



Europe Economics

Impacts of Fiscal Decentralisation on Economic Growth in England and its Regions

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1 Executive Summary

Analysis produced by the Organisation for Economic Co-operation and Development (OECD) suggests the UK is relatively centralised in comparison to other countries. In particular, decisions relating to fiscal matters are predominantly taken at the national rather than local level. To explore this further, the Local Government Association in partnership with Barclays commissioned Europe Economics to undertake an analysis of the relevant economic literature and set out the theoretical implications for growth in England and its regions if the UK were to move to the OECD average for fiscal decentralisation.

Decentralisation can take a number of forms, including decentralisation of spending, of revenue, of tax or of tax autonomy. The economic literature identifies a number of mechanisms via which decentralisation could boost growth. These include accountability of local policymakers to local population; yardstick competition whereby voters can demand their local politicians deploy methods that are successful elsewhere; increased efficiency of local government through the need to attract businesses and people to locate there; tax competition bidding down overall tax levels; and more efficacious spending on education.

There have been a range of attempts to estimate the growth impacts of decentralisation. One very recent authoritative study was produced by the OECD in 2018. One of the key findings of that paper was that “increasing tax decentralisation by 10 percentage points is associated with around 0.09 percentage points more growth or, in the long run, with around 1.75% higher GDP per capita.” That matches very closely to the increase in UK tax decentralisation that would be required to shift the UK to the OECD average for decentralisation: whereas in the UK 4.9 per cent of taxes are set locally, for the OECD the average is 15.1 per cent.

We apply that figure to England and its regions to estimate what the increase would be in GDP in each region were the UK to move to that OECD average. We use the Espresso tool developed by New Economy for the LGA and Core Cities. That spreadsheet tool allows us to calculate the amounts of tax gathered by local taxes and central taxes in each region of the UK. Under the OECD definition the local tax is Council Tax.

Matching the OECD definition of decentralised taxes, we use the ratio of Council tax revenue to all other taxes as our measure of tax decentralisation. We consider three scenarios for how revenues might be decentralised, varying by the form decentralisation takes. Regional growth impacts vary depending on the form of decentralisation. In particular, in our third scenario we consider the repatriation of non-domestic rates (ie revenues from non-domestic rates accrue to the area in which they are paid) as well as an increase in council tax revenues (and corresponding reduction in other central taxes). This produces a materially different (and more regionally even) growth pattern from that in our second scenario where all decentralisation takes the form of an increase in council taxes (and corresponding reduction in central taxes). The table below gives the regional breakdown under that third scenario.

	Current (2014/15) share of tax taken in council tax	New national target share of council tax	Non- domestic rates share	New de- centralisation	Change in de- centralisation	Normalised GDP gain
England	4.90%	10.5%	4.56%	15.10%	10.2%	1.79%
East Midlands	5.36%	11.5%	3.71%	15.24%	9.9%	1.71%
East of England	5.88%	12.7%	4.21%	16.86%	11.0%	1.90%
London	3.35%	7.2%	6.19%	13.39%	10.0%	1.74%
North East	5.04%	10.8%	4.03%	14.86%	9.8%	1.70%
North West	4.98%	10.7%	4.20%	14.91%	9.9%	1.72%
South East	5.94%	12.8%	4.23%	17.00%	11.1%	1.91%
South West	6.16%	13.3%	3.97%	17.23%	11.1%	1.91%
West Midlands	4.92%	10.6%	4.08%	14.66%	9.7%	1.68%

Yorks & Humber	4.91%	10.6%	4.18%	14.74%	9.8%	1.70%
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2 Introduction

Analysis produced by the Organisation for Economic Co-operation and Development (OECD) suggests the UK is relatively centralised in comparison to other countries. In particular, decisions relating to fiscal matters are predominantly taken at the national rather than local level. The UK central government took 75.5 per cent of the UK's total tax revenue in 2016, against an unweighted average of the OECD countries of 63.5 per cent and much lower figures in a number of countries: eg 52.3 per cent in Sweden, 35.7 per cent in Japan, and 33 per cent in France.¹

In this report, commissioned from Europe Economics by the Local Government Association, we consider the implications of the economic literature for growth in England and its regions if the UK were to move to the OECD average for fiscal decentralisation. The aim of this report is to apply the key result of a 2018 OECD paper, Blochliger & Akgun (2018), "Fiscal decentralisation and economic growth"², applying them to England and its regions.

The report is structured as follows.

- In Section 2 we summarise some of the key findings of the economic literature on the economic impacts of fiscal decentralisation.
- In Section 3 we set out our analysis of the implications of a key recent result for England and its regions.
- An Appendix in Section 4 sets out our review of the literature more formally and in more depth.
- Section 5 provides references.

¹ Source: OECD Revenue Statistics 2018.

² This is published (inter alia) as Chapter 2 here: <http://www.oecd.org/tax/federalism/fiscal-decentralisation-and-inclusive-growth.pdf>. We shall sometimes hereafter refer to this as the "OECD's 2018 paper" or the "2019 OECD paper".

3 Review of existing literature

There have been a number of papers, in recent years, that considered the impacts of fiscal decentralisation. These included papers advocating the policy, papers analysing the theory underpinning the policy, and papers assessing the economic impacts.

In this section we summarise that literature. Appendix 2 (in Section 6) sets out the papers considered in more detail. We will first discuss what we mean by fiscal decentralisation and how this is measured. Then, we will focus on the mechanisms creating a relationship between fiscal decentralisation and economic growth followed by the factors that could potentially affect this relationship. Lastly, we will discuss the values that the different papers have found regarding the effects of fiscal decentralisation on economic growth.

3.1 What is decentralisation?

Decentralisation, or devolution³, is normally understood as the delegation of power from a central authority to local or regional authorities. Decentralisation can take a number of forms, or have a number of dimensions. For this report, we are interested in fiscal decentralisation. Other aspects or forms of decentralisation fall outside our scope.

So how is “fiscal decentralisation” defined? Fiscal decentralisation is the relative control regional or local government has over its fiscal policy, compared with that of central government. The economic literature identifies four main forms or aspects:

1. Spending decentralisation: the share of local government’s spending over central government’s total spending.
2. Revenue decentralisation: the share of local government’s revenue over central government’s total revenue.
3. Tax decentralisation: the share of local government’s tax revenue over central government’s tax revenue.
4. Own tax decentralisation (tax autonomy): the share of local government’s tax revenue from taxes which it can set either the base, the rate or both, over central government’s tax revenue.

