

# Young people's education and labour market choices aged 16/17 to 18/19

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This research report was commissioned before the new UK Government took office on 11 May 2010. As a result the content may not reflect current Government policy and may make reference to the Department for Children, Schools and Families (DCSF) which has now been replaced by the Department for Education (DFE).

The views expressed in this report are the authors' and do not necessarily reflect those of the Department for Education.

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# Executive Summary

## Introduction

This report provides evidence on the educational and labour market transitions made by young people. We use three data sets to do this, covering various different time periods before the recent (2008) recession. Firstly, we use the Longitudinal Study of Young People in England (LSYPE) which contains information on young people who were age 16/17 through to age 18/19 in the period 2007 to 2009. We also use the Labour Force Survey (LFS); again focusing on individuals aged 16/17 to 18/19 but over a longer period 1993-2008. Finally, we use data from the British Household Panel Survey (BHPS), focusing on individuals who were aged 16/17 to 18/19 at some point between 1991 and 2008.

The report addresses two key issues. Firstly it determines the characteristics of young people who make different educational and work transitions at age 16-19. Secondly the report assesses the short and long run (up to 10 years) earning and employment outcomes of young people who make different educational and labour market choices at age 16-19. The overarching objective of the research is to obtain empirical evidence on the early education and employment transitions made by young people, which can then inform policies to improve these transitions into the labour market. We do note however, that the evidence comes largely from *before* the recent recession and therefore may only be applied to the current labour market situation with some caution.

Specifically, the report starts by asking: what are the characteristics and short to longer term economic outcomes of young people who take the following different options between ages 16/17 and 18/19?

1. Full-time study, and not in any kind of work
2. Full-time study, who also undertake some work
3. Full or part-time work with some training
4. Full or part-time work without training or any study
5. Full or part-time work without training but with some study
6. Not in Education, Employment or Training (NEET)

A particular focus of our analysis is whether the outcomes for young people who combine work and training (categories 3 and 5) at age 16-19 are better than the outcomes of young people who take a job without any training (category 4).

In our analysis, the group of young people who combine work and training is relatively heterogeneous. In particular, this group includes both individuals doing unaccredited training that will not result in a qualification, along with young people doing formal training leading to a qualification, such as an apprenticeship (approximately 6% of the cohort). We are aware that there is robust evidence that those who gain apprenticeship qualifications, for example, have higher earnings and better employment outcomes than those who do not gain such qualifications. Thus outcomes for some young people in category 3 are likely to be much better than for others, depending on whether the training leads to an apprenticeship

or other qualification which has good economic value in the labour market. However, we do not distinguish whether or not any training being taken at 16-19 leads to a qualification. Rather we estimate whether on average those young people who do a job with any kind of training are better off in the short and longer term than those who go straight into a job with no formal training at all.

The analysis presented has clear policy implications. For instance, the recent Wolf Review (2011) highlighted the pressing need for evidence on, and indeed effective policies for, young people's transitions into the world of work. The report therefore provides relevant analysis for some crucial policy questions about optimal routes into the labour market and whether we should encourage young people to undertake jobs with training at a young age. The evidence presented here will also be relevant for informing the implementation of the Raising of the Participation Age (RPA). The RPA legislation (as outlined in the Education and Schools Act 2008) sets out that all young people in England will continue in education or training to age 17 from 2013 and to age 18 from 2015, though this does not necessarily mean staying in full-time education. Hence the analysis can help policymakers to understand how the requirement to engage young people in some education or training until a later age is likely to affect their outcomes in both the short and longer term.

We are mindful, however, that the evidence we present here is associational only. In the absence of experimental or quasi-experimental evidence, our multivariate analysis cannot necessarily prove causality. While the data that we use is the richest available to us, we cannot discount the possibility that young people who differ in ways that we do not observe in our data – for example, they may be more or less inclined to be independent – are likely to choose different labour market options. Hence when we see that individuals who make a particular type of transition have better labour market outcomes this may be due to such unobserved characteristics rather than the labour market choice that they make. Throughout, we therefore refer to *associations* between initial labour market choices and outcomes rather than the *impact* of initial choices on outcomes.

## Key findings

### Persistence in activity state

As young people enter the labour market, there is a high degree of persistence in activity status over time - both in the short and longer term and particularly amongst those in work. While this does not necessarily mean that young people remain in the same job, it does indicate that the initial work/study transition made by a young person at age 16/17 is likely to be highly related to what they are doing subsequently at ages 17/18 and 18/19. This has crucial implications for young people who become NEET on leaving school, who are likely to remain in this state in subsequent years. Specifically, we found that:

- Almost half of those who are NEET at age 16/17 are still NEET one year later. Further, almost half of those who are NEET at age 17/18 are still NEET one year later. This persistence in being NEET is observed in all our data sets and is particularly concerning as we also show that there has been a steady rise in the proportion of 18/19 year olds who are NEET since 2000;

- 59% (Table 7), of those young people in a job without training at age 16/17 are still in a job without training one year later (though, as noted, not necessarily the same one);
- 71% of those in a job with training at age 16/17 are still in a job with training one year later (again not necessarily the same one).

As well as analysing the activity states of young people, we also consider the characteristics of students who make different initial labour market transitions. For example, we consider the association between the pupil's prior academic achievement, their socio-economic background and the transitions they make. We undertake this analysis using multivariate regression and so we are able to consider the *simultaneous* associations between a number of different factors, including family socio-economic status and prior achievement levels, and the transitions made by young people.

### *Socially graded transitions*

Our research suggests that the work and study options taken by young people are socially graded:

- The more socio-economically advantaged pupils, as defined by their parents' education or occupational status, are more likely to pursue full-time education options than to take other transitions (at both age 17/18 and 18/19);
- More socio-economically advantaged pupils are also more likely to get jobs with or without training than to be NEET at both age 17/18 and 18/19.

### *The role of prior achievement*

We find that the prior achievement levels of young people pursuing jobs with or without training are similar, as indeed are the achievement levels of those who are NEET at ages 16-18. By contrast students continuing in full-time education at age 18/19 have higher levels of achievement and those who are NEET at a later age (age 18/19) have lower prior achievement.

We consider young people's early academic achievement, as measured by age 11 Key Stage 2 (KS2) test scores, as well as their GCSE scores. Our results show that:

- Young people who enter jobs with and without training at age 16/17 and 17/18 have similar KS2 scores;
- At age 18/19, the KS2 and GCSE test scores of those pursuing jobs with or without training or indeed part-time study with work are also fairly comparable;
- At age 17/18 the KS2 scores of those doing full-time education without work, jobs with or without training, part-time study and NEET are again very similar;
- On the other hand, at age 17/18, young people combining full-time education and work have significantly higher KS2 scores than those who take these other options, allowing for other factors;

- At age 18/19, those in university have the highest KS2 (and indeed GCSE) scores as one might expect. However, young people aged 18/19 in full-time study that is not university have much lower KS2 and GCSE scores so it is not uniformly the case that those who stay in education longer have higher prior achievement;
- Finally, young people who are NEET *at age 18/19* have the lowest KS2 and GCSE scores.

### *The influence of other factors*

We found that the transitions of young people age 16/17 to 18/19 are strongly associated with their parents' aspirations and types of qualification the parent holds, as well as the pupil's own attitude to school and university. These findings are also based on multivariate analysis which, simultaneously allows for the effect of other factors, such as the level of parental education or parental socio-economic status. We found the following:

- At both ages 17/18 and 18/19, children whose parents have vocational training are least likely to be in full-time education; rather, these young people tend to opt for earlier entry into the labour market;
- Similarly, young people at age 17/18 and 18/19 whose parents think it is important to get a job with a "trade" or an apprenticeship or vocational training are much more likely to take a job with training as compared to pursuing full-time study or taking a job without training, potentially suggesting an intergenerational transfer of attitudes towards vocational training;
- The young person's own attitudes are important too. Those who do not continue on in full-time education at age 17/18 and 18/19 had consistently more negative educational attitudes and aspirations whilst at school;
- Girls are more likely to stay in full-time education than boys, but girls who do enter the labour market at age 17/18 or 18/19 are most likely to end up in jobs without training with boys more likely to take a job with training. This partially reflects occupational and sector gender segregation.

### **The short and longer term outcomes from different transitions**

The main focus of our research was to determine the association between the young person's education and employment transitions on leaving compulsory education and their subsequent labour market outcomes (wages and employment) up to ten years later. We start by considering the most vulnerable group, namely those who initially become NEET.

