



18<sup>th</sup> July 2019

## A large proportion of graduates remain in their provider region

Almost half are residing in the same region as their provider 5 years after graduation. If a graduate now lives outside of the region of their provider they are most likely to have moved to London.

Number of graduates	Current Region									All <sup>(1)</sup>
	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	
North East	7,700	1,005	1,575	445	305	595	2,095	775	325	15,985
North West	570	22,195	2,110	1,190	1,880	1,020	3,195	1,475	840	37,460
Yorkshire and the Humber	1,085	4,090	14,340	2,680	1,370	1,650	3,935	1,630	810	33,185
East Midlands	200	1,020	1,530	8,955	2,400	2,625	3,890	2,400	840	25,040
West Midlands	125	1,105	545	1,505	12,255	1,235	2,935	1,800	1,155	23,875
East of England	70	250	245	555	310	7,695	3,925	1,525	430	15,830
London	185	620	500	660	820	3,490	27,870	6,115	1,265	44,200
South East	395	1,150	960	1,270	1,500	4,090	9,930	17,495	3,845	44,375
South West	90	435	300	510	1,115	1,335	4,295	4,130	10,530	24,590
All	10,425	31,865	22,100	17,770	21,960	23,735	62,070	37,350	20,040	264,540

(1) Total includes devolved administrations/abroad and missing/unknown

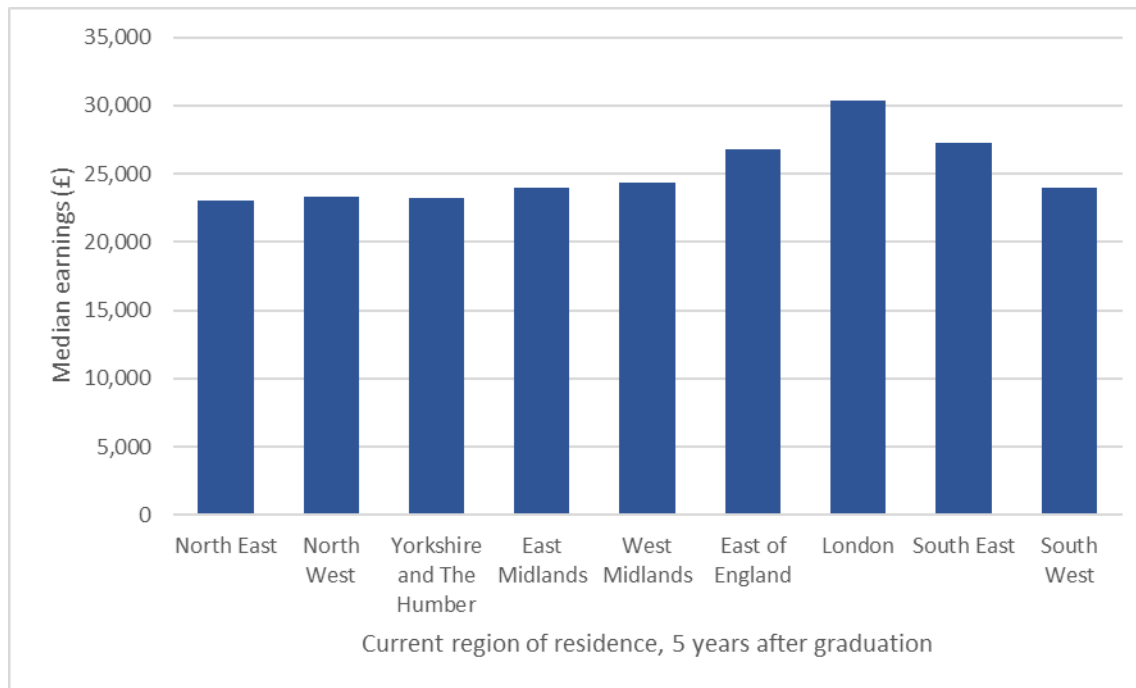
Some of the movement away from provider region will be graduates returning to their home region. There is a strong link between home region, provider region and current region. One year after graduation a very high proportion of graduates (82%) are in the same current region as their original home region (43.7% who studied in the same region and therefore never left their home region and 38.3% who chose to study in a different region and subsequently returned.)

Year after graduation	Leave home region to study (%)			Stay in home region to study (%)		Total (%)
	Return home	Stay in study region	Move elsewhere	Stay in home/study region	Move elsewhere	
1	38.3	8.3	6.2	43.7	3.5	100.0
3	35.1	7.5	9.2	42.8	5.4	100.0
5	31.4	7.4	11.5	42.5	7.1	100.0
10	28.2	9.0	16.7	36.9	9.2	100.0

## Graduate earnings are highest in London but graduates earn more, on average, than non-graduates in all regions of England

Graduates living in London typically earn more than those living elsewhere, with higher earnings also seen in the South East and East of England. In other regions, average earnings are fairly similar.

A similar trend is seen in non-graduate earnings. Graduates typically earn more than non-graduates, with the gap in pay relatively similar across the country but greatest in absolute terms in London (around £5,000) and in percentage terms in the South West (around 22%).



While figures above do not control for differences in graduate populations (e.g. prior attainment, social background, degree subject), a basic regression analysis suggest that region has a large and significant effect on earnings. However, the analysis did not consider the extent to which this is due to unobserved differences in the graduates characteristics; the greater skills utilisation of graduates in that region; or other factors (e.g. compensation for higher living costs).

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## About this release

This experimental statistics publication provides new analysis using recently obtained data on the geographical location of graduates in the 2016/17 tax year. This data has been combined with the main LEO dataset to allow additional analysis to improve our understanding in the following areas:

- The extent to which gaining a degree and moving into work is associated with moving regions
- Variation by region in graduate labour market outcomes
- How this influences comparisons of provider's average graduate earnings

This publication covers UK domiciled graduates from English providers, therefore data on home and current region of residence for the devolved administrations does not cover all graduates from these regions originally or all graduates currently living there.

Additional analysis has also been carried out looking at students who achieved 5+A\*-C, including English and maths, but did not achieve a level 6 qualification by the age of 23, this allows us to compare graduate salaries in different regions of England to those who did not go to university.

Annex A includes maps at Local Authority District level to show the distribution of graduates and median earnings at a more detailed level.

Annex B includes a comparison between those whose highest qualification was between level 2 and 6.

The main tables and underlying data can be found in the excel and csv workbooks accompanying this release.

Further details on the LEO data and definitions used can be found in the accompanying [methodology document](#) from previous HE LEO releases.

## Feedback

We welcome feedback on this analysis, in particular in relation to how the new regional data could be incorporated into the provider level data that DfE publishes and our initial proposal in table 14. You can email us at [HE.LEO@education.gov.uk](mailto:HE.LEO@education.gov.uk)

# 1. Introduction

In England the process of gaining a degree and then entering the labour market can be a cause of regional migration. While many choose to study and work in the region they grew up, for others studying on a desired course or later taking up a desired job opportunity requires them to relocate. This is not an entirely random process; certain courses may only be available in certain areas; in moving to study in an area an individual may develop an affinity for that area and continue to live there after graduation; or certain providers may be better at supporting entry into certain types of job that have a particular regional concentration.

Going to University and gaining a degree therefore plays a role not just in increasing the overall skill levels of a country but also in the regional distribution of those skills. It also means that HE providers serve not just a single, national labour market, but also different regional labour markets, with this varying by providers' focus, course offering and location. In turn, as wages across different regions of England vary, this has the potential to influence the average earnings outcomes of different HE providers – those more likely to serve higher paying labour markets being more likely to see higher average outcomes than those that don't.

This statistical release uses a newly developed version of LEO, incorporating data on graduate's current region of residence, to look at:

- (i) The extent to which gaining a degree and moving into work is associated with moving regions
- (ii) Variation by region in graduates labour market outcomes
- (iii) How this influences comparisons of providers average graduate earnings results.

As this is based on longitudinal, large scale, administrative data we believe it provides the most detailed and accurate picture ever of graduates migration patterns and their relationship to labour market outcomes.

## Methodology

### *Graduate outcomes*

This experimental statistics publication provides new analysis using recently obtained data on the geographical location of graduates in the 2016/17 tax year which has then been combined with the main LEO dataset.

The geographical location data is based on the latest address that DWP has recorded for each individual on their Customer Information System (CIS). The LEO dataset does not contain the actual address or postcode for each individual, we currently have data on the Government Office Region (GOR) and Local Authority District where the individual lives at the end of the 2016/17 tax year. In future this will be updated with data for previous tax years and will also be updated with each annual data feed.

The CIS is primarily updated when an individual notifies DWP or HMRC of a change of address or through the individual interacting with a tax or benefit system. Individuals who have not been matched to the CIS will not have geographical information. This does not have an adverse effect on the data analysis as 'unmatched' graduates are excluded from employment and earnings outcomes.

For those matched to CIS, address data is available in nearly all cases (over 99.8%), however for those who are not in receipt of benefits or contributing to the tax system then this information could be out of date. Even when contributing to the tax system, employee address is not a mandatory field in the data submitted to HMRC via employers HR systems. It is also possible that in the years soon after leaving university graduates may still use their parents address if they are moving frequently between rented accommodation. More work is needed to try and understand how big an impact this has on the address data held on CIS.

This publication concentrates on the same cohorts contained in our March 2019 publication i.e. outcomes in 2016/17 for those who graduated 1, 3, 5 and 10 years previously.

### *Non-graduate outcomes*

We also include additional analysis based on those who took their GCSE's in 2004/05 and obtained at least 5+A\*-C, including English and maths, but did not go on to complete a level 6 qualification by the age of 23. This comparison data was used as it was readily available from a previously published report<sup>1</sup>. To get the graduate population close to this cohort we have excluded those classified by HESA as 'mature' students i.e. those over the age of 21 at the start of the course. Most graduates who had entered university aged 18, did a three year course and then graduated in 2010/11 (the graduating cohort used) would have taken their GCSE's in 2006. As students can also take a year out before university/do a 4 year course there will be significant overlap between the non-graduate cohort and the graduate population used in this analysis. More details on the dataset used to provide the non-graduate data is given in Annex B along with additional data on other qualification levels.

## Definitions

**Home region:** The region of the UK as defined by the postcode given prior to entry in HE.

**Provider region:** The region in which the university/college is located (note: it is possible that the student might actually live in a different region to the region where the university is located).

**Current region of residence:** The region defined by the graduates home address held by DWP at the end of the 2016/17 tax year. This is not necessarily the same as their region of work, which is not contained in CIS. We intend to look at 'travel to work' areas in the future to get a better idea of where these graduates are likely to be working.

This publication covers UK domiciled graduates from English providers, therefore data on home and/or current region of residence relating to the devolved administrations does not relate to all graduates from these areas originally or currently living in these regions.

