



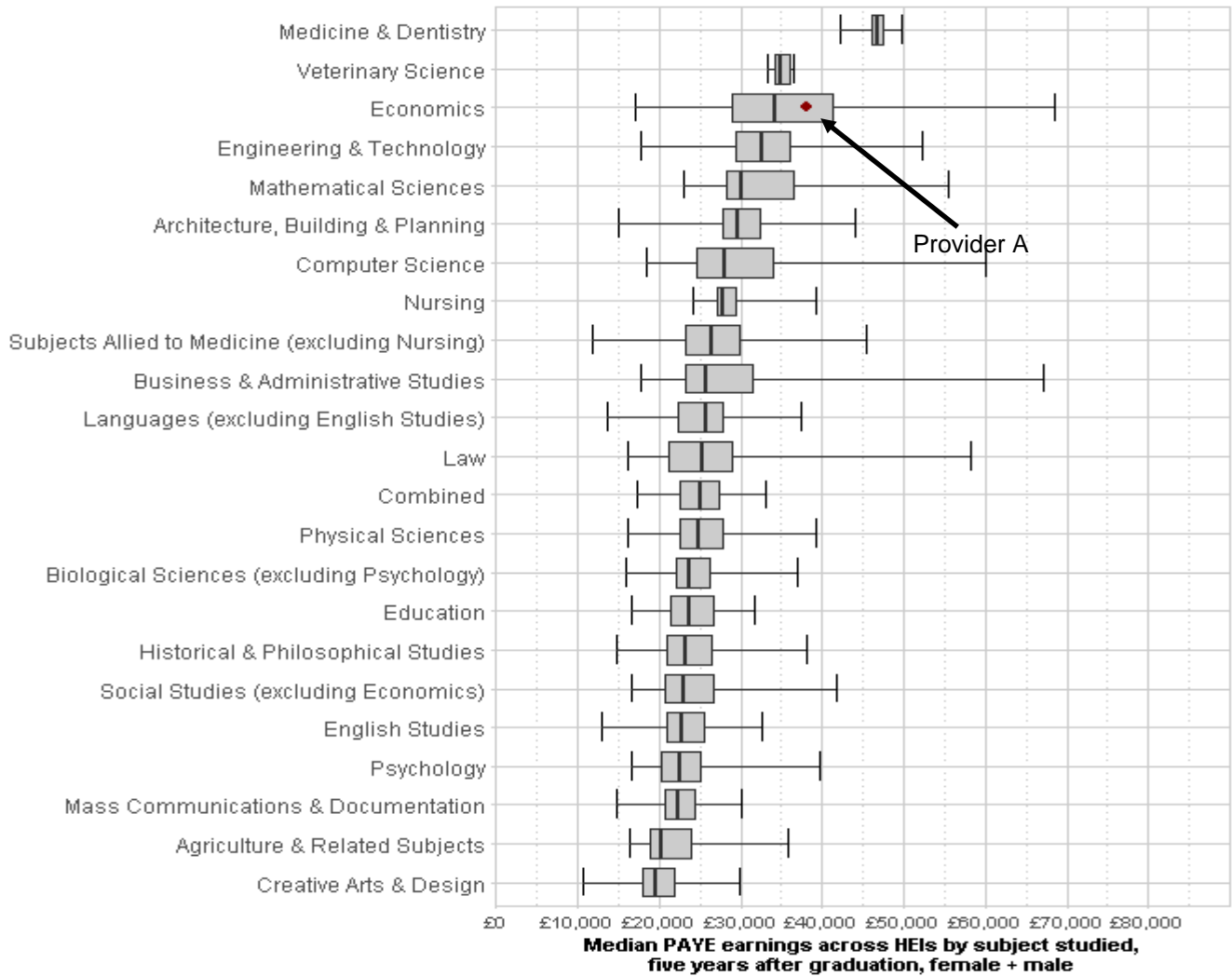
21 June 2018

This release updates provider and subject level employment and earnings outcomes of UK domiciled first degree graduates to cover the tax year 2015/16. It provides information on outcomes one, three and five years after graduation from a higher education institution (HEI) in Great Britain or Further Education College (FEC) in England. The focus of this note is the 2009/10 graduating cohort in the 2015/16 tax year (five years after graduation). However, data covering the 2014/15 tax year is also available in the accompanying tables. Data is presented for 23 subject areas and split by sex, subject studied and provider and is, for context, accompanied by information on prior attainment and the Participation of Local Areas (POLAR) classification.

The figure below presents one of our main results, the distribution of median earnings for each subject across different institutions. It shows both variation in the average graduate earnings outcomes by subject, but also variation across institutions within the same subject. Some subjects show a wider range of median earnings than others. For example, there is a difference of around £50,000 between the lowest and highest institutions offering Economics and Business and Administrative Studies; compared to a difference of less than £8,000 for Medicine and Dentistry and Veterinary Science. It should be noted that figures do not control for differences in the characteristics of graduates (e.g. prior attainment) or region of work, and so comparisons should be made with care.

**Distribution of median annualised PAYE earnings across providers for each subject area five years after graduation (minimum, lower quartile, median, upper quartile, maximum). 'Provider A' represents an example institution.**

Female + male graduates, graduating cohort 2009/10, sorted by medians



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### About this release

This official statistics publication updates provider and subject level employment and earnings outcomes of UK domiciled first degree graduates to cover the tax year 2015/16. It provides information on outcomes one, three and five years after graduation from a higher education institution (HEI) in Great Britain or Further Education College (FEC) in England.

We present two different earnings measures: PAYE only earnings, in line with last year's publication, and total earnings (PAYE and self-employment earnings). This is the first time total earnings have been published at a provider and subject level; as such, this element of the publication remains experimental.

The commentary and figures within this publication focus on outcomes and PAYE earnings in the 2015/16 tax year for graduates from the 2009/10 academic year (five years after graduation). The accompanying tables provide outcomes and both earnings measures for 2008/09, 2010/11 and 2012/13 academic year graduates in 2014/15 (five, three and one years after graduation respectively) as well as for 2009/10, 2011/12 and 2013/14 graduates in 2015/16 (five, three and one years after graduation respectively).

### **In this publication**

The following tables are included in this release:

#### **Main tables**

- Table 1a: Employment outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2015/16 tax year
- Table 1b: Earnings outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2015/16 tax year
- Table 2a: Employment outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2014/15 tax year
- Table 2b: Earnings outcomes of UK domiciled first degree graduates by subject and provider and sex one, three, and five years after graduation in the 2014/15 tax year

#### **Underlying data**

- CSV format (210618\_underlying\_data\_UK.csv)
- Metadata (210618\_metadata.txt)

### **Feedback**

We are continuing to develop the LEO database and the publications produced. We welcome feedback on this release and the data presented within it, in particular on total earnings data, which is experimental. Contact details are provided in [section 8: Feedback](#).

## **1. Introduction**

### **Background to the Longitudinal Education Outcomes (LEO) dataset**

The Small Business, Employment and Enterprise Act 2015 enabled government, for the first time, to link higher education and tax data together to chart the transition of graduates from higher education into the workplace<sup>1</sup>. One of the advantages of linking data from existing administrative sources is that it provides a unique insight into the destinations of graduates without imposing any additional data collection burdens on universities, employers or members of the public. Compared to existing sources of graduate outcomes data, it is also based on a considerably larger sample, does not rely on survey methodology, and can track outcomes across time to a greater extent than was previously possible.

The LEO dataset links information about students, including

- personal characteristics such as sex, ethnic group and age
- education, including schools, colleges and higher education institution attended, courses taken and qualifications achieved
- employment and income
- benefits claimed

By combining these sources, we can look at the progress of higher education leavers into the labour market. The focus of this release is on employment and earnings outcomes of leavers from higher education by subject and institution, using HESA records to link graduates to HMRC and DWP data. More details on the

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<sup>1</sup> For more information on the legal powers governing the dataset please see section 78 of the Small Business, Enterprise and Employment Act 2015 and sections 87-91 of the Education and Skills Act 2008.

methodology and data are available in the [methodology note](#) accompanying our March publication; in particular, see section 3 of that document for more details on data quality and section 6 for further information on matching processes and match rates. Details of the definitions used throughout this publication are available in the [glossary](#).

The privacy notice explaining how personal data in this project is shared and used can be found [here](#).

This Statistical First Release presents data on graduate employment and earnings outcomes one, three and five years after graduation. Data is split by subject studied, sex and institution.

Employment, further study and earnings outcomes are provided for each subject in each higher education institution in this release. The tables look at those who graduated in 2008/09, 2010/11 and 2012/13, five years, three years and one year after graduation, respectively. This ensures that each cohort's outcomes are presented for the tax year 2014/15, the only tax year we currently have access to self-assessment data for.

## Coverage

This publication looks at those who graduated with a first degree qualification from higher education institutions (HEIs) and Further Education Colleges (FECs) in Great Britain. First degrees are also known as bachelor's degrees. We have only looked at those classified as UK domiciled prior to entry to higher education. Figures are presented for all graduates and have not been split by full-time or part-time mode of study. On average, we have been able to link over 95% of each graduate cohort to tax and/or benefit data. Please see section 6 of the [methodology note](#) accompanying our March publication for more information on match rates.

Designated alternative providers are not included in this publication as they were not required to return student level data to HESA prior to the 2015/16 academic year. The University of Buckingham has historically returned HESA data so is included in the publication.

The **employment data** largely covers those with records submitted through the Pay As You Earn (PAYE) system. The core purpose of PAYE is to collect tax, and its coverage reflects this. Up until April 2013, employers were not required to supply information to HMRC for individuals who earned below the Lower Earnings Limit (LEL)<sup>2</sup> for National Insurance contributions, although for large employers these individuals were thought to be included due to the methods of data transfer. Since then, employers have been required to provide earnings information for all employees if even one employee of the company is paid above the LEL threshold. Please see section 2 of the [methodology note](#) for more information on the employment data.

The PAYE system does not collect information on the number of hours worked; therefore, whether an individual is working full-time or part-time cannot be ascertained.

**Self-assessment** data records profit made from self-employment. The accompanying tables provide data on both an individual's PAYE only earnings (earnings from paid employment) as well as total earnings (a total of PAYE only earnings and profit made from self-employment). Self-employment earnings are not directly comparable to PAYE data. PAYE data generally refers to the amount paid to the employee (salary, wages), whereas income from self-employment relates to income declared for tax purposes and so allowable expenses will have been deducted from these earnings.

As the concept of PAYE earnings is generally easier to understand we use this measure as our main measure of income, and focus upon it in this document. The total earnings figures are included in the accompanying tables to ensure we are also providing the most complete picture of graduate earnings reflecting the different types of employment graduates are engaged in post-graduation.

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<sup>2</sup> The threshold for both the 2014/15 and the 2015/16 tax years was £112 per week.

All figures are based on UK tax, benefit and student records only: activity of those who move abroad to work or study after graduating is not reflected in the employment or further study figures. Instead, these individuals are categorised as ‘activity not captured’ if they are out of the UK for the whole tax year.

The methodology for defining employment and earnings outcomes is set out below.

## Years after graduation

The time periods used in this publication are one, three and five years after graduation, which refers to the first, third and fifth full tax year after graduation, respectively. For instance, for the 2013/14 graduation cohort, the figures one year after graduation refer to employment and earnings outcomes in the 2015/16 tax year. This time period was picked as graduates are unlikely to have been engaged in economic activity for the whole of the tax year that overlaps with the graduation date. This is displayed graphically in Figure 1 below.