#### *Young people not in education, employment or training*

Our analysis suggested that individuals who become NEET on leaving school have a very high risk of remaining unemployed in the medium (5 years) term and have a greater risk of unemployment and lower wages in the long run (up to 10 years on). Undoubtedly the more time that a young person spends being NEET the higher the risk of them having poor labour market outcomes. We also found that if young people who were initially NEET did find work, they were more likely to get a job without any training rather than a job with training.



Specifically our results show that:

- An initial spell of being NEET at age 16/17, 17/18 or 18/19 is associated with an increased risk of further spells of being unemployed up to five years later, though we cannot necessarily say that the experience of being NEET at an earlier age causes the young person to be more likely to be NEET at a later age. The analysis is not necessarily causal. We can however, observe that those who are persistently NEET from age 16/17 to age 18/19 are also far more likely to stay unemployed in the longer term;
- Young people who are initially NEET at age 16/17 and who do then find work are most likely to end up in a job without training;
- Being NEET between the ages of 16/17 and 18/19 is associated with worse outcomes, in terms of both short- and long run wages and employment outcomes, than being in a job without training or indeed any other initial state;
- Young people who become NEET at age 18/19 are at particular risk, either because they have characteristics that may cause them to be more likely to be NEET or indeed because an initial spell of being NEET increases the likelihood of further spells. We found in our BHPS analysis that young people who are NEET at age 18/19 are 27.5 percentage points more likely to be unemployed five years later and 20 percentage points more likely to be so ten years later, as compared to those who were not initially NEET at 18/19.

### *Jobs without training*

A primary goal of our analysis was to assess the implications of students' taking a job without training on leaving full-time education. We found that there were some risks associated with taking a job without training. In particular those who took a job without training at age 16/17 were more likely (than those in full-time education at age 16/17) to be NEET the following year. In general those who took jobs *without* training also appeared to have less stability of employment in the initial years. However, this appears to be a short-run phenomenon. Over a two year period, those who took a job without training initially at age 16/17 were no more likely to be NEET than those who took a job with training. In general being in a job with or without training at age 16/17-18/19 does not appear to increase a person's probability of being unemployed in the medium (2-3 years) or longer run (5-10 years) compared to those in full-time education at that age. Our results suggest that:

- Taking a job without training at age 16/17 is associated with a higher probability of being NEET the following year at age 17/18 in LFS data only, as compared to taking a job with training or remaining in full-time education at 16/17. However, a person who takes a job with training or a person who takes a job without training (no college) at age 16/17 have a similar risk of being NEET two years later;
- There appears to be more short-run (1-2 years) persistence in employment for those who left school and entered a job with training by age 16/17 as compared to those who took jobs without training, indicating greater stability in jobs with training initially.

- Young people who leave school and enter jobs without training at age 16/17, 17/18 or 18/19 are at no greater risk of being unemployed five or ten years down the line as compared to either young people who stay on in full-time education (without work), or indeed young people who move into jobs with training.

### *Wages*

We then examined the wages (over the medium and longer term) of those who made different transitions on leaving full-time education, focusing on those who took a job without training as compared to those who took jobs with training. We found a cost in the short term from taking a job *with* training, in the sense that those taking jobs with training (including apprenticeships) earned less initially than those who took jobs without training. This is to be expected since those receiving training take lower current wages in exchange for firms investing in their training, and in the case of young people taking apprenticeships the minimum wage is in any case now lower. In the longer term however, we did not find significant differences in the wage levels of young people who initially took jobs with training as compared to those who took jobs without training.

Specifically we found:

- In the short run, wages tend to be higher for those in jobs without training than for those in jobs with training across all ages;
- Over the longer term, those who take jobs with or without training initially (age 16/17 and 17/18) earn similar wages.

### *Full-time education*

Our interest here was comparing those who combined full-time education with work to those who only took full-time education, to determine whether gaining work experience was potentially beneficial. We did find some evidence that combining work and full-time education might be preferable, in terms of leading to better labour market outcomes, as compared to just doing full-time education at age 16-19. For example, the longer young people spend in some kind of work (alongside their studies) the more likely they are to be in work a year later. In summary, our results suggest that full-time education is beneficial and so is work.

Specifically we found:

- Those who continue in full-time education combined with some work at age 16/17 are more likely to be in some kind of work (work with training, work without training or a job with some college) at age 18/19 than those who were initially in full-time education without any work;
- Those combining full-time education and work actually have a lower probability of becoming NEET in the short term (1 year later) and the medium term (5 years later) compared to those who were initially in full-time education only;

- Hence at age 16/17, and more so at age 17/18, doing some work (whether combined with full-time education or with training) is associated with a lower risk of becoming NEET in future.

## Implications

This report presents some evidence on the relationship between different labour market and educational transitions made at age 16-19 and short and longer term labour market outcomes.

We find strong associational evidence that young people who become NEET at an early age have worse short and long-term labour market outcomes. We cannot claim that being NEET at age 16-19 necessarily causes these poorer outcomes. It may be that young people who become NEET at an early age have other characteristics that put them at risk of being NEET later in their lives. In either case though, our results do suggest that we might focus policy interventions on those who are initially NEET and hence at greater risk of poor outcomes. Our evidence also indicates that in general, taking a job (whether with training or not) or even combining full-time education and work at an early age (e.g. 16/17 or 17/18) is associated with a lower probability of becoming NEET at age 18/19, as compared to remaining in full-time study only or being initially NEET. Work at an early age may therefore play a protective role in preventing young people from the risk of being NEET later on, though again the evidence is associational.

In the medium and longer term, outcomes for those taking jobs without training were generally not significantly different from those who took jobs with training. Our analysis therefore implies that simply taking a job with training is not sufficient to guarantee better labour market outcomes. To secure higher earnings, young people need training with progression which leads them to acquire an economically valuable qualification.

Our evidence is relevant to forthcoming changes in the law which will ensure that all young people in England continue in education or training leading to an accredited qualification to the end of the academic year in which they turn 17 (from 2013) and to age 18 (from 2015). Young people will be able to choose whether to take a full-time education option or undertake work based learning (e.g. an apprenticeship) or indeed take part-time education and/or training alongside full-time work. Our report cannot determine the impact of this legislation change per se. We do find that the short and longer term outcomes of those who take jobs without any training at age 17/18 and 18/19 are quite similar to the outcomes of those who take a job without training. At the same time however, there are some negative associations from taking a job *without* training at an early age. Those taking jobs without training at age 16/17 experience less early job stability than those in jobs with training and are more likely to be NEET at age 17/18. This latter result was not evident at older ages or in different data sets however it does still hint at potential advantages from taking a job *with* training in the short run. In conclusion our evidence indicates that requiring young people age 16/17 and 17/18 to do *accredited* education or training alongside work is likely to have a positive impact on their longer term labour market outcomes only if it results in them gaining an apprenticeship or other valuable qualification. If young people secure jobs with high quality training leading to valuable qualifications, their labour market outcomes *are* likely to be better than those who take jobs without training. If young people take jobs with

training that does not result in a valuable qualification, they are unlikely to be better off than those who take jobs without training.

# 1. Introduction

In the context of a difficult 2011 labour market, this report examines the early educational and labour market transitions made by young people, age 16/17 through to age 18/19. The overarching objective of the research is to obtain empirical evidence on the transitions made by young people which can then inform policies to improve transitions into the labour market for young people. We look first at the characteristics of those young people who make different transitions at 16-18 and then investigate their short to longer term labour market outcomes. Our primary focus is on comparing the outcomes of those who initially take jobs without training with those who initially take jobs with training. We analyse the average effect from initially taking a job with or without training, regardless of whether the training actually led to a qualification or not. We do not consider qualification acquisition per se as there is already very good evidence on this issue.

The report uses a number of different data sets the Longitudinal Study of Young People in England (LSYPE), the Labour Force Survey (LFS) and the British Household Panel Study (BHPS) to address a range of research questions about the types of transitions made by young people of these ages and the consequences of such transitions in terms of labour market outcomes.

As noted above, the report starts by asking: what are the characteristics of young people who take the following different options at age 16/17 to age 18/19?

