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Labour market outcomes disaggregated by subject area using the Longitudinal Education Outcomes (LEO) data

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Research Discussion Paper 021

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Abstract

In this paper, we investigate the relationship between labour market outcomes and vocational qualifications disaggregated by subject area of study. Using individuals holding vocational qualifications in *any* subject at the level below as their highest level of achievement in the Regulated Qualifications Framework (RQF) as the counterfactual group, we find that gaining vocational qualifications in most subject areas are associated with positive earnings differentials across all qualification aims, for both men and women. For qualifications in *'Engineering'*, *'Construction'* and *'Business and Law'*, the magnitude of the association is particularly strong, especially for women. In contrast, qualifications in *'Arts and Media'* are frequently associated with negative earnings differentials for men across all qualification aims.

Keywords: Vocational education, Administrative data, Returns to education

JEL codes: I26, J21, J31, J64

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Executive Summary

In this paper we expand on our previous analysis of vocational qualification achievement and labour market outcomes using the Longitudinal Education Outcomes data (London Economics (2017)¹) by looking in detail at the results disaggregated by **subject area of study**. We also estimate subject-specific differentials for each qualification aim (Apprenticeships, NVQs, BTECs, and other full and non-full vocational qualifications).

The findings of the analysis suggest that labour market outcomes (in terms of daily earnings, proportion of the year in employment and benefit dependency) vary considerably across different subject areas, and for different aim types and levels within the Regulated Qualification Framework (RQF). However, the earnings differentials accruing to individuals in possession of vocational qualifications in *'Engineering'*, *'Construction'* and *'Business and Law'* subject areas are typically very strong. This is found to be consistent across almost all qualification aims irrespective of RQF level. In contrast, qualifications in *'Arts and Media'* are frequently associated with negative earnings differentials for men across all qualification aims.

Although using the group of 'all individuals holding qualifications at the level below' as the counterfactual allows us to look at variation in labour market outcomes across qualifications in different subject areas using a common counterfactual, there is a strong underlying heterogeneity in both qualification and individual characteristics that we are unable to capture. In fact, it should be noted that some qualification types are only offered (or predominantly offered) in specific subject areas; admissions criteria typically condition on prior qualifications held (including subject area of prior qualifications); and individuals are not all equally likely to choose different qualification types and subject areas, but rather self-select into specific aims depending on their characteristics, preferences, and aspirations etc.

In separate discussion papers we will explore this heterogeneity and look at the earnings differentials associated with **progression** in specific subject areas (e.g. moving from a Level 2 qualification in *'Engineering'* to a Level 3 qualification in *'Engineering'*), as well as earnings differentials conditioning on prior achievement and socio-economic characteristics.

Findings

In terms of the results of the analysis:

- **Vocational qualifications in most subject areas are associated with positive earnings differentials across all qualification aims, for both men and women.**
- For qualifications in *'Engineering'*, *'Construction'* and *'Business and Law'*, the magnitude of the effect is particularly strong, especially for women.
- In contrast, qualifications in *'Arts and Media'* are frequently associated with negative earnings differentials for men across all qualification aims.

¹ London Economics (2017), The earnings differentials associated with vocational education and training using the Longitudinal Education Outcomes data, CVER Discussion Paper 007, October 2017 <http://cver.lse.ac.uk/textonly/cver/pubs/cverdp007.pdf>

1. Introduction

In recent CVER Discussion Papers (CVER DP007² and CVER DP013³), London Economics used Longitudinal Educational Outcomes (LEO) data to assess labour market outcomes for individuals in possession of vocational qualifications in England.

The studies investigated the relationship between vocational qualifications and **three labour market outcomes** – daily earnings, employment probability and benefit dependency – for individuals holding vocational qualifications at Level 4 or below in the Regulated Qualification Framework (RQF). The main findings of the analyses suggested the existence of a **positive and significant relationship between most vocational qualifications** and labour market outcomes⁴ – **for both men and women**. The study indicated that results are robust across different specifications and counterfactual groups and, typically, the magnitude of the coefficients diminishes as we add further control variables to the model⁵. **Differentials were particularly large for Level 4 vocational qualifications, Advanced and Intermediate Apprenticeships and NVQs at Level 3 and Level 2. The main exceptions were males in possession of BTECs at Level 2 and Level 3, where earnings differentials were low or zero** (although estimates for employment and benefits dependency were positive)⁶.

In this study, we expand on CVER DP007 by investigating labour market differentials disaggregated by subject area of study for the different qualifications. While we refer to ‘vocational qualifications’ in general, it is crucial to acknowledge that different types of vocational qualifications have:

- different admissions criteria (i.e. the level of prerequisite prior qualifications);
- different connections with the labour market (i.e. some qualifications – such as Apprenticeships and NVQs – are undertaken through the employer, while others are purely College based); and
- different subject areas of focus (i.e. some qualification types are only or predominantly offered in specific subject areas).

For the same qualification type, labour market outcomes may vary significantly across subject areas of study – and the coefficients from aggregate regressions may mask this underlying variation.

In order to provide a better understanding of outcomes for learners with qualifications in specific subject areas, we estimate our model separately for:

- Each qualification level (e.g. all Level 3 vocational qualifications vs. all Level 2 vocational qualifications);

² London Economics (2017), *The earnings differentials associated with vocational education and training using the Longitudinal Education Outcomes data*, CVER Discussion Paper 007, October 2017 <http://cver.lse.ac.uk/textonly/cver/pubs/cverdp007.pdf>

³ London Economics (2018), *Settling the counterfactual debate: Is there a preferable counterfactual when estimating the returns to vocational qualifications?* CVER Discussion Paper 013, February 2018 <http://cver.lse.ac.uk/textonly/cver/pubs/cverdp013.pdf>

⁴ For benefit dependency, the analysis identified a negative association, with higher levels of attainment being associated with a lower proportion of the year spent in receipt of active labour market benefits.

⁵ CVER DP007 used three different model specifications: a **baseline** specification with basic controls only; an **augmented** specification also including Key Stage 2 test scores, eligibility for Free School Meals (FSM) and Special Education Needs (SEN); and a third specification **further augmented** with academic qualifications held and Key Stage 4 school controls.

⁶ See also London Economics (2018), *Further analysis of the earnings differentials associated with BTECs* CVER Briefing Note 006, February 2018. <http://cver.lse.ac.uk/textonly/cver/pubs/cverbrf006.pdf>

- Qualification aims in different subject areas for each level (e.g. Level 3 vocational qualifications in Engineering vs. all Level 2 vocational qualifications);
- Qualification aim types in any subject area (e.g. all Level 3 NVQs vs. all Level 2 vocational qualifications);
- Qualification aim types in different subject areas (e.g. Level 3 NVQs in Engineering vs. all Level 2 vocational qualifications).

As in the previous analyses, we use the three cohorts of pupils who undertook their Key Stage 4 examinations (GCSEs) in England between the academic years 2001/02 and 2003/04. While our previous analysis focused on outcomes at the age of 26, additional years of HMRC and DWP data have since become available, meaning that we are now able to follow pupils **until the ages of 28-30** (depending on the cohort)⁷.

The remainder of the paper is organised as follows. In Section 2, we present a brief description of the data sources used for the analysis as well as an outline of the data cleaning process undertaken. In Section 3, we define the classification of qualification aims used, the strategy adopted to identify the highest qualification achieved by each learner and the counterfactual group used throughout the analysis. The methodological approach is explained in Section 4, while Section 5 presents some descriptive statistics and Section 6 reports the key findings of this analysis. Finally, conclusions and next steps are presented in Section 7.

2. Data sources

The analysis presented in this paper makes use of the Longitudinal Educational Outcomes (LEO) dataset, which combines information on educational achievement in England with labour market data⁸. Compared to previous analyses, we include additional HMRC and DWP data which has since become available, namely **HM Revenue and Customs P14** (annual earnings achieved through PAYE employment) and **P45 records** (employment spells), as well as the **National Benefits Database** from the DWP for the tax years 2015/16 and 2016/17. Moreover, information was available for the first time from the **HMRC self-assessment file**, reporting information on self-employment⁹. We were additionally able to supplement the Further Education data with qualifications achieved in the academic years 2015/16 and 2016/17¹⁰.

Cleaning the data

This paper focuses on the same cohorts of students used in CVER DP007: Key Stage 4 leavers attending English secondary schools in the academic years 2001/02, 2002/03 and 2003/04. In total, there were approximately **605,000** pupils in the 2001/02 cohort, **622,000** in the 2002/03 cohort and **645,000** in the 2003/04 cohort. However, approximately **15,760** pupils in the 2001/02 cohort were assigned an incorrect Pupil Matching Reference and, being unable to link them to records in the other datasets, we have removed them from the sample.

⁷ Age is measured at the start of the academic year.

⁸ For a detailed description of the different data sources used in LEO, refer to CVER DP007.

⁹ A description of the cleaning process for the self-assessment data is reported in Annex 1.

¹⁰ Individuals in the relevant cohorts were aged between 28 and 30 in the tax year 2016/17. In the analysis, we pool the three cohorts together and focus on outcomes at the age of 28.

In addition, we have removed those pupils with no records at age 28 in the HMRC and DWP datasets or with inconsistencies in the identifier (e.g. multiple HMRC/DWP identifiers linked to the same Pupil Matching Reference), for which it was not possible to identify the labour market outcome at the age under consideration. Finally, in order to allow for sufficient job search time and to avoid any overlap between academic and tax years, we limit the final dataset to learners achieving their highest qualification by age 26¹¹. As a result of this additional cleaning, the final sample comprises **474,000** pupils for the 2001/02 cohort, **518,000** pupils for the 2002/03 cohort and **545,000** pupils for the 2003/04 cohort.

3. Classification of qualification aims

Following the approach outlined in CVER DP007, qualifications were classified in a **nine-point scale** according to the Regulatory Qualification Framework (RQF), where Level 0 corresponds to Entry Level qualifications and Level 8 to Doctoral degrees. As the analysis focuses on vocational qualifications at Level 4 or below, we grouped Higher National Diplomas and NVQ aims at Level 5 with Level 4 vocational qualifications. Those learners who did not achieve any formal qualification were assigned to the residual category “KS4 entry but no formal achievement”.

Within each RQF Level, we distinguished between academic and vocational qualifications, and vocational qualifications were then further disaggregated into qualification aims (e.g. NVQs, BTECs, etc.). Given the small sample size for these qualifications, BTEC Level 1 and GNVQ Level 1 were included in the broad category “Other full Level 1 vocational qualifications” and, similarly, GNVQ Level 2 was included in the “Other full Level 2 vocational qualifications” category.

Identifying the highest qualification

The nine-point scale described above was then used to identify the highest qualification aim undertaken and achieved by each learner at age 26. Given the presence of multiple qualification aims within the same RQF Level, and following the our previous approach, we ranked aims at the same RQF Level such that Apprenticeships were given priority, followed by a full-level vocational qualification, a full-level academic qualification and, finally, other qualifications at that level that do not constitute a full qualification. For instance, a learner who achieved both an Intermediate Apprenticeship and 5 or more GCSEs A*-C (and no qualifications at Level 3 or above) would be included in the Treatment group for Intermediate Apprenticeships¹². Analogously, someone who holds both an NVQ Level 3 qualification and 2 or more GCE A-Levels (and no qualifications at Level 4 or above) would be retained in the Treatment group for NVQ Level 3. A complete description of the qualification aims ranking used can be found in Table 8, whilst a summary of the sample by highest qualification is provided in Table 9.

¹¹ Around 93% of learners in the relevant cohorts, who have a vocational qualification at Level 4 or below as their highest level of achievement, achieved their highest qualification by the age of 26.

¹² Controls for academic qualifications held are included in the econometric analysis. Consequently, the estimates show very little variation when changing the ranking so that academic qualifications are ranked above Apprenticeships. This is showed explicitly in table 14 of CVER DP007.

Counterfactual groups

To estimate the labour market returns of each vocational qualification under consideration, we specify the counterfactual group as individuals in possession of a vocational qualification in **any subject** at the RQF level immediately below as their highest level of achieved qualification. To provide an example, labour market differentials for individuals in possession of an NVQ Level 3 qualification in ‘*Engineering*’ have been assessed using the counterfactual group of individuals in possession of a Level 2 vocational qualification in any subject area as their highest achieved qualification.

For **Advanced Apprenticeships only**, the counterfactual was limited to individuals in possession of an **Intermediate Apprenticeship** (in any subject or in the same subject respectively) as the highest qualification under consideration. Individuals in possession of other vocational qualifications at Level 2 would not be included in the counterfactual group in this case. **Level 1 vocational qualifications** are compared to a combination of those with Entry Level qualifications (concentrated in ‘*Preparation for Life and Work*’) and those with no formally recognised qualifications.

Classification of subject areas

In order to assign vocational qualifications to specific subject areas we follow the Tier 1 Sector Subject Areas as defined in the ILR framework¹³. In total, we assign **eleven categories, though it must be noted that some subject areas have little relevance for vocational qualifications** (i.e. ‘*History, Philosophy and Theology*’, ‘*Social Sciences*’ and ‘*Languages, Literature and Culture*’); **and that others** (e.g. aims in the ‘*Preparation for Life and Work*’ arena) are mostly taken at Level 1 and Entry Level. Learners with aims in **unknown subject areas were excluded** from the sample. The full list is presented in Table 7¹⁴.

4. Methodological approach

Outcome variables

As in previous analyses, this study considers the impact of vocational qualification attainment on three labour market outcomes:

- a. **Earnings, expressed as daily earnings** (i.e. total annual gross pay divided by total number of days in employment in the tax year).
- b. **Employment, expressed as proportion of the year in employment** (number of days in employment in the tax year divided by 365 or 366).
- c. **Benefit dependency, expressed as proportion of the year in receipt of at least one** of the following **active labour market benefits**: Jobseekers’ Allowance (and Job Training Allowance), Income Support, and Employment and Support Allowance.

¹³ See

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/624339/Appendix_H_ILR_2017_to_2018_v1_Published_July17.pdf

¹⁴ It should be noted that some qualification types tend to be offered predominantly in specific subject areas (see Table 4).

All outcome variables are measured at age 28, and in order to avoid any overlap between academic and tax year and to allow sufficient potential job search time, we only retain those individuals who have achieved their highest qualification by age 26.

Model Specification

In order to assess the labour market returns of vocational qualifications by subject area, we estimate a model of the form:

$$y_{i,28} = \delta ach_{i,26} + \beta x_{i,t} + \epsilon_{i,t}$$

where:

- $y_{i,28}$ represents the dependent variable measured at age 28 (log daily earnings, proportion of the year in employment, or proportion of the year in receipt of benefits).
- $ach_{i,26}$ represents the highest qualification level attained by the individual at age 26.
- $x_{i,t}$ is a vector of control variables including information on the **ethnic background** of the individual, **time elapsed since the learner left education**, previous **eligibility for Free School Meals (FSM)**, **Special Education Needs (SEN)** status, **IDACI** (income deprivation index) score (all measured at Key Stage 4), **Key Stage 2 Maths and English test score**, whether achieved **2 or more A-Levels**, whether achieved **5 or more A*-C GCSEs**, whether achieved **5 or more A*-G GCSEs**, **Key Stage 4 establishment controls**, a **cohort dummy** and (limited to the earnings regression) **postcode area of residence**¹⁵ in the tax year and **source of income** (PAYE only, self-assessment only, or both)¹⁶.
- All regressions were estimated separately for males and females.
- The earnings regressions were estimated using Ordinary Least Squares (OLS), whilst both the employment and the benefits regression were estimated using a fractional logit (Generalised Linear Model)¹⁷.

5. Descriptive Statistics

Qualification attainment

In Table 11 and Figure 1, for each level of **highest qualification attainment**, we present the subject composition of vocational qualifications at Level 4 or below of the Regulatory Qualification Framework – by qualification aim and gender. As expected, there is wide variation across both gender and qualification type.

In particular, the **vast majority of men** with an **Advanced or Intermediate Apprenticeship** hold a qualification in *‘Engineering’* or *‘Construction’* (which comprise 78% of Advanced

¹⁵ The postcode area forms the initial characters of the alphanumeric UK postcode (e.g. AB). There are currently 121 geographic postcode areas in the UK. Postcode information is provided through the HM Revenue and Custom P14 file containing information on annual earnings and therefore is not available for the other outcome variables.

¹⁶ Due to the assumptions used for self-employment, all individuals with positive income from self-employment (either from sole trading or partnership) are considered to be in employment for 100% of the tax year (see Annex 1).

¹⁷ Since the dependent variable is expressed as a proportion varying between 0 and 1.

Apprenticeships and 55% of Intermediate Apprenticeships). The corresponding figure for men in possession of Level 4 qualifications is 53% (while 23% have a qualification in '*Business and Law*'). For men in possession of NVQs at Level 3 and Level 2, the proportion holding a qualification in '*Engineering*' or '*Construction*' stands at 38% and 52% respectively.

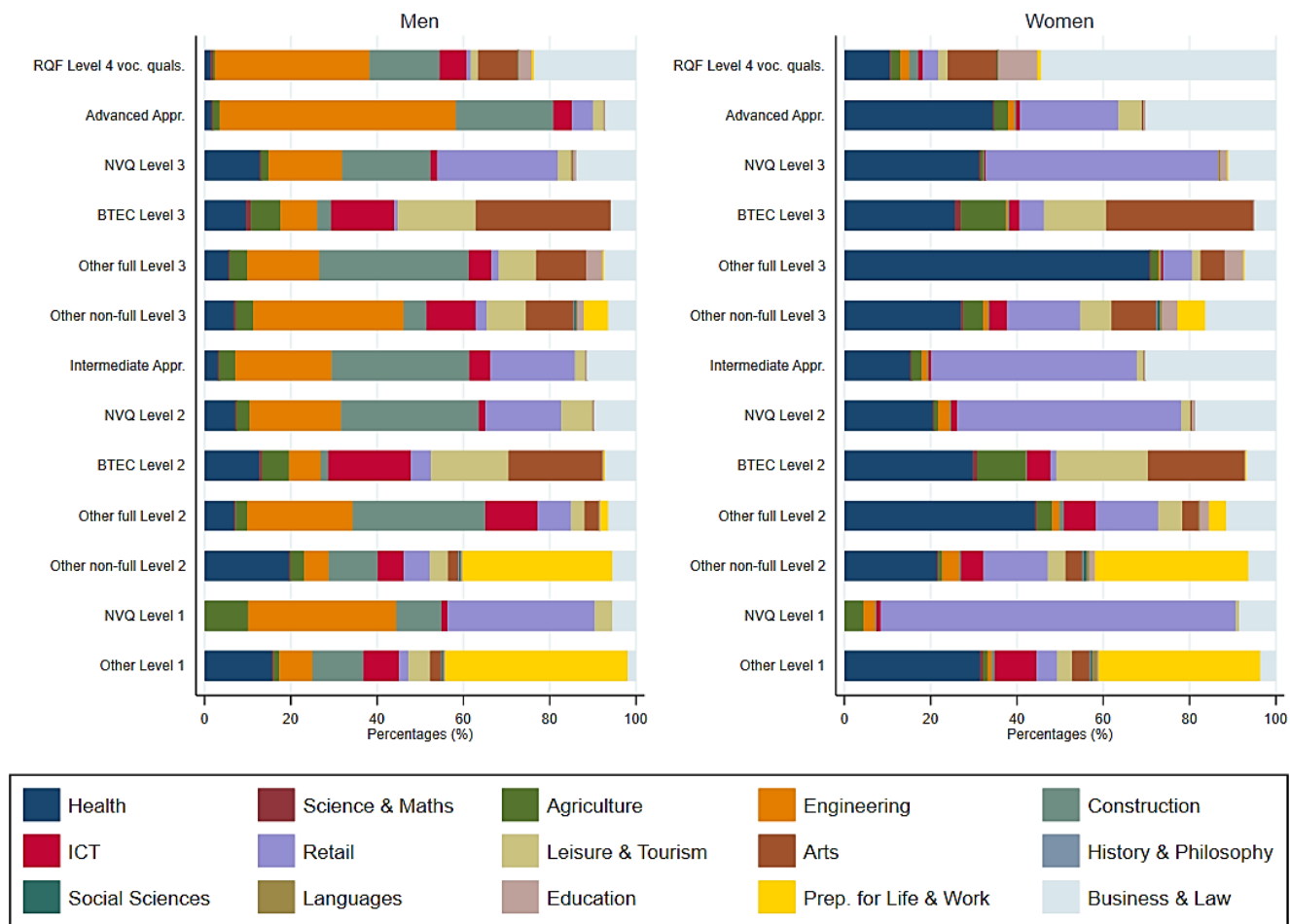
In contrast, BTEC qualifications are mostly undertaken in '*Arts*' (31% and 22% for BTECs at Level 3 and Level 2 respectively), '*Leisure and Tourism*' (18% for both BTEC levels) and '*ICT*' (15% and 19% at Level 3 and Level 2 respectively), while qualifications in '*Engineering*' and '*Construction*' represent only 12% of the total for BTEC Level 3 male achievers and 9% of BTEC Level 2 male achievers.

For **women**, a very different pattern emerges: '*Health*' is relatively popular across most qualification aims and is undertaken by more than 30% of females whose highest achieved qualification is at Level 3, and by more than 20% of those with their highest qualification at Level 2. It is particularly relevant for females with Advanced Apprenticeships (35%), NVQs at Level 3 (30%), BTECs at Level 3 and Level 2 (26% and 30% respectively) and 'Other full vocational qualifications' at Level 3 and Level 2 (64% and 43% respectively).

