

























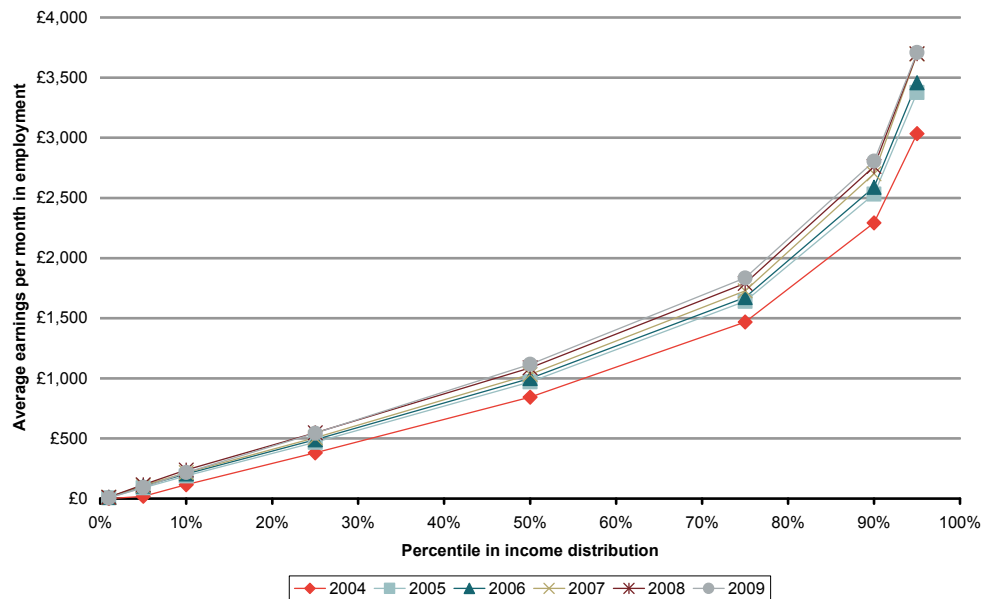








**Figure 1: Distribution of average income per month worked (by year)**



Source: Frontier analysis of HMRC/DWP data

### Calculation of monthly earnings

We then multiply the earnings per month worked by the proportion of each month in employment to get an estimate of monthly earnings. Since April straddles two financial years, we use a weighted average of the estimated earnings in April according to the rule stated above. This procedure is shown below.

**Table 4: Calculation of monthly earnings**

	J	F	M	A	M	J
Employment	0	.5	1	1	1	.5
Earnings/month employed, FY ending April 2006	£2000	£2000	£2000	£2000	n/a/	n/a
Earnings/month employed, FY ending April 2007	n/a	n/a	n/a	£2500	£2500	£2500
Corrected employment	0	£1000	£2000	£2417	£2500	£1250

Source: Stylised example

Having cleaned and merged all data sets together, we have a final data set containing 185,553 records of which 93% are FL2, the remaining 7% are Full Level 3 (FL3). We describe the data set in detail in the following section.



# Descriptive statistics

## Overview

The purpose of this section is to provide a range of descriptions of the earnings, employment and benefit statuses of students who achieved a qualification through the TTG programme. The addition of extra learner and HMRC/DWP data allows us to extend the analysis we undertook previously, and examine whether our findings change over time. Overall our strategy consists of:

- Comparing the demographic characteristics of the two cohorts of learners, 2006-07 and 2007-08;
- Comparing the histories and outcomes (12 months before and after learning) of the two cohorts of learners;
- Comparing the short term and long term outcomes of the 2006-07 cohort (1st year after training vs. 2nd year after training).

The descriptive analysis is interesting and informative but we must stress that observed differences in outcomes by a certain characteristic cannot be taken as evidence that the characteristic has a causal effect on those outcomes. Differences in outcomes may be caused by a variety of omitted factors such as differences in the prior ability or attainment of the students, differences in the average age of the learners, differences in provider locations and differences in the type of qualification studied. The purpose of the descriptive analysis is not to uncover causal relationships but to gain a better understanding of how learner characteristics and outcomes vary over time/subject area.

Before looking at the outputs it is worth discussing some of the limitations of the matched data. In our view, the main weakness of the data is that there appear to be many records with missing earnings information. The matched data contains 185,553 learners. Average employment before learning is 9 months, rising to 9.8 months after learning. However, around half of the learners in the data set have no earnings recorded both before and after learning. There may be genuine reasons why an individual who is in work has no earnings recorded in the P14 data. For example, employers are not required to send earnings data to HMRC on individuals earning below the taxable threshold. However, it is unlikely that this can explain this anomaly in the data fully -given that 76% of individuals in the data worked for 6 months or more in the year preceding learning it is unlikely that many will have earned less than the taxable threshold.

Another unfortunate feature of the data is that it does not allow us to distinguish part-time from full time workers. This means that changes in raw earnings could be the result of a change in working hours (switching from part-time to full-time for example) rather than a genuine pay increase. Therefore, when analysing earnings, we only use individuals in continuous employment and earning reasonable amounts (defined as the range £4,800-£80,000 per year) to generate our summary statistics.

## Descriptive statistics

### Demographics

The purpose of this section is to establish if learners who completed their studies in 2007-08 are different from those who finished a year earlier. Our previous work<sup>6</sup> on the 2006-07 data showed that TTG learners have rather different characteristics to FE and apprenticeship learners. They are much older, more likely to be male and to live in a deprived area than the rest. The focus of our analysis is on FL2 learners as they make up the vast majority of learners in both years: 97% in 2006-07 and 92% in 2007-08. There are three times as many learners in 2007-08 as there are in 2006-07, giving us a combined sample of 171,867.

We begin by comparing the demographic characteristics of the two cohorts of learners to see if there have been any major changes in demographics. Overall, we find no significant changes. Average age remains 38 in both years and there are no significant shifts in the age distribution of learners over time (see Figure 2).

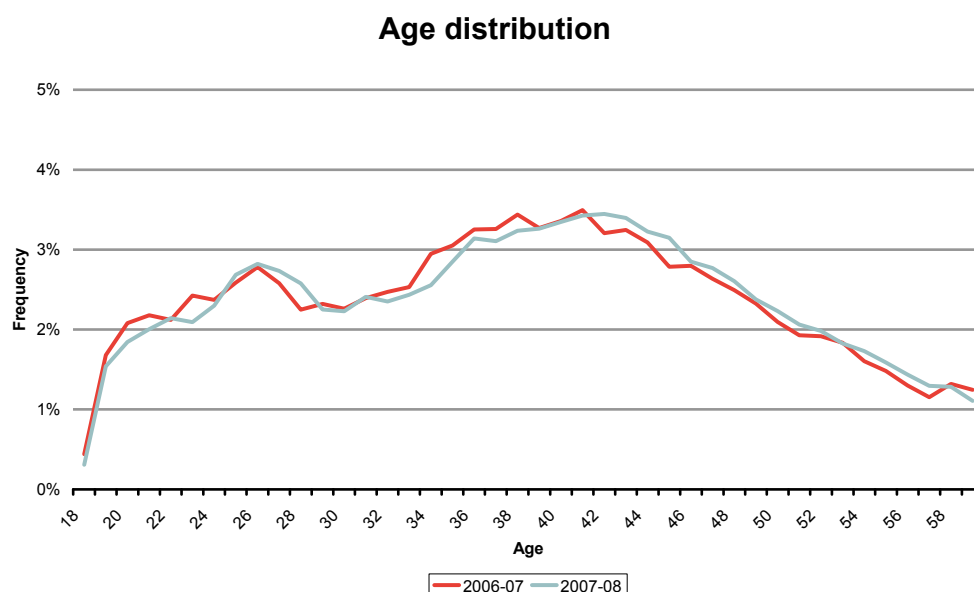
**Table 5: Key demographic metrics**

	2006-07	2007-08	Difference
% male	56	55	-1%
% ethnic	83	80	-3%
% deprived area	46	41	-5%
mean age	38	38	0

Source: Frontier analysis of ILR-HMRC/DWP data

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<sup>6</sup> Frontier/IFS draft report entitled “How to make best use of the matched data for reporting on the employment and earnings outcomes of training”