3.2 Mechanisms affecting the relationship between fiscal decentralisation and economic growth

The goal of this report is to assess how fiscal decentralisation can affect economic growth. One can imagine different mechanisms through which this could take place.

One important principle in all discussions of devolution is the subsidiarity principle. This states that decisions which affect a local population should be dealt with, to the extent feasible, at the local level. It is not hard to imagine that local people might know better what their area’s needs and wants are and thus will be able to make more efficient use of their money. But it is helpful to spell out more concretely the mechanisms by which this might be achieved.

A first possible mechanism is accountability. Suppose that that we lived in a country where the different cities are spread and there is hardly any communication between them. Moreover, it is almost impossible for people to move from one city to the next. Under this scenario, we can see that it is not easy for people to compare how other cities spend their budget. However, in each city, the local population is aware how their politicians

³ These terms will be used interchangeably in the report.

spend their city's budget and they can therefore hold them accountable in the case of misuse. It then becomes in the interest of politicians hoping to be elected for them to make better use of the budget so they can keep the people happy. This, in turn, will lead to more efficacious spending of available resources (either through increasing the provision of some public goods with the same budget or providing the same amount of public goods as before but on a lower budget) and will thus lead to higher growth.⁴

Now suppose that people or businesses can still not move from one city to the next but there is some form of communication and people can now see what other cities do. In addition to the mechanism discussed above, people could in this case compare what their politicians to what politicians in other cities do. This is what Blochliger (2013) calls "yardstick competition". Local people can still hold their politicians accountable for their actions but now they can also compare with better practices from other cities and force them, even more, to use the available budget efficiently and effectively.

A third mechanism arises if we also allow for the possibility of people and businesses moving from one city to the next. In this scenario, politicians know that there are multiple factors at play: they can attract more high-skill and rich people and more business investment in their town, or they can lose either one of them, or even both, to a neighbouring town (Blochliger, 2013). The potential gains from attracting capital and high-skilled labour will lead the local politicians to make better use of the available resources and invest in areas that will be attractive to wealthier people and more business investment. Through this mechanism, the town may become more productive and attract more businesses, which also imply more jobs for the local population, leading to higher economic growth.

A fourth mechanism through which devolution could lead to higher economic growth is through tax competition. Let us assume a scenario similar to that above, in which people and businesses can freely move from one town to the next if they wish to. This time, in order to attract more people and higher investment into their town, as well as managing a given level of spending and taxation more efficiently, politicians have the option to cut taxes.⁵ If one city decides to lower its taxes, wealthier people as well as more businesses may be attracted to move there. Other cities, observing this, might also decide to lower their taxes in order to try and attract wealthier people and higher business investment in their towns as well, driving down taxes everywhere. That tends to reduce overall tax rates across the economy. There is an abundant literature demonstrating that lower taxes are associated with faster economic growth.⁶

Lastly, a fifth mechanism would be more efficacious spending on education. It is widely accepted in the literature that a more highly and more effectively educated population produces higher economic growth. Following the subsidiarity principle, it might be that more local decision-making and spending on education produces a more effectively educated local population. Blochliger (2013) finds that investment in education is higher in decentralized countries compared to centralized ones. However, we should note that the direction of causality might run the other way — in other words, instead of more decentralisation driving better education, it might be that better education drives more decentralisation. Suppose all the people in one city are highly educated. Such highly educated people might assume that they know better, compared to some central-government politicians who leave far away from the city, what their city needs. They will therefore argue for more devolution and less centralisation. Furthermore, the central governing authorities may be more willing to entrust local areas with more autonomy if the populations of those local areas are more educated.

⁴ This mechanism is discussed in Blochliger, 2013 and in Gemmell et al., 2013.

⁵ This mechanism is discussed in Blochliger, 2013.

⁶ An example is Afonso & Furceri (2010). Note that the fact that economies grow more rapidly at lower tax rates does not necessarily imply that economic welfare is higher. Higher taxes may be used to fund equity goods such as healthcare, education, benefits or wealth redistribution more generally.

3.3 Other factors

The relationship we want to disentangle in this report is that between fiscal devolution and economic growth. It would be naïve, however, to assume that modelling this relationship will produce robust results if we do not take into account other factors which could potentially affect economic growth.

One can think of a number of factors that could potentially affect economic growth and therefore disturb the results if we do not account for them. For example, one needs to account for the differences between and within the different countries. All the empirical papers we have considered take this into account in some way, either by including it as a factor or by some specific aspect of methodology used.⁷

To begin with, a common control factor in empirical papers is the investment ratio, which captures the share of investment in GDP. Both Baskaran and Feld (2013) and Gemmell et al. (2013) found that the investment ratio has a positive and significant effect, implying that if we increase the amount of investment in the economy relative to GDP, we will observe higher economic growth.

As is commonly found outside the fiscal decentralisation literature⁸, Baskaran and Feld (2013) find that increasing the tax-to-GDP ratio will lead to lower economic growth.⁹ Gemmell et al. (2013) find similar results when using revenue-to-GDP.

Baskaran and Feld (2013) also tested for the effect of secondary school enrolments and population growth, finding that none of them had any effect on economic growth.

Gemmell et al. (2013) also controlled for employment growth. They found that the larger this is, the higher economic growth is. Wingham (2017), using a rudimentary analysis for the UK only, controls for industrial output growth instead of employment growth and finds a similar relationship. The author also controls for household consumption growth and finds the opposite results, the higher this is, the lower economic growth will be.

3.4 Empirical outcomes of the effect of devolution on economic growth

There are four empirical papers that we used for this analysis. The estimated coefficients differ between them, and sometimes this difference is quite significant. As we discussed in the previous section, two possible reasons for these differences are the different methodologies used and the different data used. From one of these papers, Gemmell et al. (2013), we cannot make a direct comparison of their coefficients since they use a different methodology which, according to their paper, should only be interpreted as marginal changes. We will use the paper only as an indicator of the sign or direction of effects — ie whether we should expect a positive or negative relationship. One paper, Wingham (2017), found that devolution has no impact on economic growth, based on a (rather rudimentary) analysis of the UK. By contrast, when the same author used a panel of OECD countries he did find an impact.

