

## Chapter 7

### Local government revenue decentralisation and funding divergence: An English case study\*

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*For revenues, sub-national governments rely on a mix of grants from central government; locally-raised taxes; and locally-raised user fees and charges. It is not only the balance of these sources, but also the rules around tax and fee policy and fiscal equalisation that affect funding outcomes and the fiscal incentives faced by sub-national governments. We use an ongoing shift in England's local government finance system from equalising grants to a greater reliance on local tax revenues, aimed at incentivising growth, as a case study of the trade-offs between equalisation and incentives inherent in sub-national finance. In particular using data from 2006–07 to 2013–14, we show the significant fiscal disparities between local government units in England, and the factors that correlate with the size and changes in these disparities over time. We model proposed reforms to England's local government finance system and show that even if revenues are initially fully equalised relative to assessed spending needs, significant fiscal disparities can re-emerge in just a few years. However, the scale of these balances depends significantly on specific design choices such as marginal equalisation for those units seeing the largest shortfalls in revenue, and revenue sharing in areas with two-tier local government.*

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## Introduction

In order to fund the areas of public spending for which they are responsible, local governments generally rely on three main sources of funding, the importance of which vary over time and across countries: grants from central government; locally-raised tax revenues; and locally-raised user fees and charges.<sup>1</sup> The effects of the finance system on funding outcomes and the fiscal incentives faced by local government depend not only on the balance of these sources, but the rules around local taxes and fees and the way in which central government grants are allocated. For instance, allocating grants in a way that accounts for differences in the ability to raise revenues locally and differences in local needs provides greater insurance and redistribution, but removes the fiscal incentive for promoting tax base growth or constraining spending needs. On the other hand, systems without such fiscal equalisation provide financial incentives to grow tax bases and constrain spending needs, but at a greater risk of significant divergences between local revenues and spending needs, much of which could relate to factors outside local politicians' control. There may therefore be a trade-off between promoting growth and ensuring that growth is inclusively shared across locales when designing local and other sub-national government finance systems.

This chapter uses an ongoing shift in England's local government finance system from equalising grants to a greater reliance on local tax revenues, aimed at incentivising growth, as a case study for these issues. In particular, using data from 2006–07 to 2013–14, we examine the historic relationship between local spending needs, as assessed by the central government, and local residential and non-residential property tax revenue capacity, as well as some of the factors that drive the patterns and trends in these variables. This allows us to model the extent to which different local government units (termed 'councils' in England) could have experienced divergence between their relative funding and their assessed relative spending needs during this period under a system of local tax revenue retention where, after an initial equalisation, there was no general system of ongoing marginal fiscal equalisation. This scenario is based on recent proposals for reform of the English local government finance system.

Understanding the potential scale of these divergences is an important part of determining an appropriate balance between equalisation and fiscal incentives in the local government finance system. Of course, one would also like to understand the impact of fiscal incentives on council behaviour and local and national economic and socio-economic outcomes. The fact that the first stage of the English reforms was rolled out nationally precludes us from doing that formally. However, our analysis of the relationship between changes in local tax revenue capacity and changes in broader measures of local economic conditions provides some suggestive evidence about the potential medium-term effects of incentives to grow tax bases. And we provide a brief review of the existing evidence on the effects of fiscal equalisation and incentives on sub-national government behaviour and outcomes.

While clearly of most relevance to the design of England's local government finance system, we hope that the analysis presented in this chapter is of interest more broadly, particularly for those countries considering changes to their own sub-national fiscal equalisation systems. The rest of this chapter proceeds as follows. First we define fiscal equalisation and provide a brief discussion of its potential effects and the empirical evidence on these. We then describe the English local government finance system and ongoing reforms, which could end ongoing marginal fiscal equalisation for

most councils. Following that we set out how we construct the measures of local spending needs and local property tax revenue capacity for our quantitative analysis of these reforms and show how these measures vary across councils in 2013-14 and how they changed over the preceding seven years from 2006-07. Given proposed reforms, we then use these measures to examine the extent to which, after an initial full revenue and needs equalisation, the relative funding of different councils would have diverged from their assessed relative spending needs over the seven year period, if there had been no ongoing marginal equalisation. We also examine how the splitting of revenues in areas where there are two tiers of local government and a proposed 'safety net' for those councils seeing particularly large falls in their non-residential tax revenues affects the extent of funding divergence. Finally, we conclude and suggest avenues for future research.

### Fiscal equalisation and incentives

Given geographic variation in socio-economic conditions – such as the income of residents, the value of property and the distribution of business activity – the capacity of different local and other sub-national governments to raise their own revenues via the taxes assigned to them varies significantly. For instance, OECD (2013) reports that the sub-national unit with the highest tax-raising capacity had a capacity 650% greater than that with the lowest capacity in Australia, 140% greater in Canada, 70% greater in Germany, 200% greater in Spain and 50% greater in Sweden. Geographic variation in socio-economic conditions will also lead to differences in the costs sub-national governments face in providing the services they are responsible for and the need for these services. These differences in revenue-raising capacity and spending needs mean that, in the absence of intervention, areas with low tax revenue capacity and/or high needs would either need higher levels of sub-national taxation or lower levels of sub-national public service provision, potentially exacerbating pre-existing geographical inequalities.

Financial transfers from central government (termed 'grants') or between sub-national units can be used to address this issue: a process known as fiscal equalisation. In particular, redistribution of financial resources either explicitly or implicitly from areas with high tax revenue capacity and/or low spending needs, to areas with low tax revenue capacity and/or high spending needs, can in principle allow sub-national governments to implement more comparable levels of public service provision at comparable levels of local taxation. This contributes to greater horizontal and vertical equity in terms of access to local public services. Such equalisation can also provide an insurance mechanism for areas experiencing large changes in their relative revenues or spending needs and can, in principle, be a form of 'automatic stabiliser' for idiosyncratic macroeconomic shocks.

Blöchliger et al. (2007) examined the extent and nature of sub-national fiscal equalisation regimes in 18 OECD countries. They find that transfers aimed at fiscal equalisation averaged 2.3% of GDP in 2004, ranging from 0.5% in some countries to up to 4% in others.<sup>2</sup> The extent of equalisation provided by these transfers varies significantly. Focusing on variation in tax revenue capacity, OECD (2013) finds that fiscal equalisation eliminates all variation in tax revenue capacity in Australia and addresses a large majority of initial variation in countries such as Germany, Italy and Norway. In contrast, in Canada and Switzerland only around a third to a half of the initial variation is equalised away.

While some fiscal equalisation is generally required to prevent extreme differences in tax levels or public service provision across sub-national jurisdictions, there is a trade-off: distorted incentives in relation to tax revenue capacity and assessed spending needs. For instance, systems with a high degree of fiscal equalisation can disincentivise sub-national governments from promoting the expansion of their tax bases and reducing underlying spending needs, including via policies to boost local economic performance.

Direct empirical evidence on the importance of such disincentive effects is limited. This is because rather than examining the impact of fiscal equalisation specifically, the literature tends to focus on how the share of grant-funding versus tax revenues or measures of tax and spending autonomy affect economic performance. See for instance: Baskaran, Feld and Schnellenbach (2016); Baskaran, Feld and Neker (2017); Blochliger (2013); Blochliger and Egert (2013), and Fredriksen (2013).

There is more evidence on the role of equalisation on sub-national tax revenues and policies. Barette, Huber and Lichblau (2002) examine the impact on tax revenues of differences in the implicit marginal tax rates on additional revenues that different German Laender face as a result of the fiscal equalisation system. They find that higher marginal tax rates are associated with lower tax revenues, which they interpret as evidence of equalisation reducing incentives to enforce and collect taxes. Buttner (2006) and Smart (2007) find evidence that tax revenue equalisation leads to sub-national tax rates being set higher than they otherwise would be in both Germany and Canada. This is because tax revenue equalisation means sub-national governments receive additional transfers which offset, at least in part, any falls in their tax bases when they increase their tax rate.

In contrast, a system with limited fiscal equalisation will avoid such distortions, providing sub-national governments with stronger incentives to boost local economies, grow tax bases and tackle underlying spending needs.<sup>3</sup> However, the flip side of this is greater disparities between the fiscal capacity of different sub-national governments to provide public services for their residents. There may, therefore, be a trade-off between promoting growth and ensuring the benefits of that growth, in the form of additional resources for local public services, are inclusively shared across jurisdictions.

Despite this tension, the extent of fiscal equalisation provided by different countries' sub-national finance systems has historically been persistent. However, recent years have seen a number of countries implement significant reforms to their sub-national government finance systems often aimed, in part, at providing stronger incentives to grow tax bases. As discussed in the next section, England is one such country, with ongoing reforms potentially exposing local governments to both stronger fiscal incentives and fiscal risks, especially in relation to non-residential tax revenues.

## The English local government finance system

English local government is responsible for funding and delivering a wide range of public services, including waste collection and disposal, public libraries and leisure centres, maintenance of local roads and support for local buses, adult social care and family support services.<sup>4</sup> The structure for delivering these services varies across the country. In more urban areas, a single local authority (or 'council' as they are commonly known) is responsible for funding these services: these are variously called unitary authorities, metropolitan districts or London boroughs, depending on location.

In more rural areas, responsibilities are split between lower-tier ‘shire district’ councils and upper-tier ‘county’ councils (which cover several shire districts).