**Figure 2: Learner age histogram 2006-07 and 2007-08**

Source: Frontier analysis of ILR-HMRC/DWP data

### Subject areas and prior attainment

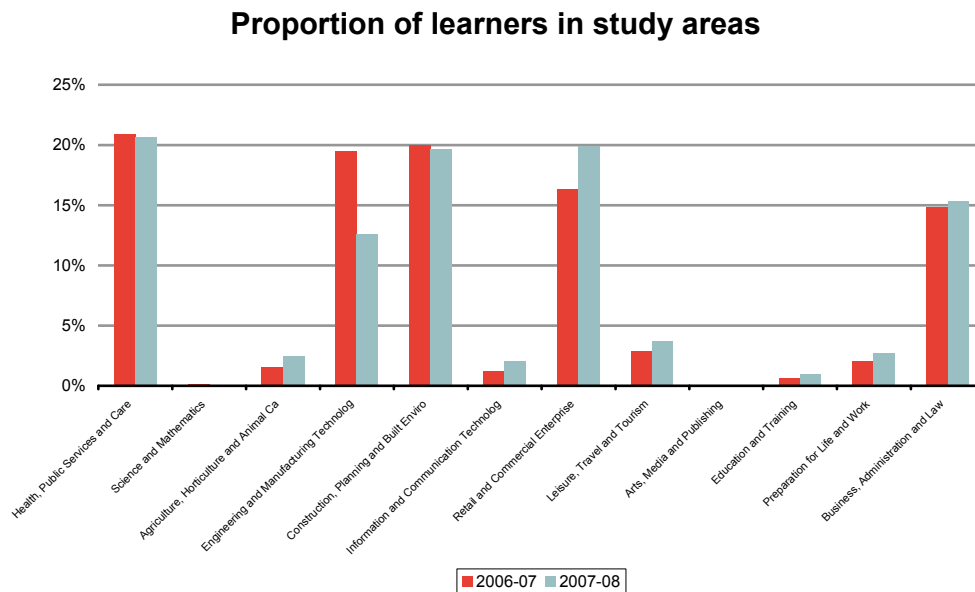
Learners starting in 2007-08 are not different from those starting a year earlier in terms of prior attainment. In both cases around two-thirds of students have no qualifications and a quarter have qualifications equivalent to Level 1. The remainder is made up of unknown or other qualifications.

**Table 6: Prior attainment**

	2006-07	2007-08	Difference
No qualifications	64%	67%	+3%
Level 1	24%	27%	+3%
Other	12%	6%	-6%

Source: Frontier analysis of ILR-HMRC/DWP data

There is also no indication that learners completing the TTG programme in later years study different subjects from those who started in 2006-07. On the contrary, the distribution across subject areas is remarkably consistent. Most students (92% in 2006-07 and 88% in 2007-08) are concentrated in only five subject areas: Health Public Services and Care, Engineering and Manufacturing Technologies, Construction Planning and Built environment, Retail and Commercial Enterprise and Business Administration and Law.

**Figure 3: Learner subject areas 2006-07 and 2007-08**

Source: Frontier analysis of ILR-HMRC/DWP data

## Labour market outcomes

So far we have shown that there have not been any major changes in the profiles of TTG learners over time, both in terms of demographic composition and what they study. We next turn to analysing the economic performance of the two cohorts of learners.

### Aggregate statistics

First we compare the outcomes of learners who completed the programme during the 2006-07 academic years with those who did it a year later. In both cases we measure outcomes in the year immediately following achievement in TTG. Second, we explore the extent to which the outcomes of the 2006-07 cohort change over time, by measuring outcomes two years after training finished.

We present a simple before-after comparison of the key labour market variables for the FL2 sample as a whole. The measures we use are:

- Employment: number of months in employment;
- Benefits: number of months on benefits;
- Raw earnings: average annual earnings;

- Filtered earnings: average earnings of individuals who are in continuous employment before and after studies, excluding outliers<sup>7</sup>;

**Table 7: Labour market performance before and after studies**

Labour market outcome	12 months before		12 months after		% change	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Employment (months)	9.07	8.92	9.45	9.79	4%	10%
Benefits (months)	0.55	0.57	0.40	0.50	-27%	-12%
Raw earnings	£6,936	£6,657	£7,195	£7,029	4%	6%
Filtered earnings	£17,657	£17,695	£18,160	£17,780	3%	0%

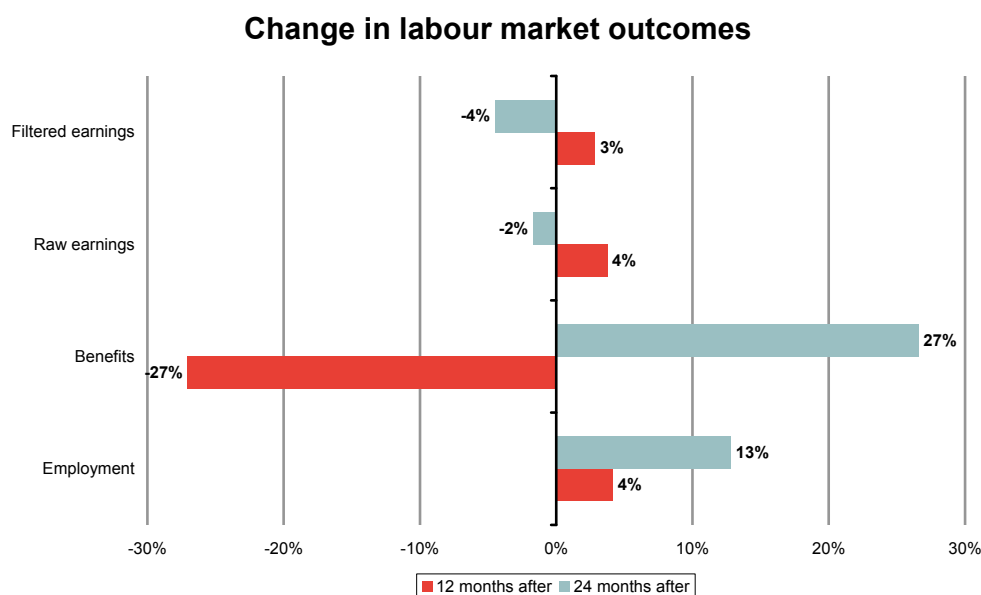
**Source: Frontier analysis of ILR-HMRC/DWP data**

On the whole, labour market performance appears very similar across the two learner cohorts both before and after learning. Learners entering TTG in 2007-08 have slightly worse economic indicators than those entering a year earlier, but the differences are very small indeed. Employment and benefits before training appear virtually identical and raw earnings are around £300 lower for the 2007-08 cohort, relative to the pre-learning baseline.

Following achievement, employment goes up, benefits fall and earnings increase. Other than employment, outcomes appear to improve by more for the 2006-07 cohort, but again differences are small. In term of magnitude, we observe good employment gains and benefit reductions. The earnings increases are very modest (3% for the first cohort and no change for the second cohort). Overall, the data shows that there is little difference between the outcomes of learners who entered TTG at different times.

In order to establish if the benefits of training materialise over a longer time period, we analyse how labour market performance evolves two years after completion of studies rather than one.

<sup>7</sup> We define outliers as individuals whose annual earnings are below £4,800 or above £80,000

**Figure 4: Economic performance over time**


**Source: Frontier analysis of ILR-HMRC/DWP data**

Our results (shown in Figure 4) indicate that outcomes are poorer in the second year after training compared to the first year after training. The exception is employment which is 9 percentage points higher in the second year, but all other indicators worsen. We now see an increase in benefit rates, and falls in real earnings by around 4%.