We will divide the results based on the different devolution indicators, ie

- Spending decentralisation
- Revenue decentralisation
- Tax decentralisation
- Own tax decentralisation (tax autonomy)

⁷ See Appendix I for a more detailed explanation. We note that the papers considered in our review do not always agree when it comes to control factors. A possible explanation for this could be differences in the datasets and methodologies used. Despite these differences, we report those factors usually accounted for in the literature.

⁸ For example, see Afonso & Furceri (2010).

⁹ Baskaran and Feld (2013) also find that an increase in inflation and an increase in the GDP per capita of the previous year both have a negative effect on economic growth.

3.4.1 Tax revenue decentralisation

Three of our papers test for the effect of tax revenue decentralisation on economic growth and find different results. Wingham (2017) finds a negative and significant effect with a one percentage point increase in the decentralisation measure producing a 0.25 percentage points decrease in economic growth. Baskaran and Feld (2013) find no relationship at all.¹⁰

However, the key result in this literature, which we shall use in our analysis of impacts in England and Wales in the next section, comes in Blochliger & Akgun (2018). One of the key findings of that paper was that **“increasing tax decentralisation by 10 percentage points is associated with around 0.09 percentage points more growth or, in the long run, with around 1.75% higher GDP per capita.”**

3.4.2 Spending decentralisation

Wingham (2017) finds that if the expenditure decentralisation share increases by one percentage point, GDP growth increases by 0.18 percentage points. Gemmell et al. (2013) disagree with this since they find a significant and negative relation between expenditure devolution and economic growth. In Blochliger & Akgun (2018), spending decentralisation is negative in some specifications, and insignificant in others. But in the specifications where both country fixed effects and intergovernmental transfers are controlled for, there is a significant and positive effect.

3.4.3 Revenue decentralisation

Wingham (2017) looked at revenue decentralisation in general, finding significant but negative results with a one percentage point increase in the decentralisation indicator, leading to 0.33 percentage points decrease in economic growth. Blochliger & Akgun (2018) find that revenue decentralisation is insignificant.

3.4.4 Own-tax revenue decentralisation

Our final decentralisation method is own-tax revenue. The two papers which investigate it again find contradictory results. Baskaran and Feld (2013) find a significant and negative relationship (ie more own-tax revenue decentralisation leads to slower growth) with a one percentage point increase in decentralisation leading to a 0.059 or 0.067 percentage points decrease in economic growth (the difference is due to slightly different datasets used). Gemmell et al. (2013) on the other hand, find a significant and positive relationship — ie more own-tax revenue decentralisation leads to faster growth.

¹⁰ As has been discussed above, a possible explanation of why these findings differ so much could be the difference in data and methodologies used as well as the different control variables each paper used.

4 Impacts of tax decentralisation on England and its regions

4.1 Impacts on the UK

In the UK, tax decentralisation is just over 10 percentage points below the OECD average, as set out in the table below.

Table 4.1: Impact on GDP applying OECD (2013) coefficients

	Spending	Revenue	Tax Revenue
UK share (based on OECD)	24.1	8.6	4.9
OECD average	30.4	19.1	15.1
% points difference	6.3	10.5%	10.2%

In Section 3 we have explained that in a recent (2018) OECD paper, an increase in tax decentralisation of 10 percentage points is estimated as adding around 1.75 per cent to long-term GDP per capita.

Taking that 1.75 per cent rise for a 10 percentage points rise in decentralisation as our reference, in this section we shall consider what increase in GDP that would imply for England and its regions.

4.2 Regional impacts within the UK: Data

For this analysis we have used the Espresso tool developed by New Economy for the LGA and Core Cities.¹¹ That spreadsheet tool allows us to calculate the amounts of tax gathered by local taxes and central taxes in each region of the UK.

Matching the OECD definition of decentralised taxes, we use the ratio of Council tax revenue to all other taxes as our measure of tax decentralisation.

National non-domestic rates are also identified as local taxes in the Espresso database, but since their revenue does not accrue to the local authority in which they are gathered, they are not treated as local taxes under the OECD definition. Since national non-domestic rates revenues are, in our reference year (2014/15), around 93 per cent of those from Council Tax, that implies that the widely-discussed policy of “repatriation” of non-domestic rate revenues to the local authority in which they are gathered would induce just under half the gain in GDP per capita from moving to the OECD average (ie around 0.8 per cent extra GDP per capita, in the long-term).

We can use the Espresso tool to assess the level of decentralisation in England and in each of its regions. We report that result in the table below.

¹¹ The site is <http://www.neweconomymanchester.com/publications/espresso-tax-and-expenditure-analysis-tool>. The excel file itself is at <http://www.neweconomymanchester.com/media/1881/espresso-v34.xlsm>

Table 4.2: Current levels of tax decentralisation

Region	Level of tax decentralisation (2014/15)
England	4.90%
<i>of which...</i>	
East Midlands	5.36%
East of England	5.88%
London	3.35%
North East	5.04%
North West	4.98%
South East	5.94%
South West	6.16%
West Midlands	4.92%
Yorkshire and The Humber	4.91%
OECD Average	15.1%

4.3 Three scenarios for a shift to the OECD average

We now consider three scenarios for the impacts on England's regions were there to be a shift to the OECD average level of tax decentralisation:

- One in which every region shifts to the average — In this scenario, at the end of the shift, all regions have the same level of tax decentralisation: 15.1 per cent.
- A second in which England shifts to the average, and individual regions maintain their current spread around the English average, where the spread is the spread of council tax revenues — In this scenario, at the end of the shift, England has the same level of tax decentralisation as the OECD average (15.1 per cent) but England's regions continue to differ, with the same spread of levels of decentralisation that they have now in respect of council tax.
- A third in which England shifts to the average, with individual regions having an increase in their council tax revenues, maintaining the same spread, relative to the English average, as now, but also repatriating (at a regional level) their non-domestic rate revenues.