To fund their wide-ranging responsibilities, councils have traditionally relied upon a mix of government grants and their own property tax revenues, albeit to different extents over time and across the country. By the end of the 2000s the system was as follows. Councils had nominal control over the headline rate of recurrent domestic property tax, which since 1993 has been known as the ‘council tax’, and notionally retained the revenues from it.<sup>5</sup> However, the majority of their general revenues came from a central government grant, which was funded in large part by a non-residential property tax known as ‘business rates’ that was collected by councils but then pooled at the national level. This grant funding was allocated so as to compensate councils both for differences in their council tax bases and their assessed spending needs, although damping arrangements to prevent large changes in grants when equalisation formulae were reformed or updated mean that full equalisation of revenues and assessed needs was not achieved.<sup>6</sup> Nevertheless, the funding system prioritised equalisation of fiscal resources over incentives for spending needs constraint and local tax base growth, especially in the case of fully-pooled business rates.

### ***The business rates retention system (BRRS)***

A concern that such an approach to funding local government disincentivised councils from expending effort (and potentially political capital) on boosting local economies and local tax revenues on the one hand, and reducing underlying spending needs on the other, led the UK’s coalition government of 2010–15 to begin a major shift in the local government funding regime in England. Most significantly, since April 2013, the business rates retention system (BRRS) means that 50% of business rates revenues are retained by local government rather than being transferred to central government and redistributed via grant funding, with grant funding correspondingly reduced. In areas with two-tier government, lower-tier shire districts were initially allocated 40% of business rates revenues, and county councils up to 10%,<sup>7</sup> and in London, 30% of business rates revenues were initially allocated to London boroughs and 20% to the Greater London Authority (which has responsibility for regional transport and economic development in London).

However, if councils in each local area ultimately kept 50% of the business rates revenues raised in their area, the BRRS would have led to large and immediate changes in many councils’ overall revenues. This is because, as we show in Section 4, the business rates tax base is very unequally distributed across England. To avoid this happening, the BRRS includes a system of redistributive transfers between councils, which works as follows:

- Prior to the start of the scheme, an assessment was made of the amount of business rates revenue each council would require such that alongside its income from council tax and the central government grant, it would be no better or worse off in the first year of the scheme than if the BRRS had not been introduced. This was termed its *baseline funding level* (BF).
- An assessment was also made of the amount of business rates revenues each council would have in the first year of the scheme given the share of local revenues allocated to it under the BRRS (e.g. 40% for a shire district council), if those revenues grew in line with forecast revenue growth for

England as a whole. This was termed the council's *business rates baseline* (BB).

- Those councils where the need for business rates revenue exceeded their assessed business rates revenues (i.e. those with  $BF > BB$ ) received a funding 'top-up' to make up the difference (i.e. equal to  $BF - BB$ ). These top-ups were paid for by 'tariffs' on those councils where assessed business rates revenues exceeded the assessed need for business rates revenue (i.e. those with  $BB > BF$ ).
- Subsequently, these top-ups and tariffs have been increased in line with the retail price index (RPI) each year, maintaining their real-term value.

The up-shot of this inflation-indexing of tariffs and top-ups is that local areas kept up to 50% of the real term increase in business rates revenues, and bore up to 50% of any real term fall in business rates revenues. The BRRS therefore reduces marginal equalisation of changes in the business rates tax base, but maintains full equalisation of the initial real-terms stock of business rates revenues.

Four further features of this reform are worth highlighting:

First, those councils seeing large real term falls in their business rates revenues are protected by a 'safety-net' which prevents their funding from business rates falling below 92.5% of their inflation-indexed baseline funding level.

Second, changes in business rates tax bases and revenues associated with the periodic revaluation of non-residential properties are stripped out of the system by making offsetting changes to councils' top-ups and tariffs. The aim of this is to prevent large overnight changes in funding if revaluation leads to large increases or decreases in particular councils' business rates tax base. Thus councils' incentives under the BRRS relate to increases in the quantity and quality of non-residential floor space rather than increases in the value of that floor space at revaluation.

Third, the initial allocation of 40% of local business rates revenues to lower-tier shire districts in areas with two-tier local government means that these councils are much more exposed to changes in business rates revenues, and thus the incentives provided by such exposure, than upper-tier counties. Counties' initial allocation of up to 10% of local business rates revenues mean that they instead rely on inflation-indexed top-ups for most of their funding via the BRRS, reducing the revenue risk they face. The rationale for these allocations is that shire districts have responsibility for the property planning system and are thus expected to be able to respond more effectively to the fiscal incentives. Conversely, counties have responsibility for key adult social care and family services and are thus thought to benefit more from reduced revenue risk.

Finally, alongside the BRRS, the government also stopped updating the annual assessments of relative spending needs and local council tax bases in 2013–14. Thus if assessed relative spending needs or council tax bases change, councils no longer see offsetting changes to their grant funding. Divergences between assessed spending needs and local revenues were to be prevented from growing indefinitely by periodic resets of funding according to relative spending need, first in 2020 and then every 10 years thereafter. Overall though, the introduction of the BRRS has meant a significant shift from fiscal equalisation towards the provision of fiscal incentives for tax base growth and spending need constraint.

### ***Extending the BRRS***

In October 2015 it was announced that in an effort to further strengthen fiscal incentives, local areas would retain 100% of the real-terms growth in business rates revenues by 2020.<sup>8</sup> When combined with proposals to abolish remaining grant funding and make the periodic resets only partial – so that a proportion of any changes in spending needs and tax bases would continue to be borne locally following the reset – this ‘100% BRRS’ would represent a further move towards emphasising fiscal incentives over fiscal equalisation.

The original timetable for these proposals will not be met: legislation required to take forward key parts of the plan was not resurrected following the UK’s June 2017 general election. However, the government has announced plans to increase the share of business rates retained by local government to 75% by 2020–21, and is continuing to pilot the 100% BRRS in particular parts of England to ascertain the feasibility and desirability of a national roll-out (Department for Communities and Local Government, 2017b). Analysis of the proposal therefore remains relevant in an English context, and to other countries potentially considering similar reductions in the degree of marginal fiscal equalisation in their local or other sub-national government finance system.

In this study, we examine the scale of divergences between councils’ relative revenues and relative spending needs that could arise if marginal equalisation was ended, utilising spending needs assessments and tax revenue capacity data for the period between 2006–07 to 2013–14. In particular, after setting out how assessed needs and tax revenue capacity varies across councils and how this changes over this period, we model the extent to which the relative funding available to different councils could have diverged from their assessed relative spending needs over this 7-year period under a version of the 100% BRRS.

It is worth noting that the analysis is conducted under the assumption that revenue capacity and spending needs would be unaffected by such a change in the fiscal equalisation regime. We make this assumption not because we believe it to be strictly true but because of an absence of relevant quantitative evidence on the size (and even the direction) of these impacts. Our analysis can therefore be thought of as examining the first-round static effects of a 100% BRRS on funding divergences.

### **Tax revenue capacity and assessed spending needs in England**

The first stage of examining the relationship between tax revenue capacity and assessed spending needs is to set out how we construct our measure of these variables. After doing this, we then analyse how tax revenue capacity and assessed spending needs varied across England in 2013–14, and how these variables changed over the preceding seven years.

#### ***Measuring local tax revenue capacity***

Under a 100% BRRS, English councils’ general revenues would consist of two main sources: business rates and council tax.<sup>9</sup> Business rates are a recurrent tax on the rental value of non-residential properties which are re-valued every five years. These revaluations redistribute rates liabilities between properties and councils, but are designed to leave the average liability unchanged at the national level. Large changes in tax liabilities as a result of revaluation are phased in over several years under a

‘transitional relief’ scheme, and otherwise, rates bills increase in line with RPI inflation each year by default between revaluations. Discounts (termed ‘reliefs’) are available for a range of occupiers, including small businesses occupying low-value properties, charities and temporarily empty properties.<sup>10</sup> Council tax is a recurrent tax on residential property based on the estimated capital value of the property as of April 1991. Properties are placed into one of eight bands (A to H), with the tax due on the highest-valued properties three times that due on the lowest-valued properties, meaning the tax is regressive with respect to property value, especially at the top end. Discounts are available for properties occupied by students, single adults and disabled people.<sup>11</sup>

We define the local revenue capacity of these taxes as the amount of revenue that would be raised if the tax rate for each was set equal to the respective national average tax rate. Thus variations in revenue capacity relate to variation in the size of local tax bases rather than local tax rates.

During the period we examine, business rates were set centrally, so there is no variation in business rates tax rates. We therefore use actual tax revenues from non-domestic properties in each area as the basis of our measure of revenue capacity.<sup>12</sup> Council tax rates, however, are determined locally and there was (and remains) wide variation in council tax rates around England. We therefore recalculate what council tax revenues would be if each council set its council tax rates at the national average level in each year.<sup>13</sup> Our measure of revenue capacity for council tax therefore differs, sometimes significantly, from actual council tax revenues for individual councils.<sup>14</sup>

### *Measuring spending needs*

Assessments of relative spending needs in England during the period in question were based on a series of formulae called Relative Needs Formulae (RNF) that calculated needs for each service area on the basis of councils’ geographic, demographic and socio-economic characteristics. These characteristics include measures of population sparsity and density, population age structure, and measures of deprivation and social transfer receipts and are meant to reflect both local residents’ needs for different services and the costs different councils face in providing these services due, for instance, to local labour and property markets.<sup>15</sup> The RNF were based on a combination of estimated statistical relationships between spending and local characteristics, judgements based on qualitative research and in some instances the past expenditure of the council in question. Assessments for each service area were weighted to provide an assessment of overall relative spending needs for each council.