**Table 8: Change in labour market outcomes over time**

	12 months before	12 months after	24 months after	% change 12 months after	% change 24 months after
Employment (months)	9.07	9.45	10.23	4%	13%
Benefits (months)	0.55	0.40	0.70	-27%	27%
Raw earnings	£6,936	£7,195	£6,818	4%	-2%
Filtered earnings	£17,657	£18,160	£16,863	3%	-4%

**Source: Frontier analysis of ILR-HMRC/DWP data**

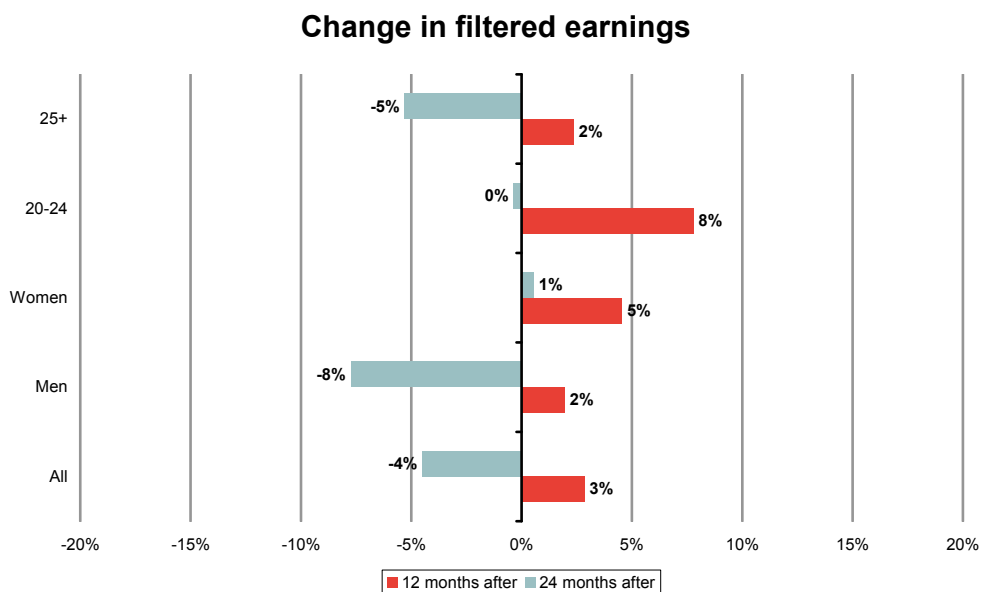
This overall pattern is consistent across demographic groups. We compare outcomes for men and women and two age bands: those aged between 20 and 24 and the rest. In all groups, we observe better outcomes in the 1st year after training than the 2nd year after training. Within this there are differences between the demographic groups such that women do better than men and younger learners do better than older learners.

Focusing on filtered earnings in the first year after training for example (see Figure 5), we observe increases by 5% for women and 2% for men, relative to their level in the year

preceding training. However, while male earnings decline by 8% in the second year after training, female earnings increase slightly by 1% relative to the same baseline. The same pattern holds for employment and benefits.

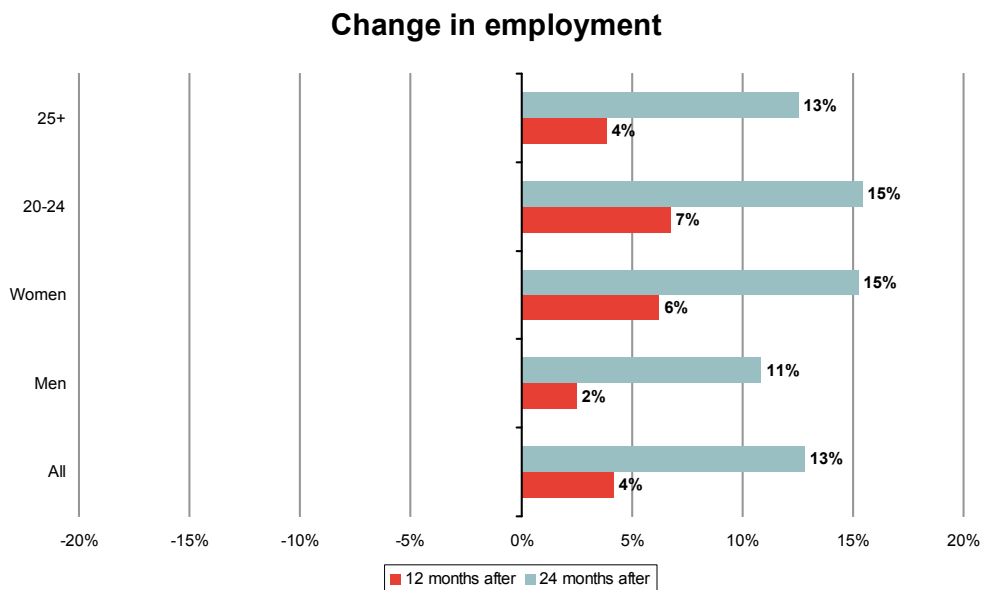
In a similar way, outcomes are consistently better for the 20-24 age group compared with those aged 25 or more. The former group see their filtered earnings remain unchanged while the latter experience a fall of around 5% in the 2nd year after training.

**Figure 5: Earnings changes over time**

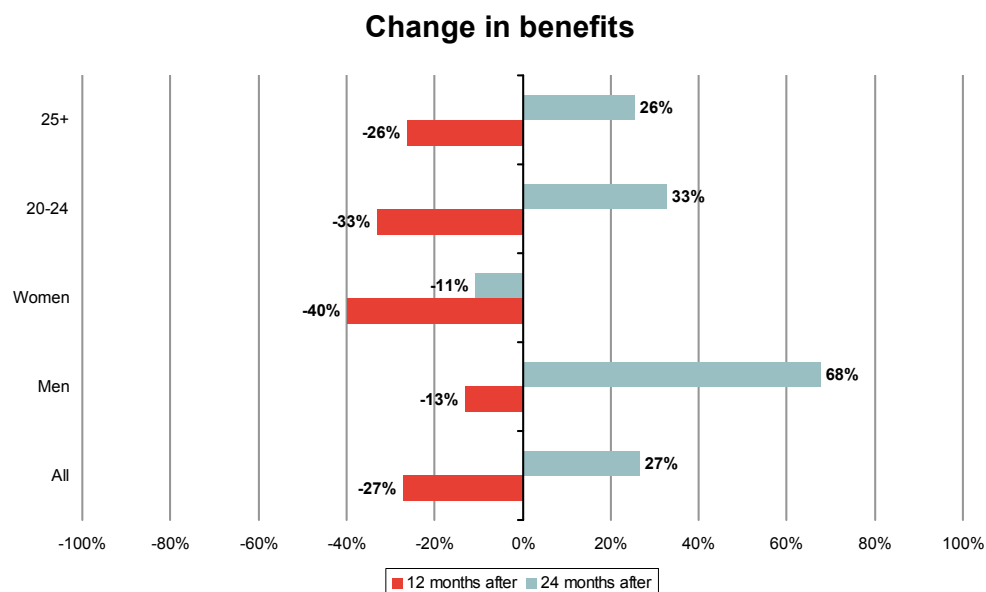


Source: Frontier analysis of ILR-HMRC/DWP data

**Figure 6: Employment changes over time**



Source: Frontier analysis of ILR-HMRC/DWP data

**Figure 7: Benefits changes over time**

Source: Frontier analysis of ILR-HMRC/DWP data

### Descriptive statistics disaggregated by subject

In this section, we replicate the analysis from the previous section but drill deeper by disaggregating the data in terms of subject studied (note that we only report summary statistics where sample size is greater than fifty observations). This allows us to see if there are interesting variations which can not be uncovered in the aggregate results. Our previous work with the matched data found that certain subject areas such as Construction, Planning and Built Environment had on average better outcomes than the rest in all funding streams. The current data does show that this is the subject area where earnings were highest before learning. However, in terms of changes following training, there appears to be little benefit there. In particular if outcomes are measured in the 2nd year after training, we observe quite large declines in earnings, in the order of 12%. Overall, it remains the case that relative to the baseline (the year before learning), earnings outcomes are better in the first year after training than the second year. This holds for all subject areas with the exception of Education and Training.

Further, learners in the earlier cohort appear to have better outcomes than those in the 2007-08 cohort (see Table 10) with the exception of two subject areas: Leisure, Travel and Tourism and Education and training. On the whole, however we do not observe major earnings changes in any of the subject areas.