4.3.1 First scenario: all regions to OECD average

The table below reports changes if all regions shift to the OECD average. This is done by

- first calculating the change required in that region to reach the OECD average;
- then calculating the ratio of that change, in percentage points to 10 percentage points (the tax decentralisation change in the 2018 OECD paper);
- then multiplying that ratio by 1.75 per cent (the GDP per capita change in the OECD 2018 paper);
- then normalising the change in each region so that the weighted average across England matches the all-England change, where we use as weights the ratio of each region's GDP to England's GDP, according to Eurostat.¹²

¹² https://appsso.eurostat.ec.europa.eu/nui/show.do?query=BOOKMARK_DS-513634_QID_-59D8833E_UID_-3F171EB0&layout=UNIT,L,X,0;GEO,L,Y,0;TIME,C,Z,0;INDICATORS,C,Z,1;&zSelection=DS-513634TIME,2015;DS-513634INDICATORS,OBS_FLAG;&rankName1=TIME_1_0_-1_2&rankName2=INDICATORS_1_2_-

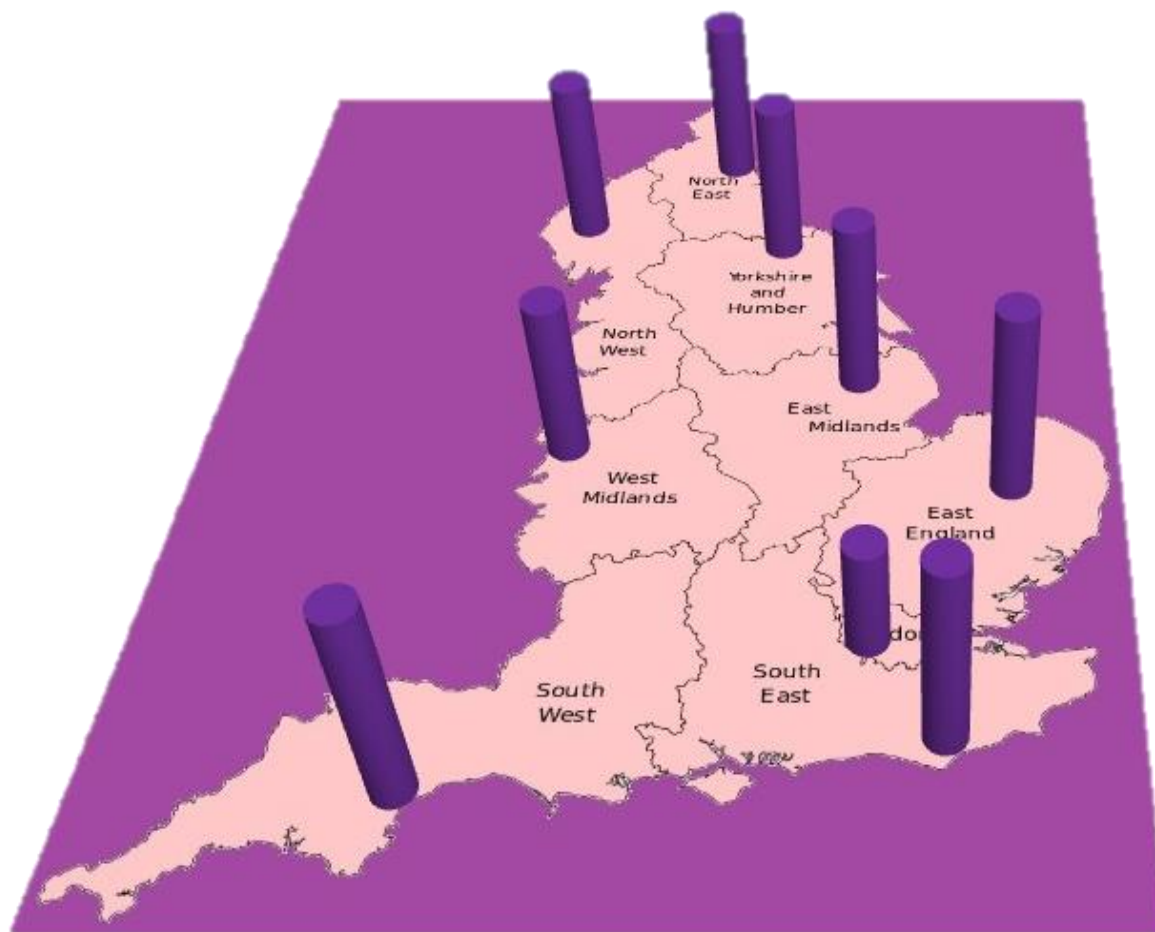
Table 4.4: Regional GDP impacts of tax decentralisation under the second scenario

Region	Level of tax decentralisation (2014/15)	Ratio of regional decentralisation to English average	Target decentralisation	Change to OECD average	GDP per capita change (normalised)
England	4.90%		15.10%	10.2%	1.79%
<i>of which...</i>					
East Midlands	5.36%	1.094	16.52%	11.2%	1.95%
East of England	5.88%	1.201	18.13%	12.2%	2.14%
London	3.35%	0.683	10.31%	7.0%	1.22%
North East	5.04%	1.028	15.52%	10.5%	1.83%
North West	4.98%	1.017	15.35%	10.4%	1.81%
South East	5.94%	1.212	18.30%	12.4%	2.16%
South West	6.16%	1.258	18.99%	12.8%	2.24%
West Midlands	4.92%	1.004	15.16%	10.2%	1.79%
Yorkshire and The Humber	4.91%	1.003	15.14%	10.2%	1.79%

We can present the figures visually, as follows. When considered in this way the following points emerge.

- Gains outside London are materially greater than in London. In this case that is because London is so much more centralised than the English average (the level of decentralisation is so low) that a proportionate change shifts London's level of decentralisation up only modestly.
 - One interesting question is what revenue sources might be driving the shift. We shall see in the next scenario (Scenario 3) that this is potentially important.
- The three largest-gaining regions are those in the South outside London: the South West, South East and East of England. That reflects the fact that these regions are already materially more decentralised than the English average.
- Changes in the North and the Midlands are quite similar to the English average, with only the East Midlands being slightly above.