1. Full-time study, and not in any kind of work
  2. Full-time study, who also undertake some work
  3. Full or part-time work with some training
  4. Full or part-time work without training or any study
  5. Full or part-time work without training but with some study
  6. Not in education, employment or training (NEET)
- 
- Staying in f/t education
- Leaving f/t education

Note that option (3) includes those working in a job with some work related training whilst option (5) considers those in jobs (part or full-time) who are enrolled in some study but who are not receiving work related training. This classification varies slightly from the one most frequently used by the Department for Education (DfE) most notably in distinguishing between those in full-time education who work and those in full-time education who don't. This distinction is needed since we were asked by DfE to consider whether those who combine work and full-time education have better outcomes than those who focus purely on their full-time education. The categorisation we use also assigns young people on apprenticeships (approximately 6% of the current cohort) to the jobs with training category, rather than considering the apprenticeship group separately. This is because the distinction between a formal apprenticeship and taking a job with on the job training and study at a FE college is not always clear in the data. We are mindful though that those who achieve apprenticeship qualifications do go on to earn higher wages and may therefore have better longer term outcomes.<sup>1</sup> We also separate those young people whose main activity is being in a job without training by whether they also undertake some study. This is because our

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<sup>1</sup> This issue is considered further in the report. We re-estimate our models excluding the apprenticeship group and get very similar results.

objective is to identify those who are entering the world of work at an early age and do not engage in any kind of education or training at all, as distinct from those who may be in a job without training but who are doing some college alongside it.

The report then goes on to consider the likely short and longer term outcomes, in terms of employment and wages, of those who make different choices at ages 16/17 to 18/19. It focuses particularly on the outcomes for those who take jobs with training (option 3) as compared to those taking jobs without training (options 4 and 5), as well as the outcomes for those who undertake full-time study (option 1) compared to those who take full-time study alongside some work (option 2). Throughout, the report also considers the short and longer term consequences of spending time not in education, employment or training (NEET - option 6).

The objective of the research is to obtain empirical evidence on the transitions made by young people which can then inform policies to improve transitions into the labour market for young people. The recent Wolf Review (2011) highlighted the pressing need for such evidence and indeed for effective policies to aid young people's transitions into the world of work. The report therefore addresses key policy questions such as, should we encourage young people to undertake work alongside their full-time study? Should we discourage or prevent young people from taking jobs without training at a young age? The evidence presented here on the labour market outcomes for those who make different transitions at age 16/17 and age 17/18 will also be relevant for informing the implementation of the Raising of the Participation Age (RPA). The analysis can help determine whether requiring young people to engage in some education or training until a later age is likely to improve their outcomes in the short and longer term.

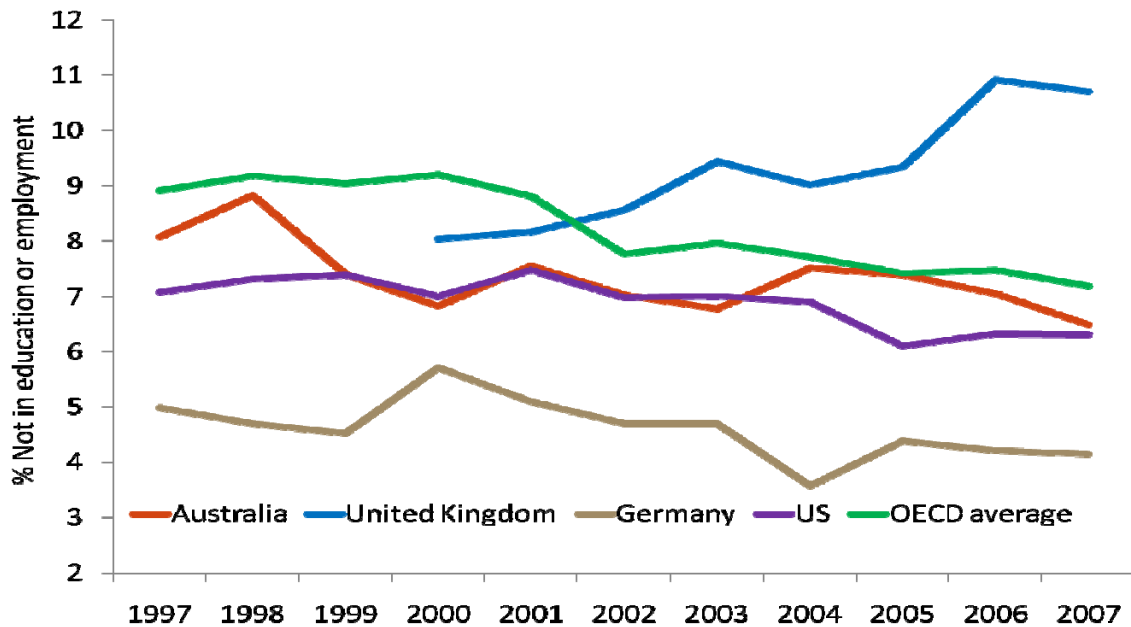
We are mindful, however, that the evidence we present here is associational only. In the absence of experimental or quasi-experimental evidence, our multivariate analysis cannot prove causality. While the data that we use is the richest available to us, we cannot discount the possibility that young people who differ in ways that we do not observe in our data – for example, they are more or less able – are more or less likely to choose different labour market options. Hence when we see that individuals who make a particular type of transition have better labour market outcomes this may be due to their unobserved higher ability rather than the labour market choice that they make. Throughout, we therefore refer to *associations* between initial labour market choices and outcomes rather than the *impact* of initial choices on outcomes.

## **1.1 The current state of youth labour market**

Recent structural and transitory changes observed in the youth labour market form an integral context for this work. From a structural perspective, there has been a long-term shift during the last few decades towards increased participation in education and entering the labour market at a later age. Thus the employment rates of young people have fallen over time largely because young people stay in education longer. Nevertheless, many young people continue to choose an employment based route on leaving school and while many succeed in doing so, a significant minority of young people struggle to make the transition into work after leaving full-time education. In 2009 9.6% of 16 to 18 year olds were not in

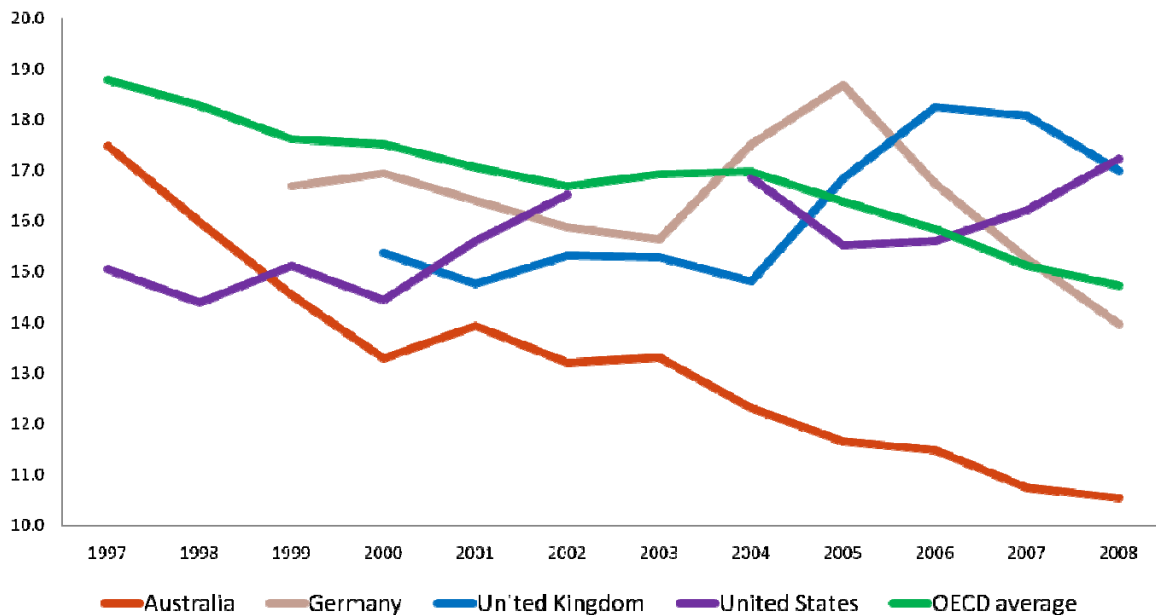
education, employment or training (i.e. were NEET) though this ranges from just 4% of 16 year olds to 16.9% of 18 year olds (Department for Education).<sup>2</sup>

**Figure 1 Percentage of 15<sup>3</sup>-19 year olds “Not in education, not employed”, 1997-2007**



Source: Chart created from “Education at a Glance 2010: OECD Indicators” report, Table C3.4a

**Figure 2 Percentage of 20-24 year olds “Not in education, not employed”, 1997-2008**



Source: Chart created from “Education at a Glance 2010: OECD Indicators” report, Table C3.4a

<sup>2</sup> 12 May 2011 <https://www.education.gov.uk/16to19/participation/neet/a0064101/16-to-18-year-olds-not-in-education-employment-or-training-neet>

<sup>3</sup> Age 16-19 in the case of the UK.