The subject area '*Business and Law*' is particularly relevant for female Level 4 achievers (56% of the total), Advanced Apprenticeships and Intermediate Apprenticeships (about 30%) and for females with NVQs at Level 2 (18%). On the other hand, the category '*Retail*' represents around 55% of NVQs at Level 3 and Level 2 undertaken by women, as well as 48% of Intermediate Apprenticeships and 23% of Advanced Apprenticeships. Similar to the pattern for men, '*Arts*' and '*Leisure and Tourism*' are relatively popular subjects among females holding BTECs at Level 3 and Level 2 as highest qualification (34% and 22%, and 14% and 20% respectively).

One important point to remember is that these figures refer only to men and women holding a given **vocational qualification as their highest achieved qualification** (i.e. learners who did not achieve qualifications at higher level).

Figure 1: Subject composition when vocational qualifications are held as highest qualification, by gender and qualification aim



Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28
 Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

Earnings

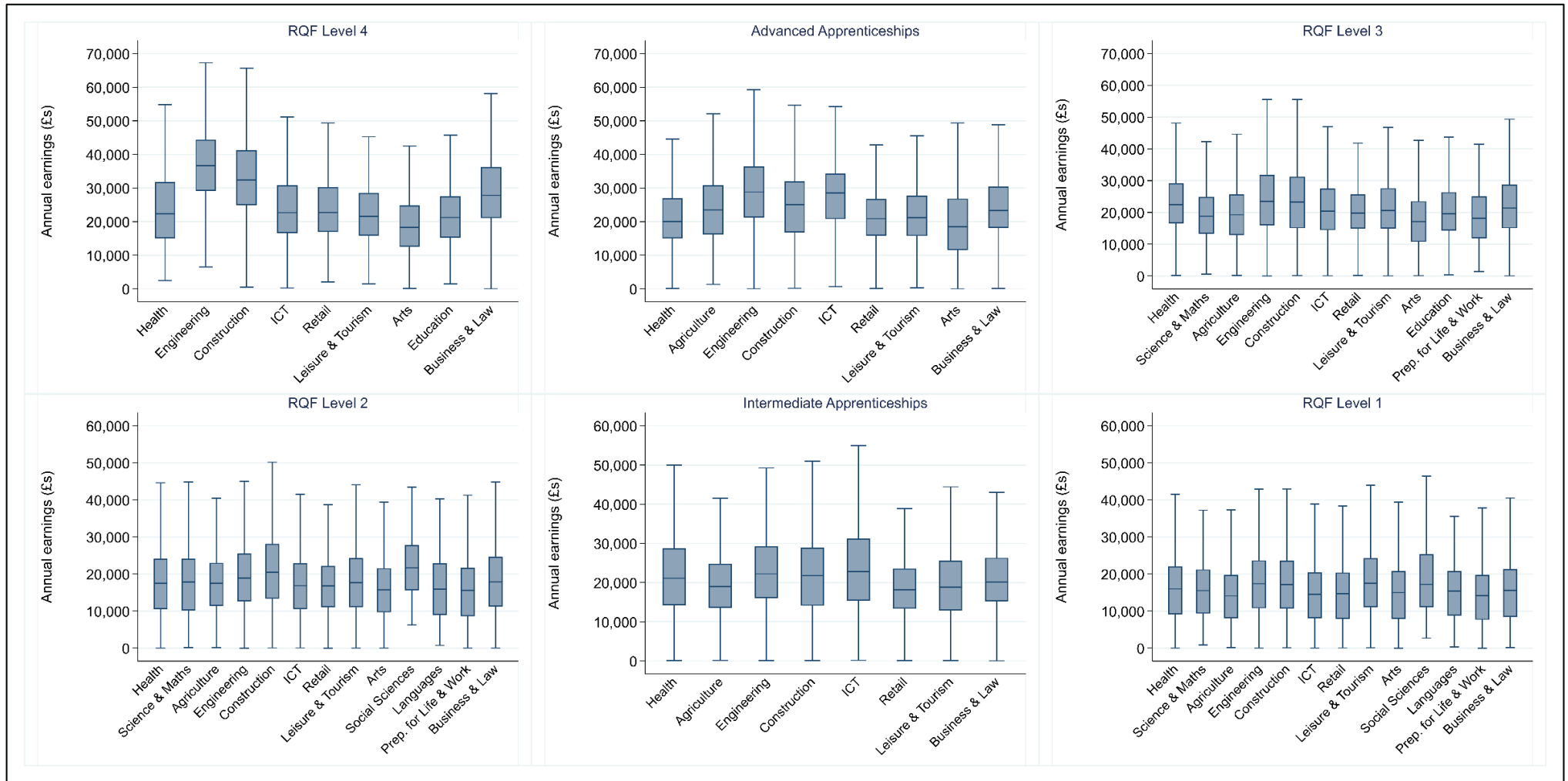
Table 12 to Table 14 present descriptive statistics for labour market outcomes at age 28 by highest qualification achieved, subject area and gender. We report median and average raw annual earnings (not corrected for the number of days in employment), the proportion of the financial year spent in employment, and the proportion of the year in receipt of active labour market benefits.

Considering **men** in the first instance (Table 12a and Figure 2), average annual earnings almost double as we move up the qualification spectrum, from approximately £16,800 for individuals holding an NVQ at Level 1 to £31,100 for those in possession of a Level 4 qualification. Analogously, for **women**, we observe an increase from £9,200 to £21,500 as we move up from NVQ Level 1 to Level 4 vocational qualifications.

However, for both men and women, the analysis identifies **substantial subject-level variation** in mean and median annual earnings associated with qualifications at the same RQF level, with some subject areas being associated with consistently higher average annual earnings than others. For example, average annual earnings for **men** in possession of a qualification in *'Engineering'* are consistently higher than the overall average for that (aggregate) level qualification. In stark contrast, raw annual earnings for males in possession of qualifications in *'Arts'* are significantly lower. For example, males in possession of Level 4 qualifications in *'Arts'* and *'Engineering'* achieve earnings of £19,200 and £37,000 respectively, while for males in possession of BTEC Level 3 qualifications the corresponding averages are £18,000 and £24,600 respectively. Often the raw annual earnings for males with Level 3 qualifications in *'Arts'* are lower than the raw annual earnings for Level 2 qualifications in *'Engineering'* or *'Construction'* (although estimates are not corrected for the number of days in employment during the tax year).

For **females** (Table 12b and Figure 3) there is also some variation (albeit more limited) in raw annual earnings by subject area. Women in possession of their highest qualification in *'Engineering'* or *'Construction'* earn substantially more than the average, however, they represent a very small proportion of those in possession of a qualifications at that particular level. Looking at the other subject areas, females with qualifications in *'Business and Law'*, *'Agriculture'* and *'Retail'* tend to have raw annual earnings that are above-average (although with some exceptions), while females with qualifications in *'Health'* and *'Education'* related qualifications tend to have below-average annual earnings.

Figure 2: Boxplot of annual earnings at age 28 by subject area, for each RQF Level – Men



Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before, and who are in employment at age 28. Descriptive statistics are only shown for groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. The dash shows the median of the distribution, the box shows the interquartile range, while the whiskers show the upper and lower adjacent values (corresponding to upper quartile+1.5IQR and lower quartile-1.5IQR respectively).

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

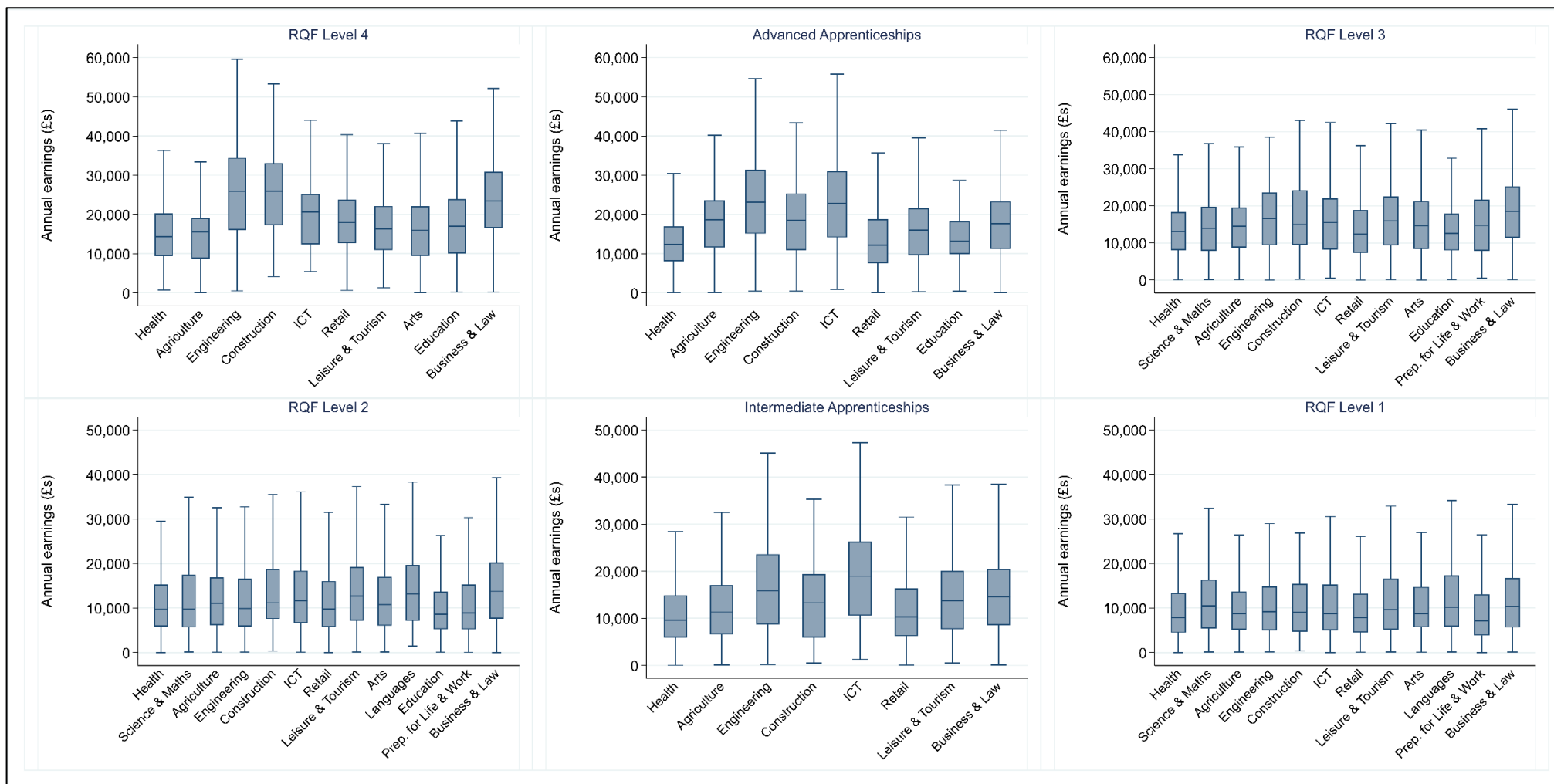


Figure 3: Boxplot of annual earnings at age 28 by subject area, for each RQF Level – Women

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before, and who are in employment at age 28. Descriptive statistics are only shown for groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. The dash shows the median of the distribution, the box shows the interquartile range, while the whiskers show the upper and lower adjacent values (corresponding to upper quartile+1.5IQR and lower quartile-1.5IQR respectively).

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

As with annual earnings, the average **proportion of the year spent in employment**¹⁸ increases as we move up the qualification spectrum for both **men** and **women** (Table 13). In fact, while the proportion of the year in employment for males and females holding vocational qualifications at Level 4 is around 83%, the corresponding figure is 69% for males with NVQs at Level 1 and 55% for female NVQ Level 1 achievers. The proportion of the year spent in employment is fairly similar across genders when we look at qualifications at Level 3 and above, while for qualifications at Level 2 the gender gap is more marked – with men earning substantially more than women in possession of similar qualifications (as highest). Further, the analysis indicates significant variation in the proportion of the year spent in employment across individuals holding qualifications in different subject areas. Individuals in possession of qualifications in ‘*Health*’, ‘*Business and Law*’ and ‘*Leisure and Tourism*’ typically spend a **higher** proportion of the year in employment than average, although estimates for employment do vary across gender, qualification type and level¹⁹.

As expected, considering benefits dependency (Table 14), the proportion of the year spent in receipt of active labour market benefits is higher for qualifications towards the bottom end of the RQF spectrum and decreases as we move to higher-level qualifications (for both men and women). In general, women appear to spend a slightly smaller proportion of the year in receipt of benefits compared to men, and gender differences are more marked for qualifications at the bottom of the RQF (compared to higher levels). Subject-level differences are more pronounced for women than for men, but decrease as we move higher up the qualification spectrum.

6. Econometric findings

The econometric findings for daily earnings, employment probability and benefit dependency are presented in detail in Table 1 to 6 and Table 29. Results are presented separately for men and women and for different qualification types and levels. In order to ensure the robustness of our results, we only present estimates where the Treatment group is formed of at least 50 individuals²⁰. We estimated four different sets of regressions, disaggregating respectively by:

- Qualification level (e.g. Level 3 qualifications in any subject area);
- Qualification level and subject area (e.g. Level 3 qualifications in ‘*Engineering*’);
- Qualification aim types at different levels (e.g. NVQs at Level 3 in any subject area);
- Qualification aim types at different levels and subject areas (e.g. NVQs at Level 3 in ‘*Engineering*’);

The counterfactual group is always formed of individuals holding vocational qualifications at the RQF level immediately below the qualification in question as their highest achieved qualification, with the *exception* of Advanced Apprenticeships (where the counterfactual is those holding Intermediate Apprenticeships as their highest achieved qualification).

¹⁸ It should be noted that the denominator includes all days in the year (rather than all working days).

¹⁹ The employment figures reported here also include information from the HMRC self-assessment files.

²⁰ In the tables throughout this paper, estimates are reported in italics for samples between 50 and 100

When interpreting the results, it should be noted that the relationship between qualifications and daily earnings will capture **both** wages and hours worked (as no information on the number of working hours is provided in the data). For this and other reasons, results from this study are not directly comparable with analyses using the Labour Force Survey²¹.

6.1 Differentials by RQF Level

Earnings

The marginal effect of obtaining a vocational qualification at each of the RQF levels is displayed in Table 1, for men and women separately. The tables report the raw coefficients, while in the text we refer to the percentage difference²². As expected, the highest earnings differentials are observed at the top of the RQF scale: men whose highest achievement is a vocational qualification at Level 4 earn 35% more on average at age 28 than men whose highest achievement is a qualification at Level 3. The corresponding figure for women is slightly lower at 30%.

Table 1: Marginal effects of vocational qualifications on daily earnings by RQF Level and gender

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Voc. Qual. Level 4	0.297***	(0.007)	49,929	0.259***	(0.009)	54,795
RQF Level 3	Adv. Apprenticeships	0.182***	(0.004)	76,858	0.094***	(0.006)	50,111
	Voc. Qual. Level 3	0.048***	(0.004)	95,657	0.106***	(0.005)	80,444
RQF Level 2	Inter. Apprenticeships	0.193***	(0.005)	110,782	0.146***	(0.008)	66,542
	Voc. Qual. Level 2	0.083***	(0.005)		0.106***	(0.008)	
RQF Level 1	Voc. Qual. Level 1	-0.035***	(0.010)	38,146	0.019	(0.019)	16,014

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual). Each row in the table is the result of a separate regression with different counterfactual in each case. .

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

Amongst men, the earnings differentials for apprenticeships are substantially higher in magnitude than for vocational qualifications at the same RQF level. For example, the estimate for men with Advanced Apprenticeships is **15 percentage points higher** than that for vocational Level 3 qualifications (20% compared to 5%). For Intermediate Apprenticeships there is a similar premium (21% compared to 9%). Some of this may be driven by selection into apprenticeships by individuals with certain unobservable characteristics that also affect their future earnings. However, women do not experience this discrepancy to the same extent: there is only a **5 percentage point difference** between the coefficient for Intermediate Apprenticeships (16%) and vocational Level 2 qualifications (11%), whilst the earnings differentials for Level 3 qualifications are almost identical (10% and 11% for Advanced Apprenticeships and vocational Level 3 qualifications respectively). Men whose highest

²¹ For a detailed comparison of characteristics and outcomes using LEO and the LFS, see CVER DP009: Conlon, G., Hedges, S. McIntosh, S., Morris, D. and Patrignani, P. (2017) The Payoff to Vocational Qualifications: Reconciling Estimates from Survey and Administrative Data, CVER Research Discussion Paper 009.

²² Computed as $\exp(\beta)-1$.

achievement is a vocational qualification at Level 1 earn 3% less at age 28 than men with no formally recognised qualifications. For women there was no statistically significant difference.

Employment

Table 2 displays the marginal effect of obtaining a vocational qualification on the proportion of the year spent in employment. The analysis indicates large and positive employment differences for individuals holding Intermediate Apprenticeships as their highest level of achievement (10 percentage points higher for men and 15 percentage points higher for women), whilst the corresponding estimates for Advanced Apprenticeships are smaller in magnitude (2 percentage points and 6 percentage points respectively (but this in part reflect the fact that those in possession of an Intermediate Apprenticeship make up the counterfactual group). For both genders, the employment effects appear to decline as the level of highest achievement increases, falling from 6 percentage points for Level 2 vocational qualifications to 3 percentage points for Level 4 vocational qualifications for men, and from 9 percentage points to 5 percentage points respectively for women. The exception to this trend is for Level 1 vocational qualifications for which there is no statistically significant difference in employment rates for either gender between those who hold these qualifications and those with entry level qualifications or no formal qualifications.

Table 2: Marginal effects of vocational qualifications on proportion of the year spent in employment by RQF Level and gender

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Voc. Qual. Level 4	0.032***	(0.004)	64,401	0.051***	(0.005)	73,148
RQF Level 3	Adv. Apprenticeships	0.024***	(0.003)	104,196	0.055***	(0.004)	69,158
	Voc. Qual. Level 3	0.041***	(0.003)	130,653	0.087***	(0.003)	115,081
RQF Level 2	Inter. Apprenticeships	0.103***	(0.003)	157,843	0.146***	(0.004)	104,626
	Voc. Qual. Level 2	0.060***	(0.003)		0.091***	(0.004)	
RQF Level 1	Voc. Qual. Level 1	0.003	(0.005)	62,658	0.013	(0.008)	34,032

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual). Each row in the table is the result of a separate regression with different counterfactual in each case. .

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

Benefits

Table 3: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by RQF Level and gender

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Voc. Qual. Level 4	-0.007***	(0.001)	65,361	-0.004***	(0.001)	74,076
RQF Level 3	Adv. Apprenticeships	-0.006***	(0.000)	105,039	-0.005***	(0.001)	69,657
	Voc. Qual. Level 3	-0.010***	(0.001)	133,352	-0.008***	(0.001)	117,772
RQF Level 2	Inter. Apprenticeships	-0.027***	(0.001)	162,341	-0.019***	(0.001)	109,037
	Voc. Qual. Level 2	-0.011***	(0.001)		-0.009***	(0.001)	
RQF Level 1	Voc. Qual. Level 1	0.010***	(0.002)	69,606	0.010***	(0.003)	41,063

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual). *Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data*

As expected, the marginal effect of vocational qualifications on the proportion of the year spent in receipt of active labour market benefits (displayed in Table 3) typically mirrors the effect on the probability of employment: coefficients are generally negative and the strongest magnitude of effect is observed for Intermediate Apprenticeships (-3 percentage points and -2 percentage points for men and women respectively). There is very little variation amongst the estimates for the other qualification levels.

6.2 Differentials by qualification aim

Earnings

Looking in more detail at the qualification aims within each RQF level (Table 4), the aggregate returns observed in Table 1 clearly mask a large amount of underlying variation between NVQs, BTECs, and other vocational qualifications. At RQF Level 3, where the overall earnings differential for men was 5%, the estimates for the specific qualification aims within that level range from zero for BTECs at Level 3 to 16% for NVQs at Level 3. The estimates for women range from 7% for 'Other Full Vocational Level 3' to 15% for BTECs, compared to the overall earnings differential for Level 3 qualifications of 11%.

Table 4: Marginal effects of vocational qualifications on daily earnings by qualification aim and gender, for each RQF Level

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Level 4 Voc. Qual.	0.297***	(0.007)	49,929	0.259***	(0.009)	54,795
	Advanced Apprenticeships	0.182***	(0.004)	76,858	0.094***	(0.006)	50,111
RQF Level 3	NVQ Level 3	0.149***	(0.007)	95,657	0.095***	(0.007)	80,444
	BTEC Level 3	-0.001	(0.005)		0.138***	(0.007)	
	Other full Voc. Level 3	0.042***	(0.008)		0.066***	(0.008)	
	Other Non-full Voc. level 3	0.071***	(0.006)		0.116***	(0.008)	
RQF Level 2	Inter. Apprenticeships	0.202***	(0.005)	110,782	0.148***	(0.009)	66,542
	NVQ Level 2	0.175***	(0.006)		0.116***	(0.009)	
	BTEC Level 2	-0.008	(0.009)		0.157***	(0.014)	
	Other full Voc. Level 2	0.069***	(0.006)		0.094***	(0.010)	
	Other Non-full Voc. level 2	0.026***	(0.006)		0.086***	(0.010)	
RQF Level 1	NVQ Level 1	-0.028*	(0.015)	38,146	-0.021	(0.024)	16,014
	Other Voc. Level 1	-0.036***	(0.010)		0.028	(0.019)	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual). *Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data*

At RQF Level 2, there is a similar degree of variation between estimates for different qualification aims. For men, although the overall earnings differential for men was estimated at 9%, earnings differentials ranged from 3% for 'Other Non-Full Vocational Level 2' to 19% for NVQs at Level 2. For women, where the overall earnings differential was estimated to be 11%, this ranged from 9% for 'Other Non-Full Vocational Level 2' to approximately 17% for BTECs at Level 2. The variation is relatively muted at Level 1: for women, the earnings estimates for both qualification aims are not significantly different from zero (and reflected in the overall estimate), while for men, earnings differentials are estimated to be 3% and -4%, which is consistent with the aggregate estimate of -3%.