A number of issues arise with this approach. First, there is inevitably a degree of subjectivity in assessing needs. Second, some of the data used in the RNF are only available with a significant lag or are only updated infrequently. Thus assessed needs may lag changes in real needs, and may change discontinuously when updated data is available. Third, the use of statistical analysis of past spending patterns means there is a risk that the formulae will be biased. This is because past spending patterns will reflect factors – such as differences in preferences for local public spending, or differences in funding availability – that may be correlated with underlying spending needs. Finally, the formulas used and weights given to different service areas can change over time as central government priorities change, which might lead to changes in the assessed relative needs of different councils even if their underlying needs levels have not changed.



We utilise these official relative needs assessments as no other measure of councils' spending need is available. However, when analysing changes in spending needs over time, rather than using the changing formulas and weights applied in each year, we use the formula for 2006–07 for each year and apply this to the relevant year's data. Doing this means our analysis reflects changes in the underlying characteristics of local areas, as opposed to changes in formulas, or changes in priority given to different service areas. However, it also means that our analysis cannot pick up genuine changes in the links between local characteristics and spending needs either (e.g. due to changes in the production function for council-provided services).

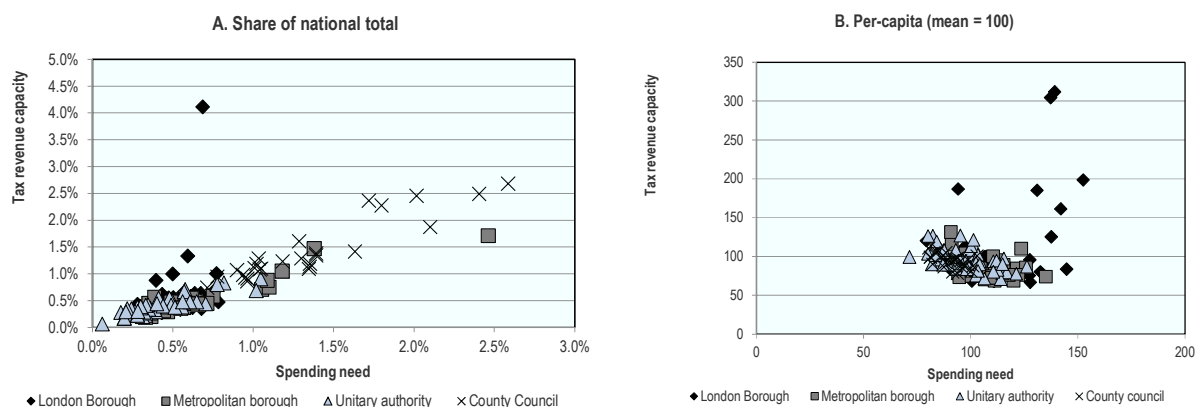
### ***The distribution of tax revenue capacity and assessed spending needs in 2013–14***

We now turn to our empirical estimates of relative spending needs and tax revenue capacity. Here and when examining changes in revenues and needs over time, the tax revenue capacities and assessed spending needs of counties and the shire districts within them are pooled in two-tier areas to allow comparisons to be made with areas of England with single-tier local government. However, when we go on to model the local government funding system we do so at the level of each individual council, to show how the two-tier structure of local government affects the scope for funding divergences in two-tier areas.

Figure 7.1 shows the relationship between the assessed relative spending needs and tax revenue capacity of different council areas: panel A in the aggregate and panel B on a per capita basis. Differences in population unsurprisingly explain a large part of the differences in aggregate spending needs (95%) and aggregate revenue capacity (65%) between council areas. There is thus also a strong positive correlation between the levels of aggregate spending needs and aggregate revenue capacity. Panel B shows a rather different story for the per capita measures. Whilst there remains a positive correlation overall, this is driven by a few outliers in London. In fact, there is a statistically significant negative relationship between tax revenue capacity and assessed spending needs per capita outside of London: in a linear OLS regression, each 1 percentage point increase in assessed relative spending needs per capita is associated with a 0.52 percentage point *decrease* in relative tax revenue capacity per capita.<sup>16</sup> Table 7.1 provides further information on the extent of variation in tax revenue capacity and spending needs per capita, both of which are normalised so that the mean for England as a whole equals 100.

Looking first at tax revenue capacity, business rates are much more unevenly distributed across councils than is council tax. For instance, the 10<sup>th</sup> percentile of business rates revenue capacity is 40% below the mean, compared to 20% below for council tax. And the highest council tax revenue capacity is around 90% above the mean, compared to 1 700% above average for business rates. This reflects the more discrete nature of non-residential property and its concentration in particular locales, most notably parts of inner London.

Figure 7.1. Relative tax revenue capacity and assessed spending needs, 2013–14



Note: Panel A excludes the City of London and Isles of Scilly and Panel B excludes these councils and the City of Westminster. These outliers are excluded so that general patterns are easier to see.

Sources: Authors' calculations using Department for Communities and Local Government (2013a, 2013b), The Chartered Institute of Public Finance and Accountancy (2016), and Office for National Statistics (2015a).

Table 7.1. Variation in tax revenue capacity and spending needs per capita (mean=100) and fiscal gap per capita (measured as % of spending needs), 2013–14

Measure	Tax revenue capacity			Spending needs	Fiscal gap
	Council tax	Business Rates	Total		
Minimum	68.4	42.4	66.6	71.5	-47.8%
10 <sup>th</sup> percentile	80.7	59.6	74.6	84.3	-34.8%
25 <sup>th</sup> percentile	87.9	68.1	80.9	92.5	-25.2%
Median	97.3	79.9	89.7	100.8	-10.3%
75 <sup>th</sup> percentile	108.4	99.3	101.7	111.2	+9.5%
90 <sup>th</sup> percentile	117.1	130.8	117.3	124.8	+30.5%
Maximum	190.7	1801.8	975.7	163.1	+498.4%
Coefficient of Variation	17.0%	142.6%	77.0%	15.4%	N/A

Note: Excludes City of London and Isles of Scilly. Fiscal gap is calculated as (revenue capacity – spending needs)/spending needs.

Sources: As Figure 7.1.

There is also significant variation in assessed spending needs: the 10<sup>th</sup> percentile for assessed spending need is 16% below the average for England as a whole, while the 90<sup>th</sup> percentile is 25% above. However, the highest level of assessed spending need per capita is 63% above the average for England as a whole, so that the overall degree of variation in spending needs is substantially lower than for business rates revenue capacity and overall tax revenue capacity.

Table 7.1 also shows the distribution of the difference between councils' relative tax revenue capacities and their assessed relative spending needs. We term this difference their fiscal gap, which we calculate as:

$$(\text{tax revenue capacity} - \text{spending needs per capita}) / (\text{spending needs per capita})$$

The fiscal gap thus measures the percentage by which the tax revenue capacity per capita of a council area is above or below its assessed relative spending needs per capita. Thus, the Table shows that 10% of council areas had a tax revenue capacity that was 34.7% or more *below* their assessed relative spending needs in 2013-14. Conversely, another 10% had a tax revenue capacity of 30.1% above their relative spending needs. And one council had a tax revenue capacity almost 500% above its assessed relative spending need. It is therefore clear that in the absence of any revenue or needs equalisation, there would be significant differences in the fiscal capacity of councils across England.

To explore the local characteristics associated with assessed spending needs per capita and tax revenue capacity per capita, we run a series of OLS regressions, reported in Table 7.2. Column (1) shows that around 30% of the variation in assessed spending needs per capita can be ‘explained’ by the median wage of local residents, the median wage of local workers, the ratio of workers<sup>17</sup> to residents, and the share of residents living in areas defined as rural. Column (2) shows that adding the council area’s average Index of Multiple Deprivation (IMD) score<sup>18</sup> and the share of the population aged 65 or over increases the explanatory power of the regression to 85%. The strongest predictor of assessed spending need is IMD score, with a 1 standard deviation increase in IMD score associated with an 18.4 point increase in assessed spending needs (where the mean assessed spending need across England is 100).<sup>19</sup> This likely reflects the fact that many of the indicators used in the needs assessment are similar to those used to construct the IMD. Controlling for IMD score, increases in the share of the population living in rural areas are associated with higher assessed needs, as are increases in the ratio of workers to residents. This likely reflects the inclusion of measures of population sparsity in commuter inflow in the RNF formulae. More surprising is that increases in the median wage of local residents are strongly associated with increases in assessed spending needs once one controls for IMD score. This seems to be driven largely by the fact that London has both high levels of assessed needs (even controlling for IMD) and high median wages: if London boroughs are excluded from the regression, the coefficient on residents’ median wages is no longer statistically significant.

Columns 3 and 4 of the Table show that tax revenue capacity per capita is positively correlated with both the median wage of local residents and with local gross value added (GVA) per capita. The relationship with GVA per capita is particularly strong: a 1 standard deviation increase is associated with a 78.5 point increase in tax revenue capacity per capita (where the mean tax revenue capacity per capita for England 100).<sup>20</sup> While these correlations do not necessarily imply a causal link between median residents’ wages, GVA per capita and tax revenue capacity per capita, they are suggestive evidence of such a link, at least in the long term.