## 2. Results

### Overview of data

Table 1 looks at where UK domiciled graduates from English providers<sup>2</sup> live at different time points after graduation. The English regions where the highest proportion of graduates live are London and the South East, the lowest are the North East and East Midlands. The proportion in London is higher than what might be expected given the overall distribution of employment in England<sup>3</sup>. The data currently can't be used to track how the region a graduate lives in changes over time, as we currently only have one year's worth of regional data. However, looking across the different cohorts suggests a generally quite stable picture, with some gravitation towards London in the first five years and then some reversal by year ten.

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<sup>1</sup> <https://www.gov.uk/government/publications/post-16-education-highest-level-of-achievement-by-age-25>

<sup>2</sup> As this analysis only looks at English providers, the figures for the devolved administrations are not indicative of the total number of graduates living in these regions.

<sup>3</sup> <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/headlinelabourforcesurveyindicatorsforallregionshi00>.

**Table 1: Region of residence one, three, five and ten years after graduation**

Coverage: All UK domiciled first degree graduates from **English** HEIs, APs and FECs,  
 Cohorts: 2005/06 (10 years after graduation), 2010/11 (5 years), 2012/13 (3 years), 2014/15 (1 year) Tax year: 2016/17  
 Tax Year: 2016/17

Current region of residence	Years after graduation							
	One		Three		Five		Ten	
	Number	%	Number	%	Number	%	Number	%
North East	11,475	4.1	11,515	4.0	10,425	3.9	8,630	3.8
North West	36,115	12.8	36,340	12.6	31,865	12.0	26,350	11.5
Yorkshire and The Humber	25,630	9.1	24,825	8.6	22,100	8.4	17,860	7.8
East Midlands	20,310	7.2	20,445	7.1	17,770	6.7	14,960	6.5
West Midlands	25,690	9.1	24,990	8.6	21,960	8.3	18,095	7.9
East of England	26,655	9.4	27,090	9.4	23,735	9.0	19,920	8.7
London	59,395	21.0	65,540	22.6	62,070	23.5	50,130	21.8
South East	42,760	15.1	42,260	14.6	37,350	14.1	32,440	14.1
South West	22,285	7.9	22,490	7.8	20,040	7.6	18,170	7.9
Scotland	2,400	0.8	2,560	0.9	2,680	1.0	2,900	1.3
Wales	4,635	1.6	3,900	1.3	3,385	1.3	3,530	1.5
Northern Ireland	1,890	0.7	1,755	0.6	1,505	0.6	1,170	0.5
Abroad <sup>4</sup>	1,060	0.4	2,350	0.8	3,620	1.4	6,260	2.7
Missing/Unknown <sup>5</sup>	2,550	0.9	3,405	1.2	6,030	2.3	9,535	4.1
All	282,850	100.0	289,470	100.0	264,540	100.0	229,950	100.0

Table 2 shows that graduates in London have the highest median earnings three (£26,400), five (£30,400) and ten (£37,700) years after graduation. Graduates from English providers who live in Scotland have the highest median earnings one year after graduation (£22,300), although the rate of increase in median earnings between one and ten years after graduation in Scotland is the lowest of all regions.

The lowest median earnings relate to graduates from English providers who live in Northern Ireland across all four cohorts. These begin at £17,900 one year after graduation and end at £25,500 ten years after graduation.

Across all four cohorts, the region with the lowest percentage of graduates (from English providers) in sustained employment, further study or both is Northern Ireland. The second lowest fluctuates between London, Scotland and Wales. The highest percentages are shared between Yorkshire and the Humber, East Midlands and West Midlands.

<sup>4</sup> Only those who have informed DWP/HMRC that they have left the UK will be flagged as 'abroad'. Those who have left the country but are not in receipt of benefits or contributing to the UK tax system are likely to be recorded at their last known address in the UK.

<sup>5</sup> The proportion missing an address record increases overtime as the match rate to the CIS spine was lower for earlier years. Unmatched graduates are not included in employment/earnings outcomes.

**Table 2: Percentage of graduates in further study, sustained employment or both and median earnings by region, one, three, five and ten years after graduation**

Coverage: Matched UK domiciled first degree graduates from **English** HEIs, APs and FECs,  
Cohorts: 2005/06 (10 years after graduation), 2010/11 (5 years), 2012/13 (3 years), 2014/15 (1 year)  
Tax year: 2016/17

Current region of residence	Years after graduation							
	One		Three		Five		Ten	
	Sustained employment and/or further study (%)	Median earning (£)	Sustained employment and/or further study (%)	Median earning (£)	Sustained employment and/or further study (%)	Median earning (£)	Sustained employment and/or further study (%)	Median earning (£)
North East	88.1	18,700	87.7	21,200	86	23,000	84.9	27,100
North West	87.7	18,500	86.9	21,400	85.9	23,300	85.2	27,600
Yorkshire and The Humber	88.6	18,500	87.9	21,400	86.9	23,200	85.9	27,000
East Midlands	88.7	19,200	87.5	22,000	86.8	24,000	85.1	27,700
West Midlands	88.6	19,200	87.3	22,000	86.9	24,400	85.9	28,300
East of England	88.1	20,400	87.2	23,900	86.6	26,800	84.8	32,100
London	85.3	21,700	85.1	26,400	84.7	30,400	82.4	37,700
South East	87.7	21,100	87.3	24,600	86.2	27,300	83.9	32,000
South West	87.7	19,100	87.3	21,900	86.8	24,000	84.6	26,700
Scotland	86.6	22,200	84.9	23,700	83.8	26,800	81.5	29,700
Wales	86.2	18,700	84.4	21,400	84.3	23,900	82.5	27,700
Northern Ireland	82	17,900	79.2	19,900	77.3	22,000	75.9	25,500
All	87.2	19,900	86.2	23,300	85.1	26,000	82.6	30,500

### Graduate movement to attend higher education

The remaining analysis focuses on the cohort that graduated in 2010/11 (i.e. the five year after graduation cohort).

Tables 3 and 4 look at the 'home region' of each graduate (as defined by their main address prior to starting study) compared to the region where their higher education provider was located to assess the extent to which students move regions in order to gain their degree (note: as the provider region is based on the location of the university/college it is possible that students may live in a different region whilst studying).

It can be seen that a large proportion of students typically opt to study in their home region (just over half studied at a provider in their home region). The regions where students are more likely to stay and study are the North East and North West – where around two thirds do – while the least likely by quite a margin is the East of England where only a third do. These patterns will in part reflect differences in the number of local study options available to prospective students.

Where a student does move out of their region, it is often to a directly neighbouring region. For example, a high proportion of students from the South East tend to select study destinations within London (16.3%) or the South West (13%).

In the more northerly regions, the East of England and the South West are typically the least chosen destinations for study. Whereas in the more southerly regions, the North East is quite comfortably the least chosen destination for study. Students from northerly regions also tend to study in the South East at a disproportionately high rate relative to the numbers who move to the East of England, London, or the South West.

**Table 3: Number of graduates by home region and provider region**

Coverage: All UK domiciled first degree graduates from **English** HEIs and FECs,  
 Cohort: 2010/11 graduating cohort (5 years)

		Provider Region									
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	All
Home Region	North East	8,045	695	1,490	285	160	110	265	445	115	11,610
	North West	1,305	22,660	4,865	1,165	1,175	350	835	1,310	490	34,150
	Yorkshire and the Humber	2,040	2,545	13,860	1,880	690	315	705	1,060	325	23,425
	East Midlands	670	1,595	3,575	9,250	1,750	645	875	1,550	685	20,590
	West Midlands	365	2,450	1,865	2,745	12,820	405	1,070	1,885	1,535	25,130
	East of England	710	1,105	2,220	3,175	1,455	8,190	3,725	4,905	1,675	27,160
	London	600	1,425	1,625	2,320	1,695	3,125	26,790	7,470	1,990	47,035
	South East	970	1,575	2,015	2,795	2,080	1,755	6,895	18,780	5,525	42,380
	South West	395	925	850	865	1,390	500	1,725	4,725	10,995	22,370
	Scotland	260	280	145	70	70	110	250	940	95	2,225
	Wales	115	1,045	365	275	420	105	455	790	950	4,520
	Northern Ireland	445	920	160	90	90	95	140	345	125	2,415
	Not Known	75	240	150	130	75	130	470	170	80	1,525
	All	15,985	37,460	33,185	25,040	23,875	15,830	44,200	44,375	24,590	264,540

**Table 4: Percentage of graduates by home region and provider region**

Coverage: All UK domiciled first degree graduates from **English** HEIs and FECs,  
 Cohort: 2010/11 graduating cohort (5 years)

