>
<td>High-cost pupils</td>
<td>Basic amount</td>
<td>Low birthweight births&lt;br&gt;Children of IS/ income based JSA claimants&lt;br&gt;Population aged 3-15</td>
</tr>
<tr>
<td></td>
<td>ACA</td>
<td>As above</td>
</tr>
<tr>
<td>LEA central functions</td>
<td>Basic amount</td>
<td>Pupils aged 3-18&lt;br&gt;Deprivation top-up</td>
</tr>
<tr>
<td></td>
<td>Sparsity top-up</td>
<td>A function of population density</td>
</tr>
<tr>
<td></td>
<td>LEA fixed cost amount</td>
<td>Fixed amount per LA</td>
</tr>
<tr>
<td></td>
<td>ACA</td>
<td>As above</td>
</tr>
</tbody>
</table>

Notes: although the indicators used are often the same across different sub-blocks, the weights attached to indicators vary. In some cases, the top-up amounts are calculated as a non-linear function of the indicators. Source: ODPM (2005)
V. Approach

The analysis in this paper involves applying the English FSS and Scottish GAE education formulae in turn to all LAs in the UK. The aim is to identify the relative spending need of each LA for compulsory school age education if it was treated as an English LA, and compare this with the estimate of its relative spending need for compulsory school age education if it was treated as a Scottish LA. We then consider what the relative spending needs of each UK LA would be if it was treated as an English LA under the proposals for a simpler schools funding formula that are being pursued in England.

To compare FSS and GAE, the data in Tables 2 and 3 were collated for each LA and applied with the appropriate weightings. Most of the data required on pupil and school characteristics were available from the Pupil Censuses produced annually by the education departments in each territory (for example, data on pupil numbers, free school meal eligibility, pupil ethnicity, school size). Data on wider population and labour market characteristics (for example benefit claimant rates, earnings data) were available from national statistical offices, as were data on settlement pattern to inform various indicators of rurality/sparsity.

For each territory, the data on schools and pupil numbers relate to all publicly funded schools (including academies, foundation schools, etc.), but exclude special schools and private schools. More information on our data sources and assumptions are available from our two methodology papers (Ball, et al., 2012a; Ball, et al., 2012b).

All data relate to the 2009/10 academic year, so the results indicate the relative spending needs of LAs in that year, had the formulae been applied in that year. In other words, we consider what the relative spending needs would be for each LA if the English 2005/6 needs formula was applied to LAs in 2009/10 (as noted previously, since 2005/6, grant has been allocated to English LAs on the ‘spend plus’ methodology, and thus the 2005/6 needs formula implicitly continues as the mechanism through which LA education needs are assessed. To demonstrate that the 2005/6 FSS formula remains a good proxy for the way in which education resources are allocated in England, Figure A1 in Annex A plots each English LAs’ per pupil need score, as assessed by the FSS, against its actual allocation of education resources in 2009/10.) Likewise we consider what the relative spending needs of each LA would be if the Scottish needs formula for 2009/10 was applied in that year; we

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4 In England, academies and foundation schools are publicly funded schools that are outwith control of the local authority and are funded directly by central government. However, for the purposes of assessing the overall education spending needs of the UK territories, we include them in our analysis of the spending needs of each LA.
also consider the relative needs of each LA in 2009/10 if a plausible new simple formula – as has been proposed in England – were applied.

The ‘damping’ elements of the formulae (i.e. the adjustments that are made to LAs’ allocations so that individual LAs do not experience large shifts in funding from one year to the next) are excluded from the analysis as we are interested in estimating LAs’ current spending needs, without the bias introduced by conditioning LA resource allocations on past levels of grant.

The data were applied to all education LAs in the UK (of which there are 150 in England, 32 in Scotland, 22 in Wales, and five in NI). The rationale for applying the formulae at LA level was two-fold. First, there are elements of both the English and Scottish education formulae that are based on thresholds (i.e. where LAs above or below a particular threshold receive no resources, whilst other LAs receive a sum that is a function of a particular indicator). Thus the only reliable way of calculating the education resources that would be allocated to each territory is to aggregate the results from each LA within the territory (rather than calculating resources at territorial level in the first place). Second, having results at LA level allows us to make more interesting comparisons about how the two formulae allocate resources.