There are also shorter term transitory difficulties in the youth labour market associated with current economic conditions. Young people continue to face a significantly depressed youth labour market in the aftermath of the recent recession, making entry into work difficult. This is illustrated by the fact that UK youth unemployment rates currently remain at historically high levels (over 17% or 700,000 of 18-24 year olds in summer 2010).

The UK NEET rate at 16-19 is relatively high compared to other OECD countries as shown above in Figure 1, largely reflecting that a higher proportion of this age group remain in full-time education at these ages in other countries. The UK NEET rate at age 20-24, however, is not dissimilar to many other countries, though it has increased over time (Figure 2). Thus the UK and many other European countries face the same problem, long recognised by the OECD (2000), namely that a significant minority of their young people spend time NEET as they attempt to make the transition into work.

## **1.2 The current study**

Against this backdrop of economic circumstances, we analyse the characteristics of young people who make different types of transitions in the youth labour market at different ages and consider the short and longer run labour market outcomes of individuals who make different transitions after leaving full-time education. We do this to inform policies to ease young people's transition into the labour market. The report starts with a brief overview of the existing evidence on these issues in Section 2, followed by a discussion of the typology of transitions and the data that we use (Section 3). In Section 4 we consider the different transitions made by young people. We start by using the Longitudinal Study of Young People in England (LSYPE) to tell us about the economic activity of a current cohort of young people aged 16/17 to 18/19. We supplement this using data from the Labour Force Survey (LFS) to tell us about changes in these transitions over time. Next we look at the characteristics of young people who make different transitions, again using LSYPE. We go on to analyse the association between different early transitions on later labour market outcomes, namely wages and employment one year later using LSYPE and LFS (Section 5), two years later using LSYPE (Section 6) and then five and ten years later using the British Household Panel Study (Section 7). Section 8 concludes.

## **1.3 A note on methodology**

Our methodological approach is to use the richest data available in each case to address our research questions. Firstly we rely on LSYPE which contains a wealth of information on the transitions made by young people who finished compulsory schooling in 2006, i.e. before the 2008 recession. For the purposes of examining how the transitions made by young people may have changed over time, we make use of data from the LFS that includes slightly older workers who turned 16-19 between 1991 and 2008. Lastly, in order to assess longer run outcomes, some five to ten years after leaving school, we make use of data from the BHPS on individuals aged 16/17 to 18/19 at some point between 1991 and 2008. Each of these data sets has their strengths and weaknesses. In particular, the LSYPE cohort members are entering the labour market during a time of very difficult economic conditions, a point we will come back to when interpreting the results of our analyses. Equally, the BHPS data are from cohorts that left the education system some time ago and hence may provide evidence that is less relevant to current cohorts.



For most of our analyses we use multivariate regression models. This means that in our analysis of outcomes (e.g. wages or employment status) we estimate the association between initial labour market status (e.g. at age 16/17) on employment status or wages at some later date (e.g. age 17/18 or 18/19), whilst also controlling for other factors, such as gender or socio-economic status. Our ability to control for other factors varies by data set, which we make clear in the text. As has been noted, our analysis is not necessarily causal since our strategy relies on us observing all the factors that influence both the choices young people make on leaving school and their longer run labour market outcomes. To the extent that we cannot observe all these factors, our results may suffer from omitted variable bias. Hence we view the relationships that we observe as associational rather than causal.

## **2. Existing Evidence**

This report relates to a range of research evidence on the determinants of young people's choices at the end of compulsory schooling and the problems that many young people face when entering the labour market.

We start by considering the evidence on key features of the youth labour market, in which the distinctions between employment, unemployment, study and inactivity are often blurred. Not all young people who are NEET may be actively seeking work. For example, some may be looking after their own children or caring for family members. Similarly, the definition of "actively" may be quite fluid in that some may be not genuinely seeking work in an active way. This point was made by Richard Freeman and David Wise about the 1980s recessions during which youth unemployment rose dramatically (Freeman and Wise, 1982).

Certainly the difficulties faced by young people as they attempt to enter the labour market have been long recognised (Eurostat, 2003; Kogan & Müller, 2002; OECD, 2000). The work of Freeman and Wise (1982), Blanchflower and Freeman (2000) and many other academic studies since, suggests that young people face a number of key barriers that may prevent them from making an easy transition into the labour market. One has to be careful however, in how one characterises the groups of young people who might be more at risk of poor labour market outcomes, such as those who are initially NEET. Speilhofer et al. (2009) identified considerable heterogeneity amongst young people who are NEET and indeed amongst those who take a job without training, with significant differences within these groups in terms of young people's attitudes to learning and their risk of poor labour market outcomes. We now review the evidence on the factors that contribute to these poor labour market outcomes.

### **2.1 Weak labour demand**

There is unambiguous evidence that weak labour demand, generally attributable to recession or slow economic growth, disproportionately affects young people and the youth labour market (Freeman and Wise, 1982; Blanchflower and Freeman, 2000; Bell and Blanchflower, 2010). Much of the UK research on the determinants of young people's choices after the end of post compulsory education has addressed the impact of labour market conditions on such decisions (e.g. Pissarides 1981; Whitfield & Wilson 1991; McVicar

& Rice 2001; Dickerson & Jones 2004; Frayne & Goodman 2004). Most studies have found important effects from local labour market conditions, particularly unemployment rates, on young people's staying on decisions (Clark 2011, Rice 1999), though not all studies find that economic conditions in the labour market influence young people's decisions (Micklewright, Pearson & Smith 1990). In general this evidence indicates a strong role for labour market demand in explaining the decisions young people make about their entry into the labour market and indeed the difficulties they face. This is evident in today's youth labour market in the UK and elsewhere. Youth unemployment is more cyclical than for older workers and hence current youth unemployment rates are, for example, around two and a half times greater than adult unemployment rates in the UK, France and a number of other EU countries (Bell and Blanchflower, 2010).

The evidence here also indicates that a spell of youth unemployment increases the risk of further spells of unemployment (see Bell and Blanchflower, 2010 and UK evidence cited therein; Mroz and Savage, 2006; Fairlie and Kletzer, 2003). This suggests that we should be concerned about the current generation of young people being scarred by long initial spells of unemployment. It also means that when we are analysing data from the LSYPE we must be mindful that this cohort faces extremely difficult economic conditions and hence their experiences may not be a good guide to the future when labour market conditions improve.

## **2.2 Demographic and family background factors**

In addition to labour market conditions, demographic factors have also been found to influence young people's choices and transitions. Firstly, when particularly large cohorts of young people enter the labour market (in absolute terms) this may affect youth employment, though the evidence on this is weak and the size of the cohort is more likely to affect wages than employment (Freeman and Wise, 1982). That said, Bell and Blanchflower (2010) do point out that there is a particularly large cohort of young people (20 year olds) currently entering the labour market in the UK and a number of other European countries, which may be further damaging the situation for those looking for work.

Secondly, UK evidence also suggests that the family background of young people plays a key role in driving the choices they make after the end of post compulsory schooling. Parental social class and education have been found to have a major impact on education participation decisions with young people from high socio-economic (SES) backgrounds, for example, being more likely to stay on in full-time education after the end of compulsory schooling (Micklewright, 1989; Rice, 1999; Dickerson & Jones, 2004). By contrast, young women and young people with disabilities are often at a particular disadvantage when they enter the labour market (Bell and Blanchflower, 2010). Unemployment rates among young people from ethnic minority groups in the UK are also particularly high, as shown in Bell and Blanchflower (2010). Early motherhood is a further barrier to employment for young women (Freeman and Wise, 1982; Moffit, 2002).

The new area of "economics of adulthood" suggests that there are various social, economic and cultural factors that have extended the time young people take to enter the labour market, leave home and become financially independent. Specifically, many young people are delaying leaving the family home, taking longer to enter the labour market and to have children. Many have not achieved the traditional markers of adulthood until they are into

their 30s. It may be that this extended period of transition to adulthood influences how actively young people search for work (Danzinger and Rouse, 2007). This means we have to be sure we are measuring youth unemployment rather than low youth employment, with the latter being at least partially as a result of choice rather than necessity.