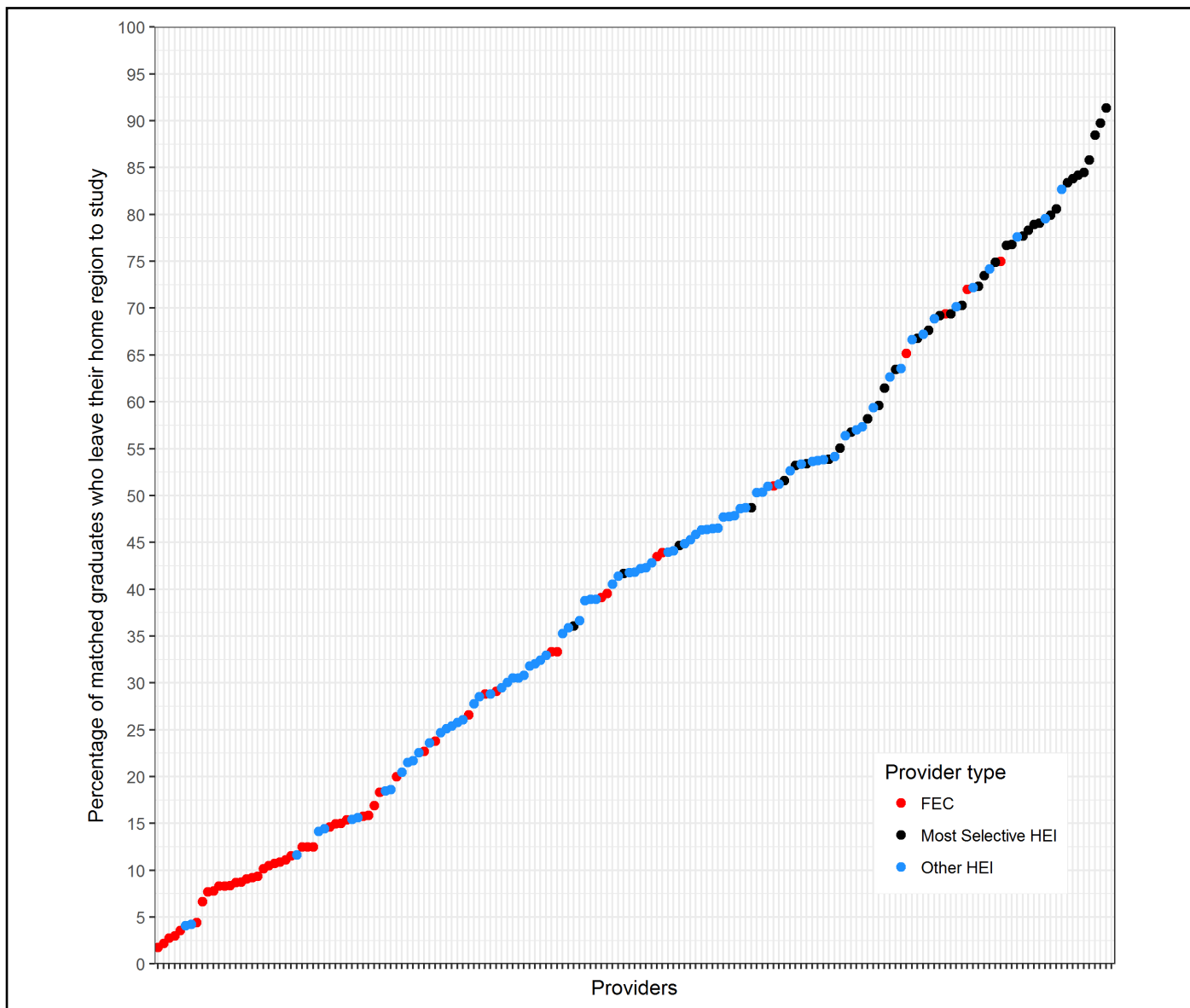
Percentage of Graduates		Provider Region									
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	All
Home Region	North East	69.3	6.0	12.8	2.5	1.4	0.9	2.3	3.8	1.0	100
	North West	3.8	66.4	14.2	3.4	3.4	1.0	2.4	3.8	1.4	100
	Yorkshire and the Humber	8.7	10.9	59.2	8.0	2.9	1.3	3.0	4.5	1.4	100
	East Midlands	3.3	7.7	17.4	44.9	8.5	3.1	4.2	7.5	3.3	100
	West Midlands	1.5	9.7	7.4	10.9	51.0	1.6	4.3	7.5	6.1	100
	East of England	2.6	4.1	8.2	11.7	5.4	30.2	13.7	18.1	6.2	100
	London	1.3	3.0	3.5	4.9	3.6	6.6	57.0	15.9	4.2	100
	South East	2.3	3.7	4.8	6.6	4.9	4.1	16.3	44.3	13.0	100
	South West	1.8	4.1	3.8	3.9	6.2	2.2	7.7	21.1	49.2	100
	Scotland	11.7	12.6	6.5	3.1	3.1	4.9	11.2	42.2	4.3	100
	Wales	2.5	23.1	8.1	6.1	9.3	2.3	10.1	17.5	21.0	100
	Northern Ireland	18.4	38.1	6.6	3.7	3.7	3.9	5.8	14.3	5.2	100
	Not Known	4.9	15.7	9.8	8.5	4.9	8.5	30.8	11.1	5.2	100
	All	6.0	14.2	12.5	9.5	9.0	6.0	16.7	16.8	9.3	100

As well as geographic proximity, provider-level factors also have a clear influence on a student's willingness to move to study. As we see in Figure 1 there is considerable variation in the mobility of different providers' student body – ranging from less than 5% to over 90%. Many of those with very high concentrations of local students are Further Education Colleges. This likely to reflect many Further Education Colleges origins and focus on supporting local skills needs. At the other end, we see that where an institution is amongst the most selective a far greater proportion of its students are likely to have moved to study there. It is likely that the same qualities that make them popular (and so require higher entry requirements) also make students willing to travel and study there. It is worth noting that there are also a few providers not classified as 'most selective' that have high proportions of students originally from a different region. In most cases these are the more specialist providers offering courses not available at many providers.



**Figure 1: Percentage of students who lived in a different home region to where their provider is located, by provider.**

Coverage: All UK domiciled first degree graduates from **English** HEIs and FECs  
 Cohort: 2010/11 graduating cohort (5 years)



**Graduate movement from region of provider to region of current residence**

Tables 5 and 6 show the number and percentage of graduates within each provider region and current region of residence combination.

A large proportion of graduates typically remain in their provider region (almost half are residing in the same region as their provider 5 years after graduation). If a graduate now lives outside of the region of their provider they are most likely to have moved to London (the only exception being students originally at a provider in Yorkshire and the Humber where the North West is the most popular destination). For example, 15.5% of those who attended a provider in the East Midlands lived in London five years after graduation.

**Table 5: Number of graduates by provider region and region of residence**

Coverage: All UK domiciled first degree graduates from English HEIs and FECs,  
 Cohort: 2010/11 graduating cohort (5 years)

Number of Graduates		Current Region													All
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Scotland	Wales	Northern Ireland	Abroad/Unknown	
Provider Region	North East	7,700	1,005	1,575	445	305	595	2,095	775	325	280	75	270	545	19,985
	North West	570	22,195	2,110	1,190	1,880	1,020	3,195	1,475	840	385	775	580	1,245	37,460
	Yorkshire and the Humber	1,085	4,090	14,340	2,680	1,370	1,650	3,935	1,630	810	250	250	85	1,010	33,185
	East Midlands	200	1,020	1,530	8,955	2,400	2,625	3,890	2,400	840	140	215	50	775	25,040
	West Midlands	125	1,105	545	1,505	12,255	1,235	2,935	1,800	1,155	110	315	65	725	23,875
	East of England	70	250	245	555	310	7,695	3,925	1,525	430	120	90	50	560	15,830
	London	185	620	500	660	820	3,490	27,870	6,115	1,265	260	300	80	2,030	44,200
	South East	395	1,150	960	1,270	1,500	4,090	9,930	17,495	3,845	960	670	250	1,860	44,375
	South West	90	435	300	510	1,115	1,335	4,295	4,130	10,530	175	695	70	910	24,590
All	10,425	31,865	22,100	17,770	21,960	23,735	62,070	37,350	20,040	2,680	3,385	1,505	9,650	264,540	

**Table 6: Percentage of graduates by provider region and region of residence**

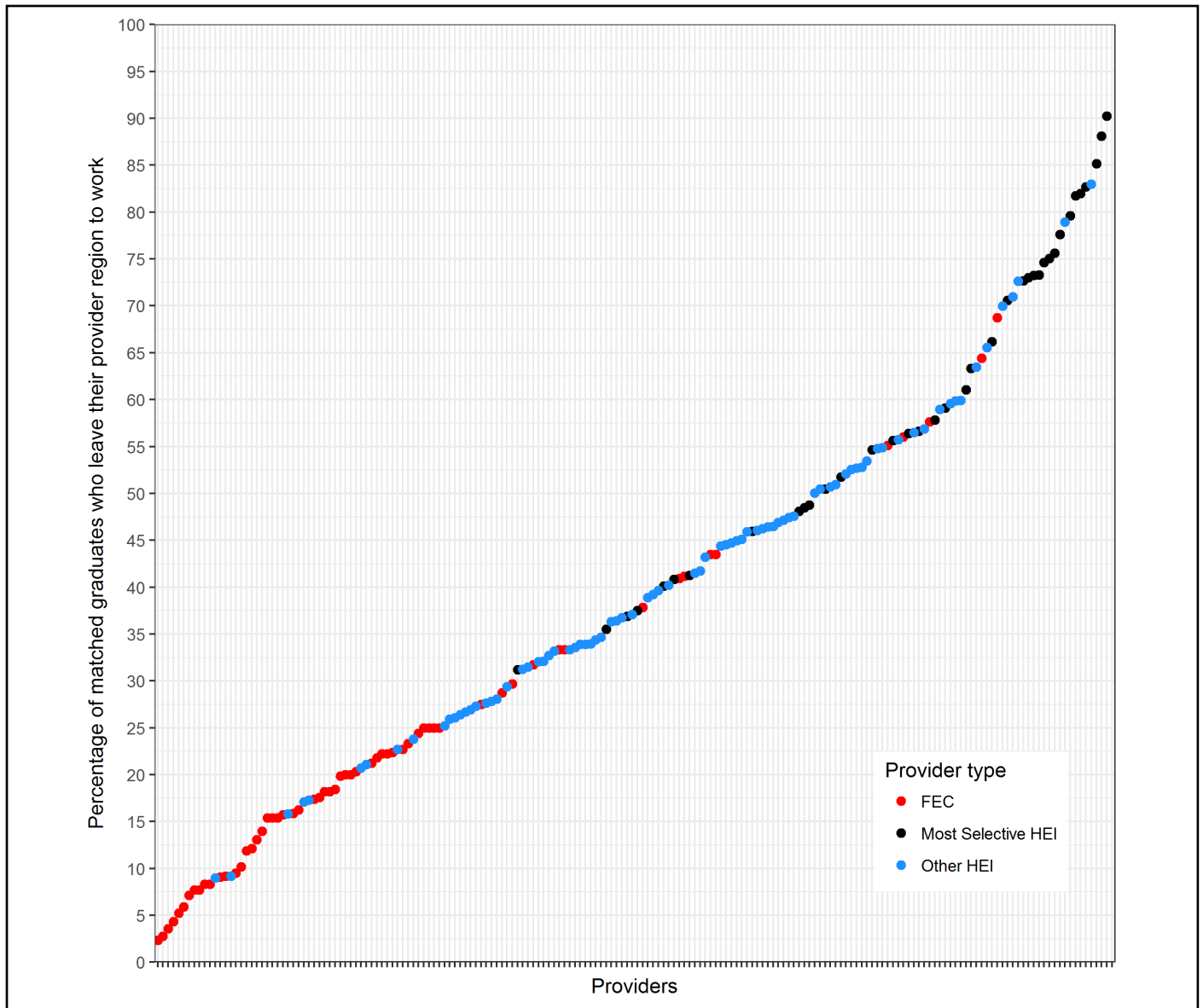
Coverage: All UK domiciled first degree graduates from English HEIs and FECs,  
 Cohort: 2010/11 graduating cohort (5 years)

Percentage of Graduates		Current Region													All
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Scotland	Wales	Northern Ireland	Abroad/Unknown	
Provider Region	North East	48.2	6.3	9.9	2.8	1.9	3.7	13.1	4.8	2.0	1.8	0.5	1.7	3.4	100
	North West	1.5	59.2	5.6	3.2	5.0	2.7	8.5	3.9	2.2	1.0	2.1	1.5	3.3	100
	Yorkshire and the Humber	3.3	12.3	43.2	8.1	4.1	5.0	11.9	4.9	2.4	0.8	0.8	0.3	3.0	100
	East Midlands	0.8	4.1	6.1	35.8	9.6	10.5	15.5	9.6	3.4	0.6	0.9	0.2	3.1	100
	West Midlands	0.5	4.6	2.3	6.3	51.3	5.2	12.3	7.5	4.8	0.5	1.3	0.3	3.0	100
	East of England	0.4	1.6	1.5	3.5	2.0	48.6	24.8	9.6	2.7	0.8	0.6	0.3	3.6	100
	London	0.4	1.4	1.1	1.5	1.9	7.9	63.1	13.8	2.9	0.6	0.7	0.2	4.6	100
	South East	0.9	2.6	2.2	2.9	3.4	9.2	22.4	39.4	8.7	2.2	1.5	0.6	4.2	100
	South West	0.4	1.8	1.2	2.1	4.5	5.4	17.5	16.8	42.8	0.7	2.8	0.3	3.7	100
All	3.9	12.0	8.4	6.7	8.3	9.0	23.5	14.1	7.6	1.0	1.3	0.6	3.6	100	

Figure 2 shows the percentage of graduates leaving the provider region by each provider. This shows a similar pattern to the initial movement to study at a higher education provider, with those at the 'most selective' providers being most likely to move region. The main exception being the 'most selective' providers located in London, as their graduates are likely to stay in London.