When applying the Scottish formula, all LAs are treated ‘as if’ they were Scottish LAs, and it is assumed that the transition from primary to secondary school occurs at year 8. Similarly, when applying the two English formulas, all LAs are treated ‘as if’ they are English, and the transition from primary to secondary school occurs in Year 7. Given that the paper is motivated by the desire to understand the DAs spending needs for compulsory-age school education (i.e. for pupils aged 5-15), elements of the formulae that relate specifically to pre-school nursery education, and funding associated with sixth-form colleges, are excluded. This enables the analysis to compare on a like-for-like basis the spending needs associated with compulsory age schooling, having abstracted from issues around pre-school and post-16 education.

When we apply FSS and the possible new simpler English formula, we are comparing the spending needs of all UK LAs against some measure of average per pupil need in England; and when we apply GAE, we are comparing the spending needs of all UK LAs against average per pupil needs in Scotland. In the results, we then rescale the GAE estimates of relative need so that they are expressed relative to per pupil spending needs in England.
VI. Results

Comparing formulae results: UK territories

Table 4 shows the results of applying the English and Scottish education formulae to the UK territories. Row A shows the relative per pupil spending need of the UK territories (expressed relative to English per pupil spending needs of 1) according to the English FSS formula. Row B shows the per pupil spending needs of the UK territories according to the Scottish GAE formula (again expressed relative to English per pupil spending needs of 1).

The two formulae are reasonably similar in how they assess the per pupil spending needs of the DAs, and perceive little overall difference in the range of per pupil spending needs across territories. The English FSS assesses the DAs spending needs to range from 0.977 to 0.988 (i.e. per pupil need in the DAs ranges from 2.3% below England’s to 1.2% below England’s). The Scottish GAE assesses them to range from 0.984 to 1.003 (i.e. from 1.6% below England’s to 0.3% above England’s).

Furthermore, both formulae agree on the relative rank of the devolved territories with regard to per pupil spending need. They assess NI to have the lowest per pupil spending needs, Wales to have the second lowest spending needs, and Scotland to have the highest spending needs of the devolved territories.

In the English FSS formula, NI has relatively low needs for three main reasons: it has relatively few LAs (and so gets a lower per pupil allocation from the LA fixed amount); it has a low proportion of ethnic minority pupils; and it receives no allocation from the area cost adjustment (ACA). NI’s need score is also relatively low according to the Scottish formula. One reason for this is that, although NI has a relatively high level of overall deprivation, the Scottish formula allocates more resources to areas where deprivation is concentrated in particular schools, on which measure NI seems to do relatively better. The measure of education deprivation is discussed in a subsequent sub-section.

The Westminster government has been consulting on proposals for a new, simplified national funding formula for schools in England (Department of Education, 2012). Chowdry and Sibieta (2011) propose and discuss a number of potential variants of such a formula. They focus on their third option which leads to a minimum level of disruption across schools in terms of the change from schools’ current allocation to their revised allocation under the new formula. This formula makes a basic allocation of £2,720 per primary pupil and £3,950 per secondary pupil; a lump-sum of £95,000 per primary school (nothing per secondary school); and pupil premium amounts (i.e. for pupils eligible for FSM) of £4,360 for primary school pupils and £5,440 for secondary school pupils. The ACA is applied as discussed previously.
Row C shows what the relative needs would have been if this formula had been applied in 2009/10. Under this proposed formula, Scotland’s and NI’s per pupil needs are almost identical to England’s, while Wales’ needs are 1.7% higher. Wales’ and NI’s spending needs are allocated slightly higher than they were under the FSS or GAE, reflecting the fact that the new formula weights deprivation more highly than the FSS or GAE do.