Figure 4.1: Visualising the GDP impact across England's regions of a shift to the OECD average level of tax decentralisation



Legend

■ England to OECD average; Same ratio of region to England maintained

4.3.3 Third scenario: England to OECD average via (regional) repatriation of non-domestic rates and rise in council tax, offset by fall in national taxes

In this third scenario, when England moves to the OECD average, there continues to be a spread of levels of decentralisation around the English average. Specifically, this involves the following steps.

- First we calculate by how much (the multiple) council tax revenues would have to rise, at the all-England level, for England to reach the OECD average, if non-domestic rates became a local tax.
- Next we multiply each region's current level of decentralisation by the ratio from the first step.
- Then we obtain (from the Espresso tool) the levels of non-domestic rate income at each region.
- Each region's target level of decentralisation is then the sum of its new council tax revenue and non-domestic rate revenue to national taxes.
- Then we obtain the GDP effect for each region as in previous scenarios, including normalisation.

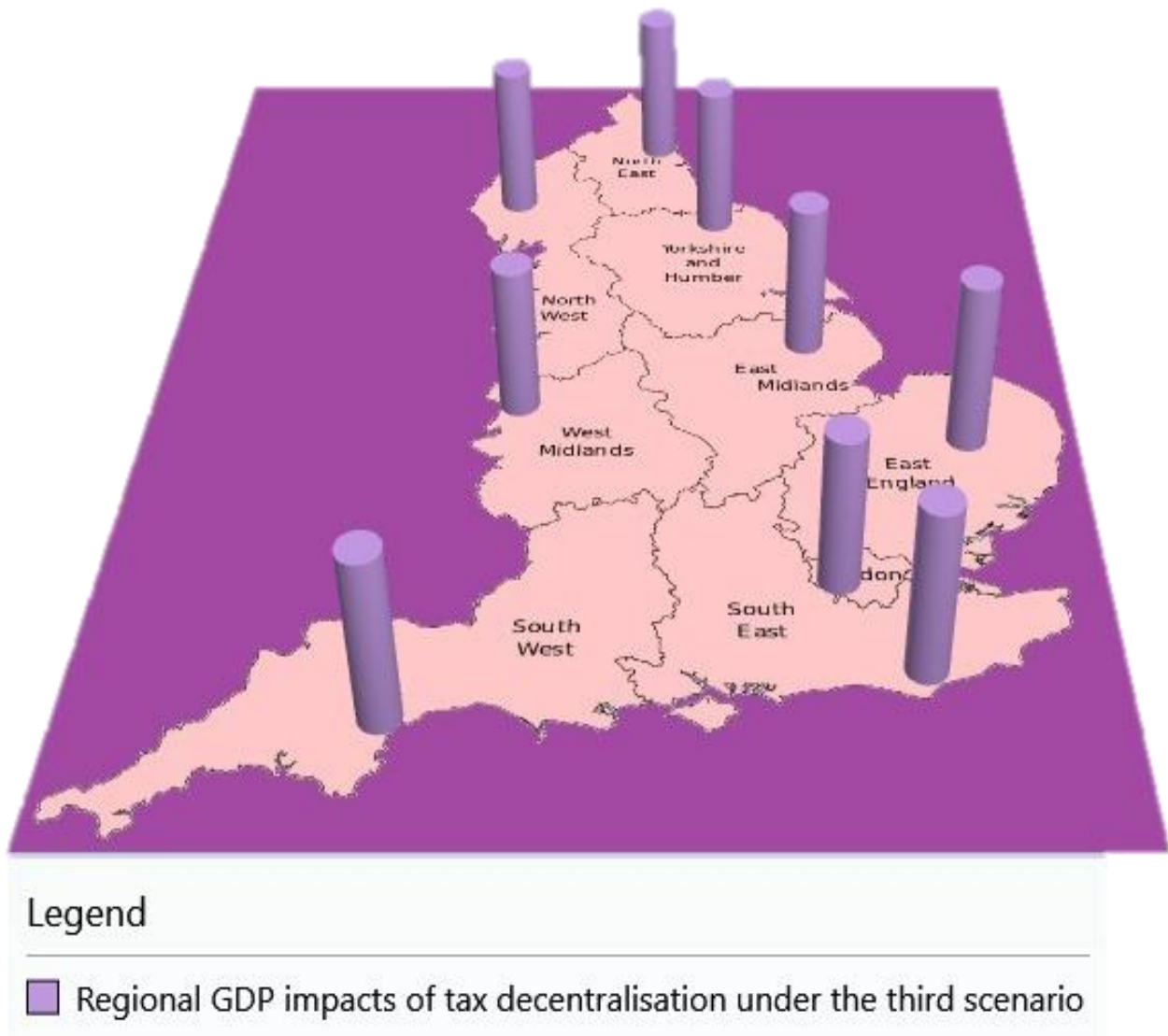
One way to conceive of this scenario is as being one in which council tax levels become just over twice as high as at present and non-domestic rates were also repatriated (at the regional level), with a corresponding drop in central taxes (eg income tax or VAT).

Table 4.5: Regional GDP impacts of tax decentralisation under the third scenario

	Current (2014/15) share of tax taken in council tax	New national target share of council tax	Non-domestic rates share	New de-centralisation	Change in de-centralisation	Normalised GDP gain
England	4.90%	10.5%	4.56%	15.10%	10.2%	1.79%
<i>Of which...</i>						
East Midlands	5.36%	11.5%	3.71%	15.24%	9.9%	1.71%
East of England	5.88%	12.7%	4.21%	16.86%	11.0%	1.90%
London	3.35%	7.2%	6.19%	13.39%	10.0%	1.74%
North East	5.04%	10.8%	4.03%	14.86%	9.8%	1.70%
North West	4.98%	10.7%	4.20%	14.91%	9.9%	1.72%
South East	5.94%	12.8%	4.23%	17.00%	11.1%	1.91%
South West	6.16%	13.3%	3.97%	17.23%	11.1%	1.91%
West Midlands	4.92%	10.6%	4.08%	14.66%	9.7%	1.68%
Yorkshire and The Humber	4.91%	10.6%	4.18%	14.74%	9.8%	1.70%