Table 7.2. OLS regressions of assessed spending needs and tax revenue capacity per capita on various local characteristics, 2013–14

	Spending needs per capita		Tax revenue capacity per capita	
	(1)	(2)	(3)	(4)
Median wage of local residents	-5.87*** (1.64)	8.46*** (1.01)	28.8*** (8.48)	10.2** (3.73)
Median wage of local workers	5.39** (1.78)	0.39 (0.96)	9.08 (8.48)	-25.5*** (3.04)
Employment density	4.82*** (1.18)	1.92*** (0.57)		5.39 (3.47)
Share of population living in a rural area	-4.86*** (1.19)	3.90*** (0.76)		-1.58 (2.39)
IMD score		18.4*** (0.86)		0.65 (2.79)
Share of population aged 65 or over		0.73 (0.95)		
GVA per capita				78.5*** (4.17)
Constant	103.0*** (1.11)	103.0*** (0.52)	102.2*** (5.75)	102.2*** (1.79)
Sample-size	150	150	150	150
R-squared	0.307	0.849	0.210	0.925

Notes: Excludes City of London and Isles of Scilly. Standard errors in parentheses. \* indicates significance at the 5% level,

\*\* at the 1% level and \*\*\* at the 0.1% level.

Sources: As Figure 7.1. Resident wage data from ONS (2013a); Workplace wage data from ONS (2013b); Employment density calculated using workplace population statistics from ONS (2015b); Share of population living in a rural area calculated using ONS (2011); IMD score using DCLG (2015); GVA data from ONS (2016).

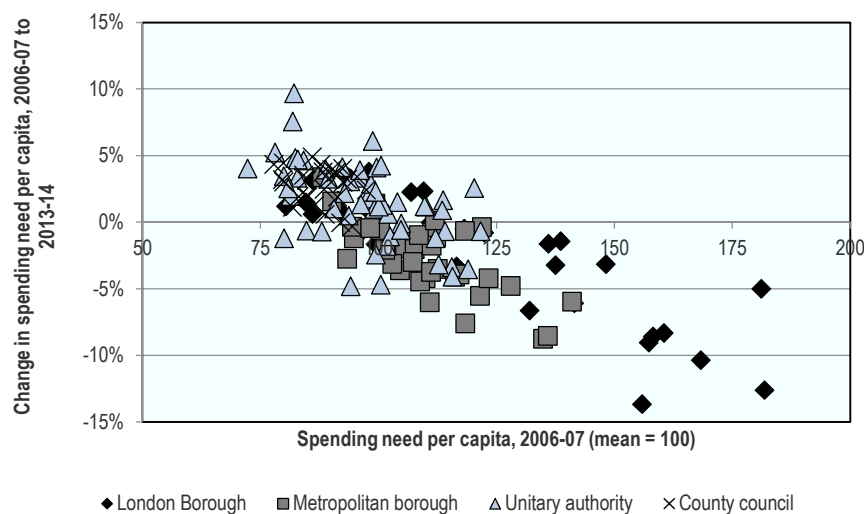
### ***Changes in tax revenue capacity and assessed spending needs, 2006–07 to 2013–14***

While it is important to understand how assessed needs and tax revenue capacity are distributed across councils, it is changes in these variables over time that matter more for potential funding divergences under the BRRS.<sup>21</sup> Furthermore, proposals for continued full or partial re-equalisations on a periodic basis mean that the relationship between relatively short-term changes in assessed needs, tax revenue capacity, and local socio-economic conditions may be more important for the incentive effects of the scheme. Thus, we turn to examining how assessed relative needs per capita and tax revenue capacity per capita changed over the period 2006–07 and 2013–14 and the relationship of these changes to local socio-economic variables.

Figure 7.2 shows that there were significant changes in assessed relative spending needs per capita during this period: in 10% of upper tier areas assessed needs per capita fell by 5% or more relative to the mean for England as a whole, while in another 10% they increased by 4% or more. The Figure also shows a strong (and statistically significant as shown in column (1) of Table 7.3) negative correlation between a

council's initial level of spending need per capita and subsequent changes in its relative need per capita, such that the assessed spending needs of councils converged somewhat over this period.

Figure 7.2. **Change in assessed relative spending needs per capita 2006–07 to 2013–14, by initial level of assessed relative spending needs per capita in 2006–07**



Notes: Excludes City of London and Isles of Scilly.

Sources: Authors' calculations using DCLG (2013a) and ONS (2015a).

The OLS regression results reported in column (2) of Table 7.3 provide further insight into these changes. Estimates show that increases in the share of the population that is aged 65 and over, and increases in a council's average IMD score are positively correlated with increases in assessed relative spending needs per capita. For instance, an increase in the change in average IMD score of one standard deviation is associated with a change in assessed relative spending need per capita that is 1.18 percentage points higher. These correlations help explain the convergence in assessed spending need per capita shown in Figure 7.2: areas with initially higher levels of assessed spending needs saw relatively slow growth in the share of their population that was aged 65 or over and saw a fall in relative levels of deprivation as measured by the IMD. Furthermore the results suggest the formal ending of ongoing marginal equalisation of needs in 2013–14 may have strengthened fiscal incentives for councils to tackle deprivation, helping foster a focus on inclusive growth.

Table 7.3. OLS regressions of changes in assessed relative spending need between 2006–07 and 2013–14

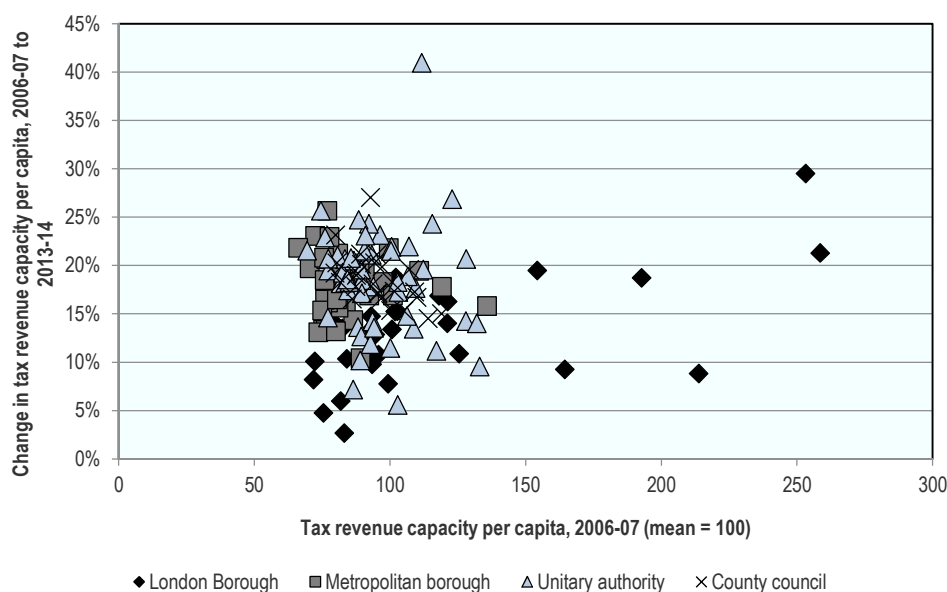
	(1)	(2)
Index of spending needs per capita, 2006-07	-3.10*** (0.19)	
Change in residents' median wage		-0.29 (0.26)
Change in workers' median wage		-0.59* (0.27)
Change in share of population over 65		1.52*** (0.28)
Change in IMD score		1.18*** (0.27)
Constant	-0.12 (0.19)	-0.12 (0.0025)
N	150	150
R-squared	0.633	0.406

*Notes:* Excludes City of London and Isles of Scilly. Standard errors in parentheses. \* indicates significance at the 5% level, \*\* at the 1% level and \*\*\* at the 0.1% level.

*Sources:* As for Table 7.2, and DCLG (2011).

Figure 7.3 shows that unlike assessed relative spending needs, tax revenue capacity per capita did not converge over the period 2006–07 to 2013–14.<sup>22</sup> However, there was significant variation in the changes in tax revenue capacity per capita: in a tenth of council areas, the increase per capita was 23% or more, while in another tenth it was 10% or less.

Figure 7.3. Change in tax revenue capacity per capita 2006–07 to 2013–14 by initial level of tax revenue capacity per capita in 2006–07



Note: Figure excludes the City of London, Westminster, and the Isles of Scilly.

Source: As Figure 7.1.

Table 7.4 reports results from a series of OLS regressions of changes in tax revenue capacity per capita and changes in various local characteristics. There is a highly statistically significant and positive relationship between the change in the share of the population that is aged 65 or over and tax revenue capacity per capita, both for business rates and council tax: the reasons for this relationship are unclear. However, there is little correlation between changes in tax revenue capacity per capita and changes in median wages or changes average IMD scores. This suggests little medium-term relationship between changes in local tax revenue capacity and inclusive local growth.

This lack of relationship between changes in relative tax revenue capacity and changes in relative economic prosperity is further illustrated in Figure 7.4. This shows that for the period 2010–11 to 2015–16, there was no relationship between changes in the rateable value of non-domestic property per capita – i.e. the business rates tax base – and growth in GVA per capita of council areas. As this is a period during which there was no revaluation of non-domestic properties, this implies that there was no relationship between changes in the underlying quantity and quality of non-domestic floor space, and changes in GVA per capita. There was also no relationship between the change in rateable value per capita and the number of jobs per capita in an area during the same period.<sup>23</sup> This lack of a link between changes in broad measures of local economic performance and changes in the underlying business rates tax base suggests that even if the BRRS incentivised councils to take action to boost the business rates tax base, this may not translate into improvements in local prosperity.