Of course, the precise version of any new English formula may differ from the formula discussed here; other options have been proposed with slightly different weights attached to the indicators (and a proposed new approach to calculating the ACA). Nonetheless there appears relatively little difference in the assessed per pupil spending needs of the DAs, and certainly less difference than is observed in current actual per pupil spending. Comparing the results from rows A-C to actual per pupil spending on education (row F) reveals that Welsh education spending per pupil looks generous relative to need, while education spending in NI appears low relative to need.

Rows G-I of Table 4 express the results in terms of spending need per total population, as opposed to per pupil. The spending needs per population are markedly different, given differences in the demographic composition of the territories. NI in particular has a high proportion of school-age pupils relative to the rest of the UK, while Scotland has a relatively low proportion. On a per capita basis, Wales’ education spending need rises to between 2.3% (English FSS formula) to 6.0% (new English formula) above England’s. Scotland’s per capita need is slightly below England’s, while NI’s is significantly above. There remains good comparability between the three formulae – NI’s assessed need varies from 18.7% to 22.1% above England’s, while Scotland’s need varies between 1.0% to 2.5% below England’s.

Given that both FSS and the new English formula contain an adjustment for factor costs, the ACA, but the Scottish formula does not, it is interesting to consider how different the FSS and new English scores would be if the ACA was excluded. Row D of Table 4 shows the relative needs estimates of the FSS formula if the ACA is excluded from all its sub-blocks. Excluding the ACA raises the relative per pupil need scores of Wales, Scotland and NI to 1.017, 1.017 and 1.012 respectively (the relative need of the devolved territories rises because of the reduction in grant allocations made to local authorities in the south east of England). Similarly, excluding the ACA from the new English formula (row E) raises the relative per pupil need scores of Wales, Scotland and NI to 1.053, 1.028 and 1.040 respectively.
TABLE 4
Comparing the spending needs of the UK territories (England = 1)

<table>
<thead>
<tr>
<th>Per pupil need:</th>
<th>England</th>
<th>Wales</th>
<th>Scotland</th>
<th>NI</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: English FSS</td>
<td>1.000</td>
<td>0.981</td>
<td>0.988</td>
<td>0.977</td>
</tr>
<tr>
<td>B: Scottish GAE</td>
<td>1.000</td>
<td>0.996</td>
<td>1.003</td>
<td>0.984</td>
</tr>
<tr>
<td>C: New English</td>
<td>1.000</td>
<td>1.017</td>
<td>1.000</td>
<td>1.005</td>
</tr>
<tr>
<td>D: English FSS (excluding ACA)</td>
<td>1.000</td>
<td>1.017</td>
<td>1.017</td>
<td>1.012</td>
</tr>
<tr>
<td>E: New English (excluding ACA)</td>
<td>1.000</td>
<td>1.053</td>
<td>1.028</td>
<td>1.040</td>
</tr>
<tr>
<td>F: Actual per pupil spend</td>
<td>1.000</td>
<td>1.048</td>
<td>1.01</td>
<td>0.914</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Per capita need:</th>
<th>England</th>
<th>Wales</th>
<th>Scotland</th>
<th>NI</th>
</tr>
</thead>
<tbody>
<tr>
<td>G: English FSS</td>
<td>1.000</td>
<td>1.023</td>
<td>0.975</td>
<td>1.187</td>
</tr>
<tr>
<td>H: Scottish GAE</td>
<td>1.000</td>
<td>1.038</td>
<td>0.99</td>
<td>1.196</td>
</tr>
<tr>
<td>I: New English</td>
<td>1.000</td>
<td>1.060</td>
<td>0.987</td>
<td>1.221</td>
</tr>
</tbody>
</table>

Comparing LAs’ relative needs for compulsory school-age education

To further compare the patterns of allocations made by the English FSS and Scottish GAE formulae, Figure 1 compares the per capita allocations they make to each LA in the UK. Each LA’s need score according to the English FSS is plotted on the x-axis, while LAs’ need scores according to the Scottish GAE are plotted on the y-axis. The dashed 45° line represents the line that LAs would be located on if their per capita spending needs were assessed equivalently by the two formulae; points to the right of this line imply that the Scottish GAE formula assesses relative need to be greater than the English FSS formula does, while points to the left imply the converse.