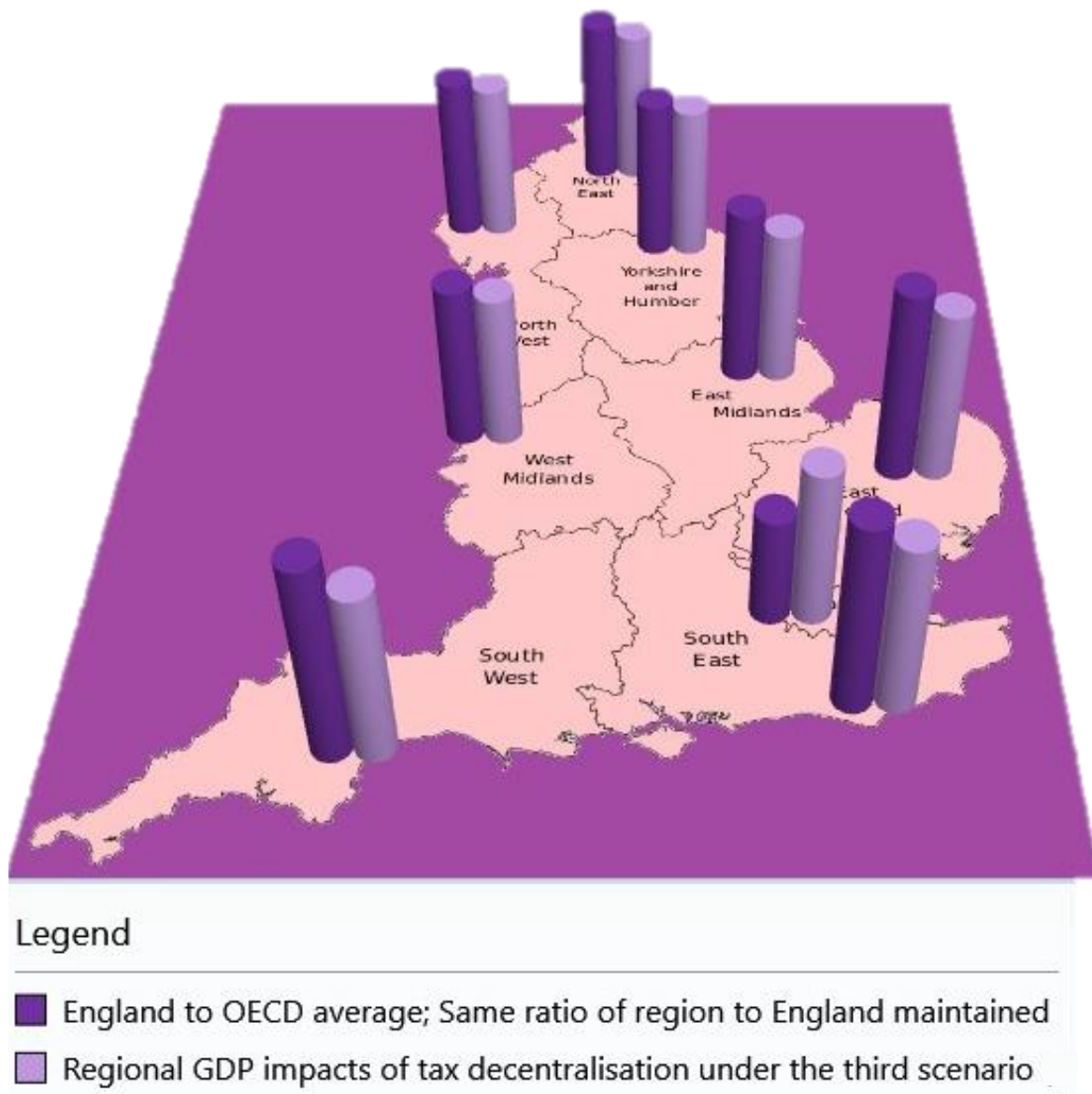
We now see that, once the effects of non-domestic rate repatriation are taken into account, the rise in London is almost exactly at the English average. That is because although London's decentralisation share remains below the average, in this case it rises by a similar amount because the effect of the larger level of non-domestic rates income for London offsets its lower council tax revenues (relative to national taxes raised in the region). Indeed, more generally the GDP gains per region are more evenly spread than in the Second scenario.

Figure 4.2: Visualising the GDP impact across England's regions of a shift to the OECD average level of tax decentralisation via a combination of extra council tax and repatriation of non-domestic rates



We can compare the impacts under the Second and Third scenarios in the figure below.

Figure 4.3: Visualising how the GDP impact across England's regions differs depending on the nature of tax decentralisation



This illustrates that the regional GDP impacts of fiscal decentralisation in England could be quite sensitive to the structure (which taxes are decentralised) as well as the form, even if the aggregate scale of decentralisation effects themselves are not sensitive to the tax decentralised.¹³

¹³ We note that in some of the literature the scale of impacts vary with the nature of local taxes — eg decentralised property taxes might have different impacts from decentralised sales taxes.



Appendix



Europe Economics

5 Appendix: Literature review

In this section we summarise the key papers reviewed in this project.

5.1 Packer and Sinclair (2015): Slicing up the Public Sector: A radical proposal for devolution

Devolution in a country with a heavily centralized government, as is in the UK, could have major economic benefits. The arguments made in the paper can be grouped under three broad themes. First, devolution should be symmetrical regarding the powers granted to regional authorities across the whole country. This will allow for competition between constituencies and level the playfield.

Second, there should be a limited amount of responsibilities granted to regional and local authorities. They should be granted powers only over areas which are targeted to the local population such as welfare, environment, health, housing and labour market policies. Education should keep its current status where the decision-making power is close to the people most affected by it (e.g. parents and teachers). However, they also argue that Westminster should remain sovereign and hold power over policies related to public goods, such as foreign affairs and defence, major infrastructure projects, competition policy and migration.

Lastly, devolution should not only affect spending decisions but should also grant tax-raising powers to the local authorities. While consumption taxes should remain under the authority of the central government, taxes on income, capital and natural resources should be decentralized. However, national debt should remain under the central government and local authorities should only be allowed to borrow under certain circumstances.

5.2 London Finance Commission (2013): Raising the capital

The report discusses recommendations made by the London Finance Commission arguing for more devolution for the area of London. The recommendations were based on oral and written expert opinion. Oral evidence varied but, in its majority, recognized the increased centralisation in the current system. Existing academic literature provided inconclusive evidence as to whether more devolution will have a positive or negative impact. They also commission University of Toronto to produce a report on the matter which constitutes the base of the recommendations made in this paper.