**Table 9: Change in filtered earnings over time: 2006-07 cohort**

Subject area	12 months before	12 months after	24 months after	% change 12 months after	% change 24 months after
Health, Public Services and Care	£13,216	£14,330	£14,018	8%	5%
Science and Mathematics					



Subject area	12 months before	12 months after	24 months after	% change 12 months after	% change 24 months after
Agriculture, Horticulture and Animal Care	£18,457	£18,689	£17,395	1%	-5%
Engineering and Manufacturing Technologies	£19,991	£20,105	£18,443	1%	-7%
Construction, Planning and Built Environment	£23,917	£24,439	£21,076	2%	-12%
Information and Communication Technology	£19,045	£20,099	£19,177	6%	1%
Retail and Commercial Enterprise	£15,472	£15,959	£15,328	3%	-2%
Leisure, Travel and Tourism	£18,798	£19,257	£17,805	2%	-7%
Arts, Media and Publishing					
History, Philosophy and Theology					
Social Sciences					
Languages, Literature and Culture					
Education and Training	£12,262	£12,825	£13,097	5%	9%
Preparation for Life and Work	£16,124	£16,822	£15,782	4%	-4%
Business, Administration and Law	£16,443	£16,729	£15,783	2%	-5%

**Source: Frontier analysis of ILR-HMRC/DWP data.** Blank cells indicate small samples (fewer than 50 observations)

**Table 10: Change in filtered earnings across cohort**

Labour market outcome	12m before		12m after		% change	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
Health, Public Services and Care	£13,216	£13,997	£14,330	£14,694	8%	5%
Science and Mathematics						
Agriculture, Horticulture and Animal Care	£18,457	£18,816	£18,689	£18,804	1%	0%
Engineering and Manufacturing Technologies	£19,991	£20,017	£20,105	£19,804	1%	-1%
Construction, Planning and Built Environment	£23,917	£24,330	£24,439	£23,663	2%	-3%
Information and Communication Technology	£19,045	£19,273	£20,099	£18,957	6%	-2%
Retail and Commercial Enterprise	£15,472	£16,302	£15,959	£16,421	3%	1%
Leisure, Travel and Tourism	£18,798	£17,029	£19,257	£17,730	2%	4%
Arts, Media and Publishing						

Labour market outcome	12m before		12m after		% change	
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08
History, Philosophy and Theology						
Social Sciences						
Languages, Literature and Culture						
Education and Training	£12,262	£11,069	£12,825	£11,685	5%	6%
Preparation for Life and Work	£16,124	£15,412	£16,822	£15,673	4%	2%
Business, Administration and Law	£16,443	£16,880	£16,729	£16,993	2%	1%

**Source: Frontier analysis of ILR-HMRC/DWP data.** Blank cells indicate small samples (fewer than 50 observations)

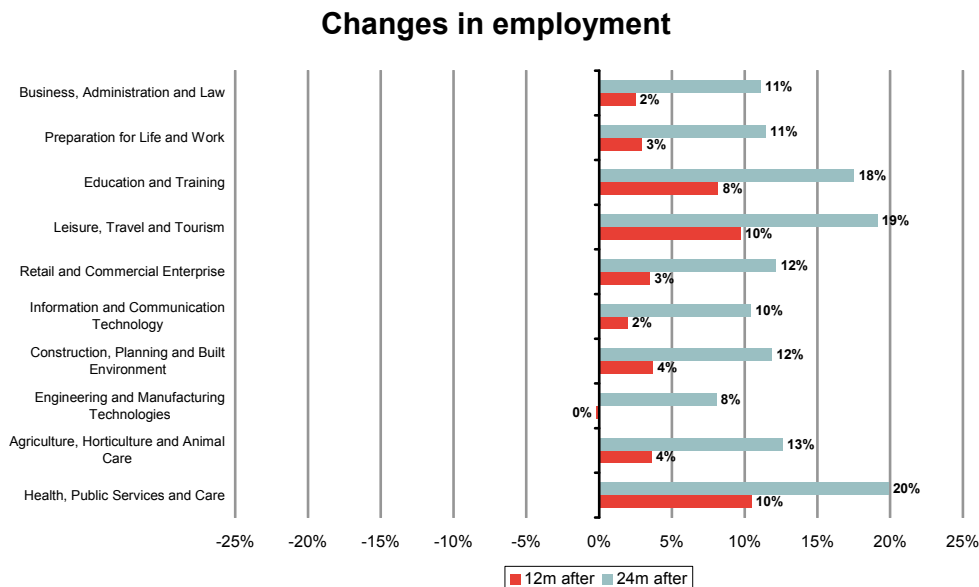
The data reveals the same pattern in terms of benefits- that is benefit claims are higher two years after training than one year after training. In addition, training appears to have a smaller effect on benefits in the second cohort of learners relative to the first.

Employment follows exactly the opposite pattern. It is greater in the second year after training and in the second cohort of learners (those who started training in 2007-08). This is consistently the case for all subject areas.

We must stress that these descriptive before-after comparisons do not take into account general economic conditions which may well drive the results. For example the worsening of benefit claims in the 2007-08 cohort (12 months after training) and the 2006-07 cohort (24 months after training) may simply be a consequence of the recession- the timing period will coincide with financial years 2008-09 and 2009-10 which saw rises in general unemployment in the UK relative to 2007-08<sup>8</sup>. We remove the influence of general economic conditions in our impact analysis section. This is an unfortunate feature of before-after comparisons: the lack of a contemporaneous comparison group means the estimated outcomes can be confounded by unobservable aggregate trends.

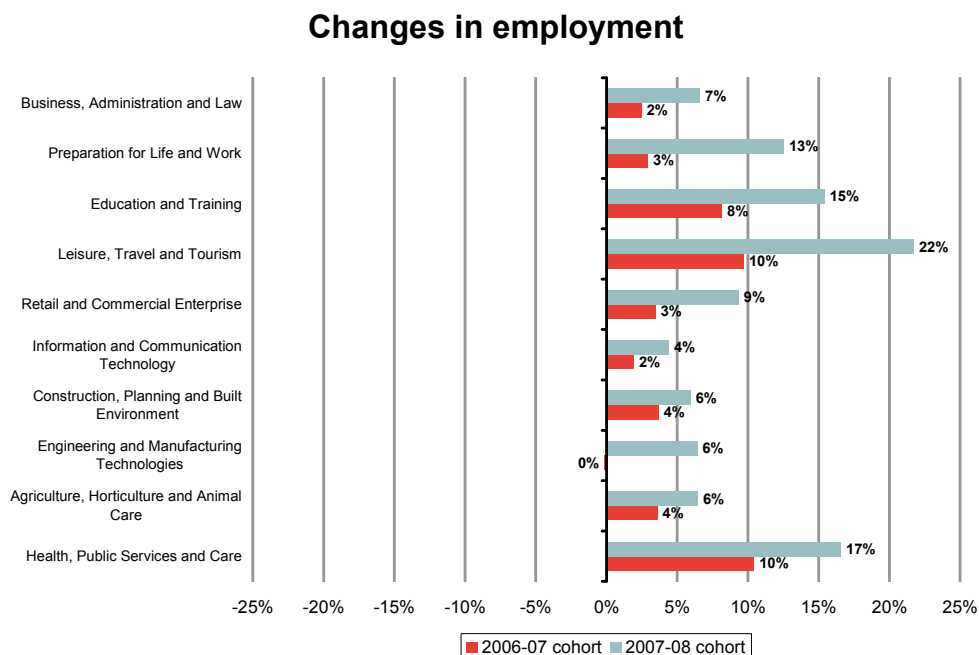
<sup>8</sup> National Statistics Online data shows that the unemployment rate for individuals aged 16-64 in March 2008 was 5.2% but this increased to 7.4% in March 2009 and 8% in March 2010. (<http://www.statistics.gov.uk/statbase/TSDdownload2.asp>)