**Figure 1: Relationship between academic year, tax year and definitions of ‘years after graduation’ used in this publication**

		Tax year					
		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Academic year of graduation	2008/09	1 year	2 years	3 years	4 years	<b>5 years</b>	6 years
	2009/10		1 year	2 years	3 years	4 years	<b>5 years</b>
	2010/11			1 year	2 years	<b>3 years</b>	4 years
	2011/12				1 year	2 years	<b>3 years</b>
	2012/13					<b>1 year</b>	2 years
	2013/14						<b>1 year</b>

Cohorts in **bold** are covered in this publication

## Subject areas

The subjects covered by this publication are based on version 3.0 of the Joint Academic Coding System (JACS). In previous publications, we presented results for Economics separately from the other subjects in Social Studies. Following consultation on the subject splits, we are additionally extracting Nursing from the other Subjects Allied to Medicine, Psychology from the Biological Sciences and English Studies from the other languages. We therefore cover the following 23 subjects:

JACS code	Subject
1	Medicine & Dentistry
2	Subjects Allied to Medicine (excluding Nursing)
B7	Nursing
3	Biological sciences (excluding Psychology)
C8	Psychology
4	Veterinary Science
5	Agriculture & Related Subjects
6	Physical Sciences
7	Mathematical Sciences
8	Computer Science

9	Engineering & Technology
A	Architecture, Building & Planning
B	Social Studies (excluding Economics)
L1	Economics
C	Law
D	Business & Administrative Studies
E	Mass Communications & Documentation
F	Languages (excluding English Studies)
Q3	English Studies
G	Historical & Philosophical Studies
H	Creative Arts & Design
I	Education
J	Combined

It is important to note that, even with these additional splits, each JACS subject area can still include a diverse range of subjects, some of which will lead to significantly different employment and earnings outcomes. For example, 'Physical Sciences' contains courses ranging from Physics to Forensic & Archaeological Sciences. We have not attempted to split the JACS codes down further as this would lead to an increase in the amount of data being suppressed.

## Employment outcomes

Outcomes are presented for graduates who have been successfully matched to the Department for Work and Pensions' Customer Information System (CIS) or if they have been matched to a further study instance on the HESA Student Record. In this publication, these individuals are referred to as **matched**. Graduates who have not been matched to CIS or a further study record are referred to as **unmatched**.

Graduates who have been **matched** are then placed in one of five outcomes categories. These are:

**Activity not captured:** graduates who have been successfully matched to CIS but do not have any employment, out-of-work benefits or further study records in the tax year in question. Reasons for appearing in this category include: moving out of the UK after graduation for either work or study or voluntarily leaving the labour force.

**No sustained destination:** graduates who have an employment or out-of-work benefits record for the tax year in question but were not classified as being 'in sustained employment' and do not have a further study record.

**Sustained employment only:** graduates are only considered to be in sustained employment if they were employed for at least one day for five out of the six months between October and March of the tax year in question or if they had a self-employment record in that tax year. To be in the sustained employment only category, graduates must not have a record of further study in the tax year in question.

**Sustained employment with or without further study:** includes all graduates with a record of sustained employment, regardless of whether they also have a record of further study. A graduate is defined as being in further study if they have a valid higher education study record at any UK HEI on the HESA database in the relevant tax year. The further study does not have to be at postgraduate level to be counted. Further

study undertaken at further education colleges is not reflected in these figures as this information is not collected by HESA.

**Sustained employment, further study or both:** includes all graduates with a record of sustained employment or further study. This category includes all graduates in the 'sustained employment with or without further study' category as well as those with a further study record only.

It is important to note that our definition of sustained employment does not distinguish between the different types of work that graduates are engaged in and so cannot provide an indication of the proportion of graduates who are employed in graduate occupations. Furthermore, we cannot distinguish between full-time and part-time employment.

## Earnings outcomes

We make use of two earnings measures:

**PAYE only earnings:** an individual's annualised PAYE earnings (earnings from paid employment). This is calculated by dividing their earnings as recorded on the P14 by the number of days worked in the tax year, calculated from the P45.

**Total earnings:** the total of an individual's PAYE only earnings and their profit made from self employment, as recorded in the Self Assessment data.

For both earnings measures we calculate lower quartile, median and upper quartiles at a provider and subject level. We include in the PAYE only earnings calculations all individuals with a record of PAYE sustained employment, no record of further study and a valid record of PAYE earnings. We include in total earnings calculations all individuals included in the PAYE only earnings calculations as well as those who are self-employed and have reported positive profit for that tax year. Note that because more people are included in total earnings calculations, it is possible for the reported quartiles to be lower than that for PAYE earnings, even though on an individual level, total earnings is always higher than PAYE only earnings.

## Contextual information

There are a number of factors that can influence the employment and earnings outcomes of graduates. In order to aid comparisons between similar universities, we have provided additional data about the characteristics of the students graduating. We have included data on the following characteristics (see [section 3](#) for further details):

**Prior attainment band:** institutions in England are ranked by the median UCAS points of the graduates in a given subject and cohort; the upper quartile of HEIs forms band 1, the middle 50% form band 2, and the bottom quartile band 3.

**Proportion in POLAR3 quintile 1:** graduates in quintile 1 (most disadvantaged) of POLAR3 as a proportion of those non-mature students for whom we have this information.

The contextual data provides useful information where universities have a reasonable proportion of their students included in the measures. For some universities, the contextual data only covers a small proportion of their graduates. We have therefore provided the following coverage indicators alongside the contextual measures.



**Included in prior attainment band:** this column shows the proportion of matched graduates who are included in our calculation of the prior attainment band. As the NPD only contains data on the key stage 5 qualifications obtained by 16–18 year olds in England since 2002 not all graduates will be included in the prior attainment band for each university.

**Included in POLAR3 quintile 1:** graduates for whom we have POLAR3 information on the HESA student record and who were non-mature when entering higher education, as a proportion of matched graduates.

We are continuing to investigate how best to compare employment and earnings outcomes for universities that have a low proportion of students covered by the contextual data (mainly universities with a high proportion of mature students).

There are also well-documented regional difference in pay across the UK. We have published the **region** that each university is located in. However, we do not have the current address of graduates or the location where they are employed, so we do not know whether they have stayed within the region where they went to university or have moved to a different region to access a job with higher pay.

The Institute for Fiscal Studies recently published DfE funded research into how the relative returns of an undergraduate vary by subject, provider and student characteristics. This sought to identify differences in earnings five years after graduation, controlling for factor such as prior attainment, gender, ethnicity and social background. The report can be found at <https://www.gov.uk/government/publications/undergraduate-degrees-relative-labour-market-returns>.

## 2. Results

The main output of this publication is the table 'Activity of graduates by subject and institution one, three and five years after graduation' that accompanies this document.

### Earnings outcomes across providers and subjects

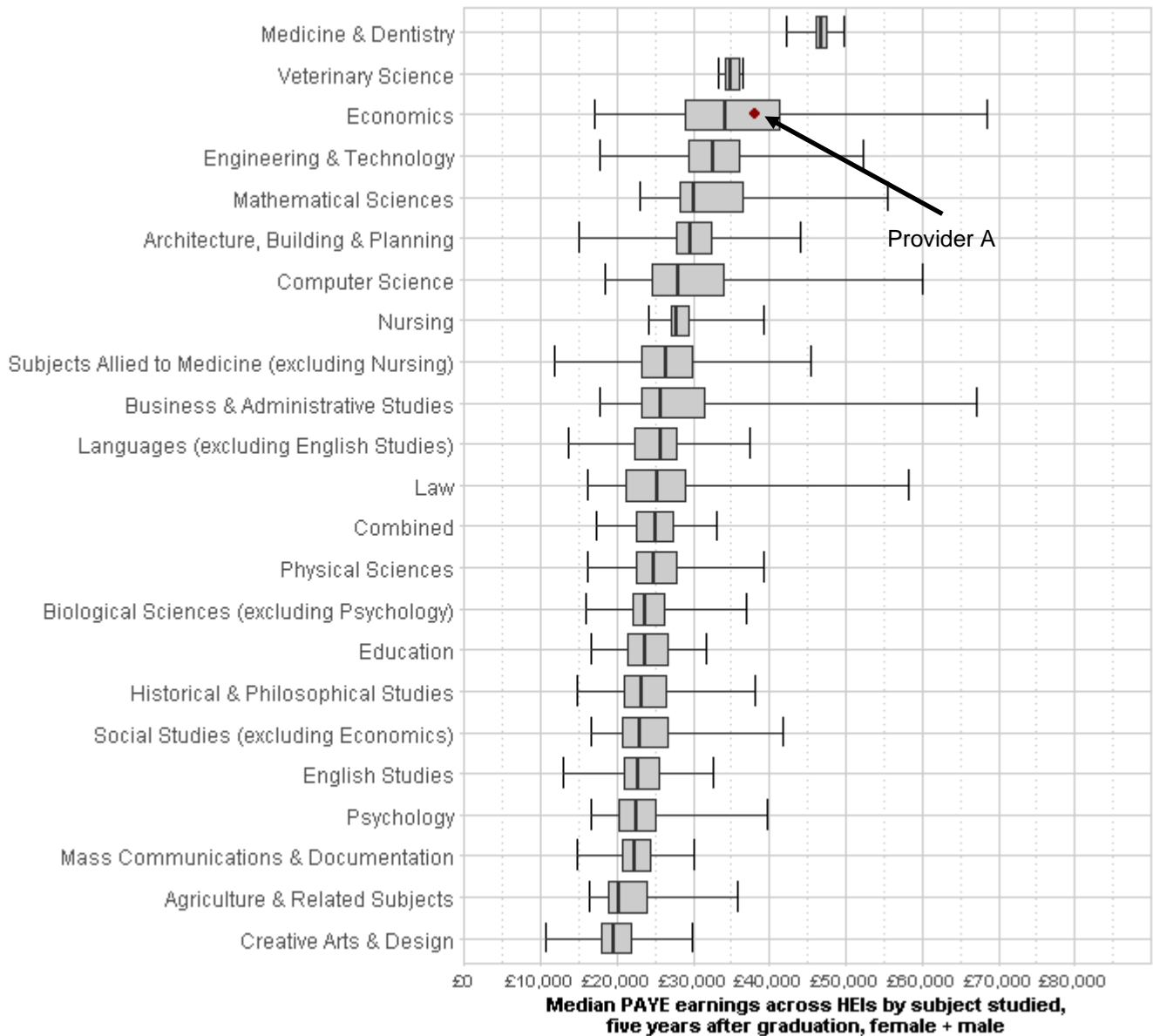
In Figure 2, we present the distribution of median earnings for each subject five years after graduation. These distributions have been obtained from the median earnings at the institutions offering a given subject. They are not to be confused with the earnings distributions of graduates of a given subject. Figure 3 provides guidance on how to interpret the chart in Figure 2.

Figure 2 shows that some subjects have a wider range of median earnings between institutions than others. For example, all institutions offering Medicine and Dentistry had median earnings 5 years after graduation of between £42,100 and £49,800. By contrast, the median earnings for institutions offering Economics showed wider variation, ranging from £17,000 to £68,600. Half of the providers had median earnings between £23,100 and £31,300.

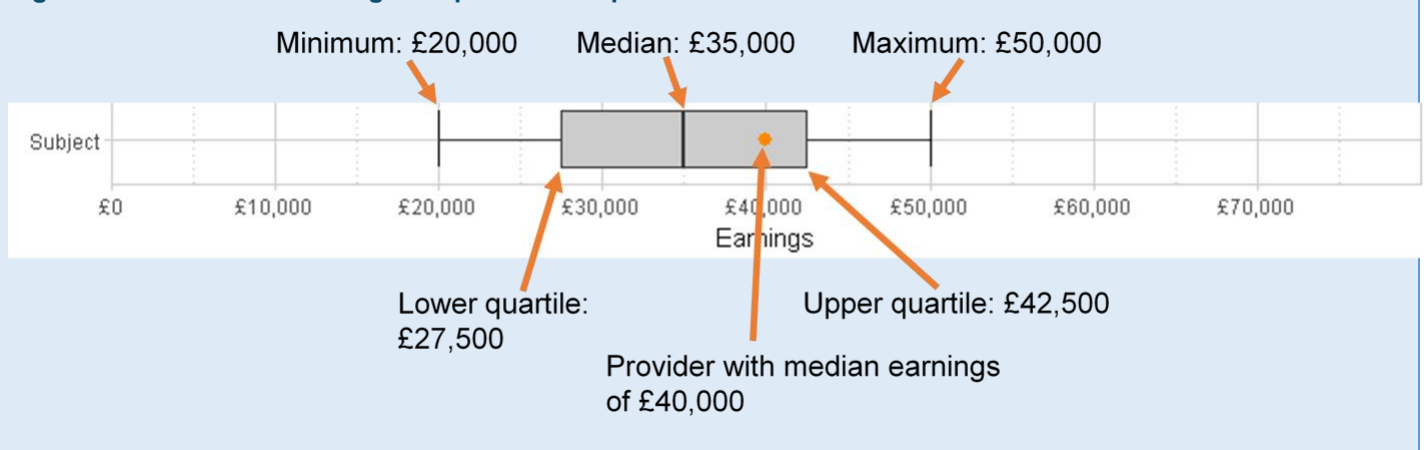
As mentioned in section 1, there are a number of factors that influence the earnings outcomes of graduates and institutional comparisons should be made with care. For example, providers are academically selective and this will lead to differences in the characteristics of their students that will themselves influence their future graduate outcomes. For this reason, we include in this release contextual information relating to prior attainment and social economic background. When looking at universities offering Economics, the median earnings for those in prior attainment group 1 ranged from £25,500 to £67,200, with half of these institutions falling between £32,700 and £42,100. The median earnings for institutions in prior attainment group 3 ranged from £17,700 to £26,800, with half of these institutions falling between £21,300 and £24,000.