As found in previous CVER analyses²³, for men, earnings differentials associated with BTEC qualifications at either Level 3 or Level 2 are zero, however, these same qualifications appear to produce the strongest coefficients for women (15% and 17% for Level 3 and Level 2 BTECs respectively). This reflects a composition effect: a significant proportion of BTECs are undertaken in the 'Arts & Media' subject areas (which are subject areas normally associated with relatively low earnings). However, in the counterfactual group (in particular for men), a significant proportion of aims are undertaken in relatively high-earnings subject areas such as 'Engineering' and 'Construction', which results in depressing the estimate of the earnings differential. For females, since the proportion of learners undertaking aims in 'Engineering' and 'Construction' is much lower, this compositional effect is limited.

²³ See CVER DP007 and CVER BRF006.

Employment

Consistent with the findings for earnings, the marginal effects of vocational qualifications on the proportion of the year spent in employment also exhibits some variation when disaggregated by qualification aim (Table 5).

Table 5: Marginal effects of vocational qualifications on proportion of the year spent in employment by qualification aim and gender, for each RQF Level

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Level 4 Voc. Qual.	0.032***	(0.004)	64,401	0.051***	(0.005)	73,148
	Advanced Apprenticeships	0.024***	(0.003)	104,196	0.055***	(0.004)	69,158
RQF Level 3	NVQ Level 3	0.067***	(0.005)	130,653	0.102***	(0.004)	115,081
	BTEC Level 3	0.041***	(0.003)		0.084***	(0.004)	
	Other full Voc. Level 3	0.033***	(0.005)		0.094***	(0.005)	
	Other Non-full Voc. level 3	0.034***	(0.004)		0.066***	(0.004)	
RQF Level 2	Inter. Apprenticeships	0.107***	(0.003)	157,843	0.150***	(0.004)	104,626
	NVQ Level 2	0.095***	(0.004)		0.121***	(0.005)	
	BTEC Level 2	0.068***	(0.006)		0.098***	(0.008)	
	Other full Voc. Level 2	0.058***	(0.004)		0.091***	(0.005)	
	Other Non-full Voc. level 2	0.026***	(0.004)		0.050***	(0.005)	
RQF Level 1	NVQ Level 1	0.024***	(0.009)	62,658	0.018	(0.011)	34,032
	Other Voc. Level 1	0.000	(0.006)		0.012	(0.008)	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual). *Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data*

In particular, at Level 3 the estimates range from 3 percentage points for other full and non-full vocational qualifications to 7 percentage points for NVQs, while BTECS mirror the overall estimate at 4 percentage points. For women the employment coefficients are much higher than for men, ranging from 7 percentage points associated with other non-full vocational qualifications at Level 3 to 10 percentage points for NVQs at Level 3 (compared to the estimate of 9 percentage points across all Level 3 qualifications). At Level 1 almost all the estimated coefficients are statistically insignificant, as was the case at the estimate of the overall employment effect (with the exception of men in possession of NVQs at Level 1 as their highest level of achievement (2.4 percentage point positive effect)).

Benefits

The marginal effects of vocational qualifications on the proportion of the year spent in receipt of active labour market benefits (Table 6) do not exhibit the same variation across qualification aims as observed for the earnings and employment differentials. Coefficients for both men and women at Level 3 and Level 2 range between -1 and -2 percentage points, reflecting the overall differential of -1 percentage point estimated at each level. At Level 1 the only difference is that NVQs do not exhibit statistically significant coefficients, whilst the

estimates for other vocational Level 1 qualifications mirror those of the overall differentials (positive estimates of 1 percentage point for both men and women).

Table 6: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by qualification aim and gender, for each RQF Level

		Men			Women		
		Coeff	Std Err	Obs	Coeff	Std Err	Obs
RQF Level 4	Level 4 Voc. Qual.	-0.007***	(0.001)	65,361	-0.004***	(0.001)	74,076
	Advanced Apprenticeships	-0.006***	(0.000)	105,039	-0.005***	(0.001)	69,657
	NVQ Level 3	-0.019***	(0.001)		-0.012***	(0.001)	
RQF Level 3	BTEC Level 3	-0.008***	(0.001)	133,352	-0.006***	(0.001)	117,772
	Other full Voc. Level 3	-0.011***	(0.001)		-0.009***	(0.001)	
	Other Non-full Voc. level 3	-0.007***	(0.001)		-0.005***	(0.001)	
	Inter. Apprenticeships	-0.028***	(0.001)		-0.020***	(0.001)	
	NVQ Level 2	-0.023***	(0.001)		-0.016***	(0.001)	
RQF Level 2	BTEC Level 2	-0.001	(0.002)	162,341	-0.006***	(0.002)	109,037
	Other full Voc. Level 2	-0.008***	(0.001)		-0.007***	(0.002)	
	Other Non-full Voc. level 2	-0.003**	(0.001)		-0.005***	(0.001)	
RQF Level 1	NVQ Level 1	0.005	(0.003)	69,606	0.006	(0.004)	41,063
	Other Voc. Level 1	0.010***	(0.002)		0.010***	(0.003)	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. The counterfactual used is individuals holding vocational qualifications at the RQF level immediately below as their highest achieved qualification, with the exception of Advanced Apprenticeships (where individuals with Intermediate Apprenticeships are used in the counterfactual).

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

6.3 Differentials by subject area of study

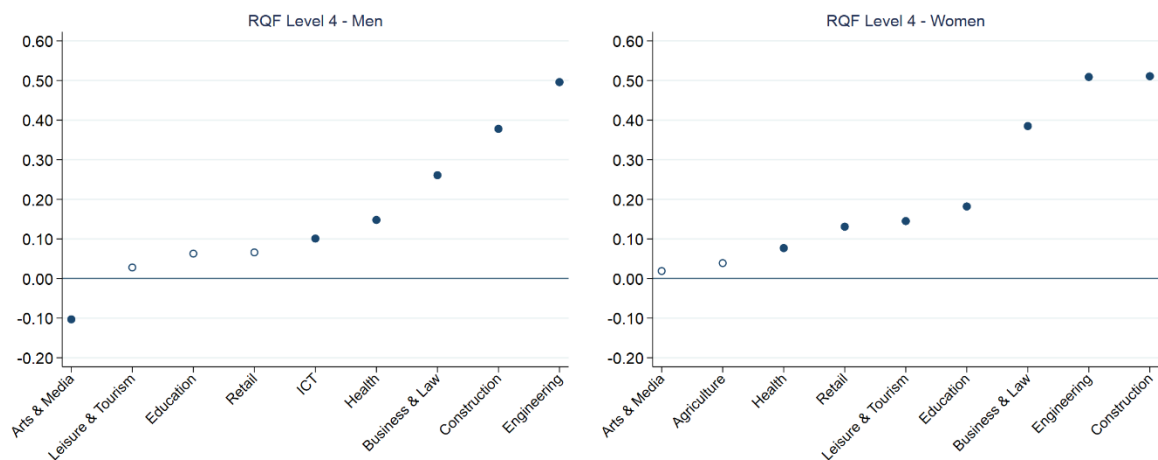
Earnings

In this section, we present the estimates for earnings differentials associated with possession of vocational qualifications disaggregated by RQF level, subject area, and gender (presented in Table 15 in the Annex).

RQF Level 4

As was the case when looking at specific qualification aims, the overall earnings differential at RQF Level 4 (displayed in Figure 4) masks substantial variation across the various subject areas within that. For men, earnings differentials for Level 4 vocational qualifications range from 64% for 'Engineering' and 46% in 'Construction' to a negative return of -10% for 'Arts & Media'. Moreover, some subjects ('Retail' and 'Leisure and Tourism') do not generate a statistically significant earnings differential. For women the estimated effects are around zero for 'Agriculture' and 'Arts and Media' while they are very high for 'Business & Law' (47%), and 'Engineering' and 'Construction' (66%-67%) qualification aims at Level 4.

Figure 4: Marginal effects of vocational qualifications on daily earnings by subject area and gender for RQF Level 4



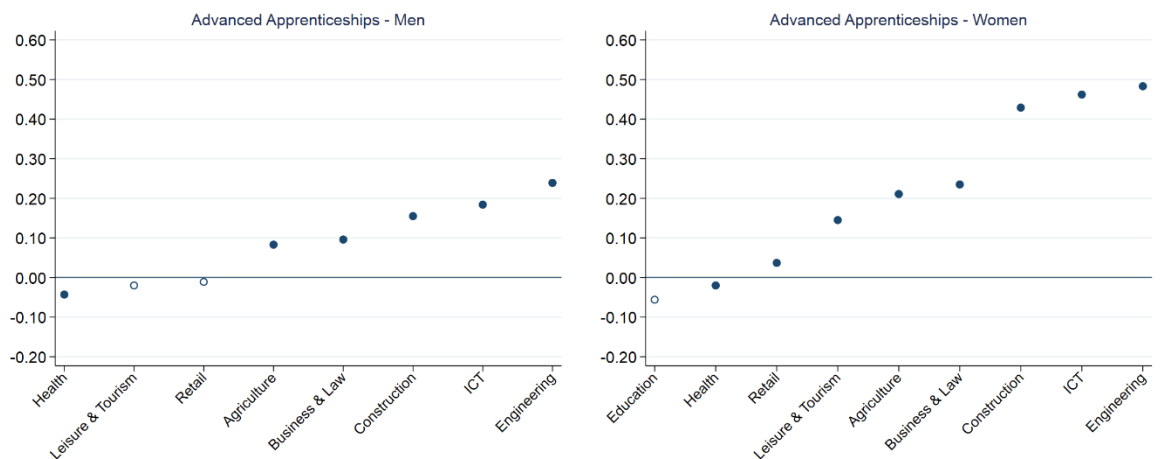
Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

Source: London Economics' analysis of Longitudinal Educational Outcomes (LEO) data

RQF Level 3

As shown in Figure 5, there are consistently strong positive earnings differentials associated with holding an Advanced Apprenticeship or a Level 3 qualification in 'Engineering', 'Construction', 'ICT' and 'Business & Law'. This is normally true for both males and females, but it should be noted that, apart from 'Business & Law', aims in the other subject areas are typically undertaken by only a small proportion of female learners. For both men and women, Advanced Apprenticeships in 'Health' result in negative earnings differentials: -4% for men and -2% for women compared to individuals with Intermediate Apprenticeships in any subject.

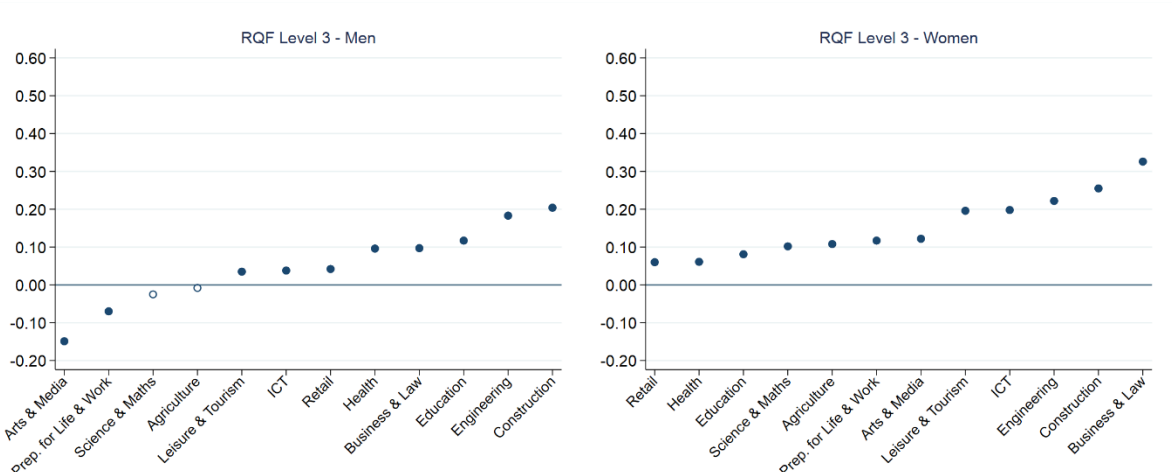
Figure 5: Marginal effects of vocational qualifications on daily earnings by subject area and gender for Advanced Apprenticeships



Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

For non-apprenticeship qualifications at RQF Level 3 (Figure 6), the highest earnings differentials achieved by men are in the subject areas of 'Engineering' and 'Construction' (in excess of 20%). On the other hand estimates are quite low for men in possession of Level 3 qualifications in 'ICT', 'Retail' and 'Leisure and Tourism' (around 4%), and even turn negative for men in possession of Level 3 qualifications in 'Preparation for Life and Work' (-7%) and 'Arts and Media' (-14%). Women achieve particularly strong earnings differentials in 'Business & Law' for RQF Level 3 qualifications (39%), whilst the lowest earnings differentials are achieved by qualification holders in 'Health' and 'Retail' (6% for each).

Figure 6: Marginal effects of vocational qualifications on daily earnings by subject area and gender for RQF Level 3

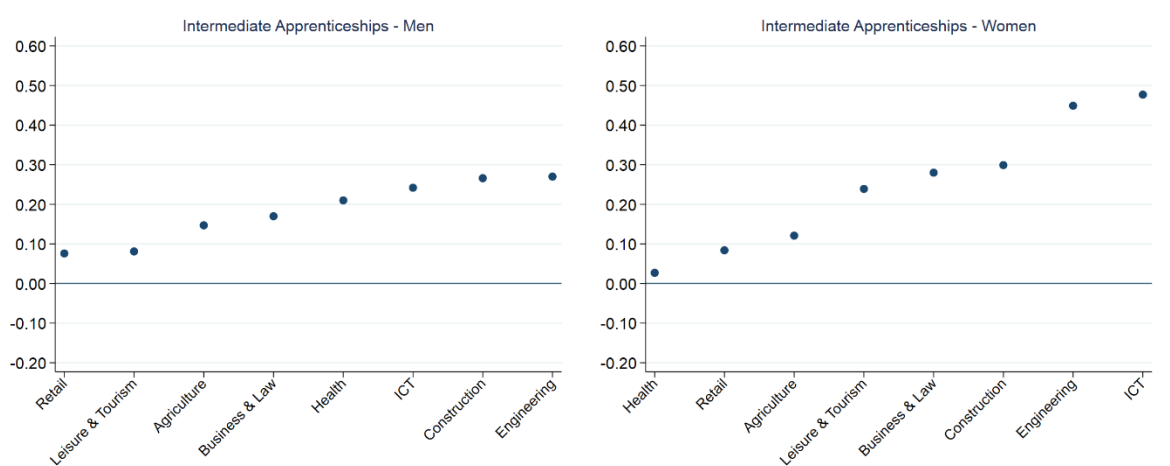


Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

RQF Level 2

Again, looking at Intermediate Apprenticeships (Figure 7), the subject areas reporting the largest coefficients are *'Engineering'*, *'Construction'*, *'ICT'* and *'Business & Law'* with estimates ranging from 20% to 30% for males and between 33% and 62% for females. More generally, all estimates are positive in sign, with the lowest coefficients observed for *'Retail'* (around 10% for both men and women) and *'Health'* for women (3%), while the estimated differential for males achieving an Intermediate Apprenticeship in *'Health'* is relatively high (around 24%).

Figure 7: Marginal effects of vocational qualifications on daily earnings by subject area and gender for Intermediate Apprenticeships

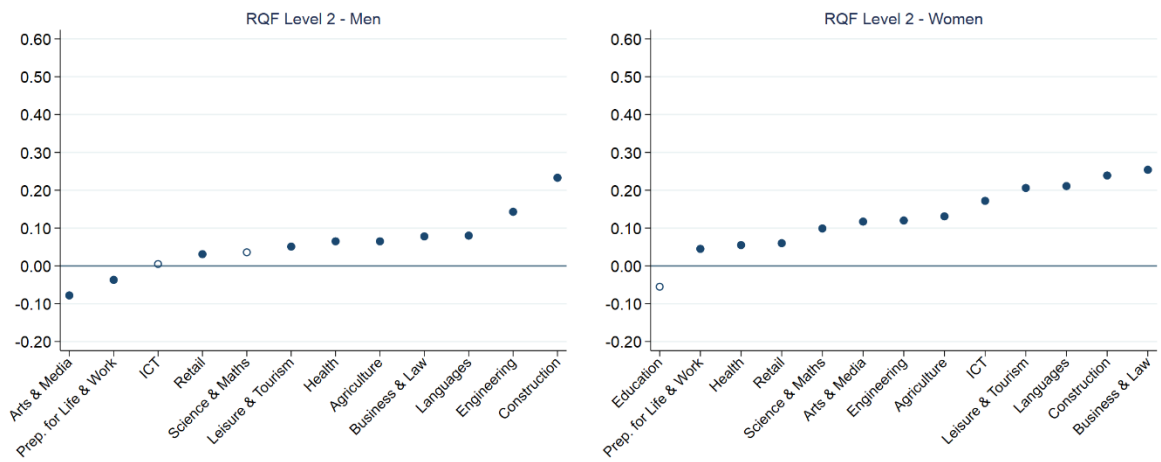


Note: The charts report raw (not exponentiated) regression coefficients. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

For other (non-Apprenticeship) RQF Level 2 qualifications (Figure 8), men achieve a positive earnings differentials in *'Engineering'* and *'Construction'* subjects (15% and 26% respectively), while *'Arts and Media'* subjects (-8%) and *'Preparation for Life and Work'* (-4%) post negative earnings differentials. Women experience high earnings differentials, typically much higher than men, for *'Business and Law'* (29% compared to 8% for men), *'Social Sciences'* (23% compared to 8%), *'Leisure and Tourism'* (23% compared to 5%) and *'ICT'* (19% compared to 1%).

Figure 8: Marginal effects of vocational qualifications on daily earnings by subject area and gender for RQF Level 2



Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

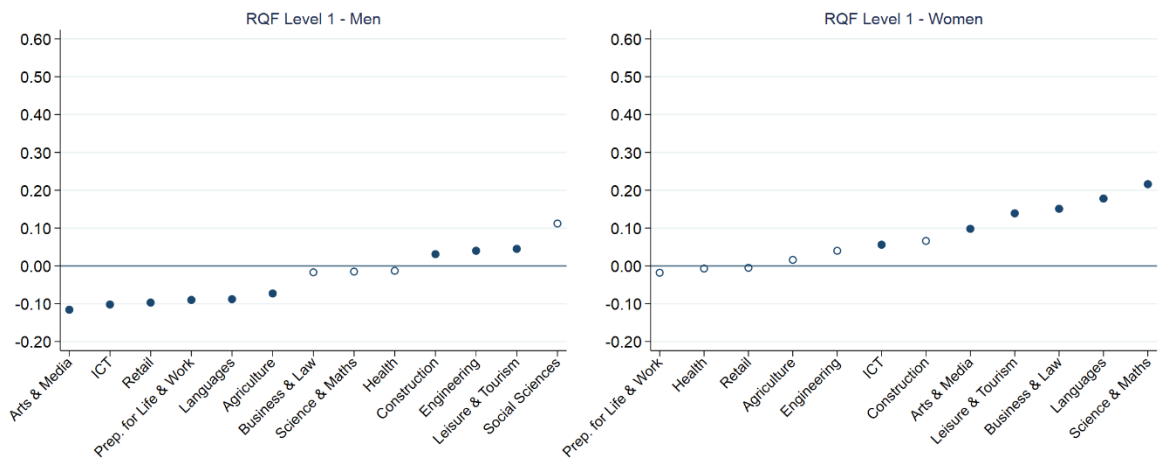
Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

RQF Level 1

For men, the earnings differentials for men in possession of Level 1 vocational qualifications (Figure 9) are low (a maximum of 5% for 'Leisure and Tourism'), not statistically significant ('Health', 'Science and Maths', 'Social Sciences' and 'Law') or quite strongly negative (as low as -10% for 'ICT' and -11% for 'Arts and Media'). On average, men in possession of Level 1 qualifications typically do not earn more than men with no formally recognised qualifications, and in many cases earn substantially less, except for qualifications in 'Leisure and Tourism' (5%), 'Engineering' (4%) and 'Construction' (3%).

Women do not experience the same pattern; although half of the subjects do not generate statistically significant earnings differentials, for those that do, the estimates are relatively strong. 'ICT' subject post the smallest earnings differentials (6%), whilst 'Science and Maths' and 'Languages' have a strong and positive earnings effects (24% and 19% respectively).