It is apparent that there is a strong correlation between these two formulae in how the relative education spending needs of individual LAs are assessed. The slope coefficient on the line of best fit between these formulae is very close to one, implying that, on average, they assess the education spending needs of LAs almost identically. There is clearly some variation around this average relationship. Indeed, there is more than a 10% difference in assessed relative per capita need for 32 out of the 208 LAs when these formulae are compared.

Much of this variation between the English FSS and Scottish GAE formulae arises because the FSS formula includes an ACA which allocates substantial additional resources to the LAs in London and southeast England. Figure 2 plots the same information as Figure 1, but having removed the ACA from the FSS formula. The relationship between the GAE and FSS formulae is now even stronger, witnessed by the higher R²: there is now more than a 10% difference in assessed per capita need for only 11 LAs when comparing the two formulae. Whether the importance of the ACA in influencing
the similarities between the two formulae is likely to help or hinder a UK government and Scottish government agreeing on a formula to assess their relative spending needs remains to be seen.

Figure 3 makes a similar comparison between the Scottish GAE formula’s assessment of LA need and the assessment of LA need made by the hypothetical new simple English formula described above. The similarity between these two formulae is slightly closer than between the GAE and FSS: the coefficient is closer to one, and the $R^2$ is higher. Moreover, there is more than a 10% difference in assessed per capita need between the two formulae for only 24 of the 208 LAs assessed. Figure 4 makes the comparison between the Scottish GAE and new English formula with the ACA excluded from the English formula. Again, this improves the fit between the two; there is now more than a 10% difference in assessed per capita need for only 9 LAs when comparing the two formulae.
FIGURE 1
Comparing the per capita allocations to Local Authorities made by the English FSS and Scottish GAE formulae

FIGURE 2
Comparing the per capita allocations to Local Authorities made by the English FSS and Scottish GAE formulae (excluding ACA from English formulae)
FIGURE 3
Comparing the per capita allocations to Local Authorities made by the Scottish GAE and a hypothetical new simple English formula

FIGURE 4
Comparing the per capita allocations to Local Authorities made by the Scottish GAE and a hypothetical new simple English formula (excluding ACA)
If a formula was introduced to allocate resources to the UK territories, the governments of each territory might come under pressure to use such a formula to allocate resources within their territories. A key question in determining the political viability of such a formula would therefore depend on the extent to which such a formula would result in a different pattern of funding allocations to individual LAs from those observed currently⁵.

Let’s assume that politicians have agreed on an education spending needs formula for allocating grant to the DAs which effectively represents a compromise between the Scottish GAE and the English FSS. How different would the pattern of allocations to LAs be if this formula was also used within each territory? For England, we have data on the actual education grants received in 2009/10. Comparing these actual grant allocations on a per pupil basis with the relative per pupil needs assessments derived from our hypothetical ‘average’ formula reveals that 27 of 149 English LAs would be allocated a per pupil sum that was more than 5% different from their current per pupil allocation. Although this sounds like a large error, it is important to note that 24 English LAs received in 2009/10 an allocation that was more than 5% different from their FSS-assessed per pupil need.

For Scotland, it is not possible to ascertain actual grant allocations specifically for education. This is because the GAE education need score is combined with needs assessments for other service areas and an assessment of each LAs’ ability to raise income from taxes on property; the resulting block grant does not explicitly allocate an amount for education. We therefore compare each LAs’ education need score on GAE with its need score on the hypothetical average formula. This reveals that only two of Scotland’s 32 LAs would be allocated a per pupil sum more than 5% different from their ‘actual’ allocation, where the ‘actual’ allocation is taken to be the GAE needs assessment score (these two LAs being Orkney and Shetland).