The report argues for more decentralisation when it comes to infrastructure. Infrastructure projects should be under the authority of the Mayor of London who could also delegate power, if needed, to the boroughs. Similarly, London should continue to be allowed to take independent borrowing and investment decisions and GLA's borrowing ceilings should be raised. It is also recommended to relax, or even remove, borrowing limits for boroughs regarding housing purposes. Moreover, they argue for more devolution regarding housing finance decisions for the city of London.

Furthermore, the report argues for the devolution of various taxes under the authority of London. Firstly, property taxes (including business rates) should be devolved to London in their entirety which will also be responsible in revaluations and adjustments if needed. Moreover, there should also be a consideration of shifting income tax powers under the authority of London while at the same time allow it to pass legislation imposing other smaller taxes as deemed necessary. In order not to impose a burden to the Exchequer, there should be corresponding reductions in governmental grants to offset the devolution of income generating powers.

Lastly, the report argues for the establishment of mechanisms to ensure the safeguard of decisions made in the local level from government negotiations. That said, fees and charges at national level should be kept to a minimum and instead be set at the local level.

5.3 Gemmell et al. (2013).: Fiscal Decentralization and Economic Growth: Spending Versus Revenue Decentralization

Using data from 23 OECD countries for the period 1970-2005, the authors examine the effect that fiscal decentralisation has on GDP growth. They calculate decentralisation both in terms of the share of local spending over consolidated general government revenue and in terms of the share of local revenue over consolidated general government revenue. They further distinguish spending in direct spending, i.e. spending directed at the local level, and self-financed spending, i.e. spending from “own resources”. Regarding revenues, they use own revenue, i.e. revenue collected only from “own resources”.

The authors used a Pooled Mean Group (PMG) estimation technique in order to calculate the effect of decentralisation on countries’ GDP growth. Using two lags, they perform separate regressions for direct and self-financed spending while controlling, in all cases, for overall-revenue-to-GDP ratio, investment ratio and employment growth. Moreover, to account for possible biases, they also use an IV estimation with the third and fourth lagged variables of spending measure as instruments.

Results indicate that *ceteris paribus*, increasing decentralized spending leads to lower GDP growth while increasing revenue decentralisation would be growth enhancing. The results are statistically significant under both measures of spending and regardless of the methodology used. Due to the nature of the analysis, the findings correspond to marginal changes. Furthermore, they perform robustness checks which further corroborate their results. Therefore, the paper finds that a reduction in decentralisation of spending and an increase in decentralisation of revenues would be growth enhancing.

Decentralized Spending Measure	Direct PMG (2 lags)	Self-finance PMG (2 lags)
General Revenue ratio	-0.053 (-4.50)	-0.042 (-3.56)
State and local spending	-0.074 (-4.92)	-0.052 (-2.24)
State and local own revenue	0.056 (2.83)	0.060 (1.98)
Investment ratio	0.051 (2.28)	0.080 (3.47)
Employment growth	0.585 (13.28)	0.535 (11.32)

Note: t-statistics in parentheses. The depended variable is annual rate of GDP growth
Source: Gemmell et al. (2013)

5.4 London Finance Commission: Interim Report

This report is an update on the previous report (see “LFC: Raising Capital” above). It gives an update on what has been done in the time elapsed between the two reports and continues to argue that more powers over financing and spending decisions should be granted to the government of London. Since the first report

in 2013, there has only been progress regarding business rate retention at the local level, which will be 100 per cent by 2020.

The central theme of this report, besides complementing the previous one, is arguing that there should be more emphasis put on revenue funding and spending on services and in order to enhance efficiency, these decisions should be taken at the local level. The recommendations, in essence, remain the same as the previous report. One difference is the discussion of the apprenticeship levy that the government proposed at the time the report was written. They argued that in the case the bill passed, it should be devolved to London government, as well as other local authorities.

5.5 Wingham (2017): Devolution and economic growth

The paper is divided in two main parts. The first is a discussion of some literature on the effect of devolution on economic growth and the second is a rudimentary analysis trying to quantify these effects. The author argues that the literature is overall inconclusive regarding the relationship between devolution and growth. Distinguishing between different types and ways of devolution, there seems to be some consensus regarding a positive relationship between revenue decentralisation and economic growth but there is not much consensus regarding other types of decentralisation.

The empirical analysis of the paper is rudimentary and the author understands its caveats and limitations. He distinguished between three types of decentralisation, expenditure, revenue and tax revenue decentralisation. The difference between revenue and tax revenue decentralisations is that the latter, which includes only tax revenue collected at the local level, is a subset of the former, which also includes transfers from central government. Using a simple regression, and controlling for household consumption growth and industrial output growth, he regresses each type of devolution against GDP growth in the UK for the years 1996-2014. The results in all cases are insignificant, suggesting no effect of devolution on growth.

The paper performs another analysis using a panel of 34 OECD countries and incorporating country and year dummies. He investigates the relationship of each of the three types of devolution to GDP growth and finds expenditure devolution to have a significant and positive effect while revenue devolution (and also tax revenue devolution) on the other hand, to have a significant but negative effect. However, the focus of the author was on the R^2 which is very low and he thus argues that there is no relationship between devolution and economic growth.

Lastly, he also performs a correlation analysis between labour productivity and multifactor productivity and each type of decentralisation. Both factors of productivity show a positive relation with expenditure devolution and a negative relation with revenue devolution. In both cases the correlations were not very strong.

	Expenditure devolution	Revenue devolution	Tax revenue devolution
UK 1996-2014			
Intercept	0.05***	0.05***	0.05***
Real household consumption growth	-1.10**	-0.95*	-1.02*
Real Industrial output growth	1.57***	1.49***	1.62**
Annual change in expenditure devolution	0.89		
Annual change in revenue devolution		-0.73	
Annual change in tax revenue devolution			0.74
R²	0.40	0.39	0.39
OECD (time period varies)			
Intercept	1.49***	1.56***	0.59***
Country ID (dummy)	0.00	0.00	0.00*
Year (dummy)	0.00***	0.00***	0.00***
Annual change in expenditure devolution	0.18**		
Annual change in revenue devolution		-0.33**	
Annual change in tax revenue devolution			-0.25***
R²	0.01	0.04	0.02

Note: Depended variable is real GDP growth. * significance at 10%, ** significance at 5% and *** significance at 1%.