Figure 9: Marginal effects of vocational qualifications on daily earnings by subject area and gender for RQF Level 1



Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Employment

Table 16 in the Annex reports the estimated coefficients for the relationship between the proportion of the year spent in employment and possession of a qualification by highest level of achievement, subject area, and gender. The key-findings are:

- RQF Level 4** – For **men** the analysis indicates large and positive employment effects (around 11-12 percentage points) for individuals in possession of Level 4 vocational qualifications in the 'Health' and 'Leisure and Tourism' subject areas. Conversely, for **women**, the analysis illustrates positive employment effects in the range of 3 to 8 percentage points for qualifications in 'Health', 'Leisure and Tourism' and 'Business and Law'.
- RQF Level 3** – For learners in possession of vocational qualifications at Level 3, employment differentials are generally positive and relatively larger for women (6-11 percentage points) across most subject areas (and as high as 14 percentage points for women in possession of Advanced Apprenticeships in 'Construction'). The most notable exceptions are the coefficients for Advanced Apprenticeships in 'ICT', which are **negative** for both men and women (-5 percentage points and -7 percentage points respectively).
- RQF Level 2** – For **men**, employment differentials are large and positive (up to 13 percentage points) for most subject areas, and in particular for subjects related to 'Engineering', 'Retail' and 'Business and Law'. For **women** the size of the estimated coefficients is even larger, reaching a peak of 21 percentage points for Intermediate

Apprenticeships in *'ICT'*, but are also relatively large for *'Engineering'*, *'Agriculture'*, *'Leisure and Tourism'* and *'Business and Law'* related subjects.

- RQF Level 1 – Employment differentials for Level 1 qualifications are extremely low for men (3 percentage points for *'Engineering'*, *'Construction'* and *'Leisure and Tourism'*), while women obtain employment differentials of up to 8 percentage points for *'Construction'* and *'Languages'*. For both genders, at least half of the subjects are not associated with a statistically significant employment differential.

Benefits dependency

Table 17 in the Annex presents the estimates for the regressions with benefits dependency (defined as the proportion of the year spent in receipt of active labour market benefits) as the dependent variable. As with earnings and employment, the results are presented by highest level of achievement, subject area and gender. Unsurprisingly, most of the estimated coefficients are negative, meaning that the treatment group has spent (on average) a lower proportion of the year in receipt of active labour market benefits compared to the counterfactual. Obviously employment status is a key-characteristic defining eligibility for labour market benefits, and consequently, the results associated with benefits dependency often inversely reflect those for employment (however, it is possible for some benefits to be received by part-time workers, or for individuals out of employment not to claim any benefits). The main findings are described below, highlighting differences with the employment regressions:

- RQF Level 4 – For **men**, despite positive employment differentials associated with the possession of Level 4 vocational qualifications in *'Health'* related subjects, the analysis indicates that there is no statistically significant impact on the proportion of the year spent in receipt of active labour market benefits in this subject area. For **women**, although no evidence of a significant employment effect associated with a Level 4 vocational qualification in *'Engineering'* and *'Construction'* was found, the coefficients for benefits dependency are negative and statistically significant.
- RQF Level 3 – Coefficients for benefits dependency are mostly negative (generally between -1 and -2 percentage points), mirroring the employment results. In contrast to the results from the employment regressions, no significant estimates were identified for Advanced Apprenticeships in *'ICT'* (coefficients are generally small and seldom statistically significant).
- RQF Level 2 – For Level 2 qualifications, the estimated effects of holding vocational qualifications in different subject areas on benefits dependency were mostly negative (with coefficients reaching up to -4 percentage points for men and -6 percentage points for women).
- RQF Level 1 – In contrast to the findings for higher levels of the RQF, estimates of benefits dependency for Level 1 qualifications are mostly positive, implying that individuals with Level 1 vocational qualifications spend a greater proportion of the year in receipt of benefits than individuals with no formally recognised qualifications.

6.4 Differentials by subject area and qualification aim

In this section, we present the earnings, employment and benefits dependency differentials associated with the possession of vocational qualifications - disaggregated by qualification aim, subject area, and gender (presented in Table 18 to Table 29 in the Annex). Estimates for RQF Level 4 and for both Advanced and Intermediate Apprenticeships are equivalent to those in Section 6.3, since there are no qualification aims within these categories to disaggregate by, so here we only comment on estimates for the remaining qualification types.

Earnings

RQF Level 3

The earning differentials associated with vocational qualifications at RQF Level 3 for each subject and qualification aim are displayed in Figure 10 and Table 19 for men and women separately. As was the case when estimating earnings differentials disaggregated either by qualification aim *or* subject area, but not at the same time, *'Engineering'* and *'Construction'* are associated with strong positive coefficients for men. This is particularly true for NVQs, where the estimated earnings differential is 32% for *'Engineering'* and 33% for *'Construction'* (compared to 13% and 22% respectively for BTECs, 16% and 14% for each for Other Full Vocational Level 3, and 22% for each for Other Non-full Vocational Level 3).

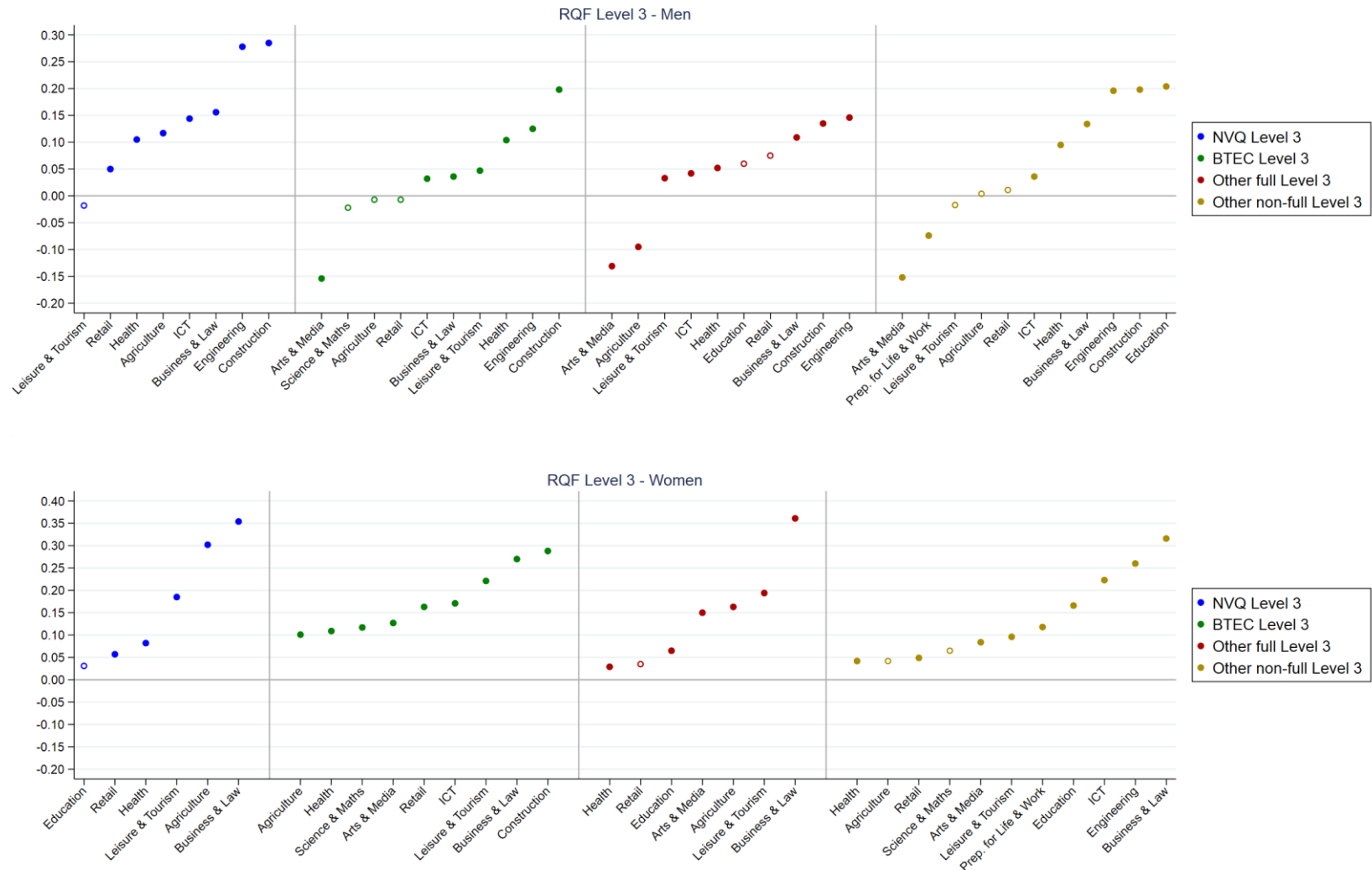
In contrast, Level 3 qualifications in *'Arts and Media'* are consistently strongly negative for men irrespective of qualification aim. In particular, men holding Level 3 BTECs in *'Arts and Media'* earn 14% less on average at age 28 than men in possession of Level 2 qualifications in any subject as their highest level of achievement. The corresponding estimates for Other Full and Non-full vocational qualifications in *'Arts and Media'* are -12% and -14% respectively. Males with Other Full vocational Level 3 vocational qualifications in *'Agriculture'* also achieve negative wage differentials of -9%, which compares to a positive estimate of 12% for NVQs.

For women, qualifications in *'Business & Law'* are associated with particularly high earnings differentials, ranging from 31% for BTECs to 43% for Other full vocational Level 3 qualifications. This is substantially higher than the earnings differentials achieved by men for any qualification aim at Level 3 in *'Business & Law'* (a range of 4-17% for men). There are also strongly positive earnings differentials associated with *'Construction'* for BTECs (33%) and *'Engineering'* and *'ICT'* for Other Non-full vocational Level 3 (30% and 25% respectively). In contrast, the differentials are particularly low for NVQs and Other Non-Full vocational qualifications in *'Retail'* (6%) and Other Full and Non-full vocational Level 3 qualifications in *'Health'* (3% and 4% respectively).

There is substantially more variation across qualification aims for women who achieve Level 3 qualifications in *'Health'* than is the case for men: the coefficients for men are relatively stable at 10-11% across *'Health' related* qualification aims, while for women, the estimates range by 9 percentage points from 3% for Other Full vocational Level 3 to 12% for BTECs. Other subject areas with substantial variation include *'Engineering'* and *'Construction'* for men (from 13% for BTECs to 32% for NVQs, and from 14% for Other Full vocational Level 3 to

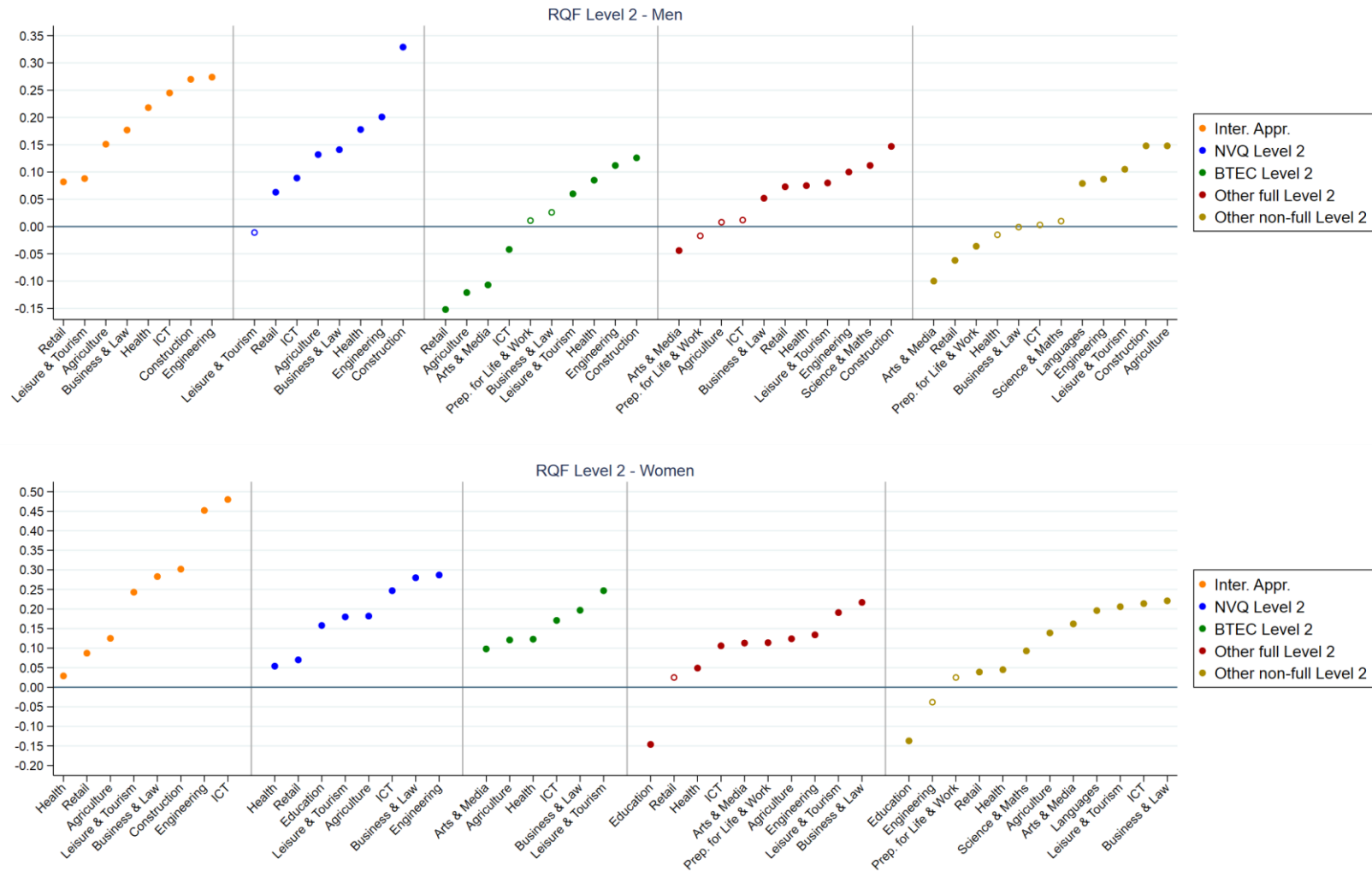
33% for NVQs respectively). Similar variation is demonstrated in respect to *'Agriculture'* and *'Leisure and Tourism'* for women (from 11% for BTECs to 35% for NVQs, and from 10% for other Non-Full vocational Level 3 to 25% for BTECs respectively).

Figure 10: Earnings differentials at age 28 by subject area and qualification aim, for qualifications at RQF Level 3



Note: The charts report raw (not exponentiated) regression coefficients. Coefficients that are not statistically significant at 10% are shown as hollow circles. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

Figure 11: Earnings differentials at age 28 by subject area and qualification aim, for qualifications at RQF Level 2



Note: The charts report raw (not exponentiated) regression coefficients. *Coefficients that are not statistically significant at 10% are shown as hollow circles.* The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

RQF Level 2

Figure 11 and Table 20 display the earnings differentials by subject area and qualification aim for Level 2 vocational qualifications. As before, *'Engineering'* and *'Construction'* consistently appear as the subjects with the highest earnings differentials across all qualification aims. However, there is relatively wide variation across the different qualification aims: for men, the earnings differentials for *'Engineering'* range from 9% for Other Non-full vocational Level 2 qualifications to 22% for NVQs at Level 2. The corresponding range for women is from 14% associated with Other Full vocational Level 2 to 33% associated with NVQs.

Similar to the pattern found at Level 3, the earnings differentials for men with Level 2 qualifications in *'Arts and Media'* are consistently negative (between -4% and -10%) while women achieve strongly positive earnings differentials (10-18%). Furthermore, men also achieve negative earnings differentials for BTECs in *'Agriculture'* and *'Retail'*, while most other qualification aims in these subject areas post positive earnings differentials.

There is significant variation across qualification aims for women in possession of qualifications in *'ICT'*. In particular, achieving an Intermediate Apprenticeship in *'ICT'* is associated with a 28% earnings premium for NVQs and 19% for BTECs compared to 11% for Other Full Level 2 qualifications. For men, the corresponding estimates for *'ICT'* are much lower, ranging from 9% for NVQs to the negative return found for BTECs in *'ICT'* (-4%).

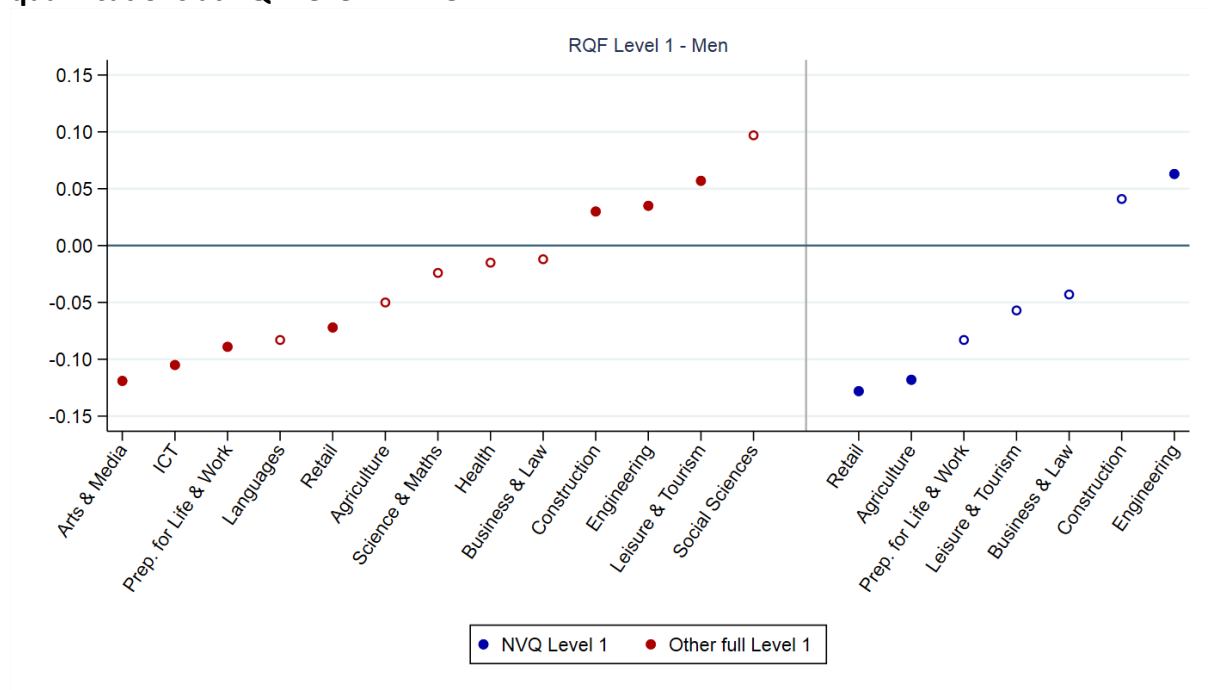
In contrast, qualifications in *'Leisure and Tourism'* are associated with fairly stable earnings differentials across qualification aims for both genders, ranging between 6% and 11% for men and 21% and 28% for women. Women additionally achieve consistently high earnings differentials across qualification aims in *'Business and Law'*; estimates range from 22% for BTECs to 32% for NVQs at Level 2 (while men with Level 2 NVQs in *'Business and Law'* post earnings differentials of 19%).

RQF Level 1

For men in possession of vocational qualifications at Level 1, the earnings differentials disaggregated by qualification aim are presented in Figure 12 and Table 21. As before, the estimates were not statistically significant for a large number of the subject areas. Among those that were significant, only one NVQ subject was associated with a positive earnings premium (men in possession of Level 1 NVQs in *'Engineering'* earn 7% more on average at age 28 than men with no formally recognised qualifications). Amongst other vocational Level 1 qualifications, *'Engineering'*, *'Construction'* and *'Leisure and Tourism'* achieve positive earnings premiums of 4%, 3% and 6% respectively. The remaining estimates for NVQs or Other Level 1 vocational qualifications are either negative or statistically insignificantly different from zero.

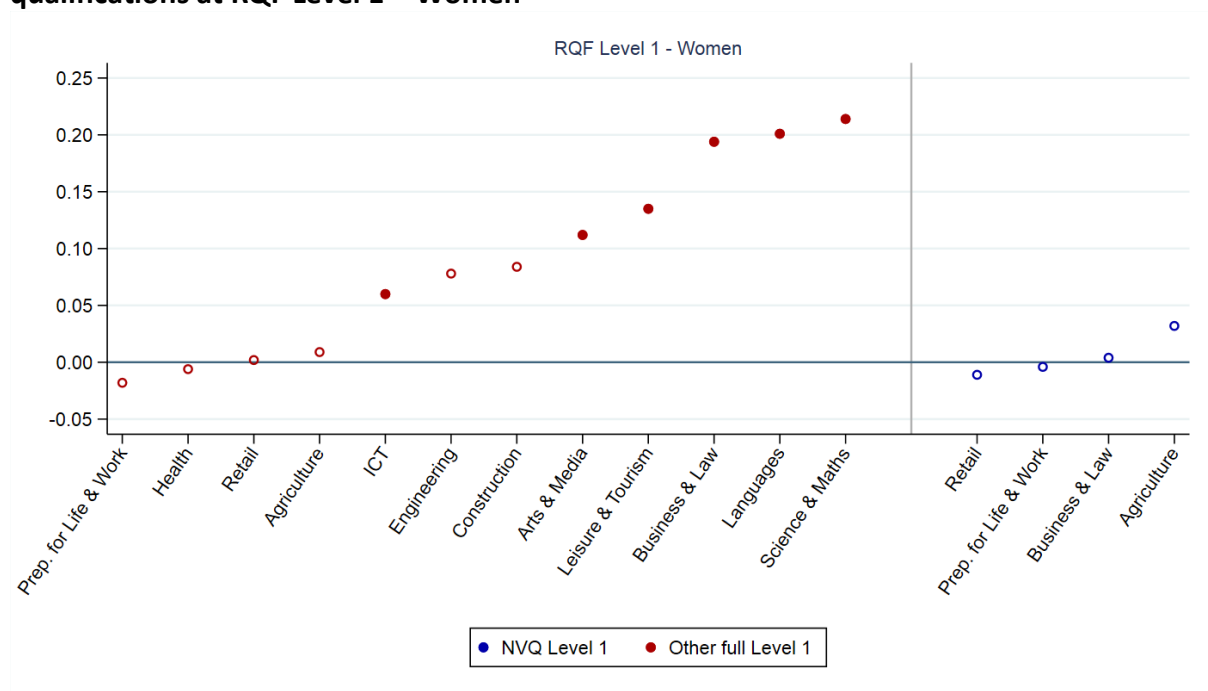
Figure 13 and Table 21 display the corresponding estimates for women in possession of vocational qualifications at Level 1. For all subjects, the estimates for NVQs are not statistically significant and this is also true for around half of the subjects for Other vocational qualifications at Level 1. On the other hand, the earnings premiums achieved by women in possession of Other vocational Level 1 qualifications in *'Science and Maths'*, *'Languages'* and *'Business and Law'* are positive and large.