**Figure 2: Distribution of median annualised PAYE earnings across providers for each subject area five years after graduation (minimum, lower quartile, median, upper quartile, maximum). 'Provider A' represents an example provider**

Female + male graduates, graduating cohort 2009/10, sorted by medians



**Figure 3: How to read earnings boxplots in this publication**



The median earnings is calculated by ranking all providers' median annualised earnings and taking the value at which half of providers fall above and half fall below. In particular, the median displayed here is not the same as the median for all graduates.

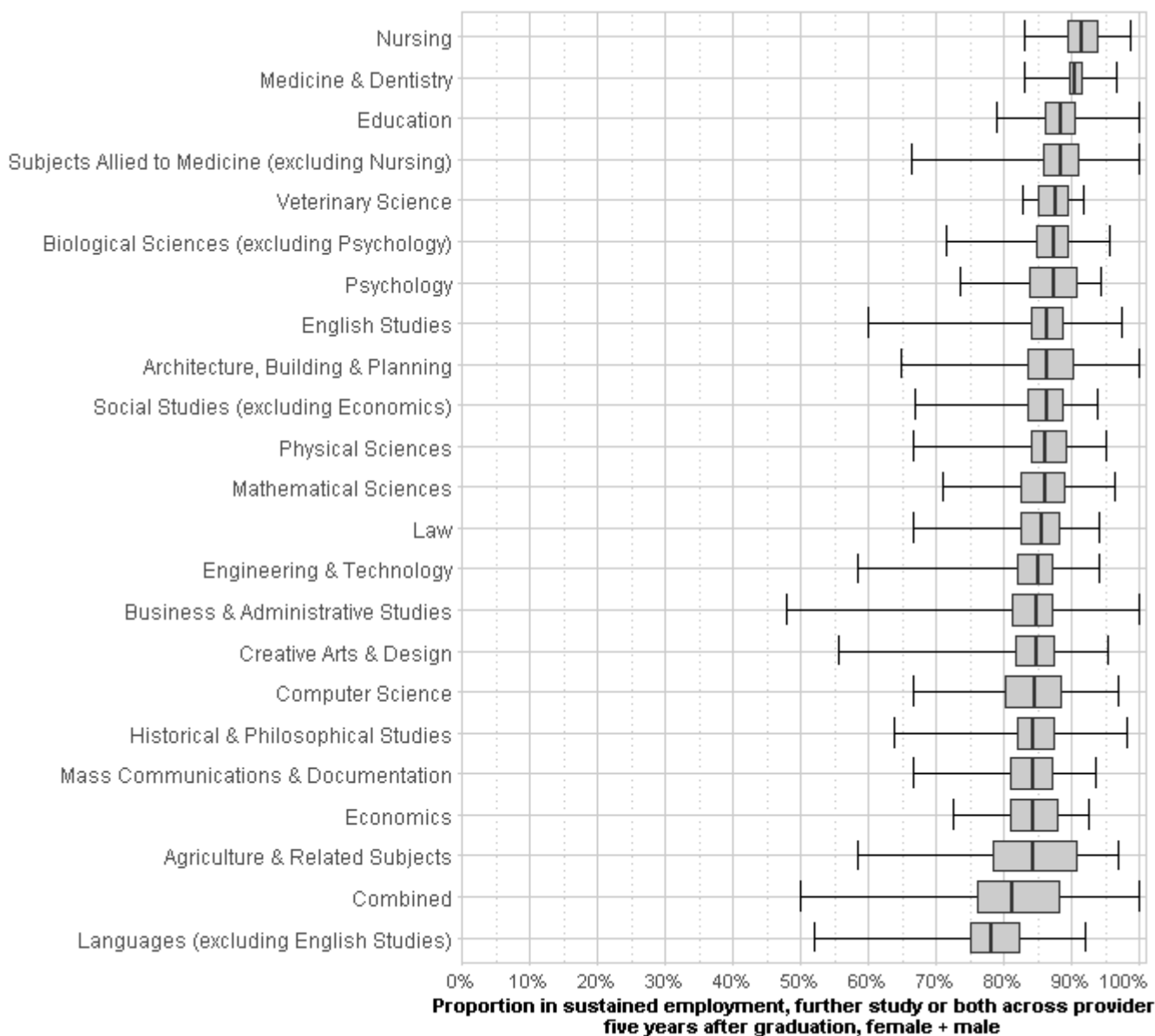
The lower quartile earnings is calculated by ranking all providers' median annualised earnings and taking the value at which three quarters of providers fall above and one quarter fall below.

The upper quartile earnings is calculated by ranking all providers' annualised earnings and taking the value at which one quarter of providers fall above and three quarters fall below.

## Employment outcomes across providers and subjects

Figure 4 shows the distribution of providers' proportion of graduates in sustained employment, further study or both five years after graduation. While median proportions lie consistently between 78% and 91% across subjects, there is significant variation within some subjects. For Business and Administrative Studies for example, the difference between the highest and lowest proportion is 52%.

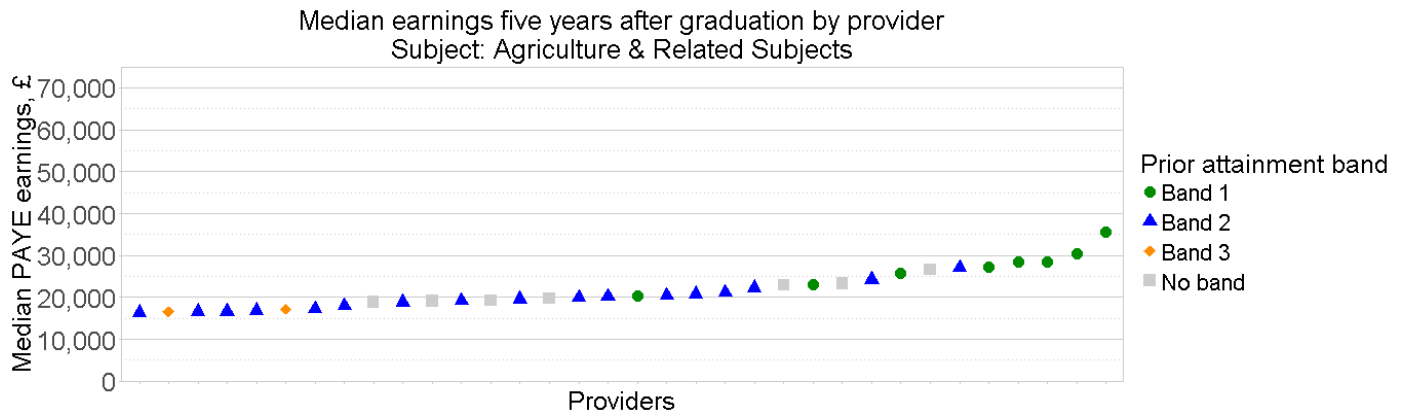
**Figure 4: Distribution of proportion in sustained employment, further study or both across providers for each subject area five years after graduation (minimum, lower quartile, median, upper quartile, maximum). Female + male graduates, graduating cohort 2009/10**



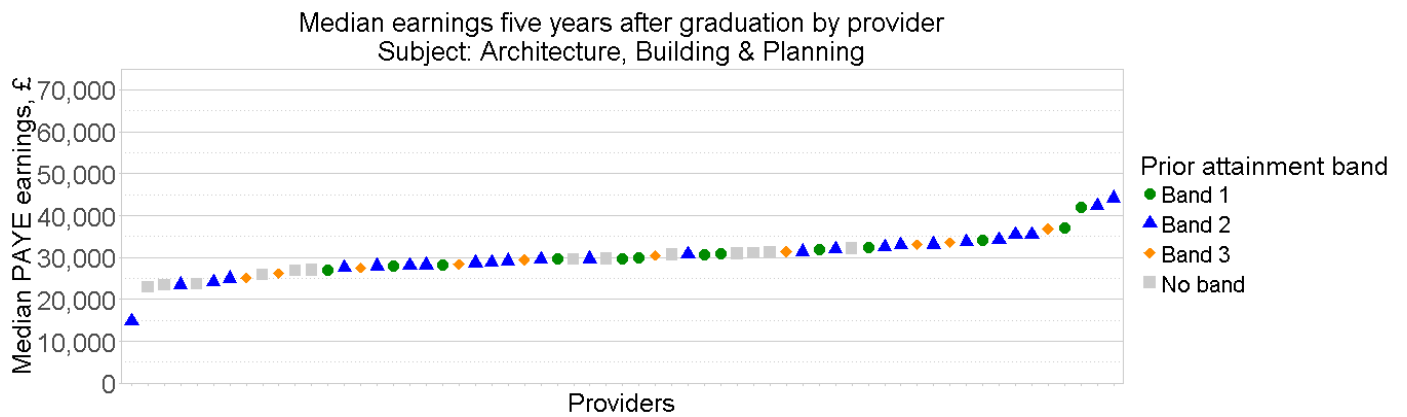
## Median earnings and prior attainment by provider

In Figures 5 to 27, we show the median PAYE earnings and prior attainment of graduates from each institution for each subject. For the majority of subjects, institutions in prior-attainment band 1 (highest 25% prior attainment) tend to have higher median earnings five years after graduation than those in bands 2 (middle 50% prior attainment) or 3 (lowest 25% prior attainment). This relationship between prior attainment and median earnings is clearer in some subjects than others. Some institutions have not been placed in a band. This includes all Scottish and Welsh providers, as prior attainment data is based on an English data source, as well as institutions where prior attainment information is based on a small number of students. See [section 3](#) for more details on calculation of prior attainment band.

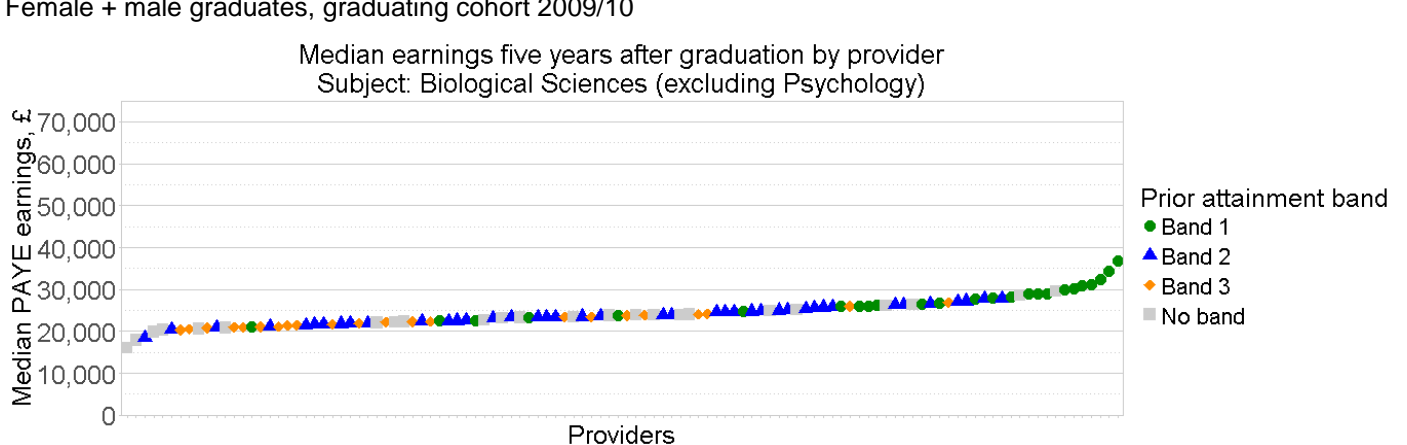
**Figure 5: Median earnings across providers five years after graduation for Agriculture & Related Subjects.**  
 Female + male graduates, graduating cohort 2009/10