**Figure 2: Percentage of graduates living in a different region to the location of the provider**

Coverage: All UK domiciled first degree graduates from English HEIs and FECs  
 Cohort: 2010/11 graduating cohort (5 years)



## Full cycle graduate movement

A number of graduate movement trends were observed in the previous section, however, more detailed analysis is required if we are to assess whether the graduates that move region are simply returning to their home regions post-study.

Table 7 summarises the graduate movement throughout the full cycle (home region – provider region – current region). This shows that one year after graduation a very high proportion of graduates (82%) are in the same current region as their original home region (43.7% who studied in the same region and therefore never left their home region and 38.3% who chose to study in a different region and subsequently returned<sup>6</sup>.) At the 10 years after graduation mark, the overall proportion still in their home region has reduced to 65.1%.

This analysis also indicates that one year after graduation almost one-fifth of graduates (18%) are in different regions currently, compared to their original home region (3.5% who studied in their home region and now live in a different region, 6.2% who did not study in their home region and now live in neither their home or provider region and 8.3% who did not study in their home region and currently live in their provider region).

The table also shows that graduates who did not study in their home region were not more likely beyond the short-term to stay in that region over moving elsewhere. Ten years after graduation 16.7% of graduates had studied in a different region and now live elsewhere (not in the provider region or their home region) compared to 9% who studied in a different region and then still live in that region.

**Table 7: Full cycle graduate movements**

Coverage: All UK domiciled first degree graduates from **English** HEIs, APs and FECs  
Cohorts: 2005/06 (10 years after graduation), 2010/11 (5 years), 2012/13 (3 years), 2014/15 (1 year)  
Tax year: 2016/17

Year after graduation	Leave home region to study (%)			Stay in home region to study (%)		Total (%)
	Return home	Stay in study region	Move elsewhere	Stay in home/study region	Move elsewhere	
1	38.3	8.3	6.2	43.7	3.5	100.0
3	35.1	7.5	9.2	42.8	5.4	100.0
5	31.4	7.4	11.5	42.5	7.1	100.0
10	28.2	9.0	16.7	36.9	9.2	100.0

Graduates from the most selective institutions were the least likely to still be living in their original home region five years after graduation (62.7% compared to 79.1% among those who didn't go to an institution classified as most selective and 86% for those who studied at FEC's). A high proportion (20.8%) of those who attended a 'most selective' institution moved region to study and are now located in a different region five years later (i.e. not their original home region or their study region).

**Table 8: Full cycle graduate movements by provider type**

Coverage: All UK domiciled first degree graduates from **English** HEIs, and FECs  
Cohorts: 2010/11 (5 year after graduation)  
Tax year: 2016/17

Provider type	Leave home region to study (%)			Stay in home region to study (%)		Total (%)
	Return home	Stay in study region	Move elsewhere	Stay in home/study region	Move elsewhere	
Most Selective HEI	38.8	9.7	20.8	23.9	6.7	100.0
Other HEI	28.5	6.4	7.2	50.6	7.3	100.0
FEC	11.0	3.0	3.3	75.0	7.8	100.0

<sup>6</sup> Due to the way 'provider region' is defined it is possible that although studying in a different region to their 'home region' some of these graduates were still living in their home region and then commuting to a different region to attend university.

Table 9 shows the full cycle graduate movement broken down by home region.

The overall proportion of graduates whose home region matches their current region of residence varies depending on the original home region. Those originally from the South West are the least likely to still be resident in that region five years after graduation (67.6% compared to 73.9% nationally). Those originally from London or the North West were most likely to still be residing in their original home region (84.7% and 80.1% respectively).

**Table 9: Full cycle graduate movement by home region**

Coverage: All UK domiciled first degree graduates from English HEIs and FECs  
Cohort: 2010/11 graduating cohort (5 years)

Home Region	Leave home region to study (%)			Stay in home region to study (%)		Total (%)
	Return home	Stay in study region	Move elsewhere	Stay in home/study region	Move elsewhere	
North East	17.4	5.7	7.8	60.6	8.5	100.0
North West	21.1	4.9	7.7	59.0	7.2	100.0
Yorkshire and the Humber	24.5	6.5	10.0	51.2	7.9	100.0
East Midlands	31.8	9.2	14.4	36.8	7.9	100.0
West Midlands	29.6	7.1	12.4	44.6	6.2	100.0
East of England	43.9	9.6	16.5	25.5	4.5	100.0
London	35.1	3.7	4.7	49.6	7.0	100.0
South East	33.6	8.3	14.0	35.5	8.6	100.0
South West	28.1	8.8	14.1	39.5	9.5	100.0
<b>Total</b>	<b>31.4</b>	<b>7.4</b>	<b>11.5</b>	<b>42.5</b>	<b>7.1</b>	<b>100.0</b>

### 3. Graduate salaries by region

Table 10 shows the median salary five years after graduation split by the provider region and the current region. As seen earlier, graduates who currently live in London have the highest median earnings (£30,400) but this table also shows that those who studied in a different region of England and then moved to London earn more than those who studied in London and were still there five years later, with those moving the furthest generally seeing the biggest benefits (e.g. those who studied at a provider in the North East and currently live in London had median earnings of £38,000 compared to £30,600 for those studied at a provider in the East of England).

**Table 10: Median earnings of graduates by provider region and current region**

Coverage: Matched UK domiciled first degree graduates from **English** HEIs and FECs, Cohort: 2010/11 graduating cohort (5 years), in sustained employment only

Median Earnings (£)		Current Region												
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Scotland	Wales	Northern Ireland	All
Provider Region	North East	22,600	28,100	26,100	27,500	29,000	30,300	38,100	31,600	29,800	28,900	24,000	26,300	26,500
	North West	23,300	22,700	23,800	24,800	24,400	26,900	32,200	28,100	25,100	24,500	23,000	20,500	24,000
	Yorkshire and the Humber	23,400	24,300	22,600	24,900	25,800	28,800	32,900	29,700	26,700	25,300	21,900	19,700	25,100
	East Midlands	24,800	25,300	23,000	23,000	24,800	27,500	33,400	29,800	26,700	27,400	24,500	22,600	26,100
	West Midlands	24,200	24,600	25,100	25,500	23,500	28,500	34,000	29,300	25,700	29,400	25,300	21,300	25,800
	East of England	27,100	29,300	28,800	24,400	26,400	24,600	30,600	27,000	27,000	22,700	23,000	25,300	26,300
	London	24,200	25,400	24,800	26,000	27,200	28,200	27,600	27,900	25,200	23,800	23,100	23,000	27,500
	South East	23,900	24,200	23,600	23,500	25,200	27,000	31,100	25,900	23,500	28,600	25,100	22,200	26,900
	South West	30,000	25,700	25,700	26,600	25,900	29,200	33,800	28,900	23,300	24,200	24,100	22,800	26,500
	All	23,000	23,300	23,200	24,000	24,400	26,800	30,400	27,300	24,000	26,800	23,900	22,000	26,000

Table 11 shows that for every provider/current region combination those who moved into a region have higher earnings than those who remained in the same region as their provider. The percentages in this table need to be read down the columns. For example, those who moved to the North East after attending a provider in the East of England earn twenty percent more on average than those who studied and stayed in the North East.

**Table 11: Percentage change in earnings by current region - those who currently live in a different region to their provider, compared to those who stayed in the provider region**

Coverage: Matched UK domiciled first degree graduates from **English** HEIs and FECs, Cohort: 2010/11 graduating cohort (5 years), in sustained employment only

Change in earnings (%)		Current Region								
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West
Provider Region	North East	0	24	15	20	23	23	38	22	28
	North West	3	0	5	8	4	9	17	8	8
	Yorkshire and the Humber	4	7	0	8	10	17	19	15	15
	East Midlands	10	11	2	0	6	12	21	15	15
	West Midlands	7	8	11	11	0	16	23	13	10
	East of England	20	29	27	6	12	0	11	4	16
	London	7	12	10	13	16	15	0	8	8
	South East	6	7	4	2	7	10	13	0	1
	South West	33	13	14	16	10	19	22	12	0

Table 12 gives an indication of the earnings increase obtained by those who move to London and the surrounding regions. The percentages in this table need to be read across the rows. For example, those who moved to London after studying in the North East had median earnings that were 69% higher than those who stayed in the North East, but those who moved to the North West after studying in the North East had earnings that were 24% higher than those who stayed in the North East.

Moving region is associated with higher salaries in almost all cases with the main exception being for those who originally studied in London or the South East. For example, those who studied in London and then moved to the North West saw an 8% decrease in salary compared to those who stayed in London.