Figure 12: Earnings differentials at age 28 by subject area and qualification aim, for qualifications at RQF Level 1 – Men



Note: The charts report raw (not exponentiated) regression coefficients. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

Figure 13: Earnings differentials at age 28 by subject area and qualification aim, for qualifications at RQF Level 1 – Women



Note: The charts report raw (not exponentiated) regression coefficients. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Estimates are only shown for treatment groups of at least 50 individuals. Observations belonging to the top and bottom 1% of the earnings distribution have not been included. **Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data**

Employment

Table 22 to Table 25 in the Annex report the estimated coefficients describing the relationship between the proportion of the year spent in employment and possession of a qualification by qualification aim, subject area, and gender. As with earnings, estimates for RQF Level 4 and for both Advanced and Intermediate Apprenticeships are identical to those in Section 6.3, since there are no qualification aims within these categories to disaggregate by, so here we only comment on estimates for the remaining qualification types. The key findings are:

- RQF Level 3 – For learners in possession of vocational qualifications at Level 3, employment differentials are generally positive and relatively larger for women. Women achieve particularly high earnings differentials for '*Leisure and Tourism*' learning aims (21 percentage points and 12 percentage points for NVQs and BTECs respectively), although the *range* across different qualification aims is relatively wide (spanning 14 percentage points to as low as 7 percentage points for Other Non-full vocational qualifications). '*Business and Law*' also performs relatively strongly, with the employment coefficients standing at between 9 and 14 percentage points. The highest employment returns achieved by men are associated with NVQs in '*Leisure and Tourism*' (10 percentage points) and Other Full vocational qualifications in '*Business and Law*' (8 percentage points), however, there is no clear pattern by either subject type or qualification aim.
- RQF Level 2 – Women achieve particularly strong earnings differentials, and are consistently the highest across qualification aims in the '*Business and Law*', '*Leisure and Tourism*' and '*ICT*' subject areas. In particular, the employment differentials are generally in excess of 10 percentage points in these subjects, while the differential for Intermediate Apprenticeships in '*ICT*' in particular stands at 22 percentage points. The estimates for men, in contrast, are generally much lower (typically less than 10 percentage points), with the largest employment differentials not concentrated in any one particular subject or qualification aim. The analysis illustrates that the highest employment differential associated with possession of NVQs is in '*Agriculture*' related subjects (13 percentage points), while for BTECs, the largest employment effect is '*Preparation for Life and Work*' (15 percentage points).
- RQF Level 1 – Employment differentials for Level 1 qualifications are generally not statistically significant and are extremely low for men in possession of Other Level 1 vocational qualifications (3 percentage points for '*Engineering*', '*Construction*' and '*Leisure and Tourism*'). In contrast, women obtain employment differentials of up to 8 percentage points for '*Languages*'. The employment differential for men with an NVQ in '*Agriculture*' is relatively strong (7 percentage points), while women in possession of NVQs in '*Preparation for Life and Work*' obtain relatively high employment returns of 9 percentage points. This outcome is particularly strong given that the coefficient for this subject for Other Full Level 1 vocational qualifications is negative for both men and women.

Benefits

Finally in this section, Table 26 to Table 29 in the Annex illustrate the marginal effects of vocational qualifications on the proportion of the year spent in receipt of active labour market benefits, separately by qualification aim, subject and gender. In summary:

- RQF Level 3 – For men in possession of vocational qualifications at Level 3, the estimates are largely negative and typically range between -1 to -3 percentage points across all subject and qualification aim combinations. The coefficients for women are broadly comparable, with a slightly larger estimate of -4 percentage points for women in possession in NVQs in *'Agriculture'*.
- RQF Level 2 – The estimates for Level 2 vocational qualifications broadly mirror those for Level 3 in terms of magnitude. For men, Intermediate Apprenticeships are associated with marginally higher coefficients than the other qualification aims (up to -4 percentage points for *'Construction'*). *'Construction'* related subjects also perform strongly for women who achieved an Intermediate Apprenticeship (6 percentage points) and for men in possession of an NVQ (5 percentage points).
- RQF Level 1 – Among Level 1 qualifications, Other vocational Level 1 qualifications in *'Social Sciences'* are associated with a particularly strong benefits differential for men (-11 percentage points). This is by far in excess of the coefficients estimated for any other qualification aim and subject combination. The remaining coefficients are all substantially lower or not statistically significant.

7. Conclusions

Previous analysis on labour market outcomes for individuals holding vocational qualifications as their highest level of achieved qualification suggested that earnings differentials are very strong for men holding qualifications at Level 4, Advanced and Intermediate Apprenticeships, and NVQs at Levels 3 and 2, while there was very limited earnings effects for men holding BTECs at Levels 3 and 2. On the other hand, the estimates for women were mostly large and positive – with BTECs often providing the greatest wage differentials. However, these aggregate estimates mask substantial underlying variation depending on the characteristics of the learning aim and the fact that some aims may be predominantly offered in specific subject areas.

In this study we have presented the analysis of labour market outcomes (daily earnings, proportion of the year in employment, and proportion of the year in receipt of labour market benefits) **disaggregated by subject area of study**. The findings of the analysis suggest that labour market outcomes **vary considerably** across different subject areas, for different qualification aims and levels within the Regulated Qualification Framework (RQF).

In particular,

- the earnings differentials accruing to individuals in possession of vocational qualifications in subjects related to *'Engineering'*, *'Construction'* and *'Business and Law'* are typically **very strong**.

This is found to be **consistent across almost all qualification aims** irrespective of RQF level and is **particularly the case for women** (although there is a small proportion of women undertaking *'Engineering'* and *'Construction'* learning aims).

- At the other end of the spectrum, qualifications in *'Arts & Media'* tend to be associated with **negative earnings differentials when compared with a counterfactual of learners holding qualifications at the level below** in the RQF.

However, two effects should be considered when interpreting the results. Learners choose the subject area of study depending on their aspirations, ability, and inclination etc. This means that learners are not equally likely to choose any subject area but are likely to have a higher propensity to choose particular subject area(s) depending on personal characteristics.

Moreover, when assessing labour market outcomes associated with specific qualification aims (e.g. NVQs, BTECs), it should be remembered that different aims tend to be offered (and undertaken) in different subject areas (for example most NVQs are undertaken in *'Engineering'* and *'Construction'*, while NVQs are not offered in *'Media & Arts'*). Therefore, the aggregate estimate for the aim will reflect this compositional effect. Furthermore, different aims have different admission criteria reflecting prior attainment and (possibly) relevant labour market experience.

In a separate CVER discussion paper (*forthcoming*), we will focus on the role of **progression**, exploring in further detail the expected labour market differentials from gaining qualifications

at a higher level in the same (aggregate) subject area (e.g. the expected return from moving from Level 2 in *'Engineering'* to Level 3 in *'Engineering'*). Looking at consistent educational trajectories will help reduce the self-selection bias (as all students decided to study in the same subject area) and also ensure that most students will meet the admission criteria for a qualification at the level immediately above in the same subject area.

References

Patrignani, P., Conlon, G. and Hedges, S. (2017) *The earnings differentials associated with vocational education and training using the Longitudinal Education Outcomes data*, CVER Discussion Paper 007.

Conlon, G., Hedges, S. McIntosh, S., Morris, D. and Patrignani, P. (2017) *The Payoff to Vocational Qualifications: Reconciling Estimates from Survey and Administrative Data*, CVER Research Discussion Paper 009.

Conlon, G., Hedges, and Patrignani, P. (2018) *Further analysis of the earnings differentials associated with BTECs*, CVER Briefing Note 006.

Conlon, G., Hedges, and Patrignani, P. (2018) *Settling the counterfactual debate: Is there a preferable counterfactual when estimating the returns to vocational qualifications?*, CVER Discussion Paper 013.

Annex 1

Approach used to define earnings and employment spells for individuals in the HMRC self-assessment file

When incorporating the information in the self-assessment files we have tried to follow a similar approach to that employed by the Department for Education in their Experimental statistics series on graduate outcomes using the Longitudinal Education Outcomes (LEO) data²⁴. With respect to data included in the HMRC self-assessment file we have:

- Calculated total income from self-employment as the sum of income from a Partnership or Sole-Trader enterprise²⁵.
- Generated a variable for total income, including any earnings from PAYE recorded in the P14 file.
- Considered individuals with income from self-employment greater than £0 to be in employment for the entire tax year.

²⁴ See for example SFR 76/2017 “Experimental statistics: Graduate outcomes using the Longitudinal Education Outcomes (LEO) data – inclusion of self-employment earnings” available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/669747/SFR76_2017_SelfEmployment_earnings.pdf and SFR 15/2018 and SFR 15/2018 available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/690859/SFR15_2018_Main_text.pdf

²⁵ For a limited number of self-employed individuals there were multiple records for income from a Partnership or Sole-Trader enterprise in the same tax year. In these cases we have kept the record with the latest extract date.

Tables and Figures

Table 7: Glossary: Sector Subject Areas Tier 1

Subject area short name	Subject area full name
Health	Health, Public Services and Care
Science & Maths	Science and Mathematics
Agriculture & Animal Care	Agriculture, Horticulture and Animal Care
Engineering	Engineering and Manufacturing Technologies
Construction	Construction, Planning and the Built Environment
ICT	Information and Communication Technology
Retail	Retail and Commercial Enterprise
Leisure & Tourism	Leisure, Travel and Tourism
Arts & Media	Arts, Media and Publishing
History & Philosophy	History, Philosophy and Theology
Social Sciences	Social Sciences
Languages	Languages, Literature and Culture
Education	Education and Training
Prep. For life & Work	Preparation for Life and Work
Business & Law	Business, Administration and Law

Source: London Economics based on information from the ILR

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/624339/Appendix_H_ILR_2017_to_2018_v1_Published_July17.pdf

Table 8: Classification of highest qualifications used

Level of RQF	Highest Qualification	Examples
<i>RQF Level 7/8</i>	Postgraduate education	PhD, Masters, PGCE
<i>RQF Level 5/6</i>	First and foundation degrees, other Higher education, professional qualifications at level 5	BA, BSc, Foundation degrees, Teaching and Nursing qualifications
<i>RQF Level 4</i>	Level 4 vocational (including Higher Apprenticeships)	NVQ at Level 4 and 5, HNC/HND, Higher Apprenticeships
<i>RQF Full Level 3</i>	Advanced Apprenticeship	
<i>RQF Full Level 3</i>	NVQ Level 3	NVQ diplomas at Level 3
<i>RQF Full Level 3</i>	BTEC Level 3	BTEC Level 3 Certificates and Diplomas
<i>RQF Full Level 3</i>	Other full Level 3 vocational	Certificates and Diplomas at Level 3
<i>RQF Full Level 3</i>	GCE A/AS/A2 level (Full Level 3 achieved)	At least 2 A-levels or 4 AS-levels (including Vocational A-Levels)
<i>RQF Not-full Level 3</i>	Level 3 other vocational qualifications	Awards and certificates at Level 3 (not constituting a full level)
<i>RQF Not-full Level 3</i>	1 GCE A level or equivalent	Single A-level or equivalent
<i>RQF Full Level 2</i>	Intermediate Apprenticeship	
<i>RQF Full Level 2</i>	NVQ Level 2	NVQ diplomas at Level 2
<i>RQF Full Level 2</i>	BTEC Level 2	BTEC Level 2 Certificates and Diplomas
<i>RQF Full Level 2</i>	Other full Level 2 vocational	GNVQ Level 2, Certificates and Diplomas at Level 2
<i>RQF Full Level 2</i>	5 GCSEs A*-C (full Level 2 achieved)	GCSEs, applied GCSEs, short course GCSEs, double award GCSEs
<i>RQF Not-full Level 2</i>	Level 2 other vocational	Key skills aims, awards and certificates at Level 2 (not constituting a full level)
<i>RQF Level 1</i>	NVQ Level 1	NVQ qualifications at Level 1
<i>RQF Level 1</i>	Other Level 1 vocational	BTEC Level 1, GNVQ Level 1, Key skills aims, award and certificates at Level 1
<i>RQF Level 1</i>	Level 1 academic (5 GCSEs A*-G)	GCSEs, applied GCSEs, short course GCSEs, double award GCSEs
<i>Entry level</i>	Entry/Other Level	Basic Award/Certificate; Entry to Employment; Functional Skills; Key Skills at entry level;
<i>No formal achievement</i>	KS4 record but no formal achievement	Less than 5 GCSEs at grades A*-G

Source: London Economics

Table 9: Highest qualification attained at age 26 by gender

	Men	Women	All
<i>Postgraduate education</i>	5.1%	8.2%	6.5%
<i>First degree/Other HE/Lev 5 professional qualifications</i>	27.2%	34.8%	30.8%
<i>Level 4 (full) vocational (including Higher Apprenticeships)</i>	1.3%	1.0%	1.2%
RQF Level 3			
<i>Advanced Apprenticeship</i>	7.2%	4.6%	6.0%
<i>NVQ level 3</i>	0.9%	3.0%	1.9%
<i>BTEC level 3</i>	3.6%	3.0%	3.3%
<i>Other full level 3 vocational</i>	0.9%	1.8%	1.3%
<i>GCE A/AS/A2 level (Full level 3 achieved)</i>	8.2%	8.8%	8.5%
<i>Level 3 other vocational</i>	2.1%	2.1%	2.1%
<i>1 GCE A level or equivalent</i>	1.6%	1.4%	1.5%
RQF Level 2			
<i>Intermediate Apprenticeship</i>	6.4%	5.5%	6.0%
<i>NVQ level 2</i>	3.7%	3.1%	3.4%
<i>BTEC level 2</i>	0.9%	0.6%	0.8%
<i>Other full Level 2 vocational</i>	2.7%	1.9%	2.3%
<i>5 GCSEs A-C (full level 2 achieved)</i>	4.0%	3.8%	3.9%
<i>Other RQF Level 2 (not full) vocational</i>	3.2%	2.0%	2.6%
Below RQF Level 2			
<i>NVQ level 1</i>	0.5%	0.5%	0.5%
<i>Other RQF level 1 (not full) vocational</i>	4.4%	2.7%	3.6%
<i>Level 1 academic (5 GCSEs A*-G)</i>	10.7%	7.6%	9.3%
<i>Entry/Other Level</i>	1.6%	1.0%	1.3%
<i>KS4 record but no formal achievement</i>	3.8%	2.5%	3.2%
Total	100.0%	100.0%	100.0%

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Descriptive Statistics

Table 10a: Highest qualification attained by subject area at age 26, vocational qualifications only – Men

	Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	112	38	43	3,000	1,372	530	83	151	767	-	4	6	227	38	1,930	8,301
Advanced apprenticeships	1,071	3	943	31,717	13,100	2,465	2,793	1,559	56	-	-	-	41	1	4,059	57,808
RQF Level 3 vocational	5,463	422	3,011	9,180	4,676	6,219	2,739	7,683	12,059	23	11	34	421	348	3,705	55,994
<i>NVQ Level 3</i>	929	5	126	1,258	1,487	125	2,041	233	27	-	-	6	51	1	1,008	7,297
<i>BTEC Level 3</i>	2,768	323	1,966	2,458	908	4,213	232	5,198	8,984	-	-	-	-	7	1,688	28,745
<i>Other full Level 3</i>	698	17	316	1,039	1,553	679	102	1,010	1,488	-	-	-	161	1	383	7,447
<i>Other RQF Level 3 (not full) vocational</i>	1,068	77	603	4,425	728	1,202	364	1,242	1,560	23	11	28	209	339	626	12,505
Intermediate apprenticeships	1,804	-	1,937	11,720	16,500	2,420	10,039	1,379	42	-	-	-	4	9	5,708	51,562
RQF Level 2 vocational	9,303	780	2,952	14,267	16,814	7,610	8,484	6,903	4,307	15	65	186	59	5,973	6,104	83,822
<i>NVQ Level 2</i>	2,499	8	905	6,666	8,826	480	5,485	2,217	60	-	-	-	19	28	2,683	29,876
<i>BTEC Level 2</i>	908	42	448	519	147	1,335	332	1,252	1,536	-	-	-	-	95	507	7,121
<i>Other full Level 2</i>	1,775	163	742	4,343	4,509	3,603	1,126	1,811	1,751	-	2	2	14	380	1,725	21,946
<i>Other RQF Level 2 (not full) vocational</i>	4,121	567	857	2,739	3,332	2,192	1,541	1,623	960	15	63	184	26	5,470	1,189	24,879
RQF Level 1 vocational	4,803	598	921	5,745	6,293	3,651	2,235	2,264	1,159	20	129	206	22	9,663	1,111	38,820
<i>NVQ Level 1</i>	24	23	298	1,160	561	98	958	213	8	-	2	10	2	132	150	3,639
<i>Other Level 1 vocational</i>	4,779	575	623	4,585	5,732	3,553	1,277	2,051	1,151	20	127	196	20	9,531	961	35,181

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 10b: Highest qualification attained by subject area at age 26, vocational qualifications only – Women

	Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	584	25	115	124	113	67	211	143	628	-	4	7	483	44	3,207	5,755
Advanced apprenticeships	11,346	2	1,042	511	113	281	7,543	1,834	47	-	-	-	178	-	9,786	32,683
RQF Level 3 vocational	23,714	429	3,338	272	154	1,139	16,174	4,258	10,330	24	27	57	1,200	431	5,752	67,299
<i>NVQ Level 3</i>	6,487	-	147	43	17	38	11,968	77	10	-	-	13	370	4	2,364	21,538
<i>BTEC Level 3</i>	5,518	328	2,256	65	84	512	1,244	3,090	7,381	-	-	-	14	29	1,078	21,599
<i>Other full Level 3</i>	8,302	12	472	41	33	70	800	406	1,662	-	-	-	423	6	736	12,963
<i>Other RQF Level 3 (not full) vocational</i>	3,407	89	463	123	20	519	2,162	685	1,277	24	27	44	393	392	1,574	11,199
Intermediate apprenticeships	6,280	4	959	514	99	309	18,704	740	43	-	1	1	30	9	11,564	39,257
RQF Level 2 vocational	14,533	488	1,768	1,584	182	2,386	15,588	3,668	2,999	16	44	236	449	3,202	6,452	53,595
<i>NVQ Level 2</i>	4,194	15	242	567	36	296	11,841	548	45	1	-	-	145	55	3,869	21,854
<i>BTEC Level 2</i>	1,342	42	509	9	4	233	67	905	978	-	-	-	6	54	309	4,458
<i>Other full Level 2</i>	5,746	81	777	144	78	883	1,118	1,446	1,264	-	1	7	159	366	1,285	13,355
<i>Other RQF Level 2 (not full) vocational</i>	3,251	350	240	864	64	974	2,562	769	712	15	43	229	139	2,727	989	13,928
RQF Level 1 vocational	6,440	389	505	342	126	1,864	4,600	883	822	17	68	323	44	4,437	1,263	22,123
<i>NVQ Level 1</i>	51	11	172	99	4	36	2,566	39	16	-	1	16	-	168	296	3,475
<i>Other Level 1 vocational</i>	6,389	378	333	243	122	1,828	2,034	844	806	17	67	307	44	4,269	967	18,648

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 female students who attained their highest qualification at the age of 26 or before.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 11a: Subject composition by highest vocational qualification attained – Men

	Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	1.3%	0.5%	0.5%	36.1%	16.5%	6.4%	1.0%	1.8%	9.2%			0.1%	2.7%	0.5%	23.3%	100.0%
Advanced apprenticeships	1.9%		1.6%	54.9%	22.7%	4.3%	4.8%	2.7%	0.1%				0.1%		7.0%	100.0%
RQF Level 3 vocational	9.8%	0.8%	5.4%	16.4%	8.4%	11.1%	4.9%	13.7%	21.5%			0.1%	0.8%	0.6%	6.6%	100.0%
<i>NVQ Level 3</i>	12.7%	0.1%	1.7%	17.2%	20.4%	1.7%	28.0%	3.2%	0.4%			0.1%	0.7%		13.8%	100.0%
<i>BTEC Level 3</i>	9.6%	1.1%	6.8%	8.6%	3.2%	14.7%	0.8%	18.1%	31.3%						5.9%	100.0%
<i>Other full Level 3</i>	9.4%	0.2%	4.2%	14.0%	20.9%	9.1%	1.4%	13.6%	20.0%				2.2%		5.1%	100.0%
<i>Other RQF Level 3 (not full) vocational</i>	8.5%	0.6%	4.8%	35.4%	5.8%	9.6%	2.9%	9.9%	12.5%	0.2%	0.1%	0.2%	1.7%	2.7%	5.0%	100.0%
Intermediate apprenticeships	3.5%		3.8%	22.7%	32.0%	4.7%	19.5%	2.7%	0.1%						11.1%	100.0%
RQF Level 2 vocational	11.1%	0.9%	3.5%	17.0%	20.1%	9.1%	10.1%	8.2%	5.1%		0.1%	0.2%	0.1%	7.1%	7.3%	100.0%
<i>NVQ Level 2</i>	8.4%		3.0%	22.3%	29.5%	1.6%	18.4%	7.4%	0.2%				0.1%	0.1%	9.0%	100.0%
<i>BTEC Level 2</i>	12.8%	0.6%	6.3%	7.3%	2.1%	18.7%	4.7%	17.6%	21.6%					1.3%	7.1%	100.0%
<i>Other full Level 2</i>	8.1%	0.7%	3.4%	19.8%	20.5%	16.4%	5.1%	8.3%	8.0%				0.1%	1.7%	7.9%	100.0%
<i>Other RQF Level 2 (not full) vocational</i>	16.6%	2.3%	3.4%	11.0%	13.4%	8.8%	6.2%	6.5%	3.9%	0.1%	0.3%	0.7%	0.1%	22.0%	4.8%	100.0%
RQF Level 1 vocational	12.4%	1.5%	2.4%	14.8%	16.2%	9.4%	5.8%	5.8%	3.0%	0.1%	0.3%	0.5%	0.1%	24.9%	2.9%	100.0%
<i>NVQ Level 1</i>	0.7%	0.6%	8.2%	31.9%	15.4%	2.7%	26.3%	5.9%	0.2%		0.1%	0.3%	0.1%	3.6%	4.1%	100.0%
<i>Other Level 1 vocational</i>	13.6%	1.6%	1.8%	13.0%	16.3%	10.1%	3.6%	5.8%	3.3%	0.1%	0.4%	0.6%	0.1%	27.1%	2.7%	100.0%

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 11b: Subject composition by highest vocational qualification attained – Women

	Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	10.1%	0.4%	2.0%	2.2%	2.0%	1.2%	3.7%	2.5%	10.9%		0.1%	0.1%	8.4%	0.8%	55.7%	100.0%
Advanced apprenticeships	34.7%		3.2%	1.6%	0.3%	0.9%	23.1%	5.6%	0.1%				0.5%	0.0%	29.9%	100.0%
RQF Level 3 vocational	35.2%	0.6%	5.0%	0.4%	0.2%	1.7%	24.0%	6.3%	15.3%	0.0%	0.0%	0.1%	1.8%	0.6%	8.5%	100.0%
<i>NVQ Level 3</i>	30.1%		0.7%	0.2%	0.1%	0.2%	55.6%	0.4%				0.1%	1.7%	0.0%	11.0%	100.0%
<i>BTEC Level 3</i>	25.5%	1.5%	10.4%	0.3%	0.4%	2.4%	5.8%	14.3%	34.2%				0.1%	0.1%	5.0%	100.0%
<i>Other full Level 3</i>	64.0%	0.1%	3.6%	0.3%	0.3%	0.5%	6.2%	3.1%	12.8%				3.3%	0.0%	5.7%	100.0%
<i>Other RQF Level 3 (not full) vocational</i>	30.4%	0.8%	4.1%	1.1%	0.2%	4.6%	19.3%	6.1%	11.4%	0.2%	0.2%	0.4%	3.5%	3.5%	14.1%	100.0%
Intermediate apprenticeships	16.0%		2.4%	1.3%	0.3%	0.8%	47.6%	1.9%	0.1%				0.1%	0.0%	29.5%	100.0%
RQF Level 2 vocational	27.1%	0.9%	3.3%	3.0%	0.3%	4.5%	29.1%	6.8%	5.6%	0.0%	0.1%	0.4%	0.8%	6.0%	12.0%	100.0%
<i>NVQ Level 2</i>	19.2%	0.1%	1.1%	2.6%	0.2%	1.4%	54.2%	2.5%	0.2%				0.7%	0.3%	17.7%	100.0%
<i>BTEC Level 2</i>	30.1%	0.9%	11.4%	0.2%	0.1%	5.2%	1.5%	20.3%	21.9%				0.1%	1.2%	6.9%	100.0%
<i>Other full Level 2</i>	43.0%	0.6%	5.8%	1.1%	0.6%	6.6%	8.4%	10.8%	9.5%			0.1%	1.2%	2.7%	9.6%	100.0%
<i>Other RQF Level 2 (not full) vocational</i>	23.3%	2.5%	1.7%	6.2%	0.5%	7.0%	18.4%	5.5%	5.1%	0.1%	0.3%	1.6%	1.0%	19.6%	7.1%	100.0%
RQF Level 1 vocational	29.1%	1.8%	2.3%	1.5%	0.6%	8.4%	20.8%	4.0%	3.7%	0.1%	0.3%	1.5%	0.2%	20.1%	5.7%	100.0%
<i>NVQ Level 1</i>	1.5%	0.3%	4.9%	2.8%	0.1%	1.0%	73.8%	1.1%	0.5%			0.5%		4.8%	8.5%	100.0%
<i>Other Level 1 vocational</i>	34.3%	2.0%	1.8%	1.3%	0.7%	9.8%	10.9%	4.5%	4.3%	0.1%	0.4%	1.6%	0.2%	22.9%	5.2%	100.0%

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 female students who attained their highest qualification at the age of 26 or before.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 12a: Mean and median annual earnings at age 28 by highest qualification and subject area – Men

		Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	Mean	£24,700			£37,000	£33,100	£24,100	£24,200	£23,200	£19,200				£21,500		£29,700	£31,100
	Median	£22,300			£36,600	£32,400	£22,600	£22,700	£21,500	£18,300				£21,300		£27,800	£30,300
Advanced Apprenticeships	Mean	£20,800		£24,200	£29,200	£25,000	£28,100	£21,900	£22,600	£19,600						£25,100	£27,100
	Median	£20,000		£23,400	£28,800	£25,000	£28,500	£20,900	£21,100	£18,400						£23,300	£26,500
RQF Level 3 vocational	Mean	£23,100	£19,700	£19,900	£24,700	£24,100	£21,800	£20,600	£21,900	£18,100				£21,000	£18,900	£23,100	£21,800
	Median	£22,400	£18,800	£19,300	£23,500	£23,300	£20,400	£19,800	£20,600	£17,100				£19,600	£18,200	£21,300	£20,500
<i>NVQ level 3</i>	Mean	£22,200		£21,700	£26,800	£24,600	£24,300	£20,600	£19,300							£24,600	£23,300
	Median	£21,900		£21,400	£25,600	£23,600	£23,900	£19,900	£18,500							£23,200	£22,300
<i>BTEC level 3</i>	Mean	£23,800	£19,700	£20,200	£24,600	£25,600	£21,600	£21,400	£22,400	£18,000						£21,600	£21,200
	Median	£23,200	£18,700	£19,400	£23,300	£25,300	£20,300	£19,700	£21,000	£17,100						£19,800	£19,900
<i>Other full level 3</i>	Mean	£22,500		£18,000	£23,100	£22,500	£23,000	£20,800	£21,800	£19,200				£19,800		£24,400	£21,700
	Median	£21,700		£17,100	£21,900	£21,000	£21,800	£19,800	£20,800	£17,500				£19,500		£22,600	£20,400
<i>Other RQF Level 3 (not full) vocational</i>	Mean	£22,800	£18,300	£19,700	£24,500	£24,600	£21,300	£19,500	£20,400	£17,600				£22,200	£18,900	£23,700	£22,200
	Median	£21,500	£18,400	£19,100	£23,300	£23,800	£20,000	£19,300	£19,300	£16,300				£20,200	£18,200	£21,200	£20,800
Intermediate Apprenticeship	Mean	£21,500		£19,600	£23,000	£22,400	£23,500	£18,800	£20,000							£21,300	£21,500
	Median	£21,100		£19,000	£22,200	£21,700	£22,800	£18,100	£18,800							£20,100	£20,600
RQF Level 2 vocational	Mean	£18,100	£18,000	£17,700	£19,600	£21,400	£17,700	£17,300	£18,600	£16,400		£22,000	£17,200		£16,100	£18,800	£18,800
	Median	£17,500	£17,800	£17,500	£18,900	£20,500	£16,900	£16,800	£17,700	£15,700		£21,600	£16,000		£15,600	£17,900	£18,000
<i>NVQ level 2</i>	Mean	£20,400		£19,000	£20,300	£22,700	£18,400	£18,200	£16,500							£19,800	£20,200
	Median	£20,100		£18,600	£19,600	£22,000	£17,800	£17,600	£15,800							£18,900	£19,400
<i>BTEC level 2</i>	Mean	£20,100		£15,400	£19,900	£18,800	£17,100	£11,900	£19,200	£15,900					£17,900	£17,800	£17,600
	Median	£19,600		£14,600	£19,500	£17,400	£16,200	£11,300	£18,100	£15,300					£17,400	£16,500	£16,700
<i>Other full Level 2 vocational</i>	Mean	£18,300	£18,300	£17,100	£19,100	£19,900	£17,800	£16,800	£19,900	£17,000					£15,800	£18,400	£18,600
	Median	£17,800	£17,700	£16,800	£18,400	£19,000	£17,100	£16,700	£18,700	£16,100					£15,800	£17,500	£17,800
<i>Other RQF Level 2 (not full) vocational</i>	Mean	£15,900	£18,000	£18,100	£18,600	£19,800	£17,800	£15,300	£19,500	£15,900		£22,300	£17,100		£16,000	£17,000	£17,400
	Median	£15,300	£17,900	£17,600	£17,500	£18,900	£16,700	£14,700	£18,300	£15,400		£21,600	£15,900		£15,500	£16,000	£16,500
RQF Level 1 vocational	Mean	£16,700	£16,100	£14,900	£18,000	£17,800	£15,300	£15,000	£18,500	£15,400		£19,400	£15,500		£14,600	£16,200	£16,400
	Median	£16,000	£15,500	£14,100	£17,400	£17,200	£14,500	£14,700	£17,500	£15,000		£17,200	£15,400		£14,100	£15,600	£15,800
<i>NVQ level 1</i>	Mean			£14,600	£18,300	£17,900	£17,300	£14,600	£16,100						£17,400	£14,900	£16,800
	Median			£14,300	£17,400	£17,100	£17,000	£14,200	£15,100						£17,100	£15,300	£16,000
<i>Other level 1 vocational</i>	Mean	£16,600	£15,900	£15,100	£18,000	£17,800	£15,200	£15,300	£18,800	£15,400		£19,100	£15,500		£14,600	£16,400	£16,400
	Median	£16,000	£15,100	£13,400	£17,400	£17,200	£14,400	£14,900	£17,800	£15,000		£16,700	£15,300		£14,100	£15,700	£15,800

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Descriptive statistics are only shown for treatment groups of at least 50 individuals. Figures are rounded to the nearest 100. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 12b: Mean and median annual earnings at age 28 by highest qualification and subject area – Women

		Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	Mean	£15,600		£15,200	£26,000	£26,500	£19,900	£19,100	£17,200	£16,600				£17,400		£24,300	£21,500
	Median	£14,400		£15,600	£25,900	£26,000	£20,600	£17,900	£16,300	£15,900				£17,000		£23,400	£20,600
Advanced Apprenticeships	Mean	£12,900		£17,800	£23,300	£19,500	£22,700	£13,900	£16,500					£13,600		£18,300	£15,400
	Median	£12,400		£18,600	£23,100	£18,500	£22,800	£12,200	£16,000					£13,100		£17,700	£14,500
RQF Level 3 vocational	Mean	£13,800	£14,300	£14,800	£17,700	£17,200	£16,300	£13,900	£16,900	£15,800				£14,100	£16,200	£19,400	£14,900
	Median	£13,000	£13,900	£14,500	£16,600	£15,000	£15,500	£12,300	£16,000	£14,600				£12,600	£14,700	£18,500	£13,800
<i>NVQ level 3</i>	Mean	£13,400		£17,800				£13,600	£15,500					£13,100		£19,300	£14,200
	Median	£12,600		£18,500				£12,100	£16,500					£12,400		£18,700	£13,100
<i>BTEC level 3</i>	Mean	£15,000	£14,400	£14,700	£20,900	£18,000	£16,000	£17,100	£17,200	£15,700						£18,000	£15,900
	Median	£14,200	£14,400	£14,400	£20,400	£14,900	£15,400	£16,000	£16,400	£14,600						£16,800	£14,900
<i>Other full level 3</i>	Mean	£13,400		£15,800				£13,000	£17,600	£16,600				£12,900		£20,300	£14,400
	Median	£12,700		£16,200				£11,300	£15,900	£15,600				£12,000		£19,600	£13,500
<i>Other RQF Level 3 (not full) vocational</i>	Mean	£13,400	£13,600	£13,400	£17,800		£16,500	£13,900	£15,000	£15,000				£16,300	£15,700	£20,100	£15,200
	Median	£12,100	£12,100	£13,000	£16,600		£15,700	£11,800	£14,500	£13,300				£14,600	£14,100	£18,700	£13,500
Intermediate Apprenticeship	Mean	£10,800		£12,500	£17,800	£14,000	£19,100	£12,000	£14,700							£15,300	£13,100
	Median	£9,600		£11,300	£15,900	£13,300	£18,900	£10,300	£13,700							£14,600	£11,500
RQF Level 2 vocational	Mean	£11,100	£11,800	£12,200	£11,800	£13,300	£13,100	£11,600	£13,800	£12,200			£14,200	£9,600	£10,800	£14,800	£12,200
	Median	£9,700	£9,700	£11,100	£9,800	£11,200	£11,700	£9,800	£12,700	£10,700			£13,200	£8,600	£8,900	£13,800	£10,500
<i>NVQ level 2</i>	Mean	£10,800		£12,900	£13,800		£13,900	£11,800	£13,900					£12,400		£15,100	£12,400
	Median	£9,400		£11,700	£12,800		£13,000	£10,000	£12,400					£12,600		£14,300	£10,600
<i>BTEC level 2</i>	Mean	£11,400		£11,400			£12,500		£14,400	£11,400						£13,000	£12,300
	Median	£10,100		£10,800			£12,900		£13,600	£9,700						£11,900	£11,000
<i>Other full Level 2 vocational</i>	Mean	£11,300		£12,400	£11,900	£12,200	£12,400	£10,600	£13,600	£12,500				£8,300	£11,600	£14,800	£12,100
	Median	£9,900		£11,700	£9,400	£10,200	£10,900	£9,000	£12,700	£11,100				£7,900	£10,200	£13,900	£10,700
<i>Other RQF Level 2 (not full) vocational</i>	Mean	£11,000	£11,600	£12,500	£10,000		£13,700	£11,000	£13,500	£12,700			£14,000	£8,400	£10,500	£13,800	£11,600
	Median	£9,600	£9,300	£10,400	£7,900		£11,900	£8,800	£12,000	£11,500			£12,800	£6,700	£8,600	£11,900	£9,800
RQF Level 1 vocational	Mean	£9,500	£11,600	£10,000	£10,200	£11,000	£10,600	£9,400	£11,700	£11,000			£12,200		£9,100	£11,900	£10,000
	Median	£7,900	£10,500	£8,700	£9,100	£9,000	£8,800	£7,800	£9,600	£8,700			£10,200		£7,100	£10,300	£8,100
<i>NVQ level 1</i>	Mean			£9,100				£9,000							£9,900	£10,100	£9,200
	Median			£8,200				£7,500							£7,900	£7,900	£7,600
<i>Other level 1 vocational</i>	Mean	£9,500	£11,600	£10,500	£10,800	£11,200	£10,600	£9,900	£11,800	£11,100			£12,500		£9,100	£12,400	£10,100
	Median	£7,900	£10,600	£9,200	£9,600	£9,400	£8,800	£8,100	£9,800	£8,800			£10,500		£7,100	£10,800	£8,200

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of KS4 male students who attained their highest qualification at the age of 26 or before and who are in employment at age 28. Descriptive statistics are only shown for treatment groups of at least 50 individuals. Figures are rounded to the nearest 100. Observations belonging to the top and bottom 1% of the earnings distribution have not been included.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 13: Proportion of the year in employment at age 28 by highest qualification, subject area and gender

		Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	Men	90.6%			83.2%	84.9%	82.2%	79.6%	91.4%	80.9%				79.5%		85.4%	83.8%
	Women	79.5%			79.7%	82.6%	72.4%	75.7%	83.7%	77.4%				78.9%		85.5%	82.6%
Advanced Apprenticeships	Men	85.3%		79.9%	82.9%	82.8%	75.5%	83.4%	84.2%	83.2%						84.0%	82.7%
	Women	76.5%		84.2%	76.3%	86.3%	68.6%	79.5%	80.3%	83.6%						80.1%	78.8%
RQF Level 3 vocational	Men	82.5%	76.6%	80.3%	81.5%	81.5%	79.2%	80.9%	80.5%	76.1%				76.3%	72.2%	78.9%	79.7%
	Women	74.5%	65.0%	76.3%	75.4%	72.6%	70.1%	74.0%	76.8%	72.2%			64.0%	75.8%	71.8%	77.0%	74.3%
<i>NVQ level 3</i>	Men	82.5%		79.8%	82.6%	84.2%	78.8%	81.3%	83.0%					82.6%		82.6%	82.5%
	Women	74.1%		81.0%	85.3%	75.8%	65.5%	75.0%	84.1%					78.5%		80.0%	75.4%
<i>BTEC level 3</i>	Men	83.0%	77.2%	79.5%	82.4%	80.6%	79.5%	81.4%	81.1%	76.8%						76.6%	79.4%
	Women	75.9%	64.2%	75.4%	74.6%	75.2%	71.0%	76.6%	77.7%	72.2%						71.3%	74.4%
<i>Other full level 3</i>	Men	82.3%		79.6%	80.2%	79.2%	79.5%	75.9%	80.9%	76.1%				78.9%		82.6%	79.4%
	Women	75.6%		81.0%	73.3%	55.2%	68.4%	68.8%	77.4%	74.7%				75.3%		81.2%	75.5%
<i>Other RQF Level 3 (not full) vocational</i>	Men																
	Women	81.1%	69.4%	83.5%	81.1%	82.5%	78.4%	79.3%	77.1%	72.2%				72.6%	72.0%	76.4%	78.8%
Intermediate Apprenticeship	Men	70.1%	66.0%	74.4%	72.9%	86.2%	69.9%	68.8%	71.7%	68.5%				73.0%	70.9%	74.4%	70.7%
	Women	76.3%		76.2%	80.0%	78.6%	76.3%	81.0%	77.8%							81.3%	79.4%
RQF Level 2 vocational	Men	70.9%	70.3%	76.4%	75.5%	76.5%	70.8%	74.4%	74.5%	68.8%		85.0%	66.9%	77.7%	65.2%	73.3%	73.3%
	Women	58.4%	56.5%	60.8%	54.6%	67.4%	60.1%	62.1%	66.0%	58.2%			58.1%	59.7%	51.6%	66.8%	60.7%
<i>NVQ level 2</i>	Men	60.8%		66.0%	71.9%	64.3%	74.1%	69.4%	72.9%							72.7%	69.0%
	Women	74.8%		79.5%	78.2%	78.3%	71.3%	77.5%	72.6%	76.3%						77.9%	77.3%
<i>BTEC level 2</i>	Men	61.6%		64.2%	61.5%	87.3%	63.3%	63.7%	65.6%	60.5%						69.3%	64.3%
	Women	77.1%		70.4%	73.7%	70.5%	71.3%	62.2%	74.8%	69.0%					83.0%	70.9%	72.0%
<i>Other full Level 2 vocational</i>	Men	57.6%		59.4%	54.3%	1.2%	63.7%	61.6%	65.9%	57.2%					66.3%	62.4%	60.2%
	Women	74.7%	69.7%	77.5%	73.9%	73.2%	72.6%	75.1%	77.9%	69.7%					64.0%	72.0%	73.4%
<i>Other RQF Level 2 (not full) vocational</i>	Men	60.1%	52.6%	61.4%	60.0%	60.8%	58.7%	60.4%	66.6%	59.1%					58.4%	66.1%	61.3%
	Women																
RQF Level 1 vocational	Men	63.2%	65.6%	63.4%	69.0%	69.1%	63.0%	63.7%	68.6%	63.6%		73.6%	65.7%		58.9%	65.0%	64.5%
	Women	45.9%	51.3%	48.9%	47.1%	49.8%	50.8%	47.5%	54.1%	47.2%		44.0%	55.3%		42.0%	54.0%	47.1%
<i>NVQ level 1</i>	Men	65.3%	70.6%	75.4%	71.6%	76.7%	67.2%	65.1%	73.1%	66.3%		86.2%	66.8%		64.8%	65.7%	68.7%
	Women	51.6%	57.1%	57.8%	48.9%	68.9%	59.5%	55.5%	65.3%	57.7%		75.2%	57.7%		49.9%	59.4%	54.6%
<i>Other level 1 vocational</i>	Men			67.7%	69.5%	71.8%	57.5%	65.5%	69.5%						68.6%	58.5%	68.0%
	Women			47.6%	48.8%	54.9%	59.4%	46.2%	53.6%						55.3%	49.6%	47.3%

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 students who attained their highest qualification at the age of 26 or before. Descriptive statistics are only shown for treatment groups of at least 50 individuals.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 14: Proportion of the year on active labour market benefits at age 28 by highest qualification, subject area and gender