Allocating funding for education deprivation
We now compare how the three formulae we have been looking at – the Scottish GAE, the English FSS and the ‘new’ English formulae – allocate resources for education deprivation. There is widespread recognition that poverty and socio-economic disadvantage are major influencers of pupil attainment (West, 2009; Glennerster, 2002), and there is significant interest in the extent to which these effects might be mitigated through additional spending. The House of Commons Select Committee on Education and Skills (2003) stated that ‘It is unarguable from the evidence presented to us that poverty is the single biggest indicator of low educational achievement’. More recent research demonstrates that there is a considerable attainment gap at school entry between pupils

⁵ We are indebted to an anonymous referee for drawing our attention to this point.
eligible to receive school meals and the rest, and that this gap widens over time (Hills, 2010). There is also evidence that concentrated poverty in particular neighbourhoods can aggravate poor attainment (Glennerster, 2002).

Consequently, all three education funding formulae contain explicit elements for pupil disadvantage. As shown in Table 3, the FSS formula contains additional education need top-ups within each sub-block, allocating additional funds to LAs in proportion to factors such as the proportion of children living in households receiving unemployment and low-paid benefits. More recently, as described in Section 3, additional resources are now being allocated to schools in England through the pupil premium, with the aim being that ‘a disadvantaged background ceases to be a barrier to a young person’s attainment’ (Department for Education, 2010), and this pupil premium is embodied in the new English formula. The GAE formula allocates additional resources for education deprivation largely through the ‘education deprivation’ component, which allocates resources to LAs as a function of the proportion of pupils eligible for FSM.

However, it is interesting to note some explicit differences between the two English formulae and the Scottish formula concerning the allocation of resources for education deprivation. FSS allocates resources in direct proportion to the number of ‘disadvantaged’ pupils in each LA; this is also the case under the new English formula which, through the pupil premium, provides each LA with a flat rate payment for each FSM eligible pupil. In contrast, GAE allocates funding for disadvantage in relation to how concentrated disadvantage is in each school. This means that different LAs in Scotland receive very different amounts per pupil eligible for FSM, with Glasgow receiving 53% of the share of all resources attached to this indicator while some LAs (East Lothian, Midlothian, Western Isles) receive no resources.

To compare how the three formulae allocate resources across LAs with different levels of disadvantage, the 208 UK LAs in our analysis were ranked according to the level of deprivation (where deprivation is proxied by the proportion of children living in households claiming income support or jobseeker’s allowance). We then calculated the relative per pupil allocations that each formula would make to LAs in each decile of deprivation.

The results are shown in Figure 3. This seems to suggest that Scotland’s GAE is the least redistributive of the three – it allocates relatively more to the least deprived LAs than either the FSS

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6 Specifically, the indicator is defined as: ‘the number of pupils in the top 10% of schools ranked by the percent of pupils registered for free school meals, expressed for each authority as a percentage of all Scottish pupils in the top 10%’

7 The same analysis was performed using eligibility for FSM as the measure of deprivation, yielding virtually identical results to those discussed here.
or new English formulae, and relatively less to the most deprived LAs. Although this may appear to contradict the preceding discussion around the way in which the Scottish formula concentrates resources in the most deprived LAs, it results from the fact that a relatively small part of the total Scottish allocation is determined by the education deprivation component. Thus it could be argued that the Scottish formula, while progressive, is not particularly redistributive.

FIGURE 3
Per pupil relative funding by deprivation decile

The fact that Scotland is able to take a different approach to the funding of disadvantaged pupils should be seen as a strength of devolution. However, it is difficult to draw conclusions as to which allocation system is most effective at addressing educational disadvantage, as the Scottish and English education systems seem to display similar differences in the level of educational attainment across socio-economic groups (Machin, et al., 2012). Furthermore, the analysis here looks at how resources are allocated to LAs, and LAs themselves might not then pass the education resources that they receive through the education block grant to schools in the same pattern that resources are allocated to LAs nationally. Perhaps what this discussion does highlight however is how ideological

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8 To test whether this result is an artefact of the ACA in the FSS formula (which might arise if LAs which receive additional resources through the ACA are consistently more deprived than those which do not receive the ACA), we repeated the analysis in Figure 3 having removed the ACA from the FSS formula. This did not materially alter the conclusion that England appears more progressive than Scotland.
differences in the importance attached to different factors can manifest in different funding formulae.