**Figure 8: Employment changes over time: 2006-07 cohort**



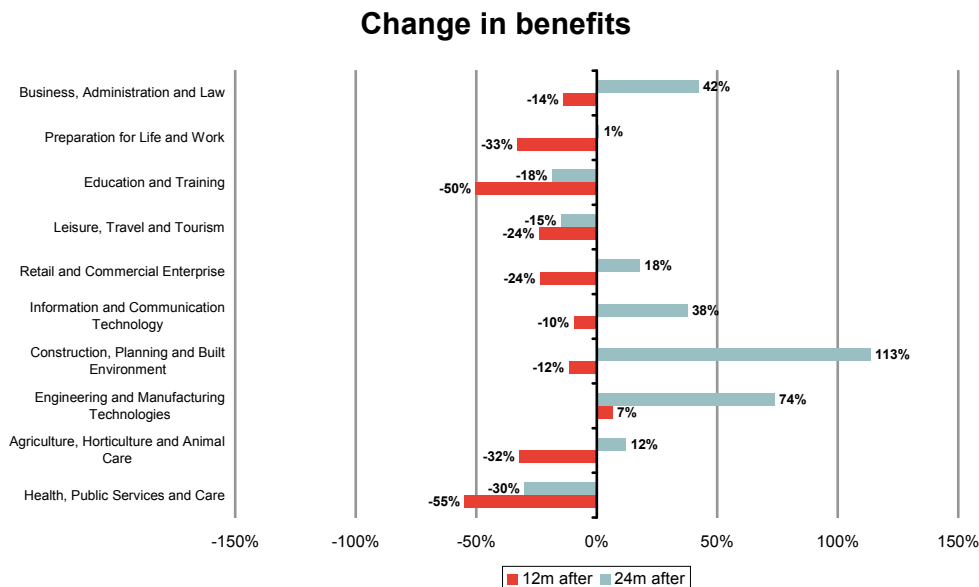
Source: Frontier analysis of ILR-HMRC/DWP data

**Figure 9: Employment changes: cross cohort comparison**



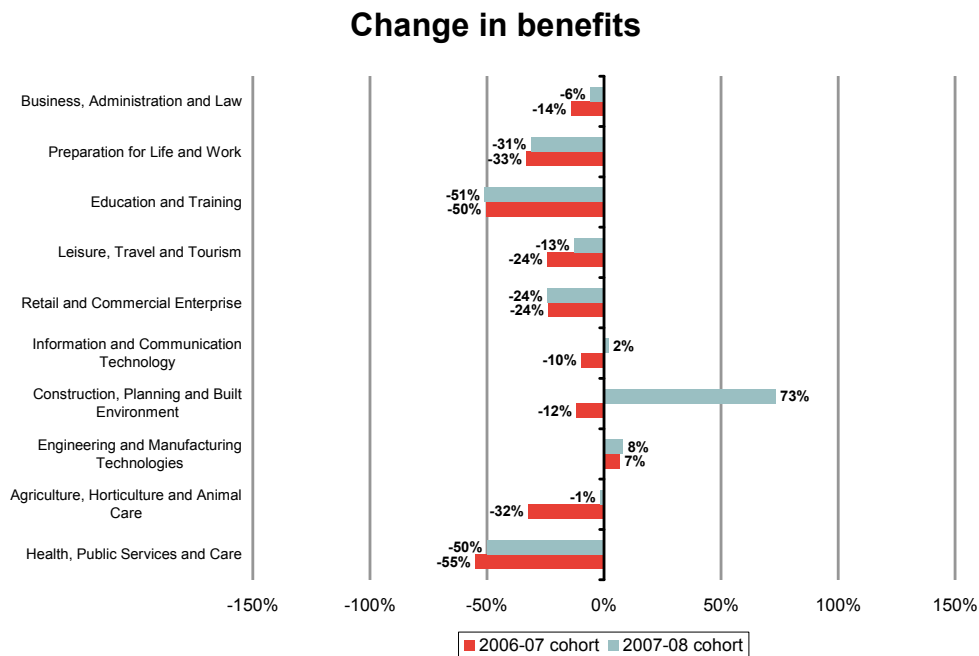
Source: Frontier analysis of ILR-HMRC/DWP data

**Figure 10: Benefits changes over time: 2006-07 cohort**



Source: Frontier analysis of ILR-HMRC/DWP data

**Figure 11: Benefit changes: cross cohort comparison**



Source: Frontier analysis of ILR-HMRC/DWP data

# Impact analysis

## Methodology

The methodology we employ in analysing the impact of learning follows on from that developed in our previous report ‘How to make best use of the new matched data for reporting on the employment and earnings outcomes of training’.

In the absence of a clear control group we have compared the outcomes of individuals who have completed training with the outcomes of those same individuals before they had embarked upon training. This is known in the programme evaluation literature as a before-after comparison. We view it as the only meaningful comparison that can be made given the data sources.

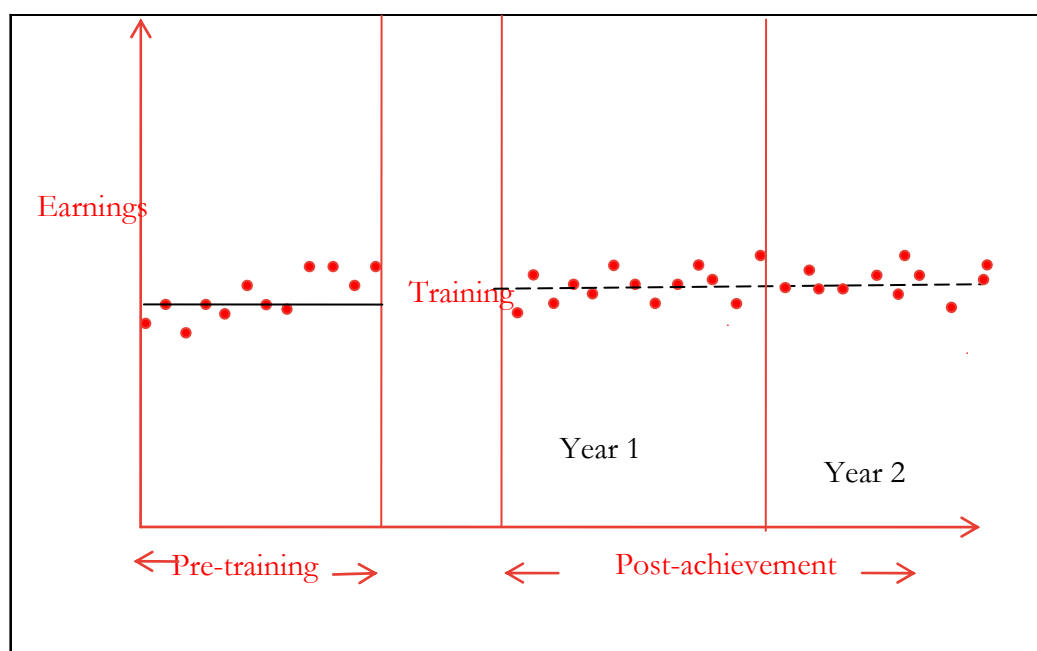
Our approach uses the longitudinal information on labour market outcomes to compare the employment and earnings of the learners before and after training took place, after taking into account inflation and macroeconomic factors which may also have affected earnings. We distinguish between the following time periods:

- 12 months before training;
- Time spent in training;
- 12 months immediately after training<sup>9</sup> (year 1);
- Second year after training, i.e. months 13 to 24 (year 2).

These are shown in the figure overleaf.

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<sup>9</sup> Note that we have not used a 3 month buffer period (which was the case in previous work we undertook looking at the impacts for FE students in this analysis. This is because train to gain students are older and in established jobs unlike FE students many of whom will be leaving full-time education for the first time.

**Figure 12: Impact analysis methodology**

**Source: Stylised example**

Our analysis in the previous report compared the 12 months pre-training with the first 12 months post-achievement (“1-year impacts”). A similar analysis is performed here. However, we also analyse the impacts in the second year post achievement. (“2 year impact”). That is, we compare the pre-training period with months 13 to 24 post achievement. This is to test whether, in addition to any immediate impact from training, there might be an element of the impact which takes longer to manifest itself. As previously discussed due to data coverage we focused our 2-year analysis on learners in the 2006/07 academic year.

As before, we look at two measures of impact. The first measure of ‘impact’ we consider is simply the raw difference between pre-and post-training outcomes. However, a crucial issue here is whether there are any unobserved factors that (a) influence labour market outcomes and (b) change over time. Any such factors (aggregate economic fluctuations, earnings inflation, etc.) need to be separately accounted for in order to prevent them from contaminating the estimated impact of training. To do this we put in year dummy variables (binary variables equal to one if an observation occurs in a given financial year, and zero otherwise) which capture underlying yearly variation in labour market conditions in a flexible way. This should absorb as much of the variation in outcomes caused by changes in overall economic conditions as possible<sup>10</sup>. We are able to do this with our data as the before and after periods vary by individual, and hence for a number of years we observe individuals both before and after training. This allows us to separately identify the impact of the training program as well as macroeconomic year effects.