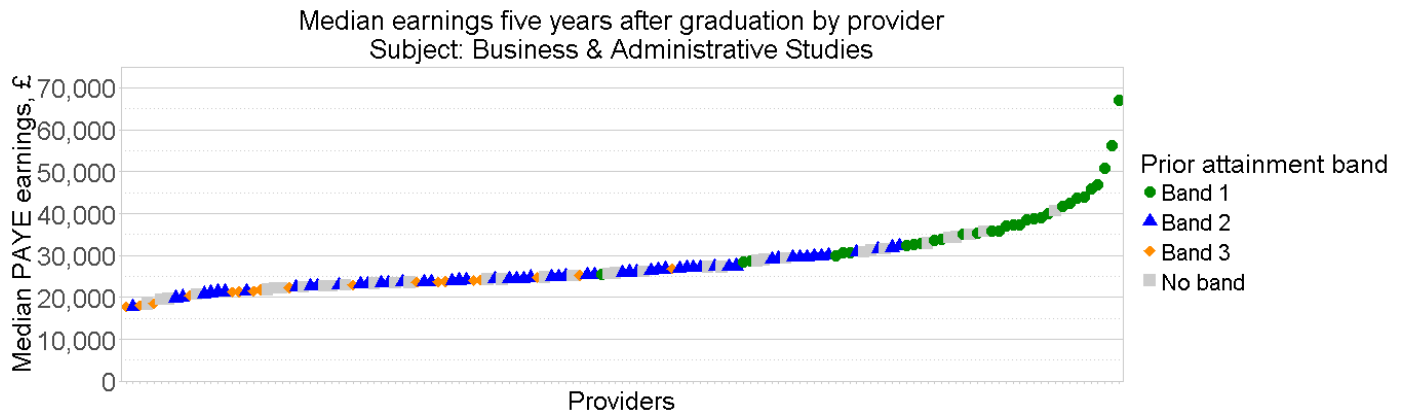
**Figure 6: Median earnings across providers five years after graduation for Architecture, Building & Planning.**  
 Female + male graduates, graduating cohort 2009/10



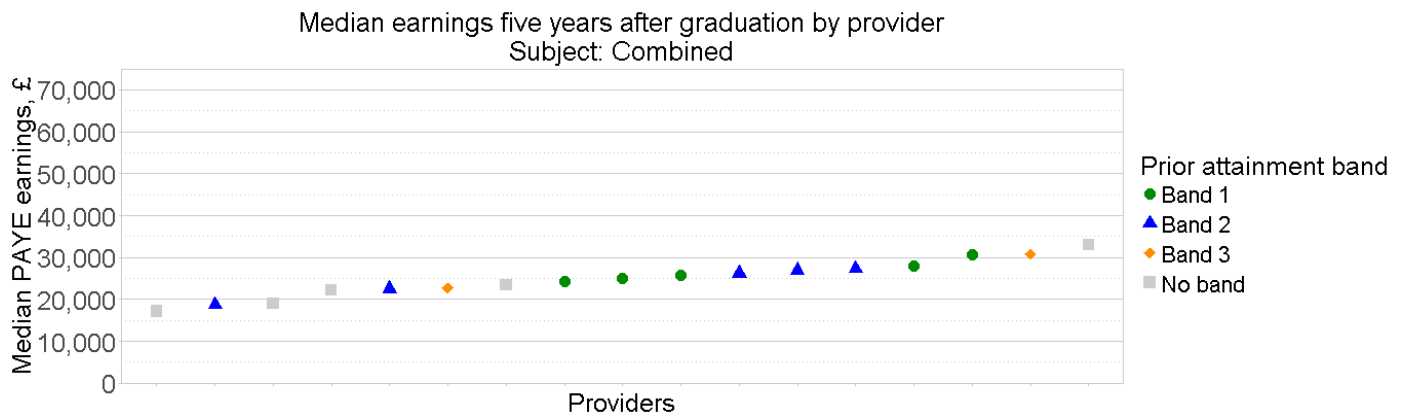
**Figure 7: Median earnings across providers five years after graduation for Biological Sciences (excluding Psychology).**  
 Female + male graduates, graduating cohort 2009/10



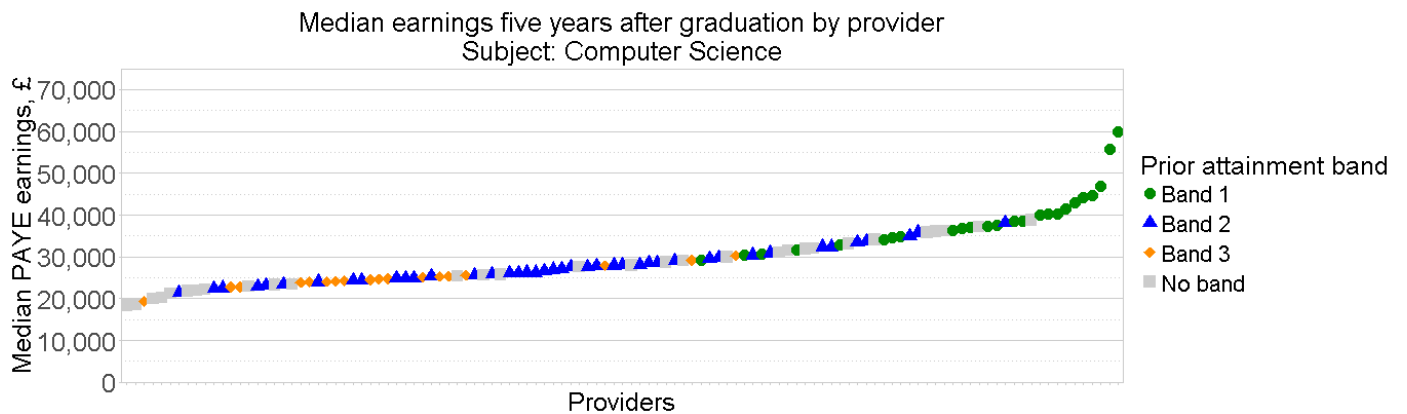
**Figure 8: Median earnings across providers five years after graduation for Business & Administrative Studies.**  
 Female + male graduates, graduating cohort 2009/10



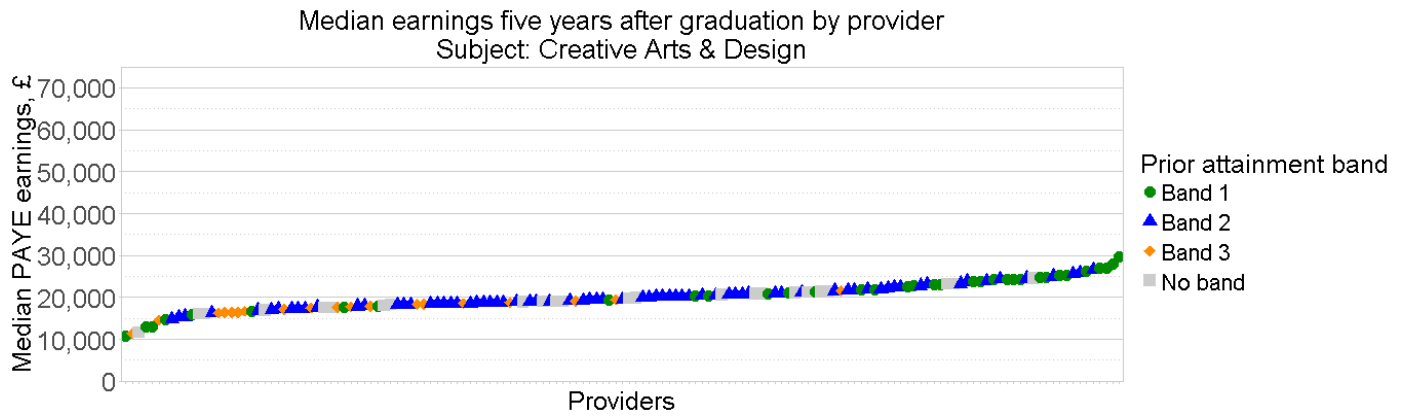
**Figure 9: Median earnings across providers five years after graduation for Combined.**  
 Female + male graduates, graduating cohort 2009/10



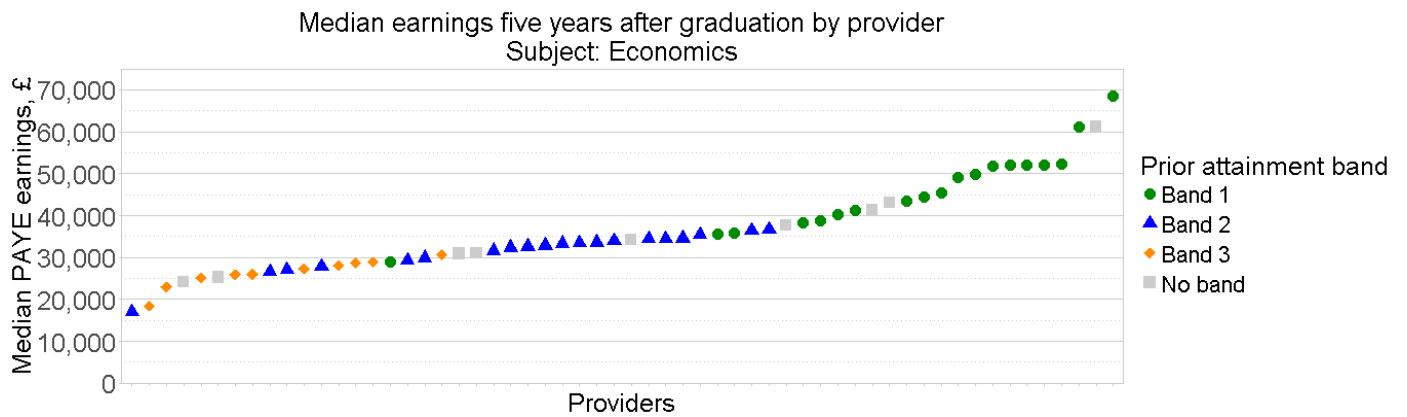
**Figure 10: Median earnings across providers five years after graduation for Computer Science.**  
 Female + male graduates, graduating cohort 2009/10



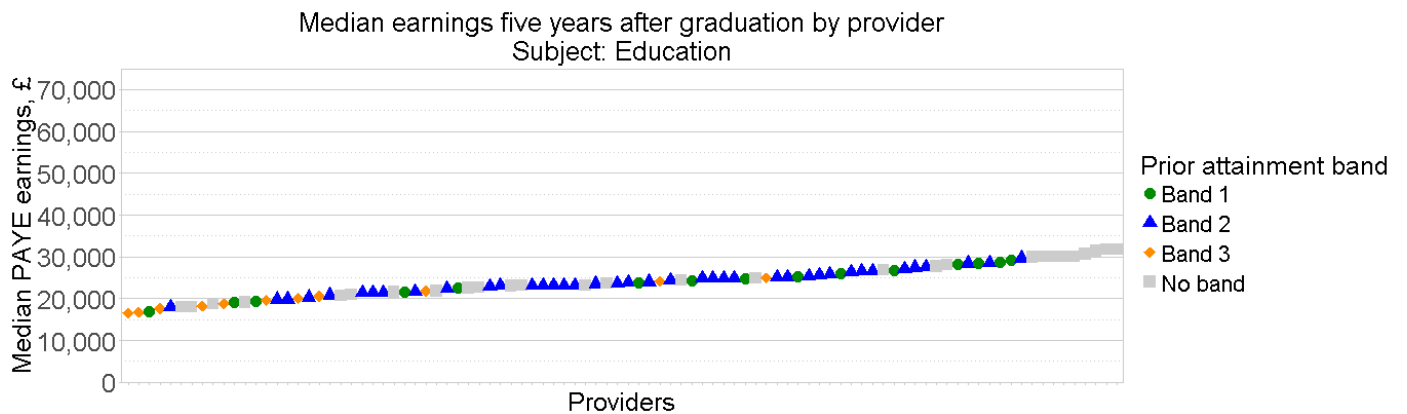
**Figure 11: Median earnings across providers five years after graduation for Creative Arts & Design.**  
 Female + male graduates, graduating cohort 2009/10