**Table 12: Percentage change in earnings by provider region - those who currently live in a different region to their provider, compared to those who stayed in the provider region**

Coverage: Matched UK domiciled first degree graduates from English HEIs and FECs,  
Cohort: 2010/11 graduating cohort (5 years), in sustained employment only

Change in earnings (%)		Current Region								
		North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West
Provider Region	North East	0	24	15	22	28	34	69	40	32
	North West	3	0	5	9	7	19	42	24	11
	Yorkshire and the Humber	4	8	0	10	14	27	46	31	18
	East Midlands	8	10	0	0	8	20	45	30	16
	West Midlands	3	5	7	9	0	21	45	25	9
	East of England	10	19	17	-1	7	0	24	10	10
	London	-12	-8	-10	-6	-1	2	0	1	-9
	South East	-8	-7	-9	-9	-3	4	20	0	-9
	South West	29	10	10	14	11	25	45	24	0

## 4. Impact of region at provider level

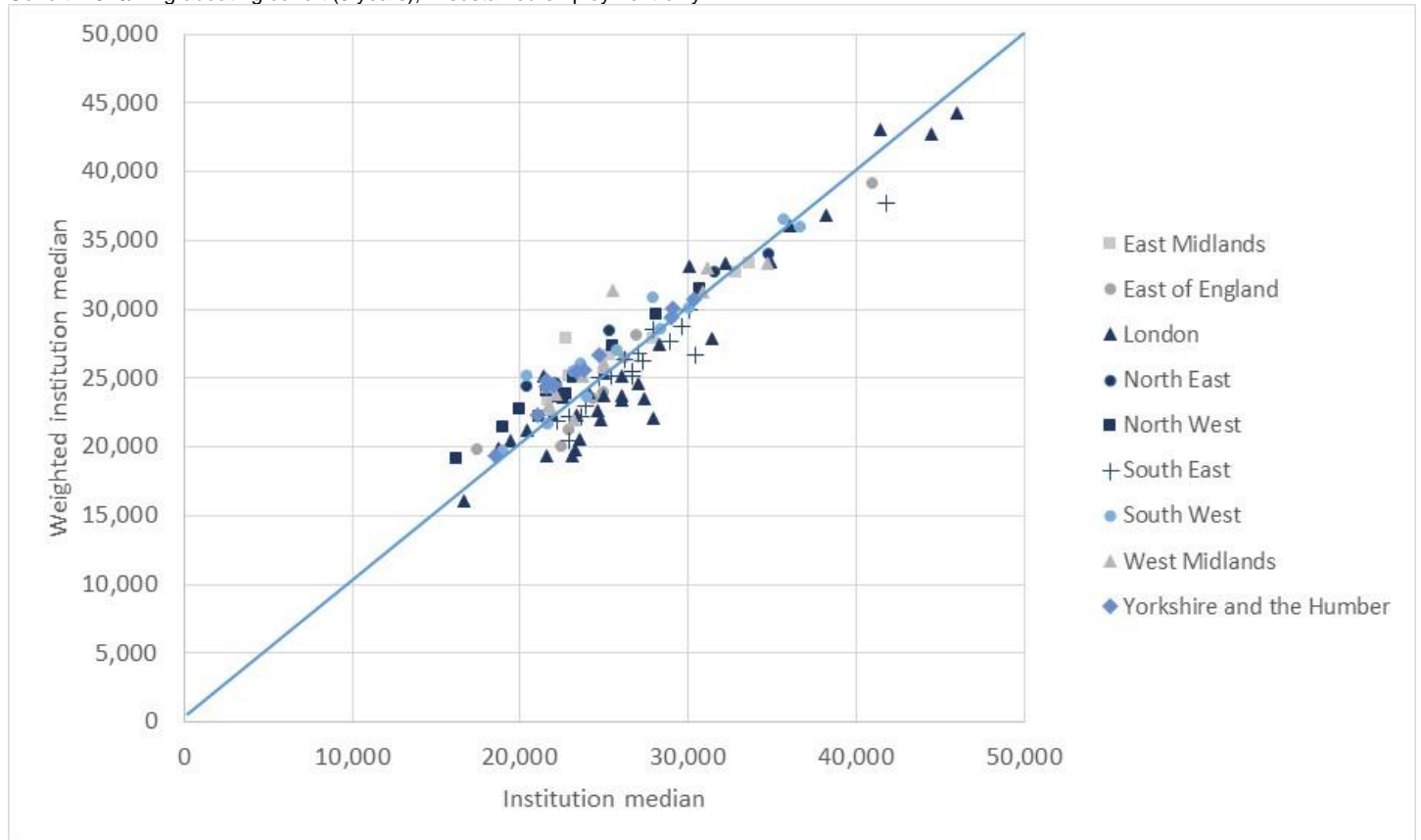
Figure 3 considers the impact of region on the median earnings of each higher education institution<sup>7</sup>. As different regions have different average earnings levels, where an institution's graduates typically go on to live and work is likely to have some influence on the average earnings figure for that institution's graduates. We try to explore this by re-weighting the graduate population of each institution so that it matches the overall regional distribution of all graduates (based on current region of residence five years after graduation). If an institution falls below the blue line then their actual median earnings are higher than they would be compared to if their graduates were distributed around the country in the same pattern as all graduates nationally.

We can see that many institutions are located close to the line – meaning the regional destination of their graduates has little impact on their raw outcome. But for some, the effect is more significant and there are some consistent differences. For example, it can be seen that institutions in London, the South East and East Midlands are more likely to fall below the blue line (in London 39 percent of institutions have an actual median that is over 5% more than the weighted median – see table 13). Similarly we see large proportions of institutions in the North East, North West and Yorkshire and Humber who have actual medians more than 5% less than their medians once adjusted to be representative of the typical distribution of graduates in England.

<sup>7</sup> This analysis was only carried out on HEI's due to the need for a reasonably large number of graduates required to re-weight the data for each provider.

**Figure 3: Median institution earnings compared to weighted median institution earnings**

Coverage: Matched UK domiciled first degree graduates from **English** HEIs.  
 Cohort: 2010/11 graduating cohort (5 years), in sustained employment only



**Table 13: Difference between actual institution median and weighted institution median**

Coverage: English HEI's

Institution region	Actual median over 5% more than weighted	Actual median within 5% of weighted	Actual median over 5% less than weighted	Total
	%	%	%	%
North East	0	40	60	100
North West	0	21	79	100
Yorkshire and The Humber	0	36	64	100
East Midlands	8	42	50	100
West Midlands	0	56	44	100
East of England	22	56	22	100
London	39	52	9	100
South East	28	72	0	100
South West	0	67	33	100
<b>Total</b>	<b>17</b>	<b>50</b>	<b>33</b>	<b>100</b>



## **Proposal for future publications**

Given that the regional distribution of students after graduation seems to impact on the median earnings of a provider it could be useful to prospective students to be able to compare how earnings for graduates from a particular provider compare given the same area of the country they go on to live in.

However, due to the need to maintain a reasonable number of graduates in each category it would not be possible to provide a complete regional breakdown for each provider. As seen in table 10, earnings in London are on average higher than all other areas of the country so we are proposing the following:

**To show the outcomes for each provider split into the following categories:**

- **Those that stay in the region of the provider**
- **Those that move to London<sup>8</sup>**
- **Those that move elsewhere in the UK**

This will also enable earnings for those who stay in the region to be compared to the average earnings for all the graduates from that cohort living in the region.

**We would welcome feedback on this proposal, details on how to comment can be found in Section 10.**

Table 14 gives an example of how this would work for three anonymised higher education providers located in the same region of England.

The median earnings five years after graduation for their graduates as a whole is different. Those at provider A earn on average £7,600 more than the national average, those at provider B earn £700 less than the national average and those at provider C earn £4,300 less on average. However, it can be seen that the proportions moving to London or staying in the same region varies across the three providers and this will have an influence on those averages.

In this example, when comparing earnings by destination for each provider, we see the same ordering for each category – provider A has a higher average than B who has a higher average than C. However, for a prospective student planning on living and working in London we see that this more tailored data suggests graduates from provider B earn above average salaries compared to all those living in London. In contrast, if they had only had the overall data they might have assumed that they were likely to get below average outcomes. It should be noted that we believe it important to provide an overall average as it is likely many students will not have a fixed idea about where they want to work after gaining a degree and for them an average will be the most useful figure.

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<sup>8</sup> Providers located in London would not have data in this category as their graduates would be in the first category if they still lived in London.

**Table 14: Median earnings by provider and current region of residence**

Current region	Provider A		Difference from Regional Average <sup>1</sup>
	Proportion	Median Earnings	
Stay (All)	18.1%	£29,500	<b>£5,500</b>
Leave (for London)	23.4%	£38,300	<b>£7,900</b>
Leave (for non-London)	58.6%	£33,100	<b>£8,300</b>
Overall	100.0%	£33,600	<b>£7,600</b>

Current region	Provider B		Difference from Regional Average
	Proportion	Median Earnings	
Stay (All)	40.1%	£23,100	<b>£-900</b>
Leave (for London)	13.9%	£30,500	<b>£100</b>
Leave (for non-London)	46.0%	£25,700	<b>£900</b>
Overall	100.0%	£25,300	<b>£-700</b>

Current region	Provider C		Difference from Regional Average
	Proportion	Median Earnings	
Stay (All)	54.0%	£21,100	<b>£-2,900</b>
Leave (for London)	3.6%	£28,200	<b>£-2,200</b>
Leave (for non-London)	42.4%	£21,700	<b>£-3,100</b>
Overall	100.0%	£21,700	<b>£-4,300</b>

<sup>1</sup> This compares the 'Stay(All)' earnings for each provider to the median earnings for all those working in the region that the provider is located in. The 'Leave (for London)' earnings are compared to the median earnings for all those working in London (see table 10). The Leave (for non-London) is compared to the median earnings for all regions of England minus those living in London and the region that the provider is located in.

## 5. Regression analysis

Region isn't the only factor that influences a graduate's earnings, other factors (for example, degree subject studied, prior attainment and gender) also have an impact and may also be associated with the region that a graduate lives in and/or their propensity to move region.

To understand these impacts further and estimate the impact that region has on provider level earnings we have carried out a simple regression analysis. The modelled outcome was the log of earnings five years after graduation. We have published the results of 3 regression models. The full models are available in the spreadsheet accompanying this release. The baseline model<sup>9</sup>, the baseline model plus the graduates' original home region and then the baseline model plus the graduates' current region<sup>10</sup> and a variable to indicate if they had moved regions before/during study (as those who move are likely to earn more than those originally from that region).

It is important to bear in mind that, while the model gives a useful indication of how certain factors influence earnings, a significant relationship does not imply causation. There is also still a lot of unexplained variation between different individuals' earnings as we cannot capture all factors that will influence earnings. In the case of current region, it also does not explain the reasons for any variation. That is to say, whether higher earnings reflect better skills utilisation in certain areas or agglomeration effects that boost graduate productivity<sup>11</sup>, or simply compensate for a higher cost of living. Additionally, patterns of movement to/from university is not necessarily random; certain courses may only be available in certain areas; in moving to study in an area an individual may develop an affinity for that area and continue to live there after graduation; or certain providers may be better at supporting entry into certain types of job that have a particular regional concentration.

We first looked at the impact of adding home region as this variable is already available in the LEO dataset and was used by the Institute for Fiscal Studies in their recent research into graduate returns<sup>12</sup>, we also saw in table 7 of this report that there is a link between home region and current region.

Looking at the provider co-efficients in the model it can be seen that including the home region changes these co-efficients in a number of cases (figure 4). The provider co-efficients show the average impact of attending that provider after holding all other variables in the model constant. The impact is in relation to the baseline category which in this case is Coventry University (chosen because its raw earnings are in the middle of the distribution and it is located in the West Midlands which, as seen in the earlier tables, has median earnings towards the middle of the regional distribution).

The general effect of adding home region is to reduce the difference in the provider estimates, particularly among those that previously had large positive percentages. Looking at the location of these providers they are generally in London or the South East.