Table 7.4. OLS regressions of changes in tax revenue capacity per capita, 2006–07 to 2013–14

	Change in business rates revenue capacity per capita, 2006-07 to 2013-14		Change council tax revenue capacity per capita, 2006-07 to 2013-14		Change in overall tax revenue capacity per capita, 2006-07 to 2013-14	
	(1)	(2)	(3)	(4)	(5)	(6)
Level of dependent variable, 2006-07	-0.34 (0.56)		0.73* (0.32)		0.51 (0.35)	
Change in residents' median wage		-0.15 (0.55)		0.47 (0.27)		0.22 (0.32)
Change in workers' median wage		0.84 (0.56)		0.23 (0.28)		0.44 (0.33)
Change in share of population over 65		2.87*** (0.58)		2.23*** (0.29)		2.16*** (0.34)
Change in IMD score		-0.31 (0.57)		0.46 (0.28)		0.24 (0.34)
Constant	0.080 (0.56)	0.080 (0.52)	-0.26 (0.32)	-0.26 (0.26)	-0.39 (0.35)	-0.39 (0.31)
N	150	150	150	150	150	150
R-squared	0.002	0.157	0.034	0.379	0.014	0.267

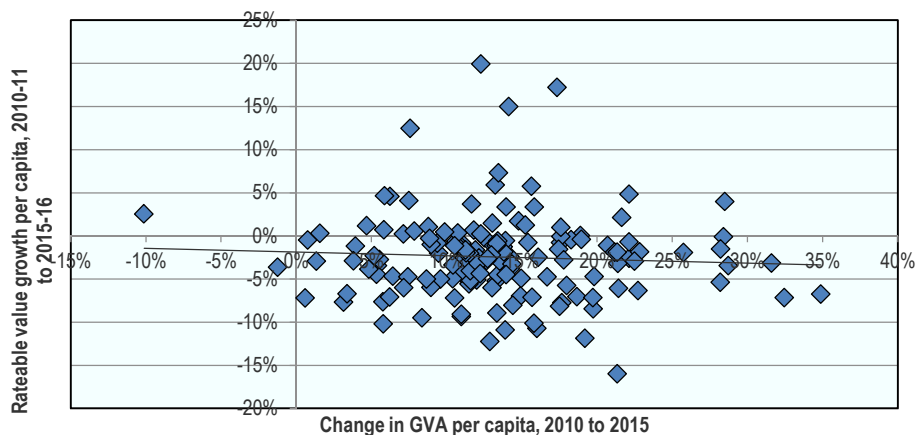
Notes: Excludes City of London and Isles of Scilly. Standard errors in parentheses. \* indicates significance at the 5% level, \*\* at the 1% level and \*\*\* at the 0.1% level.

Sources: As Table 7.3.

In Figure 7.5, by contrast, we find that growth in local GVA is modestly but statistically significantly positively correlated with the change in rateable values that resulted from the 2017 revaluation, which updated property values from their estimated April 2008 level to their estimated 2015 level. In an OLS regression, a 1 standard deviation increase in local growth in GVA is associated with the change in rateable values at the 2017 revaluation being 2.35 percentage points higher.<sup>24</sup> The relationship between changes in non-domestic property values at revaluation and GVA growth in the preceding period suggests that stripping out the impact of revaluations under the BRRS (by changing redistributive top-ups and tariffs) may be limiting the extent to which the BRRS provides an incentive to boost local economic growth.<sup>25</sup>

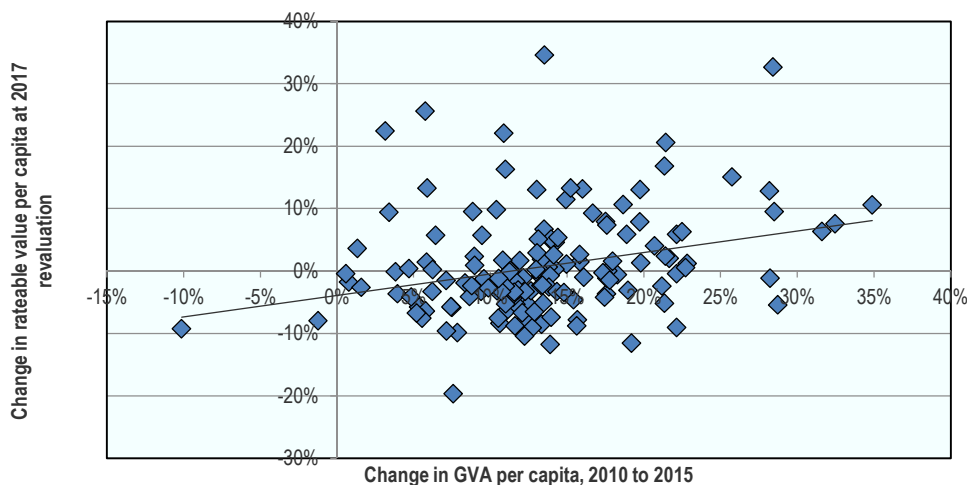


Figure 7.4. Relationship between the change in rateable value per capita and change in local GVA per capita, 2010–11 to 2015–2016.



Sources: GVA and population as in Table 7.2; Rateable values from CIPFA (2016).

Figure 7.5. Relationship between the change in rateable value per capita as a result of the 2017 revaluation and change in local GVA per capita, 2010–11 to 2015–2016



Sources: GVA and population as in Table 7.2; Revaluation data from Valuation Office Agency (2017).

### Modelling a 100% BRRS for the period 2006–07 to 2013–14

We now turn to modelling the extent to which the relative funding for different councils could have diverged from their assessed relative spending needs during the period 2006–07 to 2013–14 under a hypothetical 100% BRRS. These divergences would have depended upon both the changes in relative spending and tax revenue capacity during this period, and the specific parameters of the implemented BRRS, such as the share of business rates accruing to each tier of local government in two-tier areas, and the setting and indexing of top-ups and tariffs.

The specific scheme we model has the following features:<sup>26</sup>

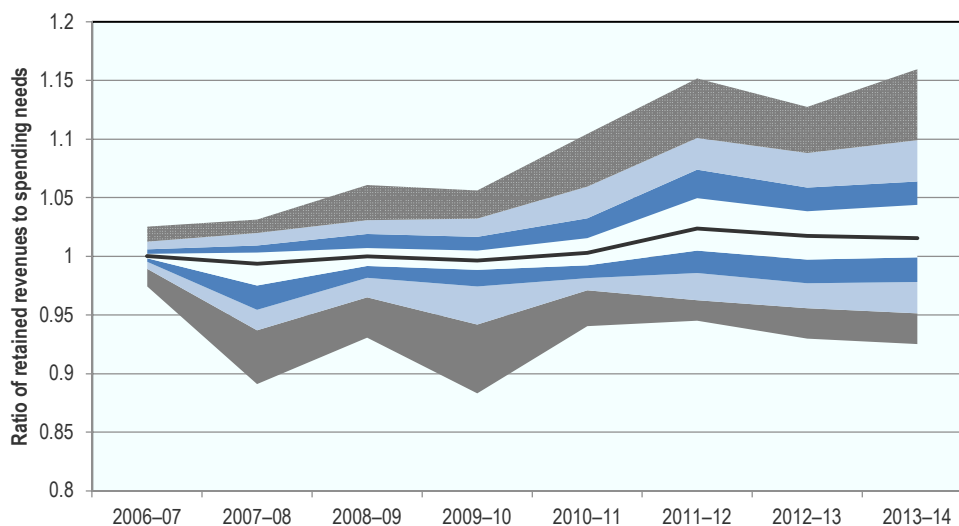
- Each council retains in full the amount of council tax it would raise if it set its council tax rate at the national average level.
- Business rates revenues are allocated in full to local government.
- In our baseline scenario, we allocate 80% of business rates revenues to lower-tier shire districts and 20% to upper-tier counties in two-tier areas, and we allocate 60% to London boroughs and 40% to the GLA in Greater London. This is based upon scaling up the parameters of the existing 50% BRRS. However, we also test the extent to which the scale and pattern of funding divergences would have varied under different tier-shares in two-tier areas.
- As under the 50% BRRS, a series of redistributive top-ups and tariffs is set up with the aim of providing a full equalisation of revenues and spending needs at the start of the scheme. However, differences between revenue outturns and the forecasts used to set the top-ups and tariffs mean that full equalisation is not achieved in practise in the first year of the scheme.
- These top-ups and tariffs are then indexed in line with RPI inflation each year, and are adjusted to strip out the effect of the revaluation of non-domestic property in 2010.

Such a system would have meant that that councils bore all of the real-terms changes in both their tax revenue capacity (with the exception of changes as a result of the business rates revaluation), and 100% of the changes in their relative spending needs from 2006–07 onwards. In other words, the system would have ended ongoing marginal fiscal equalisation. At the end of this section, we model the effect of applying a safety-net at 97% of inflation-indexed baseline funding levels, which would provide full marginal equalisation of changes in business rates revenues once revenues fell below this level. This is the safety-net level in areas piloting the 100% BRRS.

To examine the scale of divergences in relative funding that this system would have led to over the period in question, we calculate the ratio of each council's share of the national sum of locally retained revenues (accounting for top-ups and tariffs) to its share of the national sum of assessed relative spending needs. We term this a council's *relative funding ratio* and it measures the proportion by which a council's share of retained revenues is higher or lower than its share of assessed relative spending needs: a value <100% means a council's share of retained revenues is lower than its share of assessed relative spending needs, while a value >100% means it is higher.