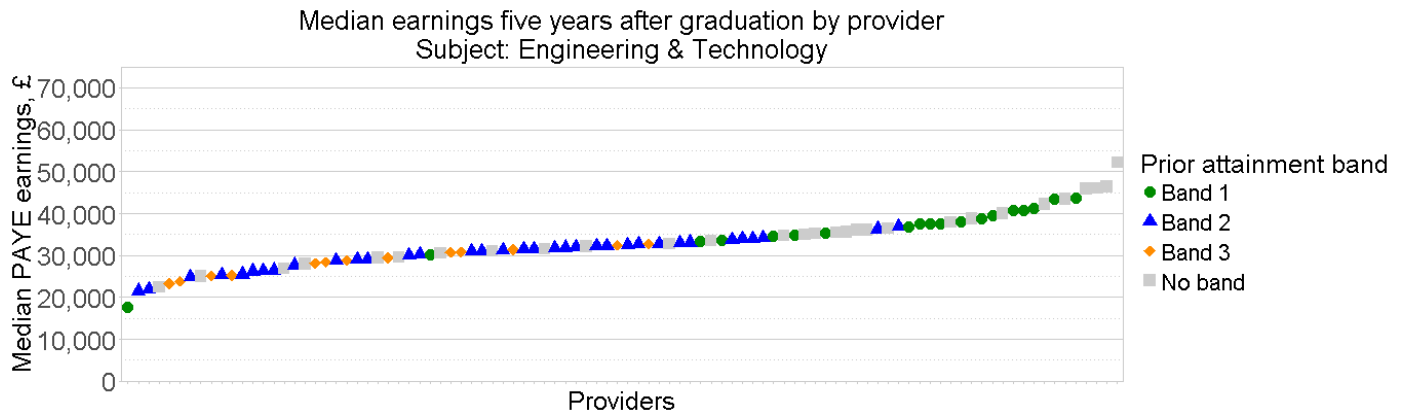
**Figure 12: Median earnings across providers five years after graduation for Economics.**  
 Female + male graduates, graduating cohort 2009/10



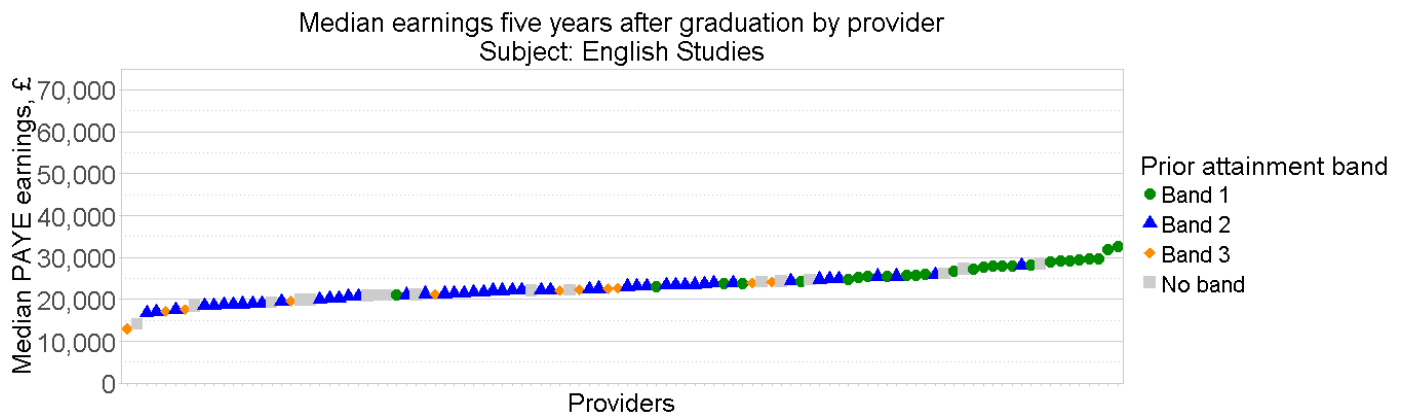
**Figure 13: Median earnings across providers five years after graduation for Education.**  
 Female + male graduates, graduating cohort 2009/10



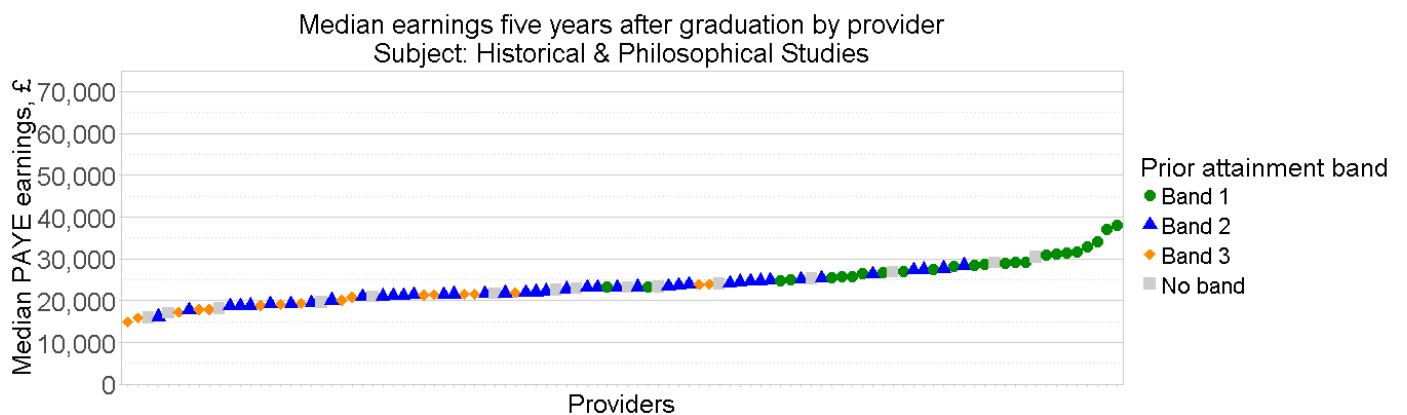
**Figure 14: Median earnings across providers five years after graduation for Engineering & Technology.**  
 Female + male graduates, graduating cohort 2009/10



**Figure 15: Median earnings across providers five years after graduation for English Studies.**  
 Female + male graduates, graduating cohort 2009/10



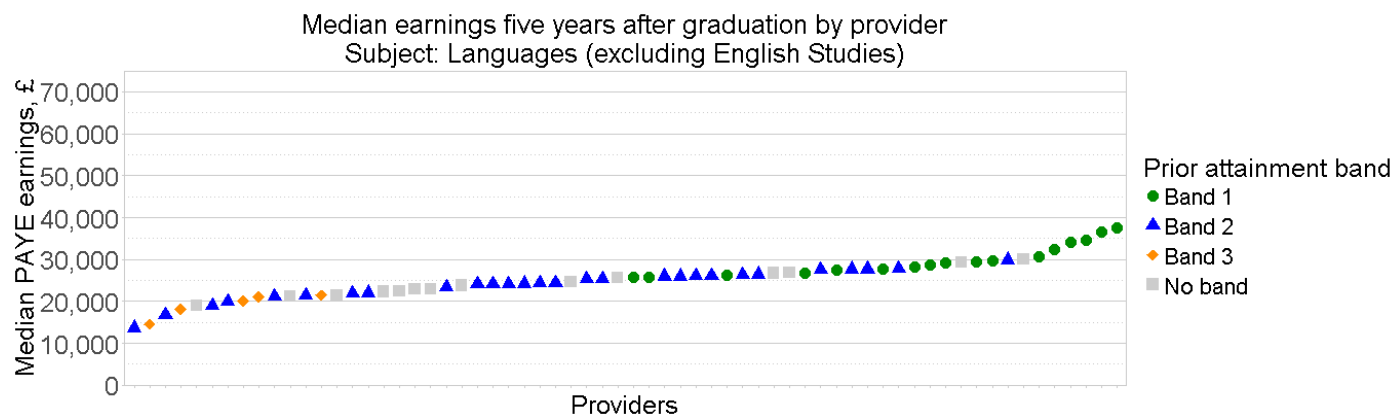
**Figure 16: Median earnings across providers five years after graduation for Historical & Philosophical Studies.**  
 Female + male graduates, graduating cohort 2009/10





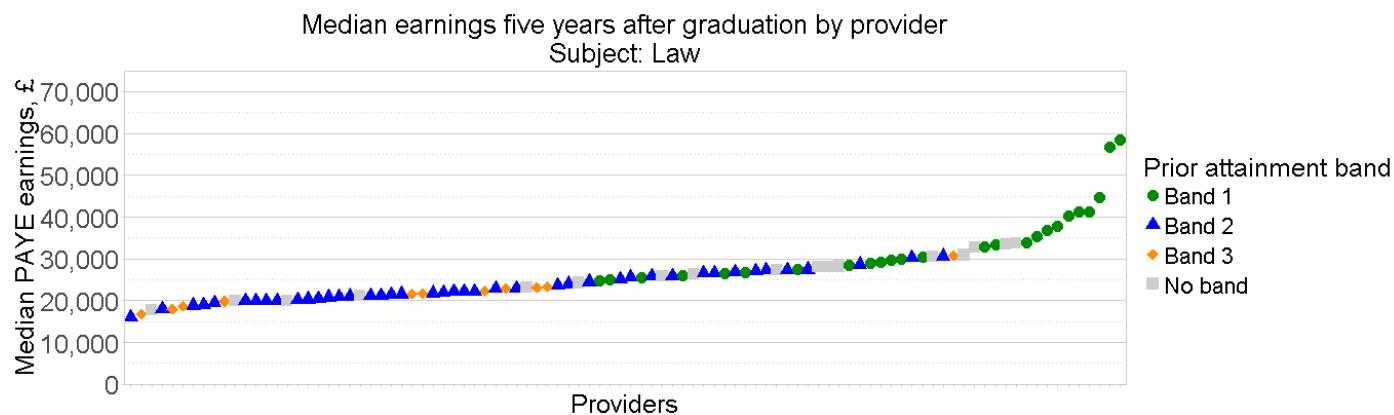
**Figure 17: Median earnings across providers five years after graduation for Languages (excluding English Studies).**

Female + male graduates, graduating cohort 2009/10



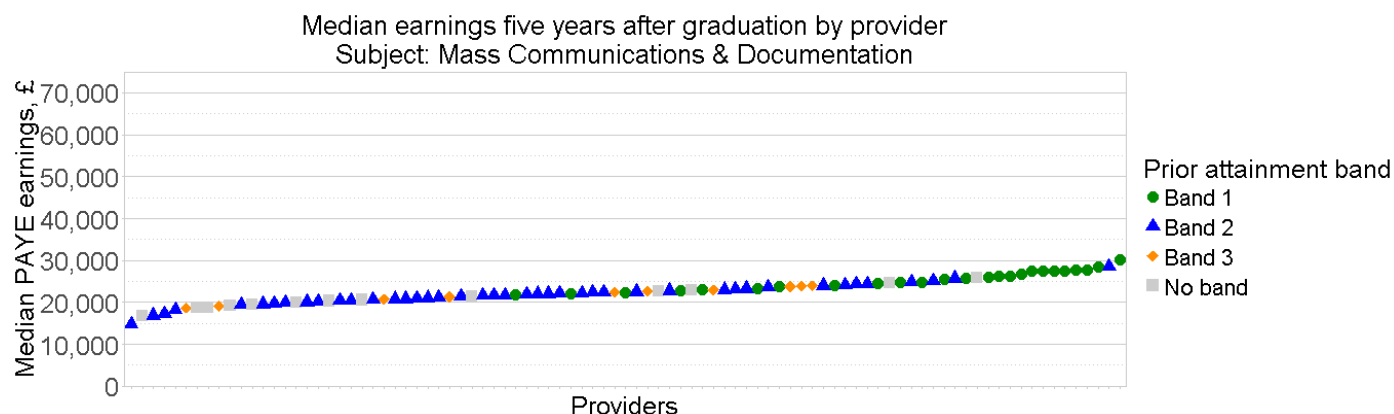
**Figure 18: Median earnings across providers five years after graduation for Law.**