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<sup>9</sup> The following variables were included in the baseline model: Gender, ethnicity, disability status, prior attainment at KS5, age at start of course, sandwich year, living at home during study, degree subject, degree class, number of years further study, provider, IDACI decile, FSM status, school type at KS5. Only those with an NPD record are included in the analysis.

<sup>10</sup> During the initial investigation we included graduates current local authority (as opposed to current region). The impact on the other variables and the overall model fit was very similar under both scenarios. In order to reduce the number of cells in the regression analysis we have selected region over local authority to make the estimates more robust.

<sup>11</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/510421/qs-16-4-future-of-cities-graduate-mobility.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/510421/qs-16-4-future-of-cities-graduate-mobility.pdf)

<sup>12</sup> <https://www.gov.uk/government/publications/undergraduate-degrees-relative-labour-market-returns>

**Figure 4: Percent difference in earnings by provider (impact of adding home region)**

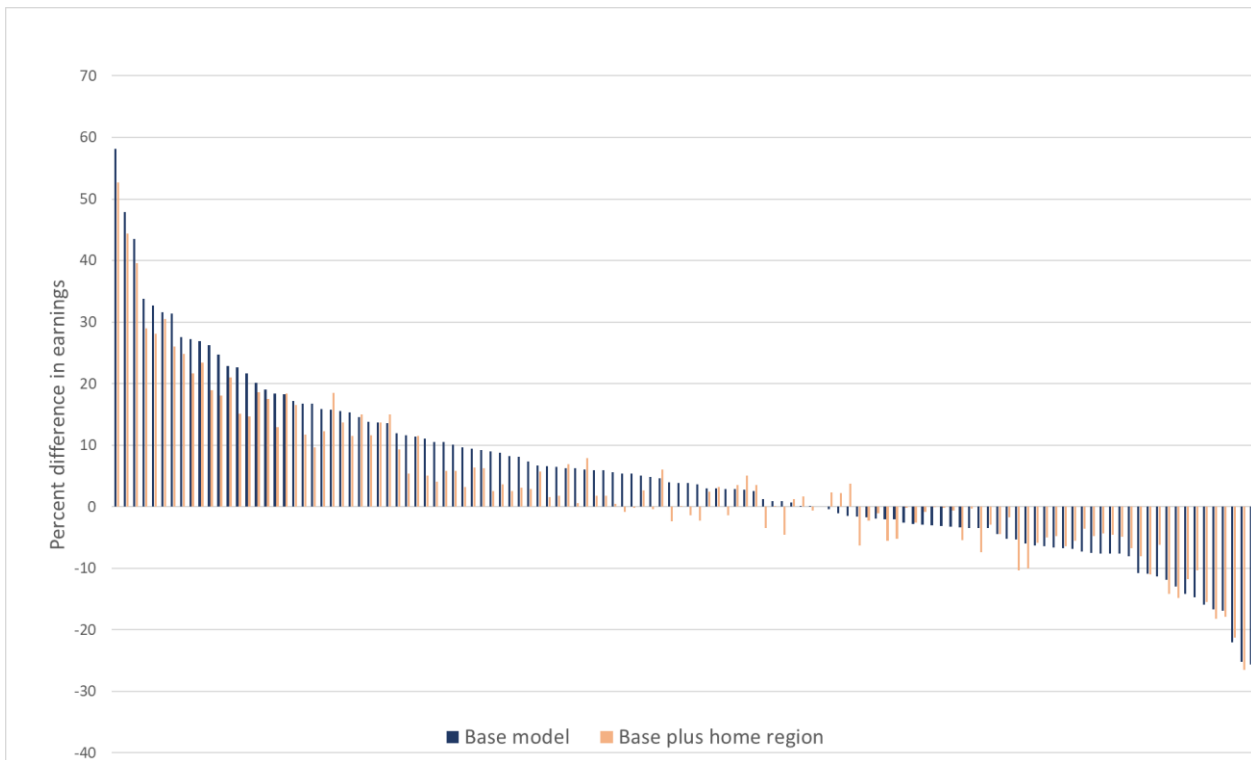


Figure 5 compares the percentages from the model containing home region and the model containing current region. It can be seen that including current region has more of an impact on the provider estimates. The inclusion of current region over home region also has a bigger impact on the proportion of variation in earnings explained by the regression model and the estimate for each regional co-efficient is also larger, suggesting current region has a stronger impact on earnings than home region.

Not all the providers that receive an additional reduction in their co-efficients are located in London or the surrounding regions (e.g. Durham and Warwick), the additional reduction in their positive co-efficients suggests they have a larger proportion of their students currently living in higher earning regions than came from these regions initially (compared to Coventry University).

**Figure 5: Percent difference in earnings by provider (impact of adding home region compared to current region)**

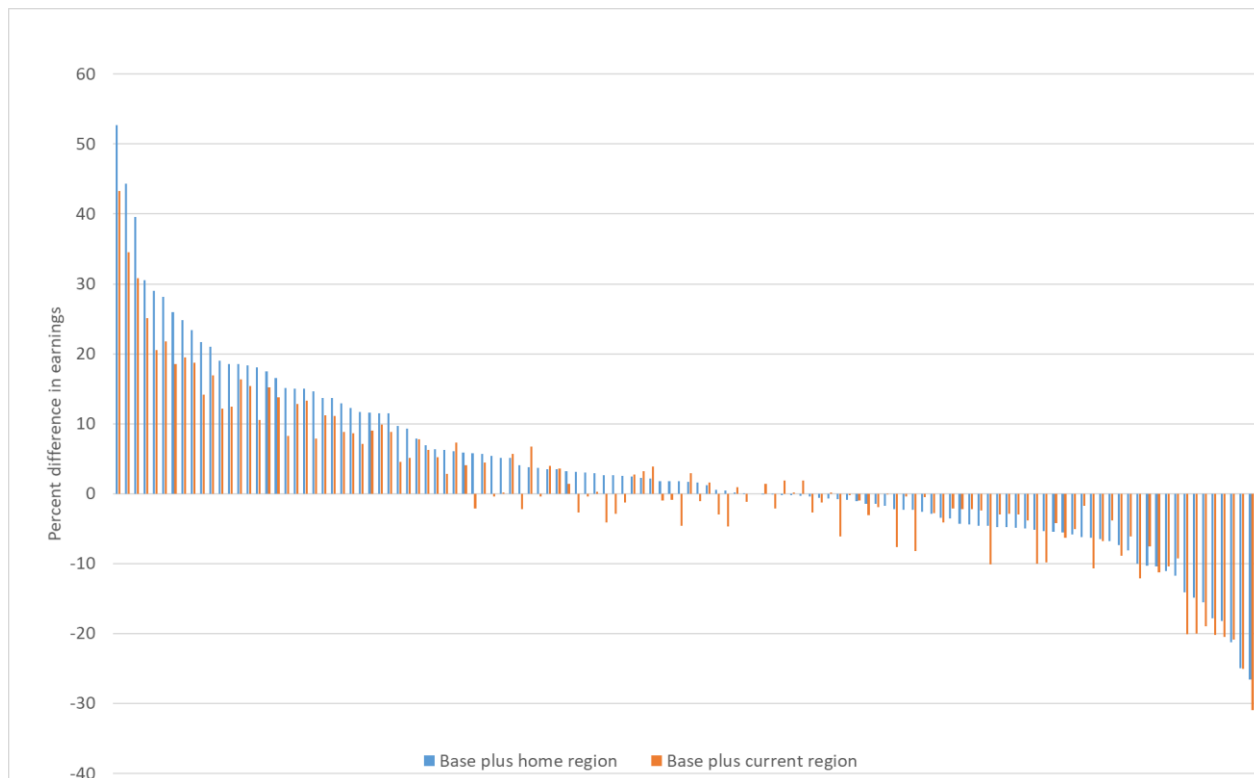


Table 15 shows the universities that see the biggest change in their provider co-efficients.

**Table 15: Percent difference in average earnings (compared to Coventry University)**

	Base model	Plus current region	Difference		Base model	Plus current region	Difference
LSE	58.1	43.3	-14.9	The University of Bolton	-14.2	-9.2	5.0
The City University	22.7	8.2	-14.5	Liverpool John Moores	-3.2	1.9	5.1
Queen Mary University of London	24.7	10.5	-14.2	York St John University	-5.2	-0.1	5.1
St George's Hospital Medical School	26.2	12.1	-14.1	The University of Bradford	-7.3	-2.1	5.2
Ravensbourne	21.6	7.9	-13.7	The University of Salford	-7.6	-2.4	5.3
The University of Oxford	47.9	34.5	-13.4	Edge Hill University	-3.4	1.9	5.3
Imperial College	33.8	20.5	-13.2	The University of Huddersfield	-7.6	-2.2	5.4
King's College London	27.2	14.1	-13.1	Teesside University	-14.8	-7.6	7.2
University College London	31.3	18.5	-12.8	University of Northumbria	-1.5	6.7	8.2
The University of Cambridge	43.5	30.8	-12.7	The University of Sunderland	-11.4	-1.7	9.7

The inclusion of the 'movement variable' in the regression model doesn't make much difference to the provider estimates but this variable corroborates the idea that moving does lead to increased earnings. Those who moved for university and then moved elsewhere (and not their home region) saw the largest impact on their earnings (8.7% increase compared to those who stayed in the same region to study and for work after – table 16). Those who stayed in their home region to go to university and then moved elsewhere afterwards saw a larger impact (7.6%) than those who moved region for university and then returned to their home region (1.4%). This suggests that moving for work by itself will increase your salary more than moving to go to university.

Again, it should be borne in mind that there may be unobserved differences in a graduate's characteristics that contribute towards explaining these results e.g. if an individual faces barriers to moving (e.g. caring responsibilities) these may explain both why they remain in their home region and why they have lower earnings potential.

**Table 16: Impact of whether a graduate moved for study and/or work after studying on graduate earnings**

Coverage: Matched UK domiciled first degree graduates from English HEIs, matched to an NPD record  
Cohort: 2010/11 graduating cohort (5 years), in sustained employment only

<b>Movement category</b>	<b>Effect estimate (%)<sup>1</sup></b>	<b>p-value (3 dp)<sup>2</sup></b>
Moved for study then returned home	1.4	0.00
Moved for study then stayed for work	4.6	0.00
Moved for study then moved elsewhere (not home)	8.7	0.00
Stayed for study and moved afterwards	7.6	0.00

<sup>1</sup>This is an estimate of the average effect on earnings (in %) of a graduate being in this category compared to a reference category (in this case a graduate who went to university in their home region, and then stayed in that region afterwards) once all other factors have been accounted for.

<sup>2</sup>The p-value shows the likelihood that the estimate is actually significantly different from the baseline category. A lower p-value indicates that the difference is less likely to be due to chance.