This new economics of adulthood literature actually builds on an older sociological and psychological tradition which has viewed the transition to adulthood as being a process that is heavily influenced by a range of factors, such as societal norms. These older literatures suggest a number of possible key factors that might explain these trends including industrialisation, improved health and increased life expectancy. The idea that people are having fewer children and hence can invest more in the children they do have (and so support them into their twenties and thirties) is also put forward by Danzinger and Rouse (2007) as a possible reason for the trends we see. If this is indeed a major factor explaining young people's extended transition into adulthood, we might then see this as a route at least some young people opt for. Danzinger and Rouse also argue that key economic factors, including housing market changes and debt, have influenced the transition to adulthood. Therefore, more negatively, rising housing costs may also make it difficult for young people to leave home and commence their transition to independent living.

### 2.3 Supply side rigidities

Economic theory suggests that supply side rigidities in the labour market which include high costs of hiring and firing and the minimum wage also reduce youth employment. It is important to note however, that in the UK there is little evidence that the minimum wage (which varies by age) has hindered youth employment<sup>4</sup> and more generally Bell and Blanchflower (2010) present evidence that young people in the UK have not "priced themselves out of jobs".

Cross national evidence from Breen (2005) shows that high youth unemployment is associated with greater levels of regulation and greater difficulty in dismissing workers. In the US, for example, there is more dynamism in the youth labour market and hence more job changes but shorter spells of unemployment amongst young people (Quintini & Manfredi, 2009). In general employment protection is associated with higher youth unemployment (OECD, 2008) and greater regulation on business is also associated with higher youth unemployment (Feldman, 2008). This view is highly contentious however (Bell and Blanchflower, 2010), and a number of studies have failed to show that structural features of labour markets i.e. market rigidities have caused increased unemployment (Howell et al. 2007; Layard et al. 2005; Nickell, 2006). More specifically Bell and Blanchflower (2010) argue that the recent increases in unemployment and youth unemployment across the EU and the US have definitely not occurred alongside an increase in supply side rigidities; hence one cannot attribute these increases to these institutional factors but are more likely to be the result of falls in labour demand.

There is some sociological evidence that systems that have greater institutional links to the labour market (e.g. the dual apprenticeship systems – see below for further discussion) have lower youth unemployment rates. Also Breen (2005) suggests that in systems where the work skills and ability of young people are strongly signalled to employers, youth

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<sup>4</sup> Low Pay Commission studies [http://www.lowpay.gov.uk/lowpay/rep\\_a\\_p\\_index.shtml](http://www.lowpay.gov.uk/lowpay/rep_a_p_index.shtml)

unemployment tends to be lower. The extent to which an education system signals skills and abilities is, in the Breen study, based on the proportion of secondary school pupils in technical and vocational education that combines school and work based training, the argument being that judging a student's potential productivity in the work place is easier where they have gained genuine work experience and where they also continue to undertake education and training leading to regulated qualifications. More generally, Breen makes the argument that a close relationship between the vocational education system and employers may ease the labour market transitions of young people who are not taking the academic route through the education system. This has potential implications for the UK system with its proliferation of vocational qualifications and lack of clarity about the value of particular qualifications, but further empirical evidence is needed.

## **2.4 Low skill levels**

Young people on average are more likely to start working in low skill occupations. Goos and Manning (2007) suggest that there has been a "hollowing out" of the labour market, with modest growth in the least skilled and high skilled jobs and fewer intermediate skill jobs. This means that fewer opportunities to progress beyond entry level jobs may be creating problems for young people trying to enter the labour market. Since this hollowing out differs according to industrial structure there are substantial local and regional disparities in employment opportunities and lack of mobility is a particular problem amongst less skilled young people. Geography may therefore be a barrier for some young people. Further, recessions affect different industries differently and so will lead to disparities in youth unemployment by region according to the industrial mix.

Individuals with low levels of skill find transitions much more difficult. Hence having a low level of education, few qualifications and lacking basic skills are all major barriers to an easy transition into the labour market (Bell and Blanchflower, 2010; Eurobarometer 70.1; OECD, 2008). Certainly the UK evidence indicates that the biggest predictor of low education participation and problematic transitions into the labour market is poor prior achievement (McVicar & Rice, 2001; Andrews & Bradley, 1997; Rice, 1999; Micklewright, 1989; Dickerson & Jones, 2004).

## **2.5 Work experience**

There is dated evidence from the US that having some employment experience during school improves the probability of a young person being employed on leaving school (Freeman and Wise, 1982). This report seeks to provide empirical evidence on this issue for the UK.

## **2.6 Summary**

In summary, there are a number of key barriers that may increase youth unemployment. However, the main factor behind the current high levels of youth unemployment is insufficient labour market demand. Some, including Bell and Blanchflower (2010) and Layard et al. (2005) would argue that there will be a limit to what training and other government interventions can achieve given insufficient labour market demand for these young people since jobs will simply not be available regardless of the skills of the individuals.

Furthermore, UK evidence has also shown that government training programmes to ease young people's transition into the labour market, particularly those aimed at young people who are NEET, have been relatively unsuccessful in the past (see, for example, Dolton, Makepeace & Treble, 1994).

In this report we not only consider the choices young people make at age 16/17 to 18/19 but also the outcomes arising from such choices. The literature suggests that young people who make different choices at the end of compulsory schooling certainly have different labour market outcomes. Those who spend some time NEET have worse short and medium term economic outcomes than those who enter work or who remain in full-time education (Gregg, 2001; Mroz & Savage, 2006; Machin & Manning, 1999). Those remaining in full-time education and acquiring further qualifications (particularly academic ones) are, by and large, likely to have better employment prospects and earn higher wages. Certainly the causal impact of education on earnings is well established (Card, 1999). Further, most but not all qualifications acquired post 16 in the UK have relatively high economic value (Dearden, McIntosh, Myck & Vignoles, 2002; Jenkins, Greenwood & Vignoles, 2007; Leitch, 2005). By contrast, those who enter the world of work at a relative early age and who do not necessarily acquire high level qualifications have much less secure employment prospects and lower wages. For example, there are low economic returns to some vocational qualifications generally acquired alongside work by those who enter the labour market at the end of compulsory schooling (Dearden, McGranahan & Sianesi, 2004; De Coulon & Vignoles, 2008). On the other hand, those who do combine work and education or training that leads to higher level vocational qualifications or apprenticeships have good labour market prospects and the return to such qualifications is relatively high (Dickerson, 2005; McIntosh, 2005). One issue which we know less about is whether doing a job at age 16-19 that involves training in and of itself, whether or not it leads to a particular qualification, is economically beneficial in the short, medium (two years) or longer run. This issue is the focus of our report.

### **3. Data**

In order to understand the determinants of the choices made by young people at ages 16/17 to 18/19 and indeed the consequences of those choices, we need to take account of the full range of choices made by young people in their transition into the labour market. Certainly we need to go beyond the simple dichotomous choice of staying on in full-time education or not. For our research we use a six way categorisation of young people's choices as set out earlier in the report.

We make use of the three different data sets in our analyses, as discussed above. The key point to note is that the classification we adopt is designed to be broadly comparable across all three datasets, although inevitably differences in the way questions are asked will influence individuals' responses to questions about their education, training and work activities.

### 3.1 The Longitudinal Study of Young People in England

As has been said, we analyse data from the Longitudinal Study of Young People in England (LSYPE) since this data set provides us with information on the experiences of a very recent cohort of young people. These data do however, have one potential limitation and that is that some members of the cohort were attempting to enter the labour market just before the “credit crunch” impacted on the UK economy in 2008 and all members have faced difficult labour market conditions. Hence we need to be aware that these data provide a picture of the youth labour market that is perhaps atypical.

The LSYPE is a large-scale panel study which began in February 2004, when the sample of young people were aged between 13 and 14 in Year 9 (mid way through secondary school). It includes students attending both maintained and independent schools, as well as pupil referral units. All sample members were born between 1<sup>st</sup> September 1989 and 31<sup>st</sup> August 1990. Hence these data give us the best picture of the transitions being made by the current generation of young people. The data are rich and enable us to consider a range of factors that influence both the choices young people make and their subsequent outcomes, including detailed family background characteristics, as well as attitudes and aspirations, and engagement in risky behaviours.