VII. Conclusions

A common objection to replacing the Barnett Formula by needs assessment is that, as spending needs are contestable, it is unlikely that any formula could be derived that all UK territories would find acceptable. This paper has tested this hypothesis with an application to education funding by comparing the way in which funding for school-age education is allocated in England and Scotland.

The Scottish education funding formula provides very similar estimates of the relative per pupil and per capita spending needs of the UK’s three DAs, relative to both the existing English allocation formula and one of the proposed new funding formula in England. This similarity between the formulae is perhaps surprising, given that they have been developed separately, in different territories, using different measures of spending need, and have potentially been subject to different degrees of political manipulation.

The results are summarised in Table 5, rows A-C. If spending on school age education in England, at £8,652 per pupil, is taken to be the relevant comparator, then the needs formulae imply that the spending needs for pupils elsewhere, to achieve a similar standard of education provision, are as in rows D-F. Comparing the row D-F figures with actual spending, shown in row G, it appears that Scotland is overspending by £61-£190 per pupil, while Wales is overspending by £270-£580 per pupil, and NI is underspending by £550-790 per pupil, as shown in row H. If these results are combined with the pupil numbers shown in row I, then the total spending gaps are as shown in row J, namely overspends of £37m to £114m in Scotland and £99m to £212m in Wales, and an underspend of £139m to £200m in Northern Ireland. The Welsh and NI findings are interesting in themselves, as they appear to contradict a standard assumption that NI does relatively well from Barnett but Wales does relatively badly; NI’s underfunding arises because it has a particularly high proportion of school-age children, a fact that is not considered by the Barnett formula.
### TABLE 5

**Summary of results**

<table>
<thead>
<tr>
<th></th>
<th>England</th>
<th>Scotland</th>
<th>Wales</th>
<th>NI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spending needs estimate per pupil (England = 1):</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A: English FSS</td>
<td>1.000</td>
<td>0.988</td>
<td>0.981</td>
<td>0.977</td>
</tr>
<tr>
<td>B: Scottish GAE</td>
<td>1.000</td>
<td>1.003</td>
<td>0.996</td>
<td>0.984</td>
</tr>
<tr>
<td>C: New English</td>
<td>1.000</td>
<td>1.000</td>
<td>1.017</td>
<td>1.005</td>
</tr>
<tr>
<td><strong>Implied spending need per pupil:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D: English FSS</td>
<td>£8,652</td>
<td>£8,548</td>
<td>£8,488</td>
<td>£8,453</td>
</tr>
<tr>
<td>E: Scottish GAE</td>
<td>£8,652</td>
<td>£8,678</td>
<td>£8,617</td>
<td>£8,514</td>
</tr>
<tr>
<td>F: New English</td>
<td>£8,652</td>
<td>£8,652</td>
<td>£8,799</td>
<td>£8,695</td>
</tr>
<tr>
<td>G: Current spending per pupil</td>
<td>£8,652</td>
<td>£8,739</td>
<td>£9,067</td>
<td>£7,908</td>
</tr>
<tr>
<td><strong>H: Implied education spending gap per pupil</strong></td>
<td>n/a</td>
<td>£61/£190</td>
<td>£270/£580</td>
<td>-£545/-£787</td>
</tr>
<tr>
<td><strong>I: Number of pupils (000s)</strong></td>
<td>6,055</td>
<td>599</td>
<td>365</td>
<td>254</td>
</tr>
<tr>
<td><strong>J: Implied spending gap (£m)</strong></td>
<td>n/a</td>
<td>£37 to £114</td>
<td>£99 to £212</td>
<td>-£139 to £200</td>
</tr>
</tbody>
</table>

The fact that the English and Scottish formulae provide very similar estimates of the spending needs of the UK territories suggests that developing a UK-wide spending needs formula for education may be relatively feasible, in that it would be harder for politicians from one territory to argue that they face some unique need factor that does not apply in the other territories. Indeed, if the Barnett formula were to be replaced by a spending needs assessment, a formula along the lines of the new simplified formulae proposed by the Department of Education would arguably be the most acceptable to politicians from each of the UK territories. This is because, in addition to the transparency of the proposed new formula, it is relatively more generous to Wales and NI than either the FSS or GAE, while having a negligible effect on Scotland’s funding. And it would be difficult for English politicians to veto the use of a formula which they had just instigated for allocating resources to schools within their own territory.