Female + male graduates, graduating cohort 2009/10

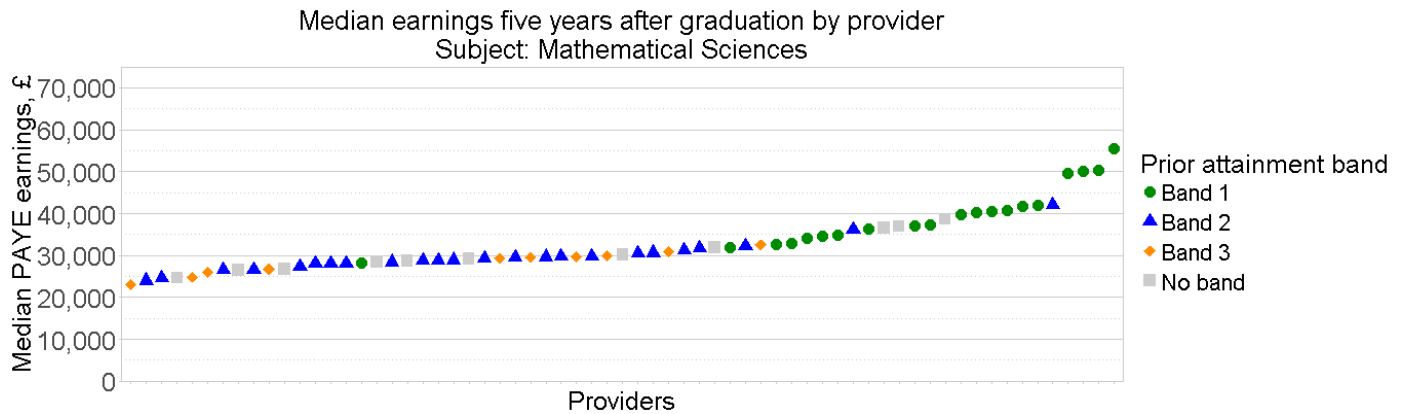


**Figure 19: Median earnings across providers five years after graduation for Mass Communication & Documentation.**

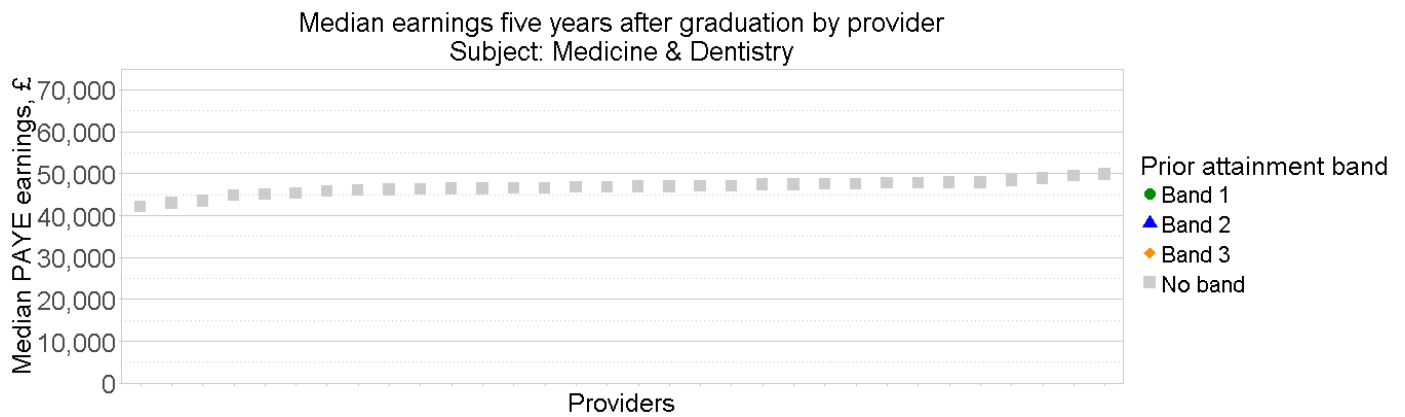
Female + male graduates, graduating cohort 2009/10



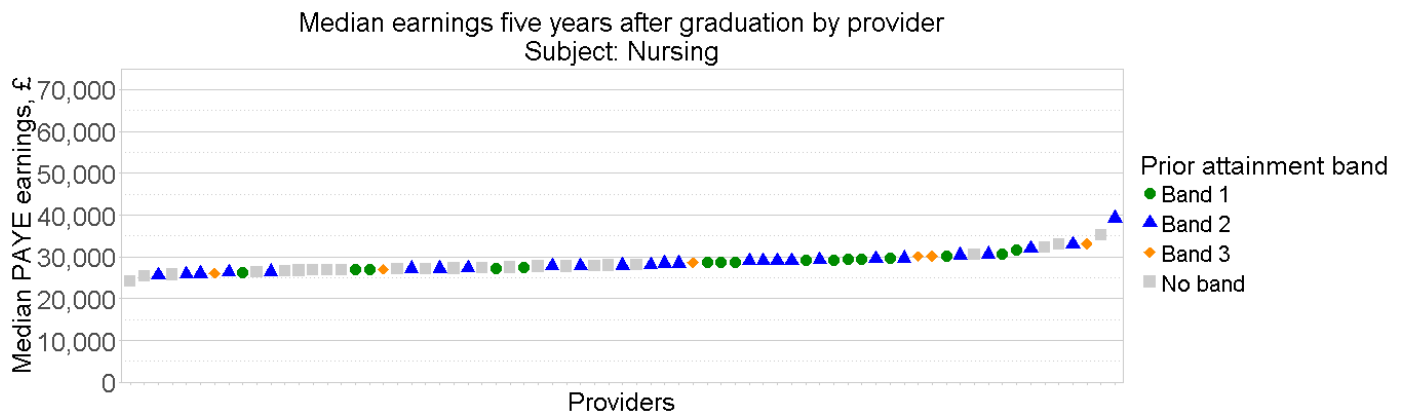
**Figure 20: Median earnings across providers five years after graduation for Mathematical Sciences.**  
 Female + male graduates, graduating cohort 2009/10



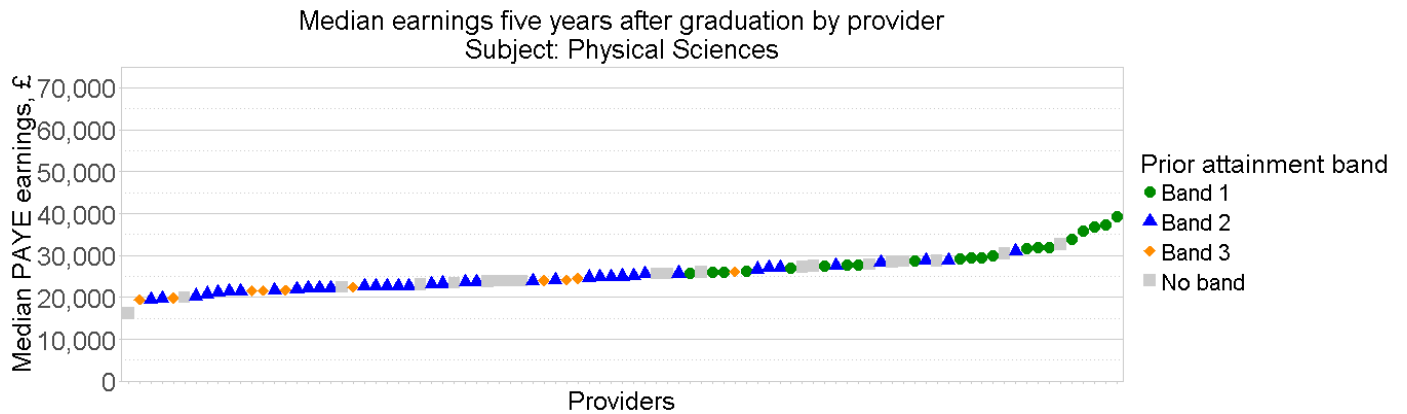
**Figure 21: Median earnings across providers five years after graduation for Medicine & Dentistry.**  
 Female + male graduates, graduating cohort 2009/10



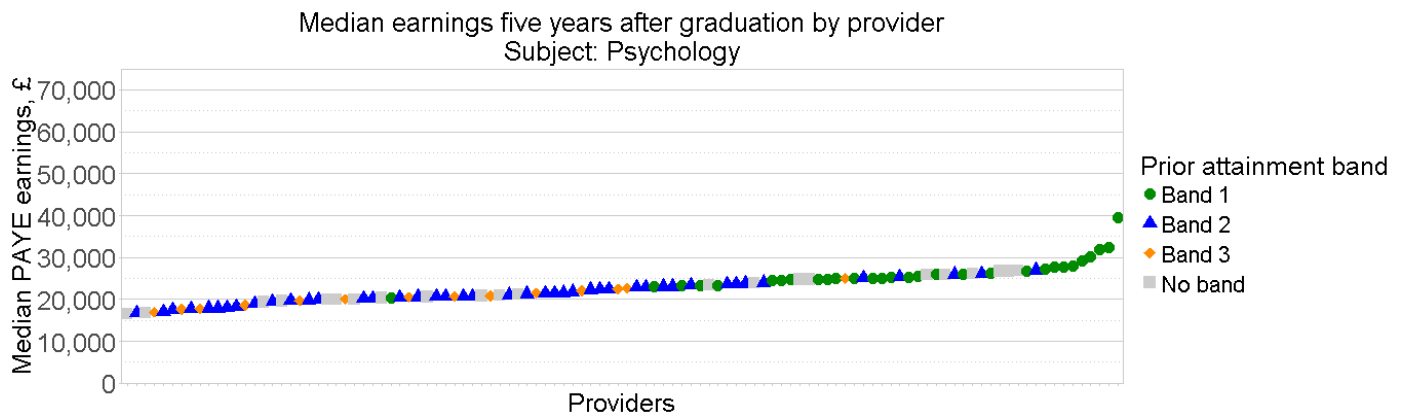
**Figure 22: Median earnings across providers five years after graduation for Nursing.**  
 Female + male graduates, graduating cohort 2009/10



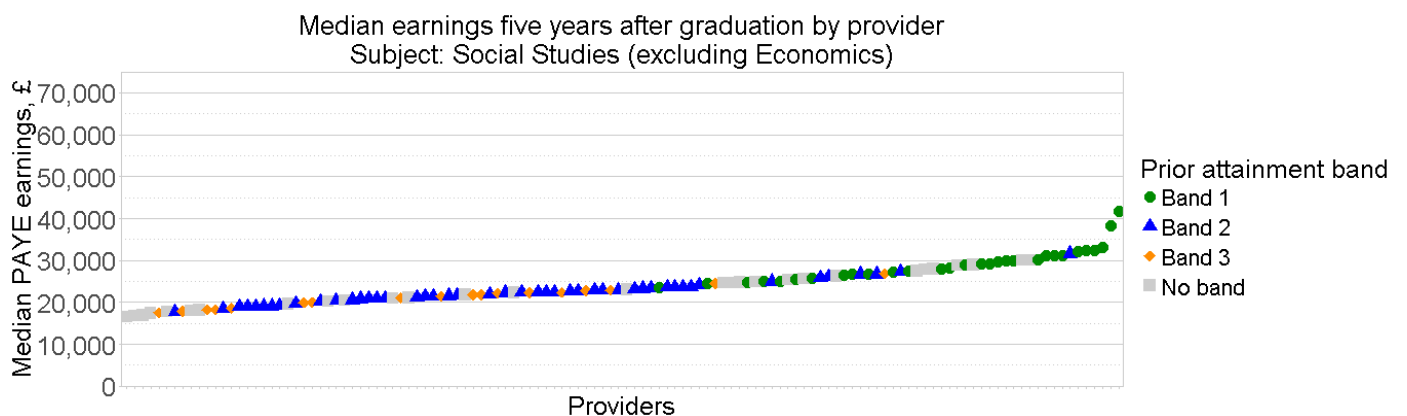
**Figure 23: Median earnings across providers five years after graduation for Physical Sciences.**  
 Female + male graduates, graduating cohort 2009/10



**Figure 24: Median earnings across providers five years after graduation for Psychology.**  
 Female + male graduates, graduating cohort 2009/10

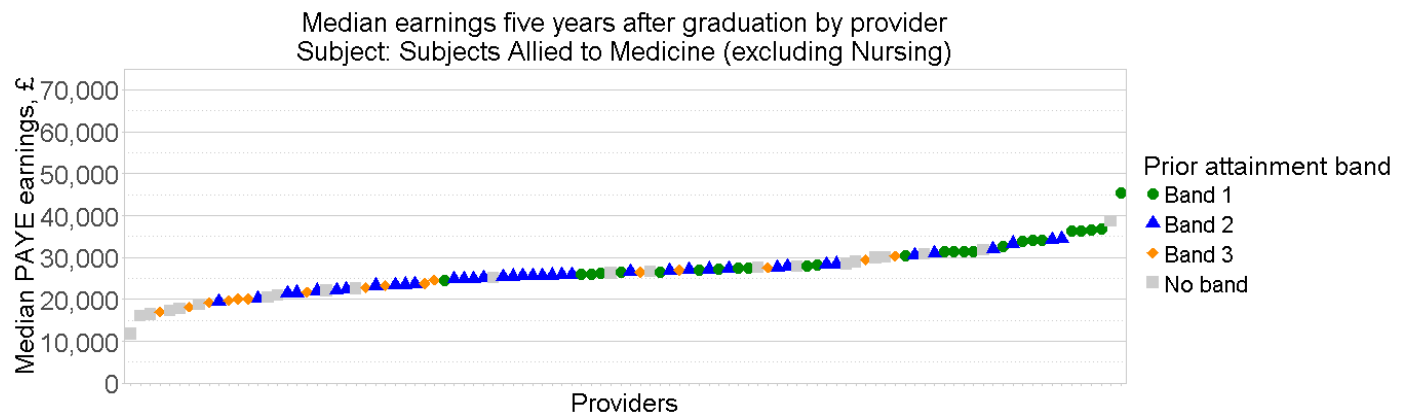


**Figure 25: Median earnings across providers five years after graduation for Social Studies (excluding Economics).**  
 Female + male graduates, graduating cohort 2009/10