Detailed histories of individuals’ monthly main economic activity are also available between September 2006 and May 2010, showing the changing status of young people as they leave compulsory education. These data are not as detailed and as the questions posed about current activity status are also based on information recalled after the event, we largely rely on data on current activity status in the analysis.<sup>5</sup> Using current activity status does mean that individuals’ responses may vary according to whether they completed the questionnaire in term time or not. Specifically if students are out of term time they may report being in employment or even NEET but this would not be their response were they to be surveyed in term time when they would respond that they are in education. Hence we would potentially get a very different picture of the labour market status of young people depending on the timing of the interview. At Wave 6 for example, the majority of young people, just over 70%, were interviewed during May and June (term time) and a further 20% were interviewed over the summer period. Fewer than one in ten young people were interviewed during September and October (again in term time). Thus in all waves the majority of LSYPE respondents were interviewed during term time and this is reassuring in terms of giving us an accurate picture of young people’s labour market status but we still need to be aware that for some of the sample their activity status may reflect a temporary summer activity rather than a permanent state.

Data collected through individual interviews are further supplemented by linkage to the *National Pupil Database*, providing detailed information on attainment at Key Stages 2, 3 and 4.

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<sup>5</sup> Monthly activity histories were made available by the DfE’s Longitudinal Surveys Team and consist of five broad categories: Full-time Education; Employed with Training; Employed without Training; Government Supported Training (this consists mainly of Apprenticeships, but also Entry to Employment and other training courses); Unemployed/Economically Inactive (NEET). Information reported in the DfE’s Statistical Bulletin report the main activity in May of each year based on these data  
<http://www.education.gov.uk/rsgateway/DB/SBU/b000937/index.shtml>

To date, seven waves of data have been collected annually, the most recent in 2010. For this analysis however, we use waves 4 to 6. Wave 6 covers the period when individuals were aged between 18 and 19, the equivalent of the first year of university for those who participate in higher education straight after school. The sixth wave of the LSYPE was carried between May and September in 2009 when the young people were age 18/19. Of the 21,000 young people sampled at Wave 1, we have survey responses for 15,770 households. By Wave 6, the sample size had dropped to 9,799. Sampling weights have been designed to take into account: i) the probability of being selected to take part; ii) non-response among particular groups; and iii) population weights, all of which are applied in the analyses presented here.<sup>6</sup>

### 3.2 The Labour Force Survey

The Labour Force Survey (LFS) is a quarterly survey of residents of Great Britain aged 16 and upwards. Information is collected by household, with a particular emphasis on the labour market activities of each household member. The LFS has both cross-sectional and longitudinal elements: households are interviewed for five consecutive quarters (known as waves) before they are removed from the panel and replaced. This means that we follow all individuals over the course of one year, with information on their employment status every quarter. Approximately 60,000 households are interviewed in each quarter. The advantage of the LFS data is that it enables us to look at trends over time and its relatively large sample sizes ensure that we can estimate robust models of very short term transitions (over one year). The disadvantage of the LFS is that it contains more limited information on individuals than LSYPE, e.g. it does not have very detailed measures of prior attainment, and in some instances responses to the survey are given not by the individual themselves but by a proxy (e.g. another household member such as a spouse).

Our sample comprises individuals aged 16/17 to 18/19 who first enter the LFS between 1993 Q1 and 2007 Q4, and much of our analysis compares outcomes in wave 1 and wave 5 (one year later). Wave 1 interviews were conducted over all quarters of the years 1993-2007; wave 5 interviews were conducted over all quarters between 1994 and 2008. This means that our analysis is based on observations across all quarters. To ensure that our results are not biased by seasonality, we account for the quarter in which an individual's outcomes are observed in our modelling.

### 3.3 The British Household Panel Survey

The British Household Panel Survey (BHPS) began in 1991 as a longitudinal survey of around 5,500 households in Great Britain.<sup>7</sup> Information is collected from all individuals aged 16 and upwards in each household, including a rich set of socio-demographic characteristics, such as age, gender, ethnicity, region, labour force status, earnings and benefits, education and health information, as well as more intangible measures such as values, attitudes and

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<sup>6</sup> Further detail on LSYPE weighting can be found at:

<https://ilsype.education.gov.uk/workspaces/public/wiki/userguide#5>

<sup>7</sup> A further 1,500 households in each of Scotland and Wales were added in 1999, and 2,000 households in Northern Ireland were added in 2001.

opinions. Panel members are followed if they leave the household (as are members of their new household), and new members of existing households are also added to the survey.

The longitudinal nature of the study plus the unique method of following panel members wherever they go means that it is possible to observe the trajectories of individuals as they move through their working lives, allowing us to consider outcomes five to ten years after young people first entered the labour market. Hence these data are most appropriate for our models of the longer run outcomes from initial labour market transitions. Of course we are aware that individuals in BHPS who we observe ten years after they left full-time education exited from the education system a long time ago. We need to be mindful that generalising from their experience to current generations is problematic.

Our sample comprises all individuals aged 16/17 to 18/19 at some point between 1991 and 2008, and includes a total of 6,270 individuals.

## 4. Young people's labour market choices

### 4.1 Early transitions

We start by considering the economic activity status of young people in the current generation as they enter the labour market, using LSYPE data. Figure 3 reports the proportions of young people in each of the categories of our six-fold classification at waves 4 (age 16/17), 5 (age 17/18) and 6 (age 18/19) in the LSYPE. These data are derived from questions about current activity status, i.e. they measure activity status at the time of the interview.

In the year immediately following compulsory education, the majority of young people remain in full-time education: in wave 4, for example, when young people are aged 16/17, 72% are still in education; of the remaining 28%, approximately two thirds enter the labour market and the other third become NEET.

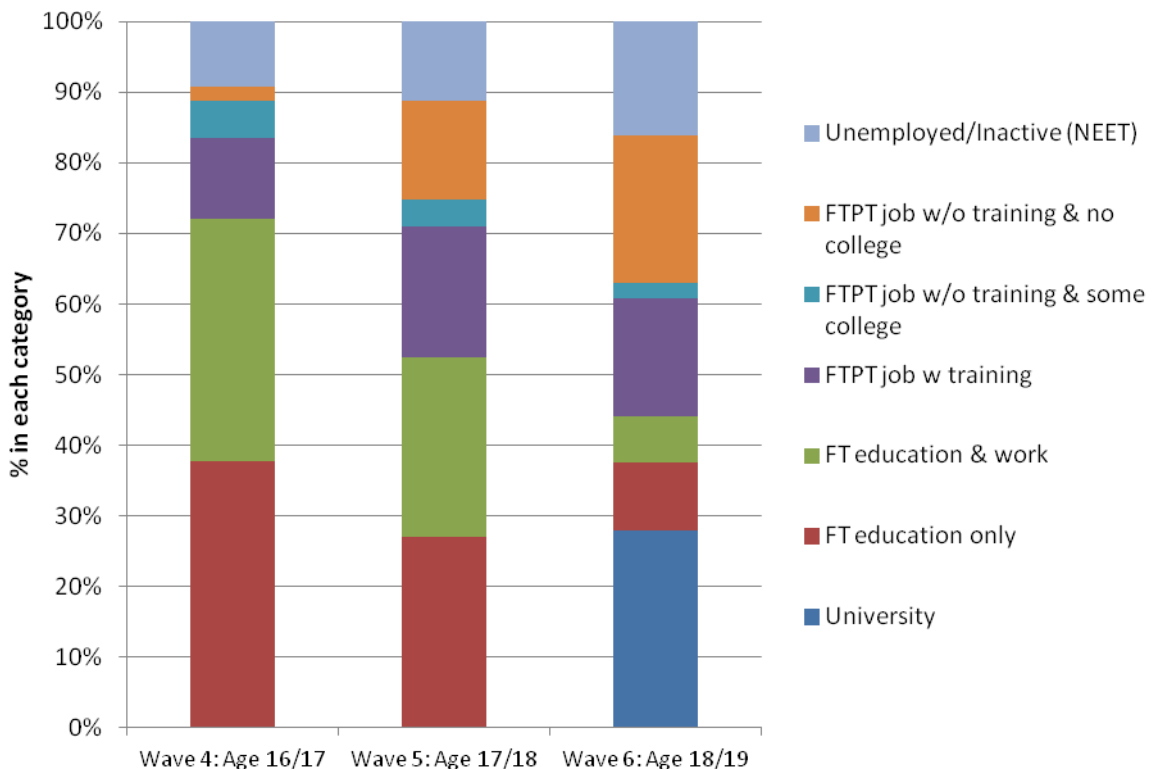
At age 17/18 (wave 5) the proportion of the cohort staying in full-time education (with or without work) falls sharply and only just over half remain in full-time education one year after the end of compulsory schooling.<sup>8</sup> By age 18/19 (wave 6) only around 44% of the cohort remains in full-time education. Note that we show those enrolled in university separately (whether they work or not), which constitutes just under 30% of the cohort.