<sup>10</sup> We also adjust the earnings information for inflation in order to focus on real-terms earnings.

Two other points about the methodology are worth emphasising:

- *Fixed effects.* In labour market evaluations it is important to control for individual-specific characteristics that might affect wages and employment. For example, gender, ethnicity and region are all likely to be correlated with both earnings and training. However, it will not be possible to control for every single relevant characteristic. A potentially more effective technique is to strip out the effect of all individual characteristics (both observed and unobserved) that do not vary over time, such as demographics or underlying “ability”. This is known in the evaluation literature as a ‘fixed effect’ approach as it controls for all fixed individual-specific effects on outcomes.
- *Clustering.* Our statistical models allow for any remaining unobserved factors to be correlated over time for the same individual. This allows the ‘shocks’ that a person receives in each time period to their labour market outcome to be persistent over time, rather than necessarily completely independent of each other. For example, if someone has unexpectedly low wages this month because of a negative shock, our methodology allows this shock to persist to the next month. This technique, known as ‘clustering’, does not affect our estimates of the impact of training, but it does affect the significance levels of the estimates. In particular, it will reduce the statistical significance of any estimated impacts, thus making the resulting inferences more conservative.

## Discussion of results

In this section we present a general summary of the results of this analysis. Our overall finding is that TTG has had little impact on labour market outcomes. The results are set out in full in the following section.

Before diving into the results it is important to emphasise that in some areas we can only draw limited conclusions on the impacts, due to the sample sizes of some of the groups.

- The majority of TTG learners are FL2. Sample sizes are generally too small for FL3 learners.
- For many study areas the number of learners is small.
- There were many more learners in 2007/08. Since our sample for estimating 2-year impacts is from 2006/07 learners, the sample sizes for this analysis are generally not very large.
- The filtering of earnings also has a substantial impact on sample sizes.

As a result of this, only a subset of impact analyses will be meaningful. The impacts to focus on are 1 year impacts at FL2:

- Health, Public Services and Care;
- Agriculture, Horticulture and Animal Care (men);

- Engineering and Manufacturing Technology;
- Construction, Planning and Built Environment (men);
- Retail and Commercial Enterprise;
- Leisure, Travel and Tourism (men);
- Business, Administration and Law.

In terms of the results there is little overall pattern. Most of the impacts are statistically insignificant. Some are negative.

In many cases there are significant changes in pay outcomes in terms of the raw difference, but these differences lose statistical significance in the regression models. In these cases, although there is a before/after change, it is due to more general labour market conditions rather than the specific impact of training. This is the case with Health, Public Services and Care; Agriculture, Horticulture and Animal Care (for men); Retail and Commercial Enterprise; Leisure, Travel and Tourism (for men); Education and Training (for women); and Preparation for Life and Work (for women).

The only unambiguously positive impact on pay is for women studying Leisure, Travel and Tourism at FL2.

In other cases, although there is no clear impact on pay, there is an increase in employment and decline in benefits. At FL2 this occurs for Health, Public Services and Care; Retail and Commercial Enterprise (for women); Education and Training (for women); Preparation for Life and Work (for women); and Leisure, Travel and Tourism (for men). Given that individuals in TTG are meant to be in continuous employment throughout their learning, this could indicate that, before these courses, they had spent a greater part of the 12 months before learning out of work than after.

An important factor in explaining the overall lack of impact is that TTG learners tend to be older than learners in other funding streams. As we have shown in another report entitled 'Age and returns to training', the strongest impact of training happens for those who are under 25. For older age groups the impacts tend to be much smaller.

Another factor that may be relevant is that learners are normally already employed before starting and would typically be continuing their current job during training. The continuity of employment may reduce the extent to which individuals are actively changing jobs or seeking higher wages. It may be that an individual entering a new job, where they are expected to then undergo training, may enjoy an uplift to their pay before the training has actually commenced. If it were the case that the training was 'bundled' with the job, a before-after comparison would not capture this impact.



# Conclusions

This report builds on previous work conducted by IFS and Frontier looking at the outcomes of training in the different funding streams of Further Education. The availability of more learner and labour market data has allowed us to build on our earlier work in two ways:

- By extending the time horizon during which we monitor the labour market performance of learners post-training; and
- By examining the extent to which outcomes vary across learner cohort, that is how 2007-08 learners perform in the labour market relative to 2006-07 learners;

The findings in this report are consistent with our previous work. Overall, there is little improvement in the labour market outcomes of TTG learners following training. We found some differences in the outcomes of the two cohorts of learners, but these are relatively small. Generally they appear to show the later cohort performing worse than the earlier cohort. We also found that the labour market performance of the 2006-07 cohort does not get better over time- earnings and benefits appear to worsen while employment improves. On the whole, our preferred econometric model revealed no substantive impacts for this group of learners.

There are several possible explanations for the lack of impacts we find. TTG learners are older (mean age is 38) than FE and apprenticeship learners and at a point in their careers where sizeable changes in labour market performance are perhaps not to be expected. As we have shown in another report entitled “Age and outcomes”<sup>11</sup> impacts of training tend to be strongest for learners aged 25 or less, a group which is under-represented in the TTG data. An alternative explanation, which we are unable to test, is that learners who enter TTG have poor labour market prospects per se, that is there is some selection bias which is driving the results. Finally TTG learners are normally already employed before starting learning and would typically be continuing their current job during training. The continuity of employment may reduce the extent to which individuals are actively changing jobs or seeking higher wages. It may be that an individual entering a new job, where they are expected to then undergo training, may enjoy an uplift to their pay before the training has actually commenced. If it were the case that the training was ‘bundled’ with the job, before and after comparisons would not capture this impact.

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<sup>11</sup> “Age and outcomes”, report prepared for BIS by IFS/Frontier, 2011

# Annex 1: Econometric data tables

We present data tables for the following impact analyses:

- Men, FL2, 1 year impacts (06/07 and 07/08);
- Women, FL2, 1 year impacts (06/07 and 07/08);
- Men, FL3, 1 year impacts (06/07 and 07/08);
- Women, FL3, 1 year impacts (06/07 and 07/08);
- Men FL2, 2 year impacts (06/07);
- Women FL2, 2 year impacts (06/07);
- Men FL3, 2 year impacts (06/07);
- Women FL3, 2 year impacts (06/07).

For each impact analysis we focus on the following types of outcome:

- Earnings (raw);
- Earnings (filtered);
- Employment rate;
- Benefit rate.

In each case we report the sample size (the number of individuals), the pre-learning outcome, the change in outcome post-learning (i.e, the raw difference) and the impact attributed to the learning.

The statistical significance of the impacts is summarised as follows:

\*\*\* = statistically significant at the 1% level.

\*\* = statistically significant at the 5% level

\* = statistically significant at the 10% level.