Figure 7.6 shows how the distribution of these relative funding ratios would have changed between 2006–07 and 2013–14 under our baseline scenario. It is a fan-chart: each pair of coloured bands represents 20% of councils, with 10% of councils above and 10% below the dark grey bands. The Figure shows that relative funding ratios would have quickly diverged over time. For instance in 2006–07, one-in-ten councils would have had a relative funding ratio of less than 97.4% and another one-in-ten would have had a ratio of more than 102.5%. Just one year later in 2007–08, the corresponding figures would have been 89.1% and 103.1% respectively, and in 2013–14 they would have been 92.5% and 116%.

Figure 7.6. Evolution of the distribution of relative funding ratios under baseline 100% BRRS scenario, 2006–07 to 2013–14



Notes: Excludes City of London and Isles of Scilly.

Sources: As Figure 7.1.

The most extreme ratios would have been substantially larger again: column (1) of Table 5 shows that in 2013–14, the lowest relative funding ratio for a council would have been 61% and the highest ratio 166.4%. Such large differences in levels of funding relative to assessed needs would have likely meant either significant differences in the quantity and quality of public services provided by the councils in question or significant differences in the council tax rates they would have to set.

It is worth noting though that the initial equalisation via redistributive top-ups and tariffs would have significantly reduced the funding divergences that would otherwise have arisen in a 100% BRRS. To illustrate this, column (2) of Table 7.5 shows summary statistics of the distribution of the ratio of revenues to assessed spending needs in 2013–14 if there were no tariffs and top-ups and each council retained in full the revenues initially assigned to it under our baseline version of the BRRS. It shows that under such a scenario, one-in-ten councils would have had a relative funding ratio of 73.9% or less and another one-in-ten would have had a relative funding ratio of 263.7% or more. These large disparities reflect, in part, the significant differences and (outside London) the negative correlation between tax revenue capacity and assessed spending needs per capita that we discussed above. However, they also reflect the assignment of 80% of business rates revenues to lower-tier shire districts and 20% to upper tier counties in two-tier areas of England: without top-ups and tariffs, such an assignment would mean revenues significantly exceeding assessed spending needs in most shire districts but being significantly less than assessed spending needs in most counties. The rationale for such an assignment is to provide strong incentives to shire districts – which have responsibility for the property planning system – to grow the business rates tax base, and provide insurance against changes in the business rates tax base to counties – which have responsibility for key adult social care and family support services. But it also increases the amount of fiscal equalisation required of the top-ups and tariffs.

Table 7.5. **Distribution of relative funding ratios in 2013–14 under different funding schemes**

Relative funding ratio	Baseline 100% BRRS	No top-ups or tariffs	Top-ups and tariffs adjusted for changes in assessed needs	Funding adjusted for changes in tax revenue capacity
	(1)	(2)	(3)	(4)
Minimum	61.0%	46.3%	66.6%	88.4%
10 <sup>th</sup> percentile	92.5%	73.9%	94.9%	95.1%
25 <sup>th</sup> percentile	96.3%	90.5%	97.6%	97.4%
Median	101.5%	149.3%	100.4%	100.3%
75 <sup>th</sup> percentile	107.5%	210.6%	106.5%	103.3%
90 <sup>th</sup> percentile	116.0%	263.7%	115.4%	106.0%
Maximum	166.4%	466.0%	159.2%	123.4%

Notes: Excludes City of London and Isles of Scilly.

Sources: As Figure 7.1.

Table 7.5 also examines the extent to which the funding divergences under our baseline 100% BRRS are driven by changes in the tax revenue capacity or the assessed spending needs of councils.<sup>27</sup> Column (3) shows how relative funding ratios vary when top-ups and tariffs are adjusted for changes in assessed needs: variation in relative funding ratios therefore reflects changes in councils' tax revenue capacities. Column (4) shows how relative funding ratios vary when variation is the result of changes in assessed spending needs alone. Comparison of the distributions of relative funding ratios for these two scenarios shows that changes in tax revenue capacity drive the largest funding divergences under our baseline 100% BRRS.

### ***Effect by council type***

Table 7.6 shows the extent to which relative funding ratios vary separately by council type for our baseline 100% BRRS. The top panel shows figures for 2013–14, the final year of our simulation. The bottom panel shows figures averaged over the period 2007–08 to 2013–14. The first thing to note is that variation in relative funding ratios is significantly lower when averaged over the period 2007–08 to 2013–14 than it is in 2013–14 alone. This reflects both that it can take time for changes in assessed spending needs and tax revenue capacity to develop, and that volatility in business rates revenues in particular means that averaging over several years will reduce variation. However, especially for some shire districts, divergences between relative funding levels and relative assessed spending needs are still large when averaged over the full period. Such long-term funding divergences would also be more likely to affect the quantity and quality of services the councils in questions could provide than shorter term divergences.

Also notable are the differences in the distributions of relative funding ratios of shire districts and counties. For instance, the councils with both the highest and lowest relative funding ratios in 2013–14 and on average over the period 2007–08 to 2013–14 under this baseline scenario are shire districts. On the other hand, the variation in relative funding ratios among shire counties is the lowest of any council type.

Table 7.6. Variation in relative funding ratios under baseline 100% BRRS, by council type

Measure	Council Type				
	London	Metropolitan	Unitary	Shire District	County
<b>Relative Funding Ratio in 2013–14</b>					
Minimum	87.2%	96.5%	89.6%	61.0%	91.0%
25 <sup>th</sup> percentile	93.4%	99.6%	94.8%	99.0%	94.4%
Median	95.8%	104.4%	100.0%	104.9%	95.5%
75 <sup>th</sup> percentile	102.9%	107.0%	102.3%	112.2%	96.6%
Maximum	120.3%	114.6%	116.0%	166.4%	101.4%
Coefficient of Variation	7.30%	4.71%	5.88%	11.98%	2.66%
<b>Average Relative Funding Ratio, 2007–08 to 2013–14</b>					
Minimum	94.1%	97.8%	91.1%	78.1%	96.2%
25 <sup>th</sup> percentile	98.0%	99.9%	97.3%	96.8%	97.4%
Median	99.6%	101.5%	99.2%	101.7%	97.8%
75 <sup>th</sup> percentile	101.9%	103.3%	101.2%	105.6%	98.7%
Maximum	107.3%	107.5%	106.0%	140.6%	100.0%
Coefficient of Variation	3.09%	2.63%	3.12%	8.46%	1.01%

Notes: Excludes City of London and Isles of Scilly.

Sources: As Figure 7.1.

Two factors play a role in this. First, counties cover several shire districts, and therefore have significantly larger populations and underlying tax bases than shire districts. This larger scale reduces the variability of both tax revenue capacity and assessed spending needs. For instance the building or demolition of a factory will have less impact on the business rates tax base of a county consisting of multiple shire districts than that it will have on the tax base of the specific shire district that factory is located in. Second, as already highlighted, in our baseline scenario 80% of business rates revenues are initially allocated to shire districts and 20% to counties. Shire districts then typically pay significant inflation-indexed tariffs, while counties typically receive significant inflation-indexed top-ups. Hence, shire districts are much more exposed to real-term changes in local business rates revenues than counties, increasing the scope for divergences between retained revenues and assessed spending needs. This is the flip side of the stronger fiscal incentives provided by their 80% share of business rates revenues.

Table 7.7 shows the impact of changing the share of business rates revenues allocated to shire districts and counties in two-tier areas on the distributions of relative funding ratios. Columns (1) and (4) show estimates for the baseline 80%/20% split; columns (2) and (5) show estimates for a 50%/50% split; and columns (3) and (5) show estimates for a 20%/80% split.

Table 7.7. Variation in relative funding ratios under versions of the 100% BRRS with different tier-shares for counties and shire districts

Measure	Shire Districts			Counties		
	80/20 split	50/50 split	20/80 split	80/20 split	50/50 split	20/80 split
<b>Relative Funding Ratio in 2013–14</b>						
Minimum	61.0%	74.0%	87.0%	91.0%	91.3%	91.5%
25 <sup>th</sup> percentile	99.0%	99.1%	98.2%	94.4%	94.8%	95.2%
Median	104.9%	102.7%	100.9%	95.5%	96.0%	96.5%
75 <sup>th</sup> percentile	112.2%	107.9%	104.1%	96.6%	97.6%	98.9%
Maximum	166.4%	143.6%	120.8%	101.4%	103.3%	105.1%
Coefficient of Variation	11.98%	8.04%	4.48%	2.66%	3.00%	3.03%
<b>Average Relative Funding Ratio, 2007–08 to 2013–14</b>						
Minimum	78.1%	86.4%	93.9%	96.2%	95.8%	95.5%
25 <sup>th</sup> percentile	96.8%	98.5%	100.5%	97.4%	97.3%	97.3%
Median	101.7%	101.0%	100.9%	97.8%	97.9%	98.0%
75 <sup>th</sup> percentile	105.6%	103.8%	102.1%	98.7%	98.5%	99.2%
Maximum	140.6%	125.4%	111.4%	100.0%	100.6%	101.3%
Coefficient of Variation	8.46%	5.33%	2.45%	1.01%	1.24%	1.55%

Notes: Excludes City of London and Isles of Scilly.

Sources: As Figure 7.1.