Looking at the other variables in the model the inclusion of either home or current region made little difference to the size of their co-efficients, the main exception was ethnicity. Here the main impact was to lower the estimated earnings for those in the Black African/Black Caribbean/Other Black and Other Asian categories, this is intuitive as graduates from these ethnic groups are more likely to be living in London than White British graduates (the baseline category)<sup>13</sup>.

## 6. Graduate earnings compared to non-graduates

The section above considers how important region is as a driver of variation in graduate earnings. It doesn't, however, consider how the return to a graduate might vary by region. That is the focus of this section which compares the regional earnings of 'young' graduates to those who achieved 5+A\*-C including English and maths at GCSE but had not completed level 6 by the age of 23 (non-graduates).

The non-graduate data relates to those who took their GCSEs in 2005. This comparison data was used as it was readily available from a previously published report<sup>14</sup>. To get the graduate population close to this cohort we have excluded those classified by HESA as 'mature' students i.e. those over the age of 21 at the start of the course. Most graduates who had entered university aged 18, did a three year course and then graduated in 2010/11 (the graduating cohort used) would have taken their GCSE's in 2006. As students can also take a year out before university/do a 4 year course there will be overlap between the non-graduate cohort and the graduate population used in this analysis. More details on the dataset used to provide the non-graduate data is given in Annex B along with additional data on other qualification levels.

It should be noted that unlike the previous section we are just making raw comparisons, that is to say we are not trying to control for any differences in the characteristics of graduates and non-graduates that might also influence their earnings (although the non-graduates all achieved at least 5+A\*-C including English and Maths, so low attaining non-graduates have been removed from the comparison group).

Regional earnings also vary for non-graduates, in absolute terms the difference between the highest and lowest earning region is smaller for non-graduates than it is for graduates. Non-graduates in London earn on average £7,100 more than non-graduates in the North East, whereas graduates in London earn £8,600 more on average than graduates living in the North East. However, the percentage difference is the same, non-graduates in London earn 38% more than those in the North East and graduates in London also earn 38% more than graduates in the North East.

When comparing earnings within the same region, graduates earn more than non-graduates in all regions. Although graduates living in the North East have the lowest earnings amongst graduates they still earn on average £3,600 more than non-graduates in the same region. The biggest absolute difference is in London where graduates earn on average £5,100 more than non-graduates (19.5% more) but in relative terms the

<sup>13</sup> <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest>

<sup>14</sup> <https://www.gov.uk/government/publications/post-16-education-highest-level-of-achievement-by-age-25>

biggest difference is in the South West where graduates earn on average 22.2% more than non-graduates in that region.

It can also be seen from table 17 that non-graduates living in London have higher median earnings than graduates in the majority of the rest of the regions in England, only graduates in London, the South East and the East of England have higher median earnings than non-graduates living in London.

**Table 17: Graduate median earnings by region compared to those who achieved level 2 but did not complete a level 6 qualification**

Coverage (graduates): Matched UK domiciled first degree **young** graduates from English HEIs and FECs,

Cohort (graduates): 2010/11 graduating cohort (5 years), in sustained employment only

Coverage (level 2): Matched students from schools in England who were academic age 15 in 2004/05.

Cohort (level 2): 2004/05 KS4 cohort, in sustained employment only

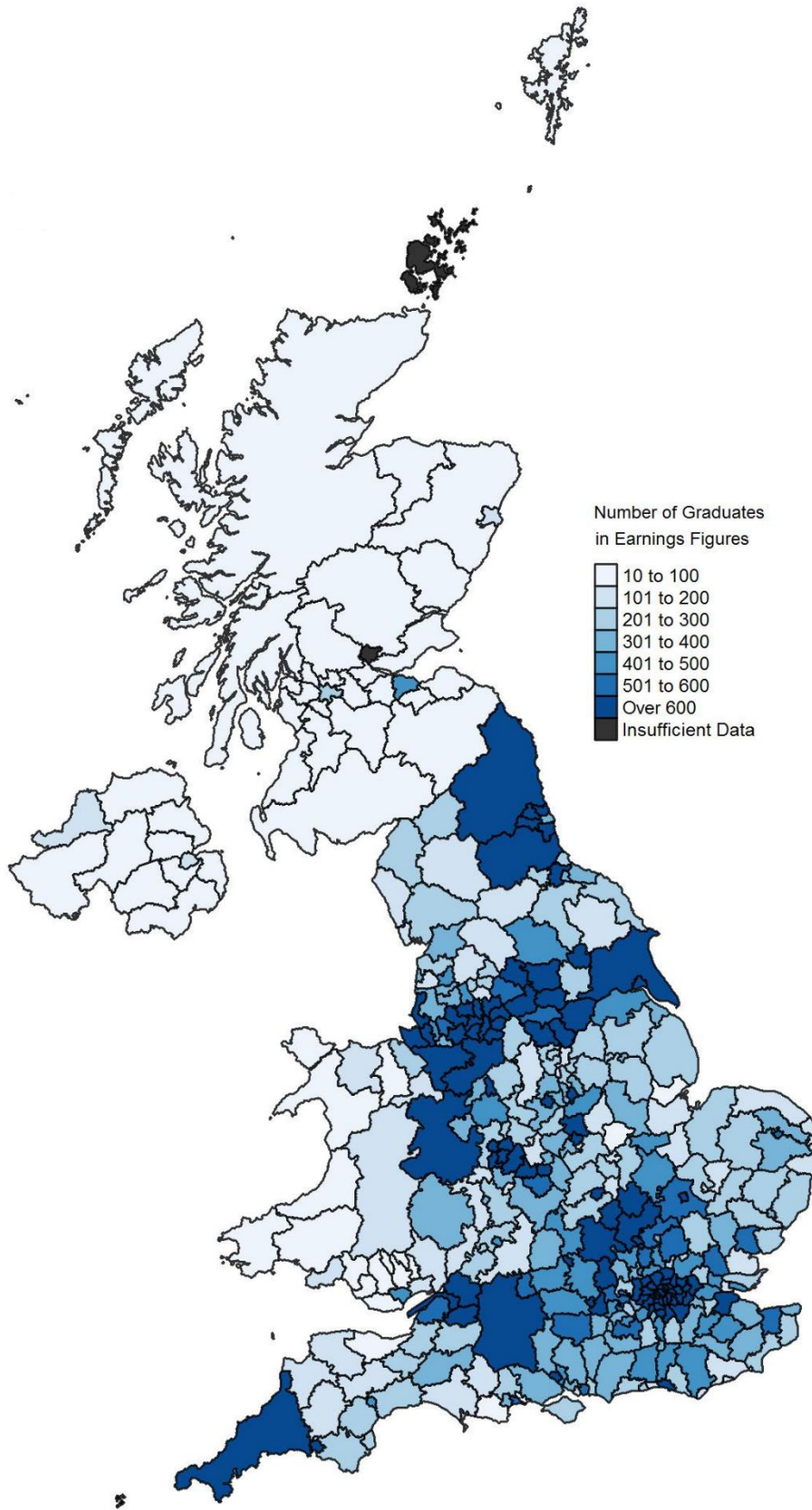
Current Region of residence	Non-graduates <sup>1</sup>		Graduates		Comparison	
	N	Median Earnings (£)	N	Median Earnings (£)	Difference (graduate – non-graduate)	Difference
North East	3,985	19,100	4,690	22,700	3,600	18.8%
North West	11,410	19,900	16,750	23,400	3,500	17.6%
Yorkshire and The Humber	7,750	20,000	11,560	23,400	3,400	17.0%
East Midlands	6,750	20,700	9,415	24,200	3,500	16.9%
West Midlands	8,215	20,400	11,770	24,700	4,300	21.1%
East of England	9,265	23,100	13,275	27,300	4,200	18.2%
London	8,230	26,200	36,505	31,300	5,100	19.5%
South East	13,145	23,500	20,490	27,900	4,400	18.7%
South West	8,915	20,300	10,080	24,800	4,500	22.2%
All	78,590	21,500	138,115	26,600	5,100	23.7%

<sup>1</sup> Non-graduates achieved at least 5+ A\*-C incl English and maths at age 15 but have not gone on to complete a level 6 qualification.

## 7. Annex A

### Map 1: Distribution of graduates by local authority district, five years after graduation

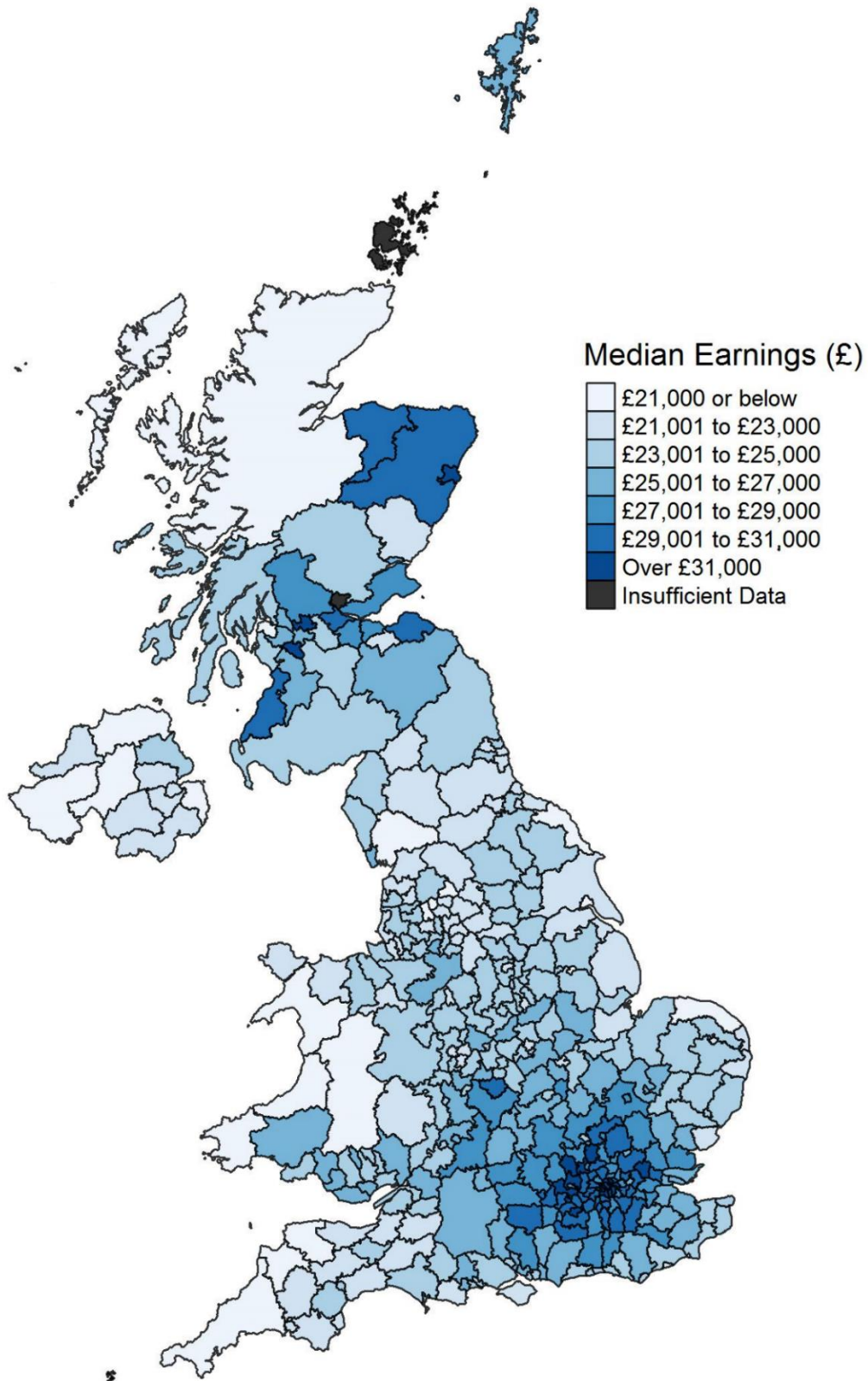
Coverage: All UK domiciled first degree graduates from English HEIs and FECs,  
Cohort: 2010/11 graduating cohort (5 years)