**Table 11: Men, FL2, 1 year impacts (earnings)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	5,109	612.27	111.94***	22.03	1,376	1410.63	89.06***	-13.2
Agriculture, Horticulture and Animal Care	3,745	627.93	81.69***	7.97	1,066	1573.87	29.23*	-28.24
Engineering and Manufacturing Technology	19,902	696.57	3.5	-42.68***	5,126	1736.42	18.73**	-13.1
Construction, Planning and Built Environment	33,872	630.97	-.81	-38.16**	5,990	2032.31	-4.97	-2.33
Information and Communication Technology	1,204	665.23	12.54	-44.45	288	1776.96	-2.24	-123.9**
Retail and Commercial Enterprise	15,488	700.51	38.09***	-11.13	4,617	1632.33	34.16***	2.55
Leisure, Travel and Tourism	4,728	429.49	43.41***	4.39	695	1528.52	52.7**	-13.68
Education and Training	42	525.00	55.13	36.39	13	1024.51	132.71	66.47
Preparation for Life and Work	1,647	608.55	19.89	-48.99**	400	1571.72	43.02	48.95
Business, Administration and Law	9,946	677.59	12.47*	-39.6***	2,705	1670.93	14.2	-32.22

**Source: Frontier analysis of ILR-HMRC/DWP data**

**Table 12: Men, FL2, 1 year impacts (employment and benefits)**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	5,109	0.75	.098***	.038***	5,109	0.06	-.025***	-.014***
Agriculture, Horticulture and Animal Care	3,745	0.82	.05***	-.003	3,745	0.03	-.002	.001

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Engineering and Manufacturing Technology	19,902	0.80	.032***	-.01***	19,902	0.03	.002*	.006***
Construction, Planning and Built Environment	33,872	0.64	.035***	-.002	33,872	0.04	.017***	.006***
Information and Communication Technology	1,204	0.80	.049***	.031**	1,204	0.04	.005	-.003
Retail and Commercial Enterprise	15,488	0.81	.054***	.006	15,488	0.04	-.004***	-.002
Leisure, Travel and Tourism	4,728	0.59	.12***	.058***	4,728	0.13	-.02***	-.014***
Education and Training	42	0.80	.001	-.151**	42	0.05	-.026	.018
Preparation for Life and Work	1,647	0.76	.045***	-.017	1,647	0.05	.001	.009
Business, Administration and Law	9,946	0.82	.042***	.002	9,946	0.03	.001	.005**

Source: Frontier analysis of ILR-HMRC/DWP data

Table 13: Women, FL2, 1 year impacts (earnings)

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	30,601	427.56	94.83***	4.59	6,684	1112.90	77.09***	1.81
Agriculture, Horticulture and Animal Ca	152	540.82	49.1	-62.34	39	1413.55	2.34	-113.58**
Engineering and Manufacturing Technology	4,593	552.87	-6.95	-54.16***	1,189	1407.08	-20.16	-14.8
Construction, Planning and Built Environment	122	462.23	-35.78	-18.3	19	1329.45	174.89	234.17
Information and Communication Technology	1,931	509.83	33.28***	-9.38	461	1502.71	31.02	-4.47

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Retail and Commercial Enterprise	17,397	401.73	41.25***	-8.61	4,162	1052.24	33.73***	-13.36
Leisure, Travel and Tourism	1,257	370.21	77.43***	49.04**	223	1226.26	135.07***	142.99**
Education and Training	1,446	286.81	78.21***	25.59	294	948.24	61.28***	29.15
Preparation for Life and Work	2,715	421.99	89.02***	-11.	611	1119.17	49.42**	1.76
Business, Administration and Law	16,221	514.25	39.62***	-31.22***	4,539	1251.15	39.8***	-34.43***

Source: Frontier analysis of ILR-HMRC/DWP data

Table 14: Women, FL2, 1 year impacts (employment and benefits)

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	30,601	0.73	.114***	.024***	30,601	0.07	-.035***	-.015***
Agriculture, Horticulture and Animal Care	152	0.79	.033	-.007	152	0.05	-.011	-.026**
Engineering and Manufacturing Technology	4,593	0.79	.039***	-.018***	4,593	0.03	.005**	.006**
Construction, Planning and Built Environment	122	0.70	.002	-.025	122	0.08	.004	.021
Information and Communication Technology	1,931	0.84	.023***	-.002	1,931	0.03	-.003	.0
Retail and Commercial Enterprise	17,397	0.77	.074***	.02***	17,397	0.05	-.017***	-.011***
Leisure, Travel and Tourism	1,257	0.63	.094***	.021	1,257	0.15	-.014**	-.006
Education and Training	1,446	0.78	.113***	.053***	1,446	0.06	-.033***	-.021***

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Preparation for Life and Work	2,715	0.73	.1***	.026**	2,715	0.08	-.034***	-.021***
Business, Administration and Law	16,221	0.81	.049***	-.006**	16,221	0.04	-.005***	.0

Source: Frontier analysis of ILR-HMRC/DWP data

Table 15: Men, FL3, 1 year impacts (earnings)

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	911	590.05	113.25***	8.32	249	1408.49	146.58***	159.93**
Agriculture, Horticulture and Animal Care	30	415.57	89.86	103.34	-	-	-	-
Engineering and Manufacturing Technology	1,057	1123.32	35.56	-305.09***	249	2315.44	98.14*	-234.96***
Construction, Planning and Built Environment	1,507	688.46	5.57	-11.13	283	2422.15	-51.93	19.43
Information and Communication Technology	22	720.43	38.92	211.96	-	-	-	-
Retail and Commercial Enterprise	359	691.59	-32.74	1.6	98	1688.64	-22.72	-35.26
Leisure, Travel and Tourism	48	420.55	13.46	-237.78	-	-	-	-
Education and Training	27	498.46	111.08	-72.56	-	-	-	-
Preparation for Life and Work	90	776.66	15.41	-3.27	28	1733.69	42.72	-164.71
Business, Administration and Law	625	790.13	-19.89	-238.24**	178	1990.64	-21.22	-265.55**

Source: Frontier analysis of ILR-HMRC/DWP data. Cells which are potentially disclosive have been marked with “-“.

**Table 16: Men, FL3, 1 year impacts (employment and benefits)**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	911	0.74	.108***	.025	911	0.06	-.02***	-.019**
Agriculture, Horticulture and Animal Care	30	0.90	-.04	-.044	30	0.00	.022	.016
Engineering and Manufacturing Technology	1,057	0.80	.033***	-.028**	1,057	0.03	.013***	.031***
Construction, Planning and Built Environment	1,507	0.74	.03***	.01	1,507	0.02	.016***	.006**
Information and Communication Technology	22	0.85	-.028	.056	22	0.05	-.004	-.012
Retail and Commercial Enterprise	359	0.83	.036**	.001	359	0.02	.004	.01
Leisure, Travel and Tourism	48	0.79	.07	-.015	48	0.04	-.02	.05
Education and Training	27	0.73	.097	.04	27	0.02	-.024	-.03
Preparation for Life and Work	90	0.78	.042	-.05	90	0.02	.027**	.012
Business, Administration and Law	625	0.84	.031***	-.043**	625	0.01	.013**	.009

**Source: Frontier analysis of ILR-HMRC/DWP data.** Cells which are potentially disclosive have been marked with “-”.

**Table 17: Women, FL3, 1 year impacts (earnings)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	4,397	456.60	88.17***	-55.49	1,034	1245.49	118.63***	32.77
Agriculture, Horticulture and Animal Care	16	337.83	-26.57	118.99	-	-	-	-

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Engineering and Manufacturing Technology	31	492.44	-36.	-785.63**	-	-	-	-
Construction, Planning and Built Environment	-	-	-	-	-	-	-	-
Information and Communication Technology	54	388.08	-32.17	-140.	-	-	-	-
Retail and Commercial Enterprise	577	511.58	8.06	-44.54	146	1310.08	-21.61	-73.24
Leisure, Travel and Tourism	42	318.18	122.99*	-55.67	12	957.44	77.53	29.95
Education and Training	534	261.82	65.43***	2.05	105	946.30	122.48***	10.77
Preparation for Life and Work	190	436.78	72.4	24.12	44	1084.83	118.44	-117.37
Business, Administration and Law	2,241	531.61	38.36***	-35.05**	572	1483.97	37.89	-43.97

Source: Frontier analysis of ILR-HMRC/DWP data. Cells which are potentially disclosive have been marked with “-”.

**Table 18: Women, FL3, 1 year impacts (employment and benefits)**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	4,397	0.76	.084***	.017**	4,397	0.04	-.011***	-.005
Agriculture, Horticulture and Animal Care	16	0.66	.113	-.155	16	0.00	0.00	0.00
Engineering and Manufacturing Technology	31	0.79	.108*	-.077	31	0.00	0.00	0.00
Construction, Planning and Built Environment	-	-	-	-	-	-	-	-
Information and Communication Technology	54	0.86	.033	.087	54	0.02	-.017	-.036



	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Retail and Commercial Enterprise	577	0.82	.03**	-.009	577	0.03	.008	.009
Leisure, Travel and Tourism	42	0.78	.11**	-.076	42	0.03	-.01	.012
Education and Training	534	0.79	.082***	.011	534	0.04	-.018***	-.006
Preparation for Life and Work	190	0.83	.058**	.047	190	0.05	-.024**	-.018
Business, Administration and Law	2,241	0.84	.05***	.01	2,241	0.02	.0	.007**

Source: Frontier analysis of ILR-HMRC/DWP data. Cells which are potentially disclosive have been marked with “-“.