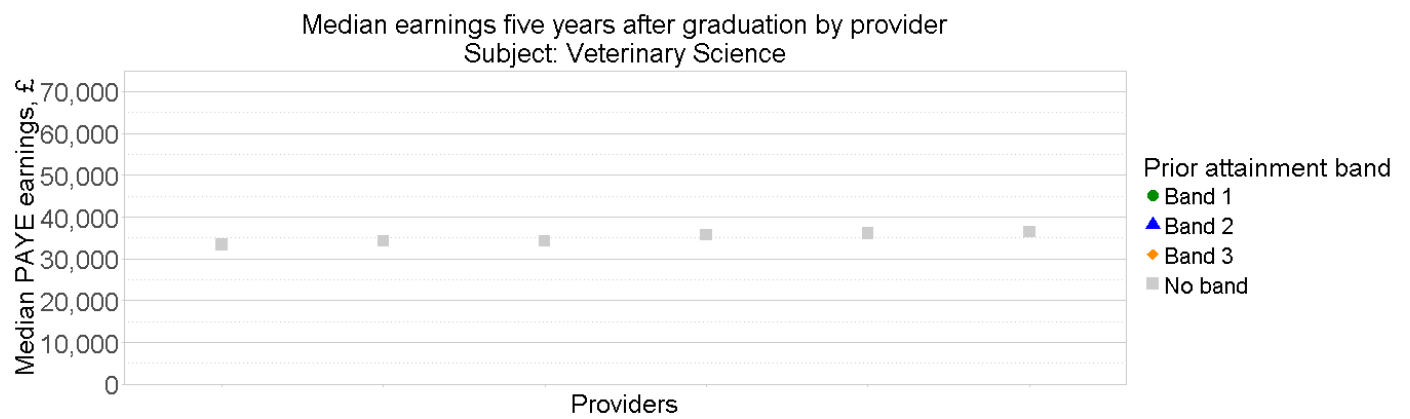
**Figure 26: Median earnings across providers five years after graduation for Subjects Allied to Medicine (excluding Nursing).**

Female + male graduates, graduating cohort 2009/10



**Figure 27: Median earnings across providers five years after graduation for Veterinary Science.**

Female + male graduates, graduating cohort 2009/10



# Earnings by subject and sex

**Figure 28: Distribution of difference between male and female median PAYE earnings across providers for each subject area, five years after graduation.**  
 Graduating cohort 2009/10

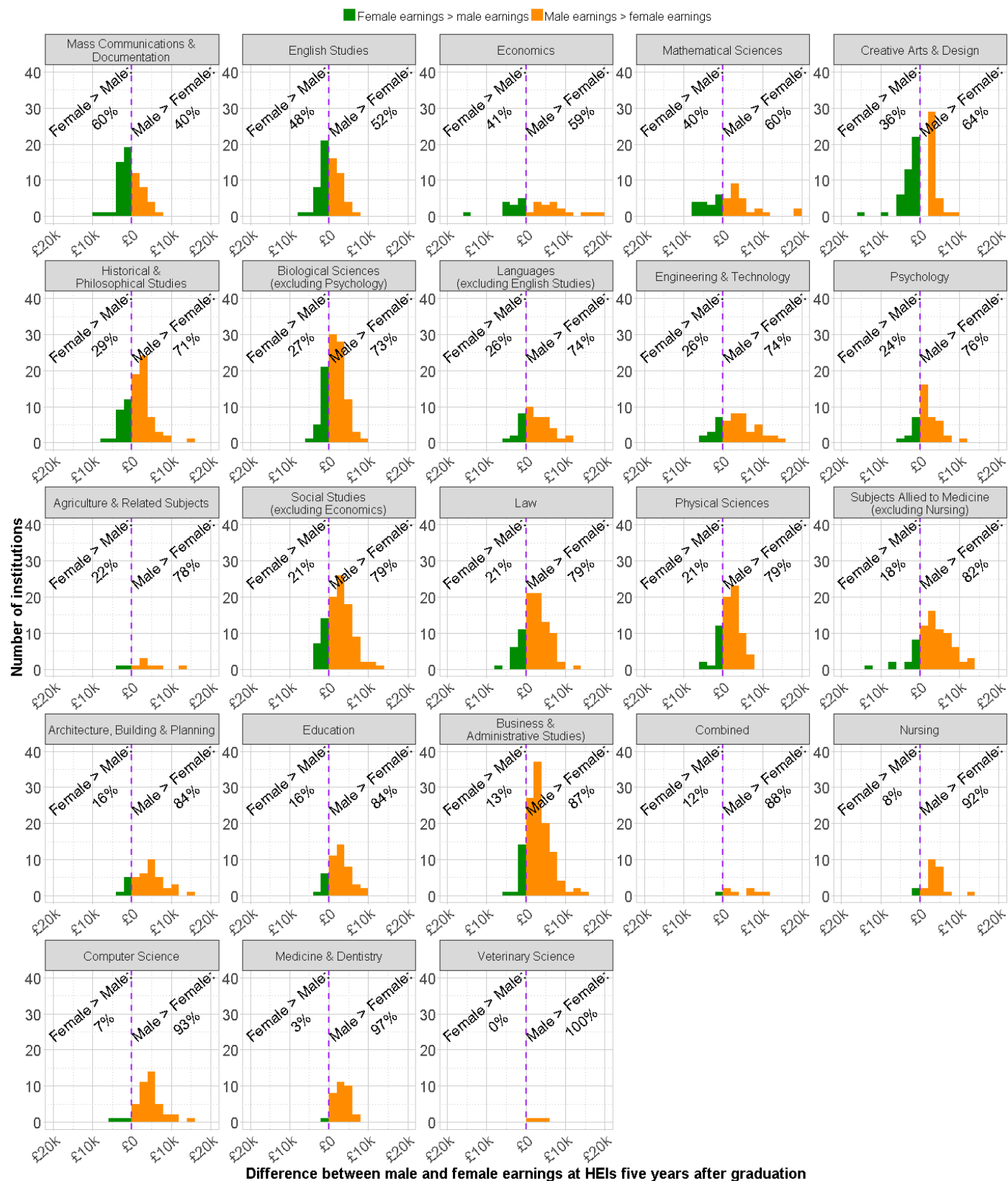


Figure 28 shows the difference between male and female median PAYE earnings across institutions. We have not included, in the charts above institutions, where PAYE median earnings figures for either gender had to be suppressed to prevent disclosure of personal information – this typically occurs when the number of one or both sexes in the university studying the subject is small. For some subjects, large proportions of universities were excluded. See Table A below.

For all subjects except Mass Communication & Documentation, male median earnings exceed female median earnings at more than 50% of institutions offering that subject that we have been able to include. In 14 subjects, male median PAYE earnings are greater than female median PAYE earnings at more than 75% of institutions.

**Table A: Comparison of provider level male and female median PAYE earnings**

Academic year: 2009/10 (5 years after graduation)

Tax year:2015/16

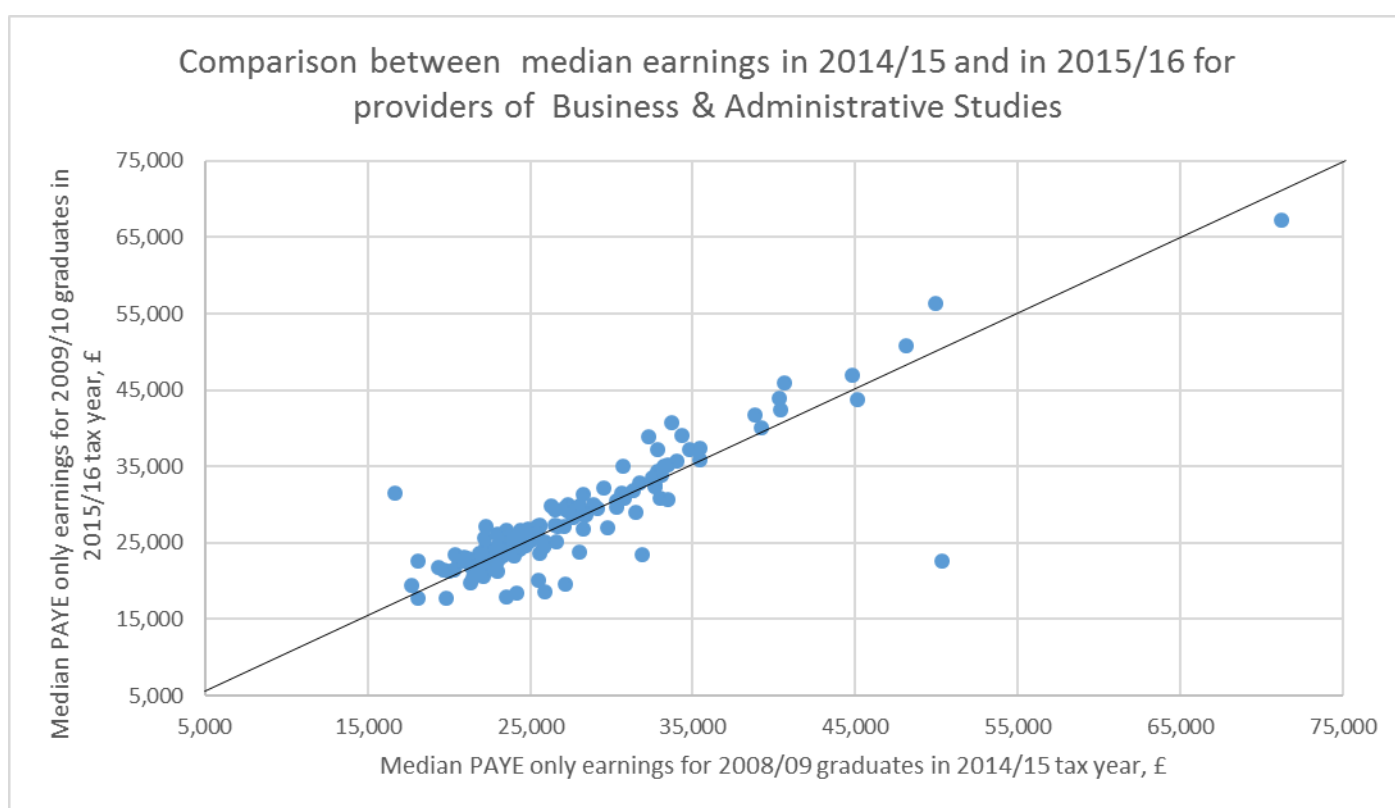
<b>Subject</b>	<b>No. of providers</b>	<b>Proportion where male and female median published (%)</b>	<b>Number where male and female median included</b>	<b>Proportion male median higher than female (%)</b>
Mass Communications & Documentation	116	53	62	40
English Studies	118	54	64	52
Economics	81	40	32	59
Mathematical Sciences	87	48	42	60
Creative Arts & Design	165	73	121	64
Historical & Philosophical Studies	112	71	79	71
Biological Sciences (excluding Psychology)	130	78	101	73
Languages (excluding English Studies)	95	44	42	74
Engineering & Technology	119	39	47	74
Psychology	118	36	42	76
Agriculture & Related Subjects	67	13	9	78
Social Studies (excluding Economics)	143	69	99	79
Law	104	83	86	79
Physical Sciences	105	69	72	79
Subjects Allied to Medicine (excluding Nursing)	121	60	73	82
Architecture, Building & Planning	82	46	38	84
Education	118	38	45	84
Business & Administrative Studies	164	73	120	87
Combined	35	23	8	88
Nursing	78	31	24	92
Computer Science	128	34	43	93
Medicine & Dentistry	33	97	32	97
Veterinary Science	8	38	3	100

## Stability of outcomes between tax years

It is possible that outcomes for a particular subject at a particular provider vary from year to year either due to changes in the way in which that subject is offered, changes in intake, changes in the graduate labour market or simply random chance (particularly true where the cohort sizes are small). In this section, we compare median earnings for 2008/09 graduates in the 2014/15 tax year to median earnings for 2009/10 graduates in the 2015/16 tax year to gain an appreciation of the extent to which average graduate earnings change year on year.