		Health	Science & Maths	Agriculture & Animal Care	Engineering	Construction	ICT	Retail	Leisure & Tourism	Arts & Media	History & Philosophy	Social sciences	Languages	Education	Prep. For Life & Work	Business & Law	All
RQF Level 4 vocational	Men	1.0%			0.3%	0.2%	1.1%	0.4%	0.0%	1.4%				1.8%		0.3%	0.5%
	Women	1.0%			0.1%	0.0%	0.5%	0.9%	1.1%	1.0%				0.4%		0.2%	0.5%
Advanced Apprenticeships	Men	0.7%		0.1%	0.4%	0.3%	0.7%	0.6%	0.7%	1.8%						0.6%	0.4%
	Women	0.7%		0.3%	0.4%	0.1%	0.7%	0.4%	0.5%	1.5%						0.4%	0.5%
RQF Level 3 vocational	Men	0.8%	2.5%	0.6%	1.1%	0.9%	2.2%	1.1%	1.0%	2.3%				2.0%	3.4%	1.6%	1.5%
	Women	0.8%	1.5%	0.7%	0.6%	2.1%	1.6%	0.8%	0.9%	1.4%			0.9%	1.3%	1.8%	0.8%	0.9%
<i>NVQ level 3</i>	Men	0.7%		0.6%	0.6%	0.5%	2.0%	0.8%	2.2%					4.1%		1.6%	0.9%
	Women	0.7%		0.0%	0.1%	0.6%	3.3%	0.7%	5.1%					0.2%		0.5%	0.7%
<i>BTEC level 3</i>	Men	0.6%	2.4%	0.5%	1.0%	0.9%	1.9%	0.9%	0.7%	2.1%						1.7%	1.4%
	Women	0.7%	1.7%	0.7%	0.5%	0.0%	1.3%	0.4%	0.7%	1.3%						1.1%	0.9%
<i>Other full level 3</i>	Men	0.8%		0.9%	1.6%	1.5%	2.0%	1.9%	1.4%	2.2%				1.1%		1.3%	1.6%
	Women	0.8%		0.5%	0.0%	9.4%	2.6%	1.8%	0.9%	1.2%				2.3%		0.9%	1.0%
<i>Other RQF Level 3 (not full) vocational</i>	Men																
	Women	1.5%	3.6%	0.5%	1.2%	0.7%	3.1%	2.2%	2.1%	3.8%				2.2%	3.4%	1.3%	1.9%
Intermediate Apprenticeship	Men	1.4%	1.0%	1.4%	1.0%	0.0%	1.7%	1.1%	1.1%	2.1%				1.2%	1.8%	0.8%	1.3%
	Women	1.5%		1.2%	1.2%	0.8%	1.9%	1.5%	2.6%							1.7%	1.3%
RQF Level 2 vocational	Men	4.1%	4.4%	2.4%	3.0%	1.6%	4.7%	3.9%	3.5%	4.5%		2.5%	2.6%	2.6%	6.1%	4.1%	3.5%
	Women	2.6%	3.3%	2.5%	3.1%	3.3%	3.3%	2.0%	2.3%	3.6%			2.8%	3.1%	3.6%	2.4%	2.6%
<i>NVQ level 2</i>	Men	2.0%		1.1%	1.6%	0.5%	1.8%	1.0%	1.1%							1.0%	1.2%
	Women	2.2%		1.9%	2.5%	1.0%	4.9%	2.3%	5.2%	1.1%						2.6%	2.2%
<i>BTEC level 2</i>	Men	1.8%		3.0%	2.2%	0.0%	1.4%	1.6%	3.1%	3.5%						2.0%	1.8%
	Women	1.6%		3.4%	2.3%	3.7%	4.2%	15.7%	1.9%	4.8%					2.4%	2.7%	3.8%
<i>Other full Level 2 vocational</i>	Men	2.4%		2.8%	3.9%	35.3%	2.5%	8.2%	1.7%	3.2%					0.3%	3.6%	2.7%
	Women	4.8%	3.2%	2.5%	3.1%	2.0%	5.2%	5.3%	2.5%	4.2%					7.6%	5.5%	3.8%
<i>Other RQF Level 2 (not full) vocational</i>	Men	2.6%	2.1%	2.0%	2.1%	4.1%	4.2%	3.3%	2.7%	3.5%					4.6%	2.7%	2.9%
	Women																
RQF Level 1 vocational	Men	5.2%	3.9%	5.3%	4.2%	3.5%	6.5%	6.2%	4.2%	4.9%		2.4%	5.3%		7.2%	6.1%	5.4%
	Women	4.0%	2.4%	6.9%	4.7%	3.6%	5.3%	3.6%	3.6%	4.5%		7.8%	3.2%	4.1%	5.7%	4.3%	4.4%
<i>NVQ level 1</i>	Men	5.5%	4.9%	2.1%	4.0%	2.7%	4.0%	5.7%	3.6%	4.9%		2.6%	2.6%		6.1%	6.1%	4.7%
	Women	3.9%	3.1%	2.7%	3.7%	2.2%	3.2%	3.1%	1.7%	4.1%		3.4%	2.9%		3.6%	3.0%	3.4%
<i>Other level 1 vocational</i>	Men			5.3%	4.1%	3.2%	8.1%	6.4%	5.0%						4.1%	6.8%	4.9%
	Women			11.4%	4.7%	0.0%	5.4%	3.7%	7.3%						2.0%	4.5%	4.2%

Note: The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 students who attained their highest qualification at the age of 26 or before. Descriptive statistics are only shown for treatment groups of at least 50 individuals.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Econometric analysis

Table 15: Marginal effects of vocational qualifications on daily earnings by subject area and gender, for each RQF Level

	Men						Women					
	RQF Level 4	Advanced. Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1	RQF Level 4	Advanced. Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1
Health	<i>0.148***</i> (0.045)	-0.043** (0.017)	0.096*** (0.008)	0.210*** (0.015)	0.065*** (0.008)	-0.013 (0.015)	0.077*** (0.030)	-0.020** (0.008)	0.061*** (0.006)	0.027** (0.013)	0.055*** (0.010)	-0.007 (0.022)
Science & Maths			-0.025 (0.029)		0.036 (0.028)	-0.015 (0.031)			0.102*** (0.038)		0.099** (0.044)	0.216*** (0.050)
Agriculture & Animal Care		0.083*** (0.019)	-0.008 (0.012)	0.147*** (0.014)	0.065*** (0.013)	-0.073*** (0.027)	<i>0.039</i> (0.060)	0.211*** (0.019)	0.108*** (0.013)	0.121*** (0.029)	0.131*** (0.022)	0.016 (0.047)
Engineering	0.496*** (0.010)	0.239*** (0.004)	0.183*** (0.007)	0.270*** (0.007)	0.143*** (0.007)	0.040*** (0.013)	0.509*** (0.056)	0.483*** (0.031)	0.222*** (0.048)	0.449*** (0.034)	0.120*** (0.024)	0.040 (0.060)
Construction	0.378*** (0.016)	0.155*** (0.006)	0.204*** (0.010)	0.266*** (0.007)	0.233*** (0.007)	0.031** (0.013)	0.511*** (0.046)	0.429*** (0.062)	0.255*** (0.066)	0.299*** (0.094)	0.239*** (0.058)	0.066 (0.102)
ICT	0.101*** (0.025)	0.184*** (0.012)	0.038*** (0.008)	0.242*** (0.013)	0.005 (0.009)	-0.102*** (0.017)		0.462*** (0.043)	0.198*** (0.024)	0.477*** (0.040)	0.172*** (0.019)	0.056* (0.030)
Retail	<i>0.066</i> (0.060)	-0.011 (0.010)	0.042*** (0.010)	0.076*** (0.007)	0.031*** (0.008)	-0.097*** (0.018)	0.131*** (0.049)	0.037*** (0.010)	0.060*** (0.008)	0.084*** (0.010)	0.060*** (0.010)	-0.005 (0.023)
Leisure & Tourism	0.028 (0.046)	-0.020 (0.016)	0.035*** (0.008)	0.081*** (0.018)	0.051*** (0.009)	0.045** (0.018)	0.145*** (0.050)	0.145*** (0.016)	0.196*** (0.012)	0.239*** (0.026)	0.206*** (0.015)	0.139*** (0.039)
Arts & Media	-0.103*** (0.023)		-0.149*** (0.007)		-0.078*** (0.012)	-0.116*** (0.026)	0.019 (0.030)		0.122*** (0.009)		0.117*** (0.017)	0.098** (0.044)
History & Philosophy												
Social Sciences						0.112 (0.078)						
Languages					0.080* (0.046)	-0.088* (0.051)					0.211*** (0.056)	0.178*** (0.053)
Education	0.063 (0.040)		0.117*** (0.029)				0.182*** (0.034)	-0.056 (0.042)	0.081*** (0.021)		-0.055 (0.037)	
Preparation for Life and Work			-0.070* (0.037)		-0.037*** (0.011)	-0.090*** (0.012)			0.117*** (0.038)		0.045** (0.018)	-0.018 (0.024)
Business & Law	0.261*** (0.013)	0.096*** (0.009)	0.097*** (0.011)	0.170*** (0.008)	0.078*** (0.010)	-0.017 (0.024)	0.385*** (0.012)	0.235*** (0.008)	0.326*** (0.010)	0.280*** (0.010)	0.254*** (0.012)	0.151*** (0.033)
Obs	48,287	76,636	92,793		110,042	37,908	53,640	49,841	77,560		65,748	15,822

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100. *Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data*

Table 16: Marginal effects of vocational qualifications on proportion of the year spent in employment by subject area and gender, for each RQF Level

	Men						Women					
	RQF Level 4	Advanced Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1	RQF Level 4	Advanced Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1
Health	0.123*** (0.022)	0.047*** (0.011)	0.061*** (0.006)	0.077*** (0.010)	0.039*** (0.005)	-0.008 (0.009)	0.033** (0.017)	0.041*** (0.005)	0.091*** (0.004)	0.080*** (0.007)	0.073*** (0.005)	0.006 (0.010)
Science & Maths			0.017 (0.021)		0.016 (0.015)	-0.008 (0.022)			0.020 (0.023)		0.075*** (0.021)	0.022 (0.027)
Agriculture & Animal Care		-0.013 (0.014)	0.040*** (0.008)	0.065*** (0.010)	0.085*** (0.008)	0.011 (0.018)	0.058 (0.038)	0.095*** (0.013)	0.093*** (0.008)	0.110*** (0.016)	0.077*** (0.012)	0.034 (0.024)
Engineering	0.025*** (0.007)	0.027*** (0.003)	0.062*** (0.004)	0.111*** (0.005)	0.073*** (0.004)	0.028*** (0.008)	0.015 (0.039)	0.028 (0.020)	0.093*** (0.027)	0.180*** (0.022)	0.051*** (0.012)	0.016 (0.027)
Construction	0.045*** (0.010)	0.025*** (0.004)	0.057*** (0.006)	0.091*** (0.004)	0.083*** (0.004)	0.029*** (0.008)	0.042 (0.039)	0.142*** (0.032)	0.052 (0.036)	0.127*** (0.048)	0.152*** (0.036)	0.076* (0.045)
ICT	0.017 (0.017)	-0.054*** (0.009)	0.043*** (0.005)	0.063*** (0.009)	0.029*** (0.005)	-0.008 (0.010)	-0.040 (0.054)	-0.067** (0.028)	0.075*** (0.014)	0.212*** (0.029)	0.082*** (0.010)	0.054*** (0.014)
Retail	-0.034 (0.046)	0.024*** (0.007)	0.054*** (0.008)	0.124*** (0.005)	0.072*** (0.005)	0.007 (0.011)	-0.011 (0.030)	0.069*** (0.005)	0.084*** (0.004)	0.150*** (0.005)	0.093*** (0.005)	0.019* (0.011)
Leisure & Tourism	0.109*** (0.023)	0.040*** (0.009)	0.046*** (0.005)	0.091*** (0.012)	0.066*** (0.005)	0.030*** (0.012)	0.083*** (0.032)	0.081*** (0.010)	0.109*** (0.007)	0.172*** (0.018)	0.135*** (0.008)	0.065*** (0.019)
Arts & Media	0.010 (0.014)	0.047 (0.045)	0.007 (0.004)		0.012* (0.007)	0.010 (0.017)	0.018 (0.017)		0.058*** (0.005)		0.071*** (0.009)	0.013 (0.020)
History & Philosophy												
Social Sciences					0.161** (0.065)	0.072 (0.048)						-0.015 (0.064)
Languages					-0.021 (0.030)	-0.023 (0.037)					0.059** (0.030)	0.082*** (0.029)
Education	0.007 (0.025)		0.021 (0.020)		0.119** (0.057)		0.028 (0.019)	0.076** (0.033)	0.100*** (0.013)		0.060*** (0.022)	
Preparation for Life and Work			-0.009 (0.023)		0.005 (0.006)	-0.022*** (0.007)			0.091*** (0.021)		0.019** (0.009)	-0.018* (0.011)
Business & Law	0.049*** (0.009)	0.031*** (0.006)	0.047*** (0.007)	0.125*** (0.007)	0.056*** (0.006)	-0.001 (0.016)	0.083*** (0.007)	0.057*** (0.005)	0.114*** (0.006)	0.171*** (0.006)	0.132*** (0.007)	0.066*** (0.016)
Obs	62,389	103,931	126,892		156,845	62,327	71,699	68,826	111,215		103,513	33,724

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100. *Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data*

Table 17: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by subject area and gender, for each RQF Level

	Men						Women					
	RQF Level 4	Advanced Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1	RQF Level 4	Advanced Appr.	RQF Level 3	Intermediate Appr.	RQF Level 2	RQF Level 1
Health	-0.004 (0.008)	-0.005*** (0.001)	-0.017*** (0.001)	-0.032*** (0.004)	-0.007*** (0.001)	0.009*** (0.003)	0.000 (0.003)	-0.004*** (0.001)	-0.010*** (0.001)	-0.012*** (0.002)	-0.008*** (0.001)	0.004 (0.003)
Science & Maths			0.007 (0.009)		0.001 (0.005)	0.002 (0.008)			-0.009** (0.004)		0.000 (0.005)	-0.012 (0.009)
Agriculture & Animal Care		-0.009*** (0.001)	-0.019*** (0.002)	-0.034*** (0.005)	-0.018*** (0.003)	0.012* (0.007)	-0.009*** (0.000)	-0.006*** (0.002)	-0.009*** (0.002)	-0.025*** (0.006)	-0.005 (0.003)	0.038*** (0.013)
Engineering	-0.009*** (0.001)	-0.006*** (0.000)	-0.016*** (0.001)	-0.034*** (0.002)	-0.013*** (0.001)	0.003 (0.003)	-0.008*** (0.001)	-0.005* (0.003)	-0.012*** (0.004)	-0.013** (0.006)	-0.007** (0.003)	-0.002 (0.009)
Construction	-0.010*** (0.001)	-0.007*** (0.001)	-0.018*** (0.001)	-0.041*** (0.002)	-0.030*** (0.002)	-0.006** (0.003)	-0.008*** (0.001)	-0.008*** (0.002)	0.006 (0.012)	-0.055*** (0.016)	-0.004 (0.008)	-0.009 (0.012)
ICT	-0.004 (0.004)	-0.002 (0.002)	-0.002 (0.002)	-0.018*** (0.004)	0.002 (0.002)	0.018*** (0.004)	-0.007*** (0.002)	0.000 (0.005)	-0.001 (0.004)	-0.012 (0.009)	-0.002 (0.002)	0.017*** (0.006)
Retail	-0.010*** (0.003)	-0.004*** (0.001)	-0.016*** (0.002)	-0.030*** (0.002)	-0.010*** (0.002)	0.012*** (0.005)	-0.000 (0.005)	-0.006*** (0.001)	-0.011*** (0.001)	-0.023*** (0.002)	-0.012*** (0.001)	0.003 (0.003)
Leisure & Tourism	-0.014*** (0.000)	-0.003* (0.002)	-0.014*** (0.001)	-0.012*** (0.004)	-0.009*** (0.002)	0.000 (0.004)	0.004 (0.009)	-0.003* (0.002)	-0.008*** (0.002)	-0.020*** (0.006)	-0.008*** (0.002)	0.003 (0.007)
Arts & Media	-0.002 (0.003)	0.003 (0.007)	0.002 (0.002)		0.003 (0.002)	0.004 (0.006)	0.002 (0.004)		-0.002 (0.001)		-0.001 (0.002)	0.014* (0.008)
History & Philosophy												
Social Sciences					-0.013 (0.015)	-0.042*** (0.004)						0.022 (0.028)
Languages					-0.027** (0.012)	0.026 (0.018)					-0.003 (0.007)	-0.003 (0.010)
Education	0.004 (0.007)		-0.013*** (0.005)		-0.020 (0.020)		-0.005** (0.002)	-0.008*** (0.001)	-0.006** (0.003)		-0.006 (0.005)	
Preparation for Life and Work			0.005 (0.008)		0.005*** (0.002)	0.020*** (0.003)			-0.000 (0.006)		-0.004* (0.002)	0.020*** (0.004)
Business & Law	-0.008*** (0.002)	-0.004*** (0.001)	-0.010*** (0.002)	-0.024*** (0.003)	-0.006*** (0.002)	0.015** (0.007)	-0.006*** (0.001)	-0.005*** (0.001)	-0.010*** (0.001)	-0.022*** (0.002)	-0.008*** (0.002)	0.010 (0.006)
Obs	63,319	104,772	129,504		161,326	69,267	72,612	69,323	113,850		107,905	40,744

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100. *Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data*

By qualification aim & subject area

Earnings

Table 18: Marginal effects of vocational qualifications on daily earnings by qualification aim, subject area and gender – RQF Level 4

	Men Voc. Qual. Level 4	Women Voc. Qual. Level 4
Health	<i>0.148***</i> (0.045)	<i>0.077***</i> (0.030)
Science & Maths		
Agriculture & Animal Care		<i>0.039</i> (0.060)
Engineering	<i>0.496***</i> (0.010)	<i>0.509***</i> (0.056)
Construction	<i>0.378***</i> (0.016)	<i>0.511***</i> (0.046)
ICT	<i>0.101***</i> (0.025)	
Retail	<i>0.066</i> (0.060)	<i>0.131***</i> (0.049)
Leisure & Tourism	<i>0.028</i> (0.046)	<i>0.145***</i> (0.050)
Arts & Media	<i>-0.103***</i> (0.023)	<i>0.019</i> (0.030)
History & Philosophy		
Social Sciences		
Languages		
Education	<i>0.063</i> (0.040)	<i>0.182***</i> (0.034)
Preparation for Life and Work		
Business & Law	<i>0.261***</i> (0.013)	<i>0.385***</i> (0.012)
Obs	<i>48,287</i>	<i>53,640</i>

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 19: Marginal effects of vocational qualifications on daily earnings by qualification aim, subject area and gender – RQF Level 3

	Men					Women				
	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3
Health	-0.043** (0.017)	0.105*** (0.016)	0.104*** (0.010)	0.052** (0.021)	0.095*** (0.018)	-0.020** (0.008)	0.082*** (0.010)	0.109*** (0.011)	0.029*** (0.009)	0.042*** (0.014)
Science & Maths			-0.022 (0.032)					0.117*** (0.044)		0.065 (0.077)
Agriculture & Animal Care	0.083*** (0.019)	0.117*** (0.041)	-0.007 (0.014)	-0.095** (0.037)	0.004 (0.027)	0.211*** (0.019)	0.302*** (0.050)	0.101*** (0.015)	0.163*** (0.031)	0.042 (0.036)
Engineering	0.239*** (0.004)	0.278*** (0.018)	0.125*** (0.013)	0.146*** (0.020)	0.196*** (0.010)	0.483*** (0.031)				0.260*** (0.072)
Construction	0.155*** (0.006)	0.285*** (0.018)	0.198*** (0.021)	0.135*** (0.018)	0.198*** (0.023)	0.429*** (0.062)		0.288*** (0.085)		
ICT	0.184*** (0.012)	0.144*** (0.055)	0.032*** (0.010)	0.042* (0.024)	0.036** (0.018)	0.462*** (0.043)		0.171*** (0.035)		0.223*** (0.034)
Retail	-0.011 (0.010)	0.050*** (0.012)	-0.007 (0.039)	0.075 (0.049)	0.011 (0.029)	0.037*** (0.010)	0.057*** (0.008)	0.163*** (0.022)	0.035 (0.029)	0.049*** (0.019)
Leisure & Tourism	-0.020 (0.016)	-0.018 (0.043)	0.047*** (0.009)	0.033* (0.020)	-0.017 (0.019)	0.145*** (0.016)	0.185** (0.088)	0.221*** (0.013)	0.194*** (0.038)	0.096*** (0.030)
Arts & Media			-0.154*** (0.008)	-0.131*** (0.020)	-0.152*** (0.019)			0.127*** (0.010)	0.150*** (0.019)	0.084*** (0.022)
History & Philosophy										
Social Sciences										
Languages										
Education				0.060 (0.042)	0.204*** (0.047)	-0.056 (0.042)	0.031 (0.035)		0.065** (0.033)	0.166*** (0.039)
Preparation for Life and Work					-0.074** (0.037)					0.118*** (0.038)
Business & Law	0.096*** (0.009)	0.156*** (0.017)	0.036** (0.017)	0.109*** (0.027)	0.134*** (0.025)	0.235*** (0.008)	0.354*** (0.014)	0.270*** (0.023)	0.361*** (0.025)	0.316*** (0.018)
Obs	76,636			92,793		49,841			77,560	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 20: Marginal effects of vocational qualifications on daily earnings by qualification aim, subject area and gender – RQF Level 2