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<sup>8</sup> These data may overstate the numbers leaving full time education at this age, as some individuals who are interviewed in the summer (around 20%) may record that they are not in full time education even if they intend to continue in full time education in the autumn. Some may also not be sure if they are able to continue in full time education and will be waiting for their examination grades. Whilst this issue will not affect our multivariate analyses (as one might believe that interview timing was random) these data cannot necessarily provide a good population estimate of the proportion of young people still in full time education.



**Figure 3 Young people’s main activity choices in the LSYPE**



Source: LSYPE waves 4, 5 & 6

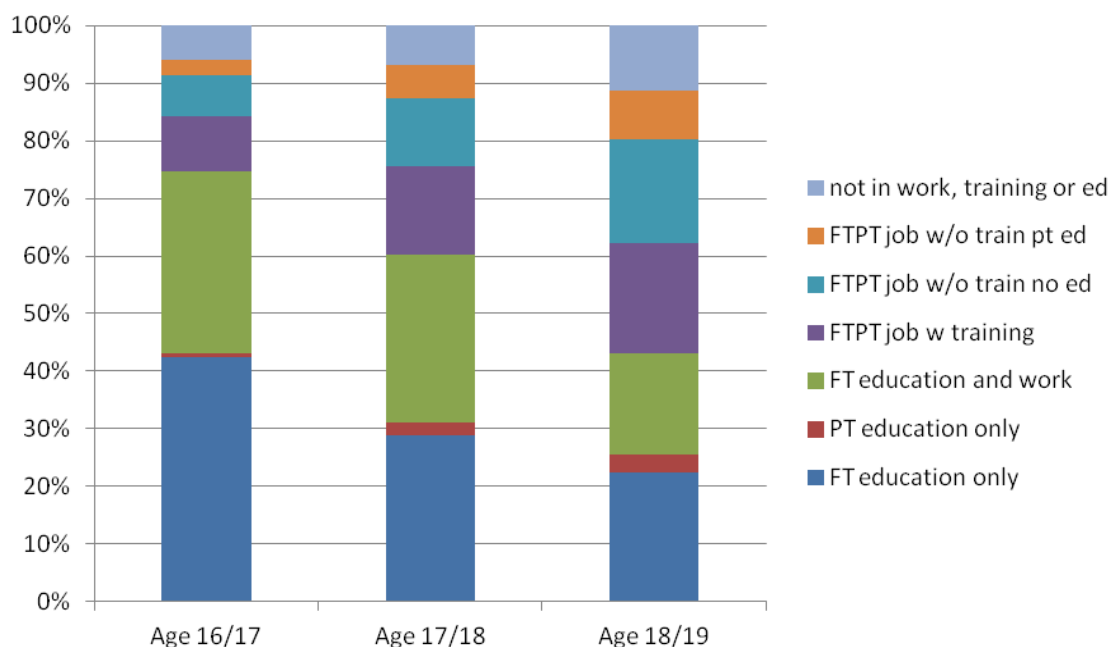
At ages 16/17 and 17/18 around half of those in full-time education combine their studies with some work. This proportion is high relative to official statistics and may again reflect the fact that some respondents have jobs over the summer which would be included in this estimate. Comparison with wave 6 is difficult since we split the population into those undertaking full-time education (not university) and those enrolled in university. However, the data suggests 10% of 18/19 year olds are in full-time education only and 6% engage in some form of part-time work alongside full-time education. In addition, 37% of the nearly 30% of young people at university also engaged in paid work. Hence combining work and full-time education is an important route for this generation.

Figure 3 also clearly shows that the proportion of young people in jobs without training more than trebles between the ages of 16/17 and 18/19. At age 16/17 (wave 4), only 7% of young people are in a job without training, compared with 18% in wave 5 and 23% in wave 6. This highlights that taking a job without training becomes an increasingly common option between the ages of 16/17 and 18/19 as more young people leave full-time education. Note also that at wave 6 (age 18/19) most young people employed in a job without training are not participating in any form of education either. By contrast, the proportion of young people in a job with training stays relatively constant between waves 5 (18%) and 6 (17%).

Finally, just over one in ten young people are NEET at age 16/17 (wave 4). This increases to 11% by age 17/18 (wave 5) and still further to 16% by wave 6 (age 18/19).

In our analysis focusing on longer-term transitions using the BHPS data, we analyse a sample of individuals who left school several years ago and who have responded to the BHPS survey for a relatively long period of time. For both of these reasons, we might expect the outcomes of young people in our BHPS analysis to differ from those in our LSYPE analysis. Figure 4 presents the early labour market transitions of a sample drawn from the BHPS for whom we observe outcomes ten years after the end of compulsory schooling. It shows that the proportion of the cohort that was NEET is somewhat lower in this sample than in LSYPE (see Figure 3 above). We must therefore bear this in mind when drawing conclusions about the long run impact of taking a job with training as opposed to a job without training from the BHPS data, as the impact of a particular early labour market transition for the BHPS sample may differ somewhat from the long run impact for the LSYPE generation.

**Figure 4** Labour market status for individuals that we observe for ten years in the BHPS



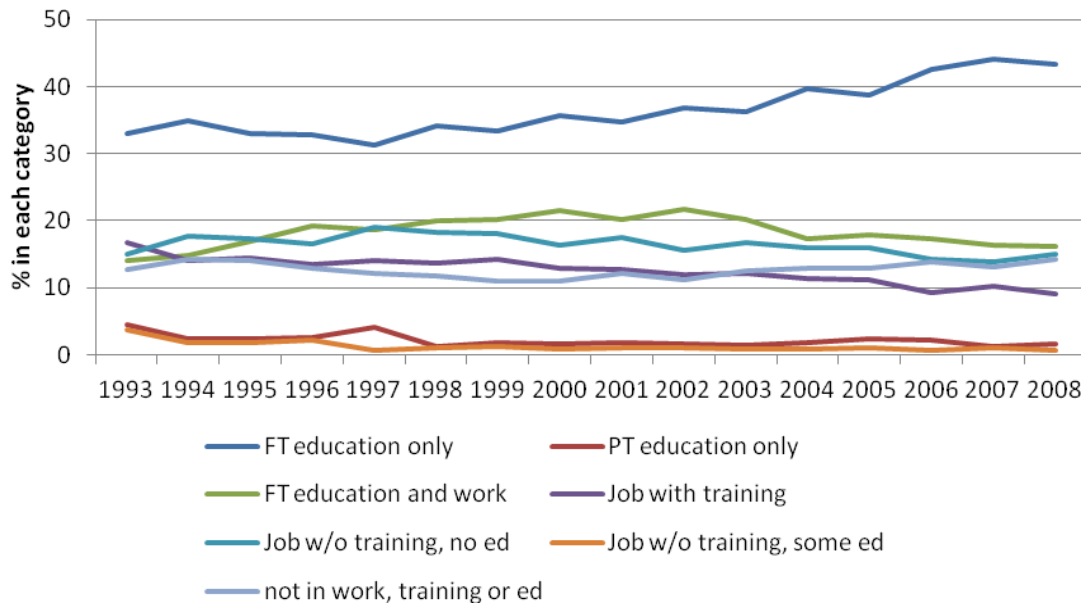
Source: British Household Panel Survey

We can also consider how the activities of various cohorts of young people have changed over time. For this we use the LFS data and focus on 16/17-18/19 year olds over the period 1993 to 2008, as seen in Figure 5.