**Table 19: Men, FL2, 2 year impacts (earnings)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	1,388	569.34	74.03***	-80.49	335	1368.48	44.01	11.35
Agriculture, Horticulture and Animal Care	876	653.34	10.96	-85.79	245	1556.98	-54.31*	-253.88**
Engineering and Manufacturing Technology	7,533	738.49	-69.45***	-165.05	1,812	1768.48	-52.95***	44.23
Construction, Planning and Built Environment	10,608	618.92	-40.81	-62.96**	1,550	2017.42	-77.77***	73.22
Information and Communication Technology	249	702.02	29.26	-141.68	64	1590.14	-83.89*	-392.11***
Retail and Commercial Enterprise	4,340	677.94	-26.16**	-69.78**	1,124	1609.81	-25.92	-175.49**
Leisure, Travel and Tourism	1,179	469.72	-5.03	103.53	164	1589.26	-41.23	166.4
Education and Training	10	456.72	-97.75	-153.78	-	-	-	-

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Preparation for Life and Work	372	674.79	-80.72**	-147.48	82	1806.60	-40.92	38.69
Business, Administration and Law	2,714	688.25	-40.06***	11.86	693	1663.34	-79.16***	267.77**

**Source: Frontier analysis of ILR-HMRC/DWP data.** Cells which are potentially disclosive have been marked with “-“.

**Table 20: Men, FL2, 2 year impacts (employment and benefits)**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	1,388	0.75	.073***	-.028	1,388	0.05	-.003	.006
Agriculture, Horticulture and Animal Care	876	0.79	.053***	-.091***	876	0.04	.007	.012
Engineering and Manufacturing Technology	7,533	0.82	.008*	-.025**	7,533	0.03	.022***	.016**
Construction, Planning and Built Environment	10,608	0.63	.008**	-.021**	10,608	0.04	.052***	.041***
Information and Communication Technology	249	0.83	.032	.017	249	0.04	.017*	-.016
Retail and Commercial Enterprise	4,340	0.81	.031***	-.037**	4,340	0.03	.022***	.026**
Leisure, Travel and Tourism	1,179	0.66	.09***	-.036	1,179	0.10	-.014**	.006
Education and Training	10	0.85	-.052	-.049	-	-	-	-
Preparation for Life and Work	372	0.81	-.01	.004	372	0.04	.021**	-.021
Business, Administration and Law	2,714	0.83	.029***	-.04	2,714	0.03	.016***	.038**

**Source: Frontier analysis of ILR-HMRC/DWP data.** Blank cells indicate that statistics can not be calculated due to small samples (dividing by zero etc). Cells which are potentially disclosive have been marked with “-”.

**Table 21: Women, FL2, 2 year impacts (earnings)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	9,660	423.53	81.23***	-107.1**	1,979	1086.15	78.38***	-65.87
Agriculture, Horticulture and Animal Care	38	549.80	-23.22	675.92**	-	-	-	-

Engineering and Manufacturing Technology	1,904	607.28	-68.28***	-84.29	502	1426.43	-87.98***	-50.8
Construction, Planning and Built Environment	38	453.03	56.2	-729.25**	-	-	-	-
Information and Communication Technology	462	487.94	17.87	-76.47	108	1352.27	82.13*	-92.05
Retail and Commercial Enterprise	4,541	418.24	23.99***	-45.84	1,049	1030.10	30.36**	-24.02
Leisure, Travel and Tourism	323	344.59	43.23	56.44	44	1337.17	22.75	-291.75
Education and Training	334	320.50	62.68**	194.04	63	990.92	98.4	220.6***
Preparation for Life and Work	676	423.69	18.58	6.71	139	1181.39	-35.41	417.51**
Business, Administration and Law	4,875	529.09	6.42	-71.77**	1,291	1239.75	21.7	4.46

**Source: Frontier analysis of ILR-HMRC/DWP data.** Cells which are potentially disclosive have been marked with “-“.

**Table 22: Women, FL2, 2 year impacts (employment and benefits)**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	9,660	0.74	.102***	.014	9,660	0.07	-.02***	-.011
Agriculture, Horticulture and Animal Care	38	0.79	.053	.007	38	0.05	-.022	-.086
Engineering and Manufacturing Technology	1,904	0.80	.027***	.014	1,904	0.03	.016***	.013
Construction, Planning and Built Environment	38	0.78	-.031	-.261***	38	0.05	.025*	.032
Information and Communication Technology	462	0.86	.032*	.018	462	0.01	.002	-.003
Retail and Commercial Enterprise	4,541	0.78	.053***	-.065***	4,541	0.05	.0	.03**

	Employment rate				Benefit rate			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Leisure, Travel and Tourism	323	0.65	.093***	.019	323	0.11	.004	-.025
Education and Training	334	0.79	.108***	.071	334	0.04	-.021**	.002
Preparation for Life and Work	676	0.75	.061***	-.048	676	0.07	-.008	.017
Business, Administration and Law	4,875	0.82	.034***	-.038**	4,875	0.04	.012***	.02

Source: Frontier analysis of ILR-HMRC/DWP data

Table 23: Men, FL3, 2 year impacts (earnings)

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	133	546.7591	102.05	371.51**	27	1378.747	153.39	890.75***
Construction, Planning and Built Environment	284	538.4262	36.12	49.44	34	2301.2	144.25	118.9
Information and Communication Technology	-	-	-	-	-	-	-	-
Retail and Commercial Enterprise	39	681.384	224.54*	360.43	10	1974.579	197.96	121.63
Preparation for Life and Work	-	-	-	-	-	-	-	-
Business, Administration and Law	81	758.7676	-155.75**	-207.78	16	1951.888	-343.77**	-179.58

Source: Frontier analysis of ILR-HMRC/DWP data. Blank cells indicate that statistics can not be calculated due to small samples (dividing by zero etc). Cells which are potentially disclosive have been marked with “-“.

**Table 24: Men, FL3, 2 year impacts (employment and benefits)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	133	0.666	.118***	.105**	133	0.077	-.02	-.026
Construction, Planning and Built Environment	284	0.719	.041	-.023	284	0.016	.026***	.007
Information and Communication Technology	-	-	-	-	-	-	-	-
Retail and Commercial Enterprise	39	0.895	.042	.065	39	0.003	.033	.001
Preparation for Life and Work	-	-	-	-	-	-	-	-
Business, Administration and Law	81	0.890	-.029	-.074	81	0.002	.038**	.095

**Source: Frontier analysis of ILR-HMRC/DWP data.** Cells which are potentially disclosive have been marked with “-“.

**Table 25: Women, FL3, 2 year impacts (earnings)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	612	457.41	41.26*	191.11**	141	1248.30	114.98**	42.73
Retail and Commercial Enterprise	51	773.06	-73.77	126.74	12	1497.80	5.36	486.33***
Education and Training	85	188.88	8.29	-36.88	11	1018.88	-112.1	144.36

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Preparation for Life and Work	38	339.35	124.31**	-88.89	10	812.42	315.45**	407.08**
Business, Administration and Law	260	569.19	25.19	-50.46	71	1438.46	2.83	56.37

Source: Frontier analysis of ILR-HMRC/DWP data

**Table 26: Women, FL3, 2 year impacts (employment and benefits)**

	Earnings - all				Earnings – filtered			
	Sample size	Before	Raw difference	Impact	Sample size	Before	Raw difference	Impact
Health, Public Services and Care	612	0.772	.041**	.019	612	0.048	.009	-.021
Retail and Commercial Enterprise	51	0.848	-.08	-.062	51	0.031	.011	.023
Education and Training	85	0.784	.093**	.087**	85	0.024	.024	.025
Preparation for Life and Work	38	0.819	.019	.014	38	0.092	-.023	-.019
Business, Administration and Law	260	0.851	.04**	-.008	260	0.020	.001	.002

Source: Frontier analysis of ILR-HMRC/DWP data





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