Of course, school age education, whilst significant, only accounts for some 15-23% of devolved spending in the DAs. How likely are the UK’s devolved governments to agree on how to assess their respective spending needs in other areas of public spending? In similar work to that described here for education, Ball et al. (forthcoming) compare England’s and Scotland’s health funding allocation formulae, and find that they too provide very similar estimates of the relative health spending needs of the UK territories. Health spending accounts for around a third of all devolved spending. There is thus a growing body of evidence which suggests that there is less contestability about what constitutes spending need (between the UK and Scottish governments) than some would suggest.
Arguably, governments’ assessment of relative spending needs are even less likely diverge for other spending areas (such as transport infrastructure or policing for example), where it may be easier to decide on the relative importance of the various factors that determine need.

Most developed world federal or regionalised countries use redistributive grants to fund regional level governments. However, many countries provide equalisation grants to regions purely on the basis of regions’ revenue capacity, rather than on the basis of spending need. Canada for example, while enshrining revenue equalisation into its Constitution, has repeatedly rejected the idea of equalising the spending needs of its provinces. Lecours and Béland (2010) attribute this to the ‘inter-state’ nature of Canadian federalism, where party affiliation is much less important than provincial interests and identities, and needs assessment is seen as a ‘threat to provincial autonomy’.

It seems unlikely that such concerns in the UK would outweigh the view that the equal treatment of equals applies nationwide. Those who agree that transfers from richer to poorer regions are what ‘keeps the Kingdom united’ (Mackay and Williams, 2005) would presumably favour distributing grants to the DAs according to some assessment of their spending needs. And whilst the relatively high level of political decentralisation in the UK may not be conducive to the adoption of the very detailed type of spending needs assessment used in Australia, the analysis in this paper argues that it might not be difficult for the UK’s devolved governments to agree on the principles of a more simple formula, perhaps like that used to assess spending needs of Spain’s Autonomous Communities.

Demand to replace the Barnett Formula with a spending needs assessment is growing, as tensions mount over the perceived inequities in the distribution of public spending across the UK. Ongoing moves to increase the tax-raising autonomy of the Scottish and Welsh Governments strengthen the case for the replacement of Barnett, and it is clear some element of block grant funding will need to remain in place for all three devolved governments (excepting the case where the Scottish electorate votes for independence in 2014). This paper provides evidence that one of the main potential obstacles to developing a needs-assessment based replacement of the Barnett Formula – the notion that the UK’s governments would have divergent views on the constitution of need – may not be as significant an issue as is sometimes supposed.
Acknowledgements

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We are indebted to the editor of the journal and an anonymous referee for insightful comments on an earlier version of this paper; the responsibility for any remaining errors is our own.

Annex 1

FIGURE A1
Comparing actual LA per pupil grant allocations 2009/10 with assessment of per pupil spending needs according to FSS

Notes: The x-axis plots the amount of grant for school-age education received by each English LA in 2009/10, expressed as an index of grant per pupil (England = 1). The main grant is the Dedicated Schools Grant (DSG), but we also include allocations to each LA from a number of smaller specific education grants, including: School Standards Grant; School Development Grant; Ethnic Minority Achievement; Music Grant; Playing for Success; and School Lunch Grant. The sum of all these grants was £33.5 billion, of which DSG accounts for 88%. The y-axis plots the assessment of each LAs education spending need, as assessed by the FSS using 2009/10 data. This is again expressed as a per pupil index.

There is a strong correlation between assessed need and actual grant received. This demonstrates that the 2005/6 FSS is a good proxy for the way in which education resources were allocated to LAs in...
2009/10. (The outlier, with allocation 1.8 times the average and need 2.2 times the average is City of London).

References