## Map 2: Median earnings by local authority district, five years after graduation

Coverage: All UK domiciled first degree graduates from English HEIs and FECs,  
Cohort: 2010/11 graduating cohort (5 years)



## 8. Annex B

Tables B1 and B2 show median earnings by highest level of qualification and the region of employment for people aged 26<sup>15</sup> in the 2016-17 tax year. The tables are constructed from the same cohort as the non-graduates presented in section 6 and are included here to provide further context for this group.

The tables are created by merging the young persons matched administrative dataset, the individualised learner record and LEO. The resulting cohort includes students who were academic age 15 in the 2004/05 academic year, undertook GCSEs in 2004/05 and were in sustained employment in the 2016-17 tax year. For more information, see the report <https://www.gov.uk/government/publications/post-16-education-highest-level-of-achievement-by-age-25>

Tables B1 and B2 update information published in the report Post 16 Education: Highest Level of Achievement by Age 25. Due to an update to the data and methodology and differences in the selection of the cohort, the estimates reported here are different to those described in Post 16 Education: Highest Level of Achievement by Age 25.

The earnings data presented in Table B1 only account for age, highest level of qualification, region of employment, and GCSE attainment. There is a large amount of unexplained variation in the data. Some examples of important factors not captured here are:

- Time spent in employment since achieving highest qualification.
- Sector and occupation of work.
- Grade awarded at the end of qualifications.
- Additional qualifications gained after age 23.
- Individual motivation and ability.

In addition, these estimates only describe earnings at a single point in time. Earnings tend to increase over time, and the earnings associated with different qualification levels could have different rates of increase.

The numbers here do not attempt to describe or control for these factors; they show a descriptive picture of median earnings against GCSE attainment, level achieved by age 23 and region of employment.

It is also important to note that given the small numbers achieving level 4 and level 5 qualifications, it is difficult to interpret comparisons with other levels. The analysis provides a useful description of differences in earnings but the courses on offer at level 4 and 5 may not be comparable to the wide range of level 6 and level 3 learning available.

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<sup>15</sup> Age refers to academic age 26 at the start of the 2016-17 tax year. This means the cohort were aged 26 on August 31 2015. On April 1 2016, at the start of the tax year, individuals in this cohort could be of actual age 26 or 27 depending on when their birthday falls in the year.

**Table B1: Region, GCSE attainment and highest level achieved by age 23: Median earnings**  
Cohort that undertook GCSEs in 2004/05, earnings measured at age 26 in 2016-17 tax year

Highest qualification by age 23	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Total
<i>Below five GCSEs A*-C</i>										
Below level 2	£14,100	£14,800	£15,200	£15,800	£15,500	£17,100	£17,100	£17,100	£16,100	£15,900
Level 2	£15,700	£16,000	£16,300	£16,600	£16,600	£17,600	£18,200	£18,000	£16,900	£16,800
Level 3	£16,200	£16,400	£16,600	£17,000	£16,500	£18,800	£19,000	£19,100	£17,400	£17,500
Level 4/5	£18,400	£18,600	£17,400	£18,800	£19,200	£19,900	£18,800	£20,800	£18,400	£18,900
level 6+	£16,700	£18,200	£17,700	£18,800	£18,900	£21,100	£23,100	£22,200	£19,200	£20,100
Total	£15,600	£16,000	£16,100	£16,700	£16,500	£18,000	£19,000	£18,300	£17,000	£17,000
<i>Five or more GCSEs A*-C</i>										
Level 2	£16,600	£18,300	£18,500	£19,100	£18,800	£20,700	£24,000	£21,300	£19,000	£19,500
Level 3	£18,500	£19,000	£19,100	£19,900	£19,400	£22,600	£25,200	£22,700	£19,700	£20,700
Level 4/5	£21,900	£22,400	£22,800	£23,200	£22,400	£24,600	£24,800	£25,200	£22,100	£23,300
level 6+	£23,100	£24,000	£23,800	£24,700	£25,100	£27,900	£31,900	£28,200	£24,800	£26,900
Total	£20,400	£21,600	£21,600	£22,300	£22,300	£25,300	£30,100	£25,700	£22,100	£24,100
<i>All GCSE attainment</i>										
Below level 2	£14,100	£14,800	£15,200	£15,800	£15,500	£17,100	£17,100	£17,100	£16,100	£15,900
Level 2	£16,000	£16,600	£16,900	£17,200	£17,300	£18,600	£19,900	£19,000	£17,600	£17,700
Level 3	£17,800	£18,000	£18,300	£18,800	£18,200	£21,400	£22,600	£21,500	£18,900	£19,500
Level 4/5	£21,100	£21,600	£21,800	£22,200	£21,700	£23,600	£22,800	£24,300	£21,200	£22,300
level 6+	£22,700	£23,600	£23,400	£24,100	£24,600	£27,600	£31,200	£27,800	£24,500	£26,500
Total	£18,400	£19,100	£19,100	£19,600	£19,600	£22,300	£27,200	£22,900	£19,900	£21,100

Source: Longitudinal Education Outcomes Study.

1. Age refers to academic age at the start of the 2016-17 tax year. This means the cohort were aged 26 on August 31 2015. On April 1 2016, at the start of the tax year, individuals in this cohort could be of actual age 26 or 27 depending on when their birthday falls in the year.
2. Earnings estimates include individuals in the cohort who were in sustained employment in the 2016-17 tax year.
3. Region defined by the Individual's home address held by DWP at the end of the 2016-17 tax year. The total includes individuals with an unknown home address and those who had a home address outside of England.

**Table B2: Region, GCSE attainment and highest level achieved by age 23: number of students**  
Cohort that undertook GCSEs in 2004/05, earnings measured at age 26 in 2016-17 tax year

Highest qualification by age 23	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Total
<i>Below five GCSEs A*-C</i>										
Below level 2	1,700	5,700	4,500	4,000	4,600	4,900	4,100	6,600	4,200	40,900
Level 2	3,400	8,900	6,900	5,900	6,900	6,400	5,400	8,500	6,200	58,900
Level 3	2,300	6,300	4,300	3,800	4,800	4,400	4,800	6,200	4,300	41,400
Level 4/5	200	600	400	300	500	300	800	500	300	4,000
level 6+	300	1,200	800	800	1,000	900	2,800	1,300	700	10,000
Total	7,900	22,700	16,900	14,900	17,700	16,900	17,900	23,000	15,700	155,300
<i>Five or more GCSEs A*-C</i>										
Level 2	1,700	4,400	3,200	2,800	3,500	3,700	2,900	4,600	3,100	30,300
Level 3	4,000	11,300	7,600	6,500	8,100	8,900	8,200	13,000	8,400	76,800
Level 4/5	1,100	2,400	1,500	1,200	1,700	1,400	1,600	2,100	1,500	14,700
level 6+	5,400	17,400	12,000	10,000	12,700	13,800	35,500	21,800	11,900	143,300
Total	12,200	35,400	24,400	20,400	26,000	27,800	48,200	41,500	24,900	265,100
<i>All GCSE attainment</i>										
Below level 2	1,700	5,700	4,500	4,000	4,600	4,900	4,100	6,600	4,200	40,900
Level 2	5,100	13,300	10,100	8,700	10,400	10,100	8,300	13,100	9,400	89,200
Level 3	6,300	17,600	12,000	10,300	12,900	13,300	13,100	19,100	12,700	118,200
Level 4/5	1,300	3,000	1,900	1,500	2,200	1,700	2,400	2,600	1,800	18,700
level 6+	5,700	18,600	12,900	10,800	13,600	14,700	38,300	23,100	12,500	153,300
Total	20,100	58,100	41,300	35,300	43,700	44,700	66,200	64,500	40,600	420,300

Source: Longitudinal Education Outcomes Study.

1. Age refers to academic age at the start of the 2016-17 tax year. This means the cohort were aged 26 on August 31 2015. On April 1 2016, at the start of the tax year, individuals in this cohort could be of actual age 26 or 27 depending on when their birthday falls in the year.
2. Volumes include individuals in the cohort who were in sustained employment in the 2016-17 tax year.
3. Region defined by the Individual's home address held by DWP at the end of the 2016-17 tax year. The total includes individuals with an unknown home address and those who had a home address outside of England.

## 9. Experimental Official Statistics

Experimental statistics are new official statistics that are undergoing evaluation. These statistics are being published as experimental statistics in order to involve users and stakeholders in their development and as means to further improve the use of the new regional LEO data in the future.

The Department has a set of [statistical policies](#) in line with the Code of Practice for Official Statistics.

## 10. Get in touch

### Media enquiries

Press Office News Desk, Department for Education, Sanctuary Buildings, Great Smith Street, London SW1P 3BT.

Tel: 020 7783 8300

### Other enquiries/feedback

Thomas Fisher, HE Analysis, Department for Education, 2 St. Paul's Place, Sheffield, S1 2FJ.

Tel: 07384 456 648 Email: HE.LEO@education.gov.uk



# Department for Education

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email [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk)

write to Information Policy Team, The National Archives, Kew, London, TW9 4DU

About this publication:

Enquiries: Thomas Fisher, HE Analysis, Department for Education, 2 St. Paul's Place, Sheffield, S1 2FJ. Tel: 07384 456 648 Email: HE.LEO@education.gsi.gov.uk

download <https://www.gov.uk/government/collections/statistics-higher-education-graduate-employment-and-earnings>

Reference: Graduate Outcomes (LEO): Regional Outcomes, 2016 to 2017



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