Reducing the share of business rates allocated to shire districts in two-tier areas significantly reduces the extent of divergences between retained revenue shares and assessed spending needs shares among shire districts. For instance, the coefficient of variation of shire districts' relative funding ratios in 2013–14 falls from 11.98% under the baseline 80%/20% split to 4.48% under a 20%/80% scheme. Counties, of course, see the opposite pattern, although the effect is much smaller: the coefficient of variation of counties' relative funding ratios in 2013–14 increases from 2.66% to 3.03% for the same change in tier-splits, for instance. This relatively small impact reflects the fact that counties' larger scale means their business rates tax bases are less variable than those of the smaller shire districts, and as well as larger council tax revenue capacities. Shifting the initial allocation of business rates revenues in two-tier areas from shire districts to counties would therefore reduce the overall scale of divergences between councils' retained revenues and assessed spending needs in two-tier areas. However, this does not necessarily mean that such a shift would be desirable. As discussed already, the rationale for the shares allocated to shire districts and counties under the existing 50% scheme – on which our baseline 100% BRRS is based – is to provide strong fiscal incentives to shire districts to grow the business rates tax base and provide insurance against changes in the business rates tax base to shire counties. The appropriate share of business rates to allocate to shire districts and counties under a 100% BRRS would depend upon the extent to which each tier could act upon the fiscal incentives provided, and their ability to bear revenue risk, not just the scale of funding divergences that would result.

Table 7.7 also illustrates that the high share of business rates revenues allocated to shire districts is one of the reasons why under our baseline 100% BRRS, the median shire district has a relative funding ratio (104.9% in 2013–14) that compares favourably to that of the median county (95.5% in 2013–14). This high share would have meant that shire districts paid inflation-indexed tariffs. However, the proportion of local business rates revenues they retain after tariffs would increase if there was real-term growth in business rates revenues, which was the case on average across England during this period. This would increase their relative levels of funding.

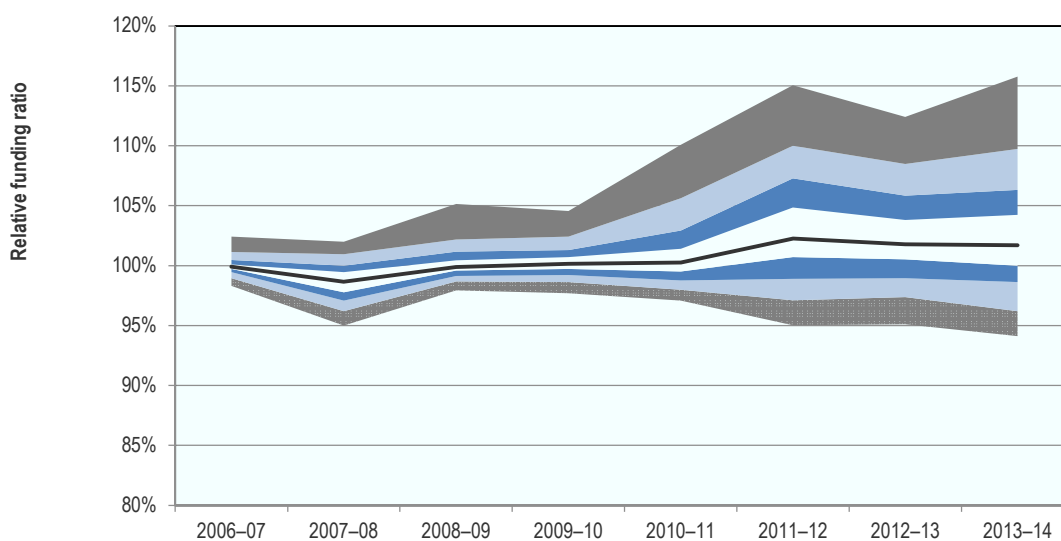
Conversely counties, reliant on inflation-indexed top-ups, would see a fall in their relative levels of funding as their top-ups lagged behind real-terms growth in business rates revenues. Table 7.7 shows that as the share of business rates allocated to shire districts falls and that of shire counties rises, the difference in the median relative funding ratio of shire districts and counties falls. This reflects the fall in the extent to which the median shire district, and the increase in the extent to which the median county benefit from the real-terms growth in business rates revenues.

The inflation-indexation of top-ups and tariffs also has a more general effect when business rates revenues increase in real terms: less affluent areas with small business rates tax bases and/or high assessed spending needs that rely on top-ups for a significant proportion of their revenue end up with a shrinking share of overall business rates revenues, unless rates revenues grow at a rate greater than the national average.<sup>28</sup> This could be seen as penalising less affluent areas and could be addressed by indexing top-ups and tariffs to growth in national business rates revenues, which would still maintain incentives for councils to grow their tax bases (Amin-Smith et al, 2016).

### *The effect of a safety net*

We finally model the effect of a ‘safety net’ set at 97% of inflation-indexed baseline funding in our baseline 100% BRRS. Councils whose retained business rates revenues fall below this level are compensated by payments equal to the difference between their revenues and 97% of inflation-indexed baseline funding. Figure 7.7 shows how the distribution of relative funding ratios would have evolved between 2006–07 and 2013–14 under this scenario. Like Figure 7.6 it is a fan-chart: each pair of coloured bands represents 20% of councils, with 10% of councils above and 10% below the dark grey bands.

Figure 7.7. Evolution of the distribution of relative funding ratios under baseline 100% BRRS scenario with a safety net of 97% of baseline funding, 2006–07 to 2013–14



Notes: Excludes City of London and Isles of Scilly.

Sources: As Figure 7.1.

Comparison of Figure 7.6 (where there is no safety-net) and Figure 7.7 shows that the safety net reduces the extent to which relative funding ratios diverge over time, by preventing the largest shortfalls in funding. For instance, in the absence of a safety net one-in-ten councils would have had a relative funding ratio of 92.5% or less in 2013–14, and the lowest relative funding ratio would have been 61%. With a safety net set at 97% of inflation-indexed baseline funding, the corresponding figures would have been 94.1% and 87%, respectively. However the insurance provided by the safety net comes at a cost: reduced incentives for business rates revenue growth for those councils receiving safety net payments as such growth is at least partially offset by reduced safety net payments.

## Discussion and conclusions

Ongoing changes to England’s local government finance system are reducing the degree of marginal fiscal equalisation, with the aim of giving local government stronger incentives to grow local tax bases, reduce underlying spending needs, and more generally boost economic growth and tackle deprivation. In other words the changes are designed to provide councils with stronger incentives for inclusive growth.

The positive correlation between changes in councils’ deprivation levels and changes in their assessed relative spending needs per capita over the seven year period examined in this chapter suggests that ending the annual updating of councils’ funding as assessed needs change will strengthen fiscal incentives for councils to tackle deprivation. However changes in councils’ tax revenue capacity were uncorrelated with changes in local GVA per capita, median wages or deprivation. This suggests that even if ending ongoing marginal revenue equalisation provided an effective incentive to councils to grow their tax bases, such growth might not necessarily be reflected in improvements in broader economic prosperity. In part this may reflect the relatively narrow tax base of English councils: a residential property tax called council tax, the values for which have not been updated since 1991; and a non-residential property tax called business rates which excludes many small properties, and for which changes in revenues due to periodic revaluations are redistributed rather than retained locally. A broader local tax base, as is the case in many other counties – including a local income tax, perhaps – may provide a stronger fiscal incentive for inclusive growth.

The main focus of this chapter has been modelling the extent to which the relative funding of different councils could diverge under a version of the proposed 100% business rates retention scheme: that is a system without ongoing marginal fiscal equalisation. Significant and sustained differences across councils in levels of funding relative to spending need would likely mean significant differences in the quantity and quality of public services available to citizens of different councils. Modelling suggests that while for most councils, relative levels of funding would have remained close to assessed relative levels of spending needs if such a system had been in place between 2006–07 and 2013–14, some councils would have experienced significant divergences between their funding and assessed needs, driven to a large extent by changes in business rates revenues. A system of ‘safety net’ payments to compensate councils seeing significant falls in their business rates revenues – as exists currently and is proposed to continue – therefore addresses the most significant funding shortfalls that would otherwise have arisen. But the 100% marginal equalisation rate for business rates revenues for councils in receipt of safety net payments significantly reduces the fiscal incentive for such councils to grow their business rates tax base. And



divergences in funding due to changes in council tax bases, relative spending needs, and other councils seeing significant increases in their business rates revenues would not be addressed by these ‘safety nets’. Thus, proposed periodic full or partial re-equalisations of revenues and assessed needs would usefully complement the insurance provided by ‘safety nets’, but would still ensure medium-term incentives to boost tax bases and reduce spending needs.

Similar modelling exercises could be undertaken in other countries to examine the potential effects of reforms to fiscal equalisation regimes on divergences in sub-national funding allocations. These effects will depend not only on the change in the fiscal equalisation system itself but also the wider policy context including the tax bases and powers devolved to sub-national governments; the spending areas sub-national governments are responsible for; and the scale and socio-economic diversity of sub-national government units. For example, funding divergences are likely to be greater when sub-national government units are small. Such factors will also affect the incentives created by changes in fiscal equalisation regimes, and sub-national governments’ ability to respond to those incentives. A more ambitious analysis would therefore consider how changes in sub-national powers, structures and fiscal equalisation interact to generate effective incentives for promoting inclusive growth.

## Notes

1. Figures for OECD countries are available as part of the Fiscal Decentralisation Database, available at: <http://oe.cd/fiscalnetwork>.
2. OECD (2013) finds the average scale of transfers in 2012 was 2.5% but does not provide estimates for specific countries.
3. Boadway and Shah (2009) highlight that fiscal equalisation can have efficiency as well as equity benefits though, if it helps curb fiscal competition between sub-national jurisdictions.
4. Funding for many public schools and housing benefit payments – which help low income households pay rent on their homes – also flows via English local government. However, this expenditure is funded via separate ring-fenced grants rather than general grants and local tax revenues, and an increasing number of schools are funded directly by central government. For this reason, we exclude funding for and need for schools, housing benefit and other areas funded via specific grants from the quantitative analysis later in this chapter.
5. This remains the case today, although councils planning large increases in tax rates need to obtain support in a referendum of local residents.
6. A more detailed description of the allocation of grants in England in the late 2000s can be found in Amin-Smith et al. (2016), with Gibson and Asthana (2011) providing a technical treatment.