Source: Wingham (2017)

5.6 Baskaran & Feld (2013): Fiscal decentralization and economic growth in OECD countries: Is there a relationship?

The authors use panel data from 23 OECD countries from 1975 to 2008 in order to calculate the impact of economic decentralisation on economic growth. They use two measures to proxy decentralisation, a

Government Finance Statistics (GFS)-style measure and an own tax decentralisation measure, which they prefer over the GFS one, based on Stegarescu (2005).

The former is calculated by dividing subnational tax revenues over total government tax revenues. They claim that this measure is not representative enough for decentralisation since it does not account for revenue-raising powers of the local government. The latter accounts only for taxes for which either the base, the rate or both can be determined by the local government, divided by total government tax revenue (excluding social security contributions).

They regress both measures against GDP growth and they control for investment share, tax to GDP ratio, secondary school enrolment, population growth, lagged values of GDP per capita and inflation. Using the GFS measure, they find negative but insignificant effect of decentralisation on GDP growth. However, when switching to the own tax decentralisation method, the results remain negative but become statistically significant. Robustness checks largely confirm their findings.

	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Investments	0.258*** (0.073)	0.251*** (0.071)	0.261*** (0.069)	0.261*** (0.068)	0.243*** (0.059)	0.243*** (0.060)
Tax/GDP	-0.127** (0.053)	-0.144** (0.061)	-0.122** (0.054)	-0.133** (0.061)	-0.097* (0.048)	-0.096* (0.049)
Education	-0.009 (0.019)	-0.012 (0.020)	-0.005 (0.019)	-0.004 (0.020)	-0.005 (0.017)	-0.005 (0.017)
Population Growth	7.681 (10.311)	7.072 (10.008)	8.456 (9.938)	8.187 (9.991)	5.840 (11.502)	5.865 (11.504)
Lag GDP per capita	-0.192** (0.077)	-0.195** (0.080)	-0.205** (0.074)	-0.208** (0.075)	-0.191*** (0.067)	-0.192*** (0.067)
Inflation	-0.072*** (0.023)	-0.074*** (0.023)	-0.072*** (0.021)	-0.073*** (0.022)	-0.068*** (0.021)	-0.067*** (0.021)
Subnational tax share	-0.021 (0.024)	0.069 (0.072)				
(Subnational tax share)²		-0.002 (0.002)				
Own tax decentralisation			-0.067** (0.031)	-0.020 (0.052)		
(Own tax decentralisation)²				-0.001 (0.001)		
Own tax decentralisation, updated					-0.059** (0.022)	-0.067* (0.037)
(Own tax decentralisation, updates)²						0.000 (0.001)

Note: Depended variable is real GDP per capita growth. The models (III – VIII) correspond to the models in table 3 of Baskaran and Feld (2013). * significance at 10%, ** significance at 5% and *** significance at 1%. Standard errors in parenthesis.

Source: Baskaran and Feld (2013)

5.7 Blochliger (2013): Decentralisation and Economic Growth – Part 1: How Fiscal Federalism Affects Long-Term Development

The paper investigates how decentralisation affects economic growth using data on OECD countries. Firstly, it discusses the difficulty in assessing fiscal decentralisation as this can be either spending of revenue based. On the revenue side, the division goes even further as this can be total revenue of the local government, tax revenue of the local government, or tax autonomous revenue of the local government for which the base, the rate or both can be set independently of the central government.

The authors argue that fiscal decentralisation can increase inter-jurisdictional productivity through more efficient investments. Local government will also seek to promote investment and economic activity by competing against each other to attract mobile production factors. The mechanisms behind it are two, local governments will either increase spending on services that attract these factors, or by making current spending levels more efficient. Investigating empirically this link between decentralisation and growth, the authors found a positive and significant relationship. Doubling current decentralisation ratios increases GDP per capita by 3 per cent on average, with these effects being higher for countries with more central governments and lower for those with already a high degree of decentralisation.

The paper further investigated the link between decentralisation and public investment. Their empirical findings show a positive and significant effect of fiscal decentralisation on public investment on both physical and human capital. The evidence suggests that the results are mainly driven by a larger increase in human capital and education rather than investment in physical capital.

Disentangling the effect on education further, the authors find that more decentralized education, measured by financial, regulatory and operational powers of the local government to run the educational system, leads to better education outcomes, measured by the international PISA scores.

5.8 Blochliger & Akgun (2018): Fiscal decentralisation and economic growth

Blochliger and Akgun (2018) use a panel of OECD countries from 1987 to 2014 to investigate the effect of decentralisation on economic growth, measured by GDP per capita. They test for spending, revenue and tax revenue decentralisation (measured as both percentage of GDP or percentage of total spending, revenue and tax revenue respectively) while controlling for a number of variables which could also impact growth.

Their empirical analysis builds upon the neo-classical growth theory using an error correction model based on the convergence growth equation augmented by the decentralisation variables. They run their specification with and without country fixed effects while always controlling for year fixed effects. They also perform their analysis by testing for the effect of the interaction of the decentralisation variables and government size, measured as spending to GDP ratio. Due to the fact that certain decentralisation variables are sensitive to the business cycle, the authors cyclically adjust their coefficients.

Results suggest that not all decentralisation measures affect growth the same way. For example, when controlling for country fixed effects, a 10 percentage points increase in tax decentralisation will increase GDP growth by 0.09 percentage points. Revenue and spending decentralisation however, seem to have no effect on growth irrespective of whether country fixed effects are controlled for or not. However, in the specification with country fixed effects and when intergovernmental transfers are also controlled for (which have a negative effect on growth), the effect of spending decentralisation becomes positive and significant.

Lastly, the authors also distinguish between effects on federal and unitary countries. Both spending and revenue decentralisation have a significant negative effect on growth for federal countries and no effect on unitary ones. On the other hand, tax revenue decentralisation has a positive and significant effect on unitary countries and no effect on federal ones. These results suggest that based on the constitutional setup of the countries, they should target decentralisation measures differently.

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