	Men					Women				
	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2
Health	0.218*** (0.015)	0.178*** (0.014)	0.085*** (0.021)	0.075*** (0.015)	-0.015 (0.013)	0.029** (0.013)	0.054*** (0.014)	0.123*** (0.023)	0.049*** (0.013)	0.045** (0.018)
Science & Maths				0.112** (0.056)	0.010 (0.033)					0.093* (0.052)
Agriculture & Animal Care	0.151*** (0.014)	0.132*** (0.019)	-0.121*** (0.034)	0.008 (0.025)	0.148*** (0.022)	0.125*** (0.029)	0.182*** (0.056)	0.121*** (0.037)	0.124*** (0.032)	0.139** (0.059)
Engineering	0.274*** (0.007)	0.201*** (0.008)	0.112*** (0.028)	0.100*** (0.011)	0.087*** (0.014)	0.452*** (0.034)	0.287*** (0.033)		0.134* (0.070)	-0.038 (0.035)
Construction	0.270*** (0.007)	0.329*** (0.009)	0.126*** (0.044)	0.147*** (0.011)	0.148*** (0.013)	0.302*** (0.094)				
ICT	0.245*** (0.013)	0.089*** (0.033)	-0.042** (0.020)	0.012 (0.012)	0.003 (0.017)	0.480*** (0.040)	0.247*** (0.047)	0.171*** (0.051)	0.106*** (0.030)	0.214*** (0.030)
Retail	0.082*** (0.007)	0.063*** (0.009)	-0.152*** (0.042)	0.073*** (0.019)	-0.062*** (0.020)	0.087*** (0.010)	0.070*** (0.011)		0.025 (0.024)	0.039** (0.020)
Leisure & Tourism	0.088*** (0.018)	-0.011 (0.016)	0.060*** (0.018)	0.080*** (0.015)	0.105*** (0.018)	0.243*** (0.026)	0.180*** (0.036)	0.247*** (0.028)	0.191*** (0.022)	0.206*** (0.030)
Arts & Media			-0.107*** (0.018)	-0.044*** (0.017)	-0.100*** (0.025)			0.098*** (0.028)	0.113*** (0.025)	0.162*** (0.036)
History & Philosophy										
Social Sciences										
Languages					0.079* (0.046)					0.196*** (0.057)
Education							0.158*** (0.059)		-0.146** (0.059)	-0.137** (0.069)
Preparation for Life and Work			0.011 (0.066)	-0.017 (0.039)	-0.036*** (0.011)				0.114** (0.045)	0.025 (0.020)
Business & Law	0.177*** (0.008)	0.141*** (0.013)	0.026 (0.032)	0.052*** (0.018)	-0.001 (0.023)	0.283*** (0.010)	0.280*** (0.014)	0.197*** (0.055)	0.217*** (0.024)	0.221*** (0.030)
Obs			110,042					65,748		

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 21: Marginal effects of vocational qualifications on daily earnings by qualification aim, subject area and gender – RQF Level 1

	Men		Women	
	NVQ Level 1	Other Voc. Level 1	NVQ Level 1	Other Voc. Level 1
Health		-0.015 (0.015)		-0.006 (0.022)
Science & Maths		-0.024 (0.032)		0.214*** (0.051)
Agriculture & Animal Care	-0.118*** (0.044)	-0.050 (0.032)	0.032 (0.073)	0.009 (0.058)
Engineering	0.063*** (0.023)	0.035** (0.014)		0.078 (0.074)
Construction	0.041 (0.031)	0.030** (0.014)		0.084 (0.105)
ICT		-0.105*** (0.017)		0.060** (0.030)
Retail	-0.128*** (0.027)	-0.072*** (0.022)	-0.011 (0.026)	0.002 (0.028)
Leisure & Tourism	-0.057 (0.057)	0.057*** (0.018)		0.135*** (0.039)
Arts & Media		-0.119*** (0.026)		0.112** (0.044)
History & Philosophy				
Social Sciences		0.097 (0.080)		
Languages		-0.083 (0.053)		0.201*** (0.055)
Education				
Preparation for Life and Work	-0.083 (0.065)	-0.089*** (0.013)	-0.004 (0.079)	-0.018 (0.024)
Business & Law	-0.043 (0.057)	-0.012 (0.026)	0.004 (0.063)	0.194*** (0.035)
Obs		37,908		15,822

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Employment

Table 22: Marginal effects of vocational qualifications on proportion of the year spent in employment by qualification aim, subject area and gender – RQF Level 4

	Men Voc. Qual. Level 4	Women Voc. Qual. Level 4
Health	<i>0.123***</i> (0.022)	0.033** (0.017)
Science & Maths		
Agriculture & Animal Care		0.058 (0.038)
Engineering	0.025*** (0.007)	0.015 (0.039)
Construction	0.045*** (0.010)	0.042 (0.039)
ICT	0.017 (0.017)	
Retail	<i>-0.034</i> (0.046)	-0.011 (0.030)
Leisure & Tourism	0.109*** (0.023)	0.083*** (0.032)
Arts & Media	0.010 (0.014)	0.018 (0.017)
History & Philosophy		
Social Sciences		
Languages		
Education	0.007 (0.025)	0.028 (0.019)
Preparation for Life and Work		
Business & Law	0.049*** (0.009)	0.083*** (0.007)
Obs	62,389	71,699

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 23: Marginal effects of vocational qualifications on proportion of the year spent in employment by qualification aim, subject area and gender – RQF Level 3

	Men					Women				
	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3
Health	0.047*** (0.011)	0.071*** (0.015)	0.069*** (0.009)	0.045*** (0.017)	0.056*** (0.013)	0.041*** (0.005)	0.098*** (0.006)	0.096*** (0.007)	0.098*** (0.006)	0.058*** (0.008)
Science & Maths			0.029 (0.024)		-0.052 (0.043)			0.009 (0.025)		0.045 (0.045)
Agriculture & Animal Care		0.042 (0.042)	0.031*** (0.010)	0.045* (0.025)	0.072*** (0.019)	0.095*** (0.013)	0.144*** (0.042)	0.082*** (0.010)	0.136*** (0.024)	0.092*** (0.022)
Engineering	0.027*** (0.003)	0.067*** (0.013)	0.076*** (0.010)	0.054*** (0.014)	0.062*** (0.007)	0.028 (0.020)		0.086 (0.061)		0.079* (0.042)
Construction	0.025*** (0.004)	0.084*** (0.012)	0.043*** (0.015)	0.041*** (0.011)	0.078*** (0.017)	0.142*** (0.032)		0.063 (0.050)		
ICT	-0.054*** (0.009)	0.061 (0.038)	0.048*** (0.007)	0.028* (0.017)	0.042*** (0.013)	-0.067** (0.028)		0.092*** (0.021)	0.039 (0.058)	0.063*** (0.021)
Retail	0.024*** (0.007)	0.060*** (0.010)	0.056* (0.029)	0.000 (0.040)	0.054** (0.023)	0.069*** (0.005)	0.096*** (0.005)	0.077*** (0.014)	0.042*** (0.015)	0.037*** (0.010)
Leisure & Tourism	0.040*** (0.009)	0.098*** (0.030)	0.055*** (0.007)	0.043*** (0.014)	0.013 (0.012)	0.081*** (0.010)	0.208*** (0.059)	0.120*** (0.009)	0.105*** (0.024)	0.068*** (0.017)
Arts & Media	0.047 (0.045)		0.016*** (0.005)	-0.013 (0.011)	-0.026** (0.010)	0.079 (0.058)		0.059*** (0.006)	0.067*** (0.012)	0.035*** (0.013)
History & Philosophy										
Social Sciences										
Languages										
Education	-0.011 (0.056)			0.044 (0.035)	-0.003 (0.028)	0.076** (0.033)	0.124*** (0.026)		0.100*** (0.022)	0.077*** (0.024)
Preparation for Life and Work					-0.011 (0.022)					0.084*** (0.023)
Business & Law	0.031*** (0.006)	0.075*** (0.015)	0.036*** (0.011)	0.080*** (0.025)	0.029* (0.017)	0.057*** (0.005)	0.140*** (0.011)	0.094*** (0.015)	0.140*** (0.020)	0.091*** (0.012)
Obs	103,931			126,892		68,826			111,215	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 24: Marginal effects of vocational qualifications on proportion of the year spent in employment by qualification aim, subject area and gender – RQF Level 2

	Men					Women				
	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2
Health	0.080*** (0.010)	0.063*** (0.009)	0.090*** (0.014)	0.066*** (0.010)	0.007 (0.006)	0.082*** (0.007)	0.103*** (0.008)	0.071*** (0.013)	0.085*** (0.007)	0.019** (0.009)
Science & Maths				0.003 (0.032)	0.016 (0.018)					0.090*** (0.025)
Agriculture & Animal Care	0.066*** (0.010)	0.130*** (0.016)	0.045** (0.020)	0.083*** (0.016)	0.066*** (0.015)	0.112*** (0.016)	0.116*** (0.031)	0.078*** (0.021)	0.074*** (0.017)	0.053* (0.030)
Engineering	0.113*** (0.005)	0.096*** (0.006)	0.085*** (0.019)	0.062*** (0.007)	0.039*** (0.008)	0.182*** (0.022)	0.097*** (0.019)		0.095** (0.039)	0.013 (0.016)
Construction	0.093*** (0.004)	0.099*** (0.005)	0.027 (0.034)	0.066*** (0.007)	0.078*** (0.008)	0.129*** (0.048)				
ICT	0.064*** (0.009)	0.024 (0.019)	0.060*** (0.012)	0.037*** (0.007)	0.001 (0.009)	0.215*** (0.029)	0.123*** (0.028)	0.138*** (0.033)	0.061*** (0.016)	0.079*** (0.016)
Retail	0.126*** (0.005)	0.096*** (0.006)	0.026 (0.020)	0.089*** (0.013)	0.004 (0.010)	0.153*** (0.005)	0.109*** (0.005)		0.050*** (0.014)	0.047*** (0.009)
Leisure & Tourism	0.094*** (0.012)	0.067*** (0.009)	0.088*** (0.012)	0.072*** (0.011)	0.046*** (0.010)	0.175*** (0.018)	0.131*** (0.020)	0.139*** (0.016)	0.135*** (0.013)	0.137*** (0.017)
Arts & Media			0.033*** (0.011)	0.002 (0.010)	-0.003 (0.013)			0.070*** (0.015)	0.070*** (0.013)	0.075*** (0.018)
History & Philosophy										
Social Sciences					0.182*** (0.068)					
Languages					-0.022 (0.030)					0.052* (0.030)
Education						0.068* (0.040)		0.078** (0.036)		0.035 (0.038)
Preparation for Life and Work			0.153*** (0.048)	-0.005 (0.019)	0.004 (0.006)		0.131** (0.064)		0.055** (0.025)	0.010 (0.010)
Business & Law	0.127*** (0.007)	0.099*** (0.009)	0.058*** (0.019)	0.037*** (0.010)	0.005 (0.011)	0.173*** (0.006)	0.153*** (0.008)	0.125*** (0.028)	0.120*** (0.014)	0.079*** (0.015)
Obs			156,845					103,513		

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 25: Marginal effects of vocational qualifications on proportion of the year spent in employment by qualification aim, subject area and gender – RQF Level 1

	Men		Women	
	NVQ Level 1	Other Voc. Level 1	NVQ Level 1	Other Voc. Level 1
Health		-0.008 (0.008)		0.006 (0.010)
Science & Maths		-0.010 (0.022)		0.023 (0.027)
Agriculture & Animal Care	0.073** (0.032)	-0.018 (0.021)	0.058 (0.042)	0.024 (0.028)
Engineering	0.028* (0.015)	0.028*** (0.009)	<i>0.028</i> <i>(0.047)</i>	0.012 (0.032)
Construction	0.033 (0.021)	0.029*** (0.008)		0.073 (0.045)
ICT	-0.085* (0.051)	-0.005 (0.010)		0.051*** (0.014)
Retail	0.028 (0.017)	-0.008 (0.014)	0.017 (0.012)	0.022 (0.013)
Leisure & Tourism	0.062* (0.036)	0.027** (0.012)		0.066*** (0.018)
Arts & Media		0.010 (0.017)		0.015 (0.020)
History & Philosophy				
Social Sciences		0.069 (0.053)		-0.004 (0.065)
Languages		-0.030 (0.037)		0.084*** (0.029)
Education				
Preparation for Life and Work	0.007 (0.042)	-0.022*** (0.007)	0.090** (0.036)	-0.023** (0.011)
Business & Law	-0.023 (0.043)	0.002 (0.017)	0.045 (0.030)	0.072*** (0.018)
Obs		62,327		33,724

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Benefits

Table 26: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by qualification aim, subject area and gender – RQF Level 4

	Men Voc. Qual. Level 4	Women Voc. Qual. Level 4
Health	-0.004 (0.008)	0.000 (0.003)
Science & Maths		
Agriculture & Animal Care		-0.009*** (0.000)
Engineering	-0.009*** (0.001)	-0.008*** (0.001)
Construction	-0.010*** (0.001)	-0.008*** (0.001)
ICT	-0.004 (0.004)	-0.007*** (0.002)
Retail	-0.010*** (0.003)	-0.000 (0.005)
Leisure & Tourism	-0.014*** (0.000)	0.004 (0.009)
Arts & Media	-0.002 (0.003)	0.002 (0.004)
History & Philosophy		
Social Sciences		
Languages		
Education	0.004 (0.007)	-0.005** (0.002)
Preparation for Life and Work		
Business & Law	-0.008*** (0.002)	-0.006*** (0.001)
Obs	63,319	72,612

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: *London Economics' analysis of Longitudinal Educational Outcome (LEO) data*

Table 27: Marginal effects of vocational qualifications on receipt of active labour market benefits by qualification aim, subject area and gender – RQF Level 3

	Men					Women				
	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3	Adv Appr	NVQ Level 3	BTEC Level 3	Other full Voc. Level 3	Other Non-full Voc. level 3
Health	-0.005*** (0.001)	-0.033*** (0.007)	-0.026*** (0.005)	-0.025*** (0.008)	-0.012** (0.005)	-0.004*** (0.001)	-0.016*** (0.002)	-0.011*** (0.002)	-0.013*** (0.002)	-0.006*** (0.002)
Science & Maths			0.007 (0.008)		0.007 (0.012)			-0.006 (0.007)		-0.024 (0.015)
Agriculture & Animal Care		-0.031* (0.019)	-0.026*** (0.006)	-0.022*** (0.008)	-0.033*** (0.010)	-0.006*** (0.002)	-0.050*** (0.011)	-0.008** (0.003)	-0.020*** (0.007)	-0.007 (0.006)
Engineering	-0.006*** (0.000)	-0.034*** (0.007)	-0.017*** (0.004)	-0.019*** (0.005)	-0.018*** (0.003)	-0.005* (0.003)		-0.009 (0.012)		-0.008 (0.009)
Construction	-0.007*** (0.001)	-0.044*** (0.005)	-0.013* (0.007)	-0.016*** (0.004)	-0.029*** (0.008)	-0.008*** (0.002)		-0.207*** (0.005)		
ICT	-0.002 (0.002)	-0.020 (0.014)	-0.003 (0.003)	-0.009 (0.006)	0.004 (0.003)	0.000 (0.005)		-0.003 (0.006)	-0.008 (0.011)	0.000 (0.005)
Retail	-0.004*** (0.001)	-0.026*** (0.005)	-0.013 (0.012)	-0.008 (0.018)	-0.010 (0.008)	-0.006*** (0.001)	-0.014*** (0.001)	-0.012** (0.005)	-0.006* (0.003)	-0.008*** (0.003)
Leisure & Tourism	-0.003* (0.002)	-0.013 (0.010)	-0.025*** (0.003)	-0.013** (0.005)	-0.004 (0.004)	-0.003* (0.002)	0.016** (0.007)	-0.010*** (0.003)	-0.012** (0.006)	-0.007 (0.005)
Arts & Media	0.003 (0.007)		0.000 (0.002)	-0.000 (0.004)	0.008*** (0.003)	0.010 (0.013)		-0.002* (0.001)	-0.003 (0.003)	0.002 (0.002)
History & Philosophy										
Social Sciences										
Languages										
Education	-0.010*** (0.000)			-0.036** (0.018)	-0.016 (0.010)	-0.008*** (0.001)	-0.029** (0.014)		-0.000 (0.004)	-0.006 (0.005)
Preparation for Life and Work					0.004 (0.006)					-0.001 (0.005)
Business & Law	-0.004*** (0.001)	-0.009* (0.006)	-0.010** (0.004)	-0.009 (0.010)	-0.018** (0.007)	-0.005*** (0.001)	-0.017*** (0.003)	-0.008* (0.004)	-0.008* (0.005)	-0.009*** (0.003)
Obs	104,772			129,504		69,323			113,850	

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 28: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by qualification aim, subject area and gender – RQF Level 2

	Men					Women				
	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2	Inter Appr	NVQ Level 2	BTEC Level 2	Other full Voc. Level 2	Other Non-full Voc. level 2
Health	-0.032*** (0.004)	-0.023*** (0.003)	-0.020*** (0.006)	-0.006** (0.003)	-0.001 (0.002)	-0.013*** (0.002)	-0.017*** (0.002)	-0.009** (0.004)	-0.009*** (0.002)	-0.000 (0.002)
Science & Maths				-0.005 (0.010)	0.003 (0.005)				-0.009 (0.015)	-0.001 (0.006)
Agriculture & Animal Care	-0.035*** (0.005)	-0.029*** (0.006)	0.001 (0.007)	-0.018*** (0.006)	-0.019*** (0.006)	-0.025*** (0.006)	-0.004 (0.009)	-0.002 (0.005)	-0.008* (0.005)	-0.004 (0.006)
Engineering	-0.035*** (0.002)	-0.019*** (0.002)	-0.020** (0.008)	-0.011*** (0.002)	-0.005* (0.002)	-0.013** (0.006)	-0.010** (0.005)		-0.018* (0.010)	-0.003 (0.004)
Construction	-0.041*** (0.002)	-0.047*** (0.002)	0.004 (0.011)	-0.020*** (0.003)	-0.016*** (0.003)	-0.055*** (0.016)			0.003 (0.011)	-0.029* (0.016)
ICT	-0.018*** (0.004)	-0.000 (0.006)	0.004 (0.004)	0.006*** (0.002)	-0.005* (0.003)	-0.012 (0.009)	-0.029** (0.011)	-0.010 (0.008)	0.003 (0.003)	-0.003 (0.004)
Retail	-0.030*** (0.002)	-0.020*** (0.002)	0.019*** (0.004)	-0.009** (0.004)	0.000 (0.003)	-0.024*** (0.002)	-0.016*** (0.002)	0.017* (0.009)	-0.007** (0.003)	-0.004* (0.002)
Leisure & Tourism	-0.013*** (0.004)	-0.004 (0.003)	-0.017*** (0.005)	-0.014*** (0.004)	-0.009*** (0.003)	-0.020*** (0.006)	-0.003 (0.005)	-0.012** (0.005)	-0.005 (0.003)	-0.016*** (0.005)
Arts & Media		-0.031* (0.017)	0.007** (0.003)	0.001 (0.003)	0.001 (0.004)			-0.002 (0.004)	-0.002 (0.003)	-0.000 (0.004)
History & Philosophy										
Social Sciences					-0.012 (0.015)					
Languages					-0.027** (0.012)					-0.003 (0.007)
Education						-0.003 (0.011)			-0.005 (0.007)	-0.010 (0.010)
Preparation for Life and Work			-0.014 (0.015)	0.007 (0.005)	0.005*** (0.002)		-0.007 (0.013)		0.001 (0.006)	-0.005** (0.002)
Business & Law	-0.025*** (0.003)	-0.018*** (0.003)	-0.017** (0.007)	0.004 (0.003)	0.001 (0.003)	-0.022*** (0.002)	-0.011*** (0.002)	-0.004 (0.007)	-0.005 (0.003)	-0.006 (0.004)
Obs			161,326					107,905		

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data

Table 29: Marginal effects of vocational qualifications on proportion of the year spent in receipt of active labour market benefits by qualification aim, subject area and gender – RQF Level 1

	Men		Women	
	NVQ Level 1	Other Voc. Level 1	NVQ Level 1	Other Voc. Level 1
Health		0.009*** (0.003)		0.004 (0.003)
Science & Maths		0.002 (0.009)		-0.021 (0.014)
Agriculture & Animal Care	0.013 (0.011)	0.011 (0.008)	0.043*** (0.011)	0.020* (0.010)
Engineering	0.001 (0.006)	0.004 (0.003)	<i>0.001</i> <i>(0.018)</i>	-0.004 (0.012)
Construction	-0.016* (0.009)	-0.006* (0.003)		-0.009 (0.017)
ICT	<i>0.021</i> <i>(0.018)</i>	0.017*** (0.003)		0.016*** (0.005)
Retail	0.012** (0.006)	0.011** (0.005)	0.002 (0.004)	0.005 (0.005)
Leisure & Tourism	-0.004 (0.014)	0.001 (0.005)		0.000 (0.007)
Arts & Media		0.005 (0.006)		0.012* (0.007)
History & Philosophy				
Social Sciences		-0.105*** (0.030)		<i>0.020</i> <i>(0.020)</i>
Languages		0.026* (0.013)		-0.008 (0.013)
Education				
Preparation for Life and Work	-0.006 (0.017)	0.018*** (0.002)	-0.014 (0.016)	0.019*** (0.003)
Business & Law	0.018 (0.014)	0.013** (0.006)	0.010 (0.010)	0.009 (0.006)
Obs		69,267		40,744

Note: Significance levels: *** p<0.01, ** p<0.05, * p<0.1. The figures refer to the 2001/02, 2002/03 and 2003/04 cohort of Key Stage 4 male students who attained their highest qualification at the age of 26 or before. Results are only shown for treatment groups of at least 50 individuals. Estimates are reported in italics for samples between 50 and 100.

Source: London Economics' analysis of Longitudinal Educational Outcome (LEO) data