7. In parts of the country where fire services are provided by separate fire authorities, counties are initially allocated 9% of revenues.
8. As under the current system, the existing real-terms stock of business rates revenues would continue to be redistributed between councils. Further detail on the proposals can be found in Department for Communities and Local Government (2017a).
9. Published plans are for general grant funding to be abolished, although specific grants for particular services may be kept (DCLG, 2017a).
10. For a list of reliefs see UK Government (2017).
11. Further information is available in Pope and Waters (2016).
12. We do, however make several adjustments to make business rates revenues comparable both across councils and over time. First, councils have scope to offer discretionary reliefs on top of those mandated by the central government, which on average amount to 0.2% of pre-relief revenues. We add back the value of these reliefs so that our revenues capture the underlying revenue capacity. Second, when examining changes in revenues over time, we estimate and strip out the effect of changes to the empty properties relief and small business relief schemes. We do this because under the BRRS, councils are compensated for changes in their business rates income that result from policy changes made by central government. Third, when examining changes in tax revenue capacity, we strip out the estimated effects of the 2010 revaluation of non-domestic properties. We do this so that our analysis captures changes in the underlying quantity and quality of non-domestic property, rather than changes in valuations, which as discussed previously are stripped out of the business rates revenues retained under the BRRS via changes to top-ups and tariffs. Fourth, we strip out the effects of transitional relief, as these are also stripped out from the business rates revenues retained under the BRRS. Full information is available from the authors on request.
13. To do this, we assign each lower-tier council area a share of national tax revenue proportionate to their proportion of the national tax base (which is based on the number of Band-D-equivalent properties). Next, we subtract allocations for fire and police services based on the share of council tax accorded to them in areas where these services are provided by separate authorities. Finally, in two-tier areas we split council tax between tiers in accordance with the average split nationally.
14. We also adjust council tax revenues for a change in the way social transfers are accounted for. Up until 2012–13, the council tax of poor households eligible for support with their council tax bills was paid for by central government. From 2013–14 onwards, councils have had to fund this support from their (increased) grant-funding. This causes a discontinuity in published council tax revenue figures. When comparing revenues over time, we therefore add back in the support councils are paying for with their grant-funding in 2013–14 to make figures consistent with earlier years. Full information is available from the authors on request.
15. Information on the formulae and full set of characteristics used for needs assessment in 2013–14 can be found in Department for Communities and Local Government (2013a). Data and formulae for prior years was provided directly to us by the Department for Communities and Local Government.
16. The p-value for this coefficient is  $<0.001$ , and the  $R^2$  for the regression is 0.24.
17. Including net commuter flows.

18. The IMD is a multi-dimensional measure of deprivation at a neighbourhood level with domains covering income, employment, health, education, environmental quality and access to amenities and services. The council-level average used here is a weighted average of these neighbourhood-level index values.
19. Indeed, the R2 for a regression of assessed spending need on average IMD score alone is 0.60.
20. The R2 for a regression of tax revenue capacity per capita on GVA per capita alone is 0.88.
21. This is because differences in the level of assessed needs and tax revenue capacity at the start of the scheme can be addressed via the redistributive system of top-ups and tariffs between councils.
22. As discussed previously, the measure of tax revenue capacity used in this subsection strips out the revenue effects of the 2010 revaluation. We do this because such changes in revenues are stripped out of the BRRS by changes in tariffs and top-ups. Thus stripping out the revaluation provides a measure of the changes in tax revenue capacity per capita that is more relevant for our subsequent analysis.
23. Results available from the authors on request.
24. The p-value of the coefficient on growth in GVA per capita is  $<0.001$  and the R2 for the regression is 0.080.
25. However, as discussed in Amin-Smith and Phillips (2017), if councils retained changes in revenues associated with changes in rateable values at revaluation, there may also be a perverse incentive to restrict development of non-domestic property. This is because rateable values may increase if supply of property is constrained.
26. Further technical details can be found in the Annex below.
27. Information on how we model these scenarios is available in the annex below.
28. Conversely they end up with a growing share or overall business rates revenues, all else equal, if revenues are shrinking in real terms.

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## *Annex 7.A1*

This appendix provides further detail on our modelling of a 100% BRRS.

### Setting top-ups and tariffs

As in the 50% BRRS discussed in Section 3, the redistributive top-ups and tariffs are calculated as the difference between a council's *business rates baseline* and its *baseline funding level*.

We calculate a council's business rates baseline by:

- Calculating each council's share of national business rates revenues raised in that council area in 2005–06 and in 2006–07 and taking an average.
- Multiplying this average share by the national total of business rates in 2006–07.
- And then multiplying the resulting figures by the share of business rates allocated to that council (for instance 80% for a shire district and 20% for a county in a two-tier area in our baseline scenario).

This approach is based on that used to calculate business rates baselines when the 50% BRRS was introduced in 2013–14. The reason for taking an average of each council's share of the national business rates total in 2005–06 and 2006–07 is to reduce the extent to which volatility in business rates revenues influences the setting of the top-ups and tariffs.

We calculate each council's baseline funding level by:

- Multiplying its share of national assessed relative spending needs by total national revenues from both business rates and council tax in 2006–07 to derive a cash-terms amount for its assessed spending need.
- And then subtracting from this its council tax revenue capacity in 2006–07.

This tells us the business rates revenues the council would need to meet its assessed spending needs if it set its council tax at the national average level.

Top-ups and tariffs are then calculated as:

$$\text{top-up (+) or tariff (-)} = \text{baseline funding level} - \text{business rates baseline}$$

And are then indexed each year by RPI inflation, with the exception of 2010–11 when a further adjustment is made to strip out the effect of the 2010 non-domestic property revaluation.

### Adjusting top-ups and tariffs for the 2010 non-domestic property revaluation

Adjustments to the top-ups and tariffs under the 50% BRRS at the time of the 2017 non-domestic property revaluation were made using data on the change in the aggregate value of properties (i.e. the business rates tax base) in each council area as a result of the revaluation.

However, unlike for the 2017 revaluation, such data is not available to use for the 2010 revaluation. We therefore proxy this by the change in the aggregate value of properties in each council area between 2009–10 and 2010–11, which will reflect both changes as a result of the revaluation and changes in the stock of non-domestic property in the council area.

More specifically, we estimate the business rates that would have been raised in a council area in 2010–11 in the absence of the revaluation as:

$$D = A * \left( \frac{B_{2010}/B_{2009}}{C_{2010}/C_{2009}} \right)$$

where:

- A = Actual business rates given the revaluation,
- $B_{2010}$  = National aggregate rateable value in 2010–11,
- $B_{2009}$  = National aggregate rateable value in 2009–10,
- $C_{2010}$  = The council's aggregate rateable value in 2010–11,
- $C_{2009}$  = The council's aggregate rateable value in 2009–10,
- D = Our estimate of business rates revenues in the absence of revaluation,

The adjustment to the council's top-up or tariff to account for revaluation is then calculated as:

$$F = (D - A) * E$$

where:

- E = The share of local business rates assigned to the council,
- F = The revaluation adjustment to the top-up or tariff.

The post-adjustment top-up or tariff is then calculated as:

$$2010-11 \text{ top-up}(+) \text{ or tariff}(-) = (2009-10 \text{ top-up}(+) \text{ or tariff}(-)) * \left( \frac{RPI_{2010}}{RPI_{2009}} \right) + F$$

where:

- $RPI_{2010}$  = The index-value for RPI in September 2009, used for setting business rates in 2010–11
- $RPI_{2009}$  = The index-value for RPI in September 2008, used for setting business rates in 2009–10

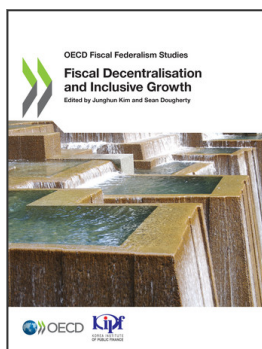


### Estimating the extent to which divergence in relative funding ratios are driven by changes in assessed need and changes in tax revenue capacity

We model two scenarios where: (i) councils are compensated for changes in tax revenue capacity, and; (ii) councils are compensated for changes in assessed relative spending needs, so that any divergence in relative funding ratios is the result of changes in tax revenue capacity.

The details of how we model each of these scenarios are as follows:

- Each year, we allocate every council a share of national council tax and business rates revenues equal to its share of national assessed spending needs in 2006–07. Any divergence in relative funding ratios under this scenario is therefore the result of changes in councils' assessed relative spending needs.
- Each year, we re-recalculate every council's baseline funding level to account for changes in its assessed relative spending need (rather than indexing it in line with RPI inflation). There are two steps to this. First we multiply its share of national assessed relative spending needs by total national revenues from both business rates and council tax in that year to derive a cash-terms amount for its assessed spending need. Second, we subtract for this its council tax revenue capacity in 2006–07 indexed by RPI inflation. The latter step ensures baseline funding levels are updated to account for changes in assessed spending needs but not changes in council tax revenue capacity. Any divergence in relative funding ratios under this scenario is therefore the result of changes in councils' tax revenue capacity.



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