The figure below displays the difference in median earnings at the provider level for Business and Administrative Studies graduates. As can be seen, there is a strong correlation between median earnings in the two tax years. Analogous charts for other subjects are available in the accompanying Excel document.

**Figure 29: Comparison between provider level median PAYE earnings for Business and Administrative Studies graduates, 5 years after graduation, in the 2014/15 tax year and the 2015/16 tax year.**



## 3. Contextual information

### Prior attainment

Information on prior attainment was obtained from the National Pupil Database (NPD). The NPD contains data on the key stage 5 qualifications obtained by 16–18 year olds in England since 2002. Both the NPD and the HESA data have been matched to DWP's Customer Information System (CIS) through the process set out in section 6 of the methodology note [here](#); this enables HESA and NPD records to be linked through matches to a common CIS record.

## Coverage

For the cohorts in this publication, at least 68% of graduates could be matched to a key stage 5 NPD record and at least 55% could be matched to an A level record through this method.

When we restrict the cohorts to those graduates we could reasonably expect to find an NPD record for (that is, those whose domicile was classified as 'English' and who weren't classified as a 'mature' student), we match at least 96% to an NPD record and at least 82% to an A level record. Figures for each of our graduating cohorts are listed in Table B, below.

Reasons why a graduate could not be matched to an A level record include:

- they took an alternative key stage 5 level qualification (for example, a BTEC, the IB)
- they took their A levels prior to the 2001/02 academic year or when they were aged above 18
- they took their key stage 5 qualifications outside of England
- the HESA record we have for them could not be matched to DWP's CIS spine and therefore could not be matched back to an NPD record using this method

**Table B: Proportion of graduates matched to a prior attainment record**

Graduating cohort	All matched graduates		English-domiciled, non-mature matched graduates	
	Matched to key stage 5 NPD record	Matched to A level record	Matched to key stage 5 NPD record	Matched to A level record
2008/09	68%	55%	96%	84%
2009/10	70%	56%	97%	83%
2010/11	72%	56%	97%	83%
2011/12	74%	56%	97%	82%
2012/13	76%	57%	98%	82%
2013/14	78%	58%	98%	82%

**The following scores were assigned for each grade:** A\* or A=120 points; B=100 points; C=80 points; D=60 points; and E=40 points.

Each graduate's total points were calculated from their best three A levels as recorded on the NPD. If the student took more than three A levels, only their best three were included in the total. If they received an E grade or higher in fewer than three A levels, only those A levels they did pass were included: scores were not adjusted for the number of A levels taken. Note that A\* grades have only been awarded since 2010 so they have been treated identically to A grades for comparability between students who took A levels before 2010 and those who took them since 2010.

Where this methodology produced the same score for multiple institutions, we have assigned all such institutions to the same band, including all in the higher-attaining band if they lay on the boundary between quartiles.



Since we are relying on the NPD, only graduates who completed their A levels at an English school are included in our prior-attainment data. Coverage at providers in Scotland or Wales would therefore be limited to graduates who completed their A levels in England before pursuing higher education in one of the other countries. **Given this limitation, we are not publishing prior-attainment information for providers in Scotland or Wales.**

Equally, as the NPD only covers qualifications obtained since 2002, the majority of mature students are not expected to have an A level record on the NPD. We therefore do not include mature students in our prior-attainment calculations.

## Banding

We calculate each graduate's point score from their top three A levels and use this to compute a weighted median point score for each institution, split by subject, gender and year after graduation. As weights, we use Full Person Equivalent (FPE), which takes account of graduates who spent, for example, 50% of their studying time studying French and 50% on philosophy. FPE does not, however, distinguish between full-time and part-time study.

We then rank providers by their median point scores and place them into one of three bands:

- Band 1: top 25%, greater than 75th percentile
- Band 2: middle 50%, between 25th and 75th percentiles
- Band 3: bottom 25%, less than 25th percentile

The intention of this method is to allow for comparison of institutions within the same subject area. Since the rankings used are based on single subjects only, it could be misleading to compare an institution's prior-attainment bands between different subjects.

It is recognised that the prior attainment bandings can be expanded further to include the points for those who took other key stage 5 qualifications.

## Medicine & Dentistry and Veterinary Science

We found that our prior-attainment methodology would lead to misleading results for two of the subjects we cover, Medicine & Dentistry and Veterinary Science. For those subjects, all institutions for which prior attainment would not be suppressed show very similar median UCAS point scores, so bands based on percentiles would give the appearance of differentiation where there is none.

## POLAR

The Participation of Local Areas (POLAR) classification places local areas into five groups, based on the proportion of 18 year olds who enter higher education at age 18 or 19. POLAR3 is the iteration used in this publication. Detailed information about the POLAR methodology is available from the OfS<sup>3</sup>.

Here, we publish the proportion of non-mature matched graduates whose postcode on the student record placed them in quintile 1 (the most disadvantaged group) of POLAR3 before applying for or entering higher education. This information is split by subject studied, institution, gender and year after graduation.

For mature students, their postcode immediately before entering higher education is less likely to be indicative of the environment they grew up in, and hence their POLAR classification would have to be interpreted

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<sup>3</sup> [www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/](http://www.officeforstudents.org.uk/data-and-analysis/polar-participation-of-local-areas/).

differently from that of non-mature students. We therefore exclude mature students from our POLAR measure.

HESA do not publish POLAR figures for Scotland, as Scotland's relatively high participation rate and the high proportion of higher education students in further education colleges could misrepresent Scottish contributions to widening participation. Following that line of reasoning, this publication does not include POLAR figures for Scottish HEIs either.

## 4. Accompanying tables

The following table is available in Excel format on the department's statistics website.

Subject by institution table (Excel .xls)

**Table 1a:** Employment outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2015/16 tax year

**Table 1b:** Earnings outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2015/16 tax year

**Table 2a:** Employment outcomes of UK domiciled first degree graduates by subject and provider and sex one, three and five years after graduation in the 2014/15 tax year

**Table 2b:** Earnings outcomes of UK domiciled first degree graduates by subject and provider and sex one, three, and five years after graduation in the 2014/15 tax year

## 5. Feedback

We are continuing to develop the LEO database and the publications produced. We welcome feedback on this release and the data presented within it, in particular on total earnings data, which is experimental. Contact details can be found in [section 8: Get in touch](#).

## 6. Glossary

**Academic year:** Runs from 1 August to 31 July. For example, the 2013/14 academic year ran from 1 August 2013 to 31 July 2014.

**Customer Information System (CIS):** A computer system used by the Department for Work and Pensions that contains a record for all individuals that have been issued with a National Insurance (NINO) number. It contains basic identifying information such as name, address, date of birth and NINO.

**FEC:** Further Education College.

**First degree qualification:** This covers qualifications commonly known as bachelor's degrees and includes postgraduate bachelor's degrees at H level as well as integrated undergraduate/postgraduate taught master's degrees on the enhanced/extended pattern. Not all undergraduate courses are included: for example, the Professional Graduate Certificate in Education (PGCE), foundation degrees and Higher National Diplomas (HND) are excluded. For further information on this classification, please refer to the Higher Education Statistics Agency at the link referenced below.<sup>4</sup> Note that it does not necessarily mean that the degree is the first higher education qualification undertaken by the student.

**Further study:** The HESA Student Record is used to identify instances of further study in higher education. Students enrolled on further education courses, on some initial teacher training enhancement, booster and extension courses, whose study status is dormant, who were on sabbatical or who spent no more than 14 days on the course are excluded from this indicator. Each tax year spans two academic years; therefore,

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<sup>4</sup> Under 'Field Explanations': <https://www.hesa.ac.uk/support/definitions/students#level-study-qualification-obtained>.

graduates will be flagged as being in further study if they have a HESA record in one of these two academic years.

**HEI:** Higher Education Institution.

**Higher Education Statistics Agency (HESA):** collects data from universities, higher education colleges and other specialist providers of higher education. In this publication, we have used the HESA Student Record to identify graduates from Higher Education Institutions within our base population as well as higher education further study instances.

**Individualised Learner Record (ILR):** used by the further education (FE) and skills sector in England to collect data about learners in the system and the learning undertaken by each of them. In this publication, we have used the ILR to identify graduates from Further Education Colleges within our base population.

**Joint Academic Coding System (JACS):** a standardised way of classifying academic subjects and modules, maintained by HESA and the Universities and Colleges Admissions Service (UCAS). In this publication, we group subjects using JACS high-level subject groupings. Previous research has shown that the earnings profile of Economics graduates differs substantially from graduates of other Social Sciences; therefore, in this publication we have presented Nursing separately from other Subjects Allied to Medicine, Psychology separately from other Biological Sciences, Economics separately from other Social Sciences, and English Studies separately from other Languages.

<b>JACS code</b>	<b>Subject</b>
1	Medicine & Dentistry
2	Subjects Allied to Medicine (excluding Nursing)
B7	Nursing
3	Biological Sciences (excluding Psychology)
C8	Psychology
4	Veterinary Science
5	Agriculture & Related Subjects
6	Physical Sciences
7	Mathematical Sciences
8	Computer Science
9	Engineering & Technology
A	Architecture, Building & Planning
B	Social Studies (excluding Economics)
L1	Economics
C	Law
D	Business & Administrative Studies
E	Mass Communications & Documentation
F	Languages (excluding English Studies)
Q3	English Studies
G	Historical & Philosophical Studies
H	Creative Arts & Design
I	Education
J	Combined

**National pupil database (NPD):** contains information about pupils in schools and colleges in England. It includes information on test and exam results, prior attainment and pupil progress, as well as pupil characteristics such as sex, ethnicity and eligibility for free school meals.

**Nominal earnings:** Nominal earnings represent the cash amount an individual was paid. They are not adjusted for inflation (the general increase in the price of goods and services).

**PAYE:** HMRC's system to collect Income Tax and National Insurance from employment. The LEO project uses information from the P45 to ascertain employment spell length and from the P14 (P60) to determine annual earnings. See the accompanying methodology note from our previous publication for a discussion of how PAYE data has been used in LEO.

**POLAR:** Participation of Local Areas. This measure classifies local areas into five groups based on the proportion of 18 year olds from that area who enter Higher Education before age 20. POLAR3 is the iteration used in this work.

**Self-assessment:** Self-assessment data captures the activity of individuals with income that is not taxed through PAYE, such as income from self-employment, savings and investments, property rental, and shares.

**Sustained employment:** A learner is counted in sustained employment if they were recorded as being employed in 5 out of the 6 months between October and March in the tax year, for example, 5 out of 6 months between October 2010 and March 2011 for the 2010/11 tax year. Additionally, graduates are counted in sustained employment if they have returned a Self Assessment tax return stating that they have received income from self-employment and their earnings from a Partnership or Sole-Trader enterprise are more than £0 (profit from self-employment).

**Sustained annualised earnings:** The calculated average daily wage across the tax year grossed up to the equivalent annual figure. This is only calculated where the learner was in sustained employment. Self-assessed earnings have not been annualised. Earnings figures in this publication are nominal.

**Tax year:** Runs from 6 April to 5 April the following year. For example, the reference period covered by the 2015/16 tax year runs from 6 April 2015 to 5 April 2016.

## 7. Official statistics

These are Official Statistics and have been produced in line with the Code of Practice for Official Statistics.

This can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as Official Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

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

The **total earnings** figures (i.e. PAYE and self-employment earnings) are published on an experimental basis as this is the first time that this data item has been published at provider level.

## 8. 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

Trevor Pinto, Higher Education Analysis, Department for Education, Sanctuary Buildings, Great Smith St, London SW1P 3BT.

Tel: 07388 372 209 Email: [he.leo@education.gov.uk](mailto:he.leo@education.gov.uk)



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

About this publication:

enquiries: Trevor Pinto, Higher Education Analysis, Department for Education, Sanctuary Buildings, Great Smith Street, London SW1P 3BT. Tel: 07388 372209

Email: [he.leo@education.gov.uk](mailto:he.leo@education.gov.uk)

<https://www.gov.uk/government/statistics?departments%5B%5D=department-for-education>

Reference: Graduate Outcomes (LEO): Subject by Provider, 2015 to 2016



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