The advantage of the LFS data is that it spans a longer time period and does not just cover young people making transitions during a recessionary period, as is the case for LSYPE. We are mindful, however, of the fact that the period covered by the LFS data is lengthy and there have been numerous changes to the labour market during this time. Hence in the modelling (but not the descriptive statistics) we take account of the time period. Nonetheless, Figure 5 shows that the only discernable trend is a rise in the proportion of the cohort enrolled in full-time education only and a slight decline in the proportion combining full-time education with work. The NEET rate also rises slightly from 2000 onwards. This

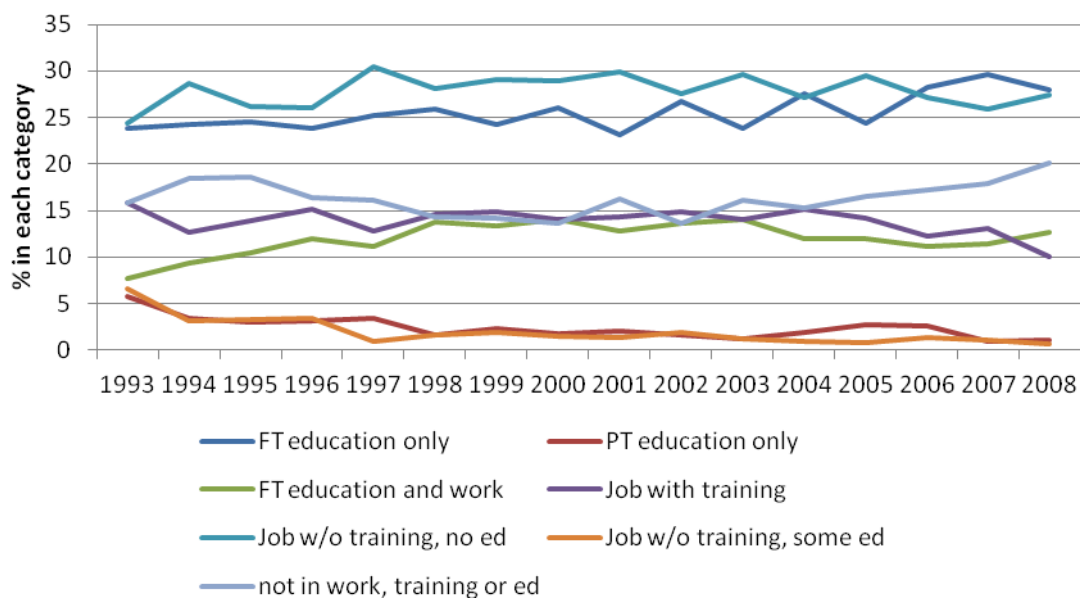
trend for 16/17-18/19 year olds does, however, hide a slightly different pattern for 18/19 year olds. For this older group, the proportion in full-time education with or without work has been stable over the period (as shown in Figure 6). Hence an increasing proportion of young people are staying on in school at 16/17 and 17/18 but not many of these appear to go on to university, as the proportion in full-time education at age 18/19 is relatively stable.

**Figure 5 Labour market transitions activities of 16/17-18/19 year olds in LFS over time**



Source: Labour Force Survey 1993-2008

**Figure 6 Labour market transitions of 18/19 year olds in the LFS over time**



Source: Labour Force Survey 1993-2008

What is also noticeable is that there has been a steady rise in the proportion of 18/19 year olds who are NEET since 2000. Although the NEET rate is cyclical, this longer run upward

trend at this age does not appear to be driven by economic conditions, since it covers a period that includes an economic boom. Hence one might deduce from these pictures that there is a more structural long-term rise in the proportion of the cohort that is NEET but that this is evident only for older young people. This arises as young people postpone their entry into the labour market and then when they do attempt to enter the world of work a minority face a significant struggle.

In summary, more than half the cohort has left full-time education by age 18/19. At age 16/17 a relatively small proportion of the cohort is NEET but by age 18/19 this has increased to 16%. We can also see that labour market conditions are harder for the current (LSYPE) cohort than for earlier ones, as evidenced by the fact that there has been a rise in the NEET rate at age 18/19 over time for example.

## 4.2 Pupil characteristics and economic activity status

We now consider the characteristics of young people who make different labour market transitions using LSYPE data. Table 1 shows simple descriptive statistics for those young people who are observed in the 6 different activities. We present the statistics for those aged 18/19. For reasons of space, we do not reproduce a similar table for age 16/17 and 17/18 as well. In any case, age 18/19 is perhaps the most indicative age to consider the characteristics of the different groups since at earlier ages, particularly age 16/17, the proportion in the non full-time education routes is very small. Table 1 presents simple descriptive statistics - in the following section we then consider all the factors described here but in a multivariate context. Table 1 shows that:

- Girls are more likely to be in university or to be combining full-time education and work;
- Young people whose parents are less educated or lower socio-economic status (SES) are more likely to be NEET and interestingly are more likely to be just doing full-time education (not university);
- Young people whose parents have degrees or who are high SES are more likely to be in university or combining full-time education and work;
- Young people who are doing jobs with or without training are similar in terms of parental education and family SES;
- Those in university or combining full-time education and work have higher GCSE scores than those in other groups;
- Young people who are NEET or indeed just doing full-time education (not university) at age 18/19 have much lower GCSE scores.

We now determine whether these findings are sustained in a multivariate context when we control for other factors that influence individuals' initial labour market choices. For example, we want to determine whether it remains true that young people with low SES and low educated parents are more likely to be NEET or doing full-time education (not university) when we allow for their prior academic achievement.

**Table 1 Characteristics of young people age 18/19 in the LSYPE by activity status**

	University	FT education only	FT education & work	FTPT job w training	FTPT job w/o training	Not in work or training
Overall ( <i>row percentage</i> )	28	10	6	17	23	16
Girl (%)	55	44	58	42	48	46
<i>Highest household education (column percentages)</i>						
None/Below L2	11	35	18	19	23	34
GCSEs	20	24	31	33	30	29
Medium: A levels & vocational equivalents	17	16	18	24	19	15
High	52	25	33	24	28	23
<i>Family SES (column percentages)</i>						
Low	16	46	28	27	29	44
Medium	25	27	32	38	37	28
High	59	27	40	36	34	28
FSM eligibility (%)	6	29	9	10	11	25
<i>Achievement</i>						
KS4 total score	501	292	385	360	350	266
Achieved 5 A* - C GCSEs (%)	95	32	59	52	52	34

Achieved 5 A* - C GCSEs (inc. English & maths) (%)	88	23	48	41	40	26
Achieved 5 A* - G GCSEs (%)	100	82	98	94	92	74
KS2 CVA points score	30	24	27	27	27	25

Table 1 shows the average characteristics of young people who take different options. We also used multinomial logistic regression models which enable us to understand the relationship between any particular characteristic and the likelihood of a young person with that characteristic taking each of the 6 possible labour market transitions. Our aim is to identify significant factors associated with being in each of the labour market destinations, using young people remaining in full-time education only as the reference group. We use the set of individual, family and area characteristics which have been shown in the wider literature to predict occupational choices. These characteristics are described in full in Appendix A. Full regression results are available in Appendix B and key findings are discussed here. We look at the relationship between pupil characteristics and economic activity at age 17/18 (Table B1 in Appendix B) and at age 18/19 (Table B2). These models tell us whether a particular factor or characteristic makes an individual more or less likely to be in a particular economic state one or two years after the end of compulsory schooling.

A key focus of our analysis was to investigate the relationship between pupils' prior achievement and the choices they make at age 17/18 and age 18/19. To do this we use KS2 scores even though these are early measures of academic achievement and individuals' relative academic achievement may change through secondary school. We do this because the young person's GCSE scores are likely to be determined partly by the choices they intend to take post 16. For example, those who intend to leave full-time education at the end of compulsory schooling may have little incentive or desire to do particularly well at GCSE. By contrast, those who have decided to go on to university know they must, at a minimum, achieve 5 A\*-C grades at GCSE. Hence from a methodological perspective, GCSE scores are partially the outcome of young people's post 16 choices rather than just a determinant of those choices. Using earlier measures of prior ability, such as KS2 gets around this problem to a large extent.

We found the following:

- Even when allowing for family background and parental education, our results confirmed that young people aged 17/18 combining full-time education and work have higher KS2 scores than those in full-time education without work. Once we control for other factors such as socio-economic background, those remaining in full-time education and not working, those going into a job with training and those going into a job without training are relatively similar in terms of their KS2 scores. Hence the real distinction is between the higher achieving group that combine full-time education and work and everyone else, rather than between those who take jobs with and without training;
- We confirmed that young people's labour market choices are socially driven. For example, after controlling for prior achievement, those young people whose parents have GCSEs/ O levels as their highest qualification, as opposed to no qualifications, are more likely to be in full-time education with work or indeed take a job with training than to remain in full-time education without working;
- For a given level of prior achievement, those young people whose parents have degrees are more likely to remain in full-time education (with or without work) and are less likely to take a job (with or without training) or become NEET;

- Young people from intermediate SES backgrounds are more likely to combine education and work and indeed to pursue jobs with and without training than to just do full-time education;
- Those from higher income families are less likely to be combining full-time education and work, doing a job with training or doing a job without training and some college than to stay in full-time education without work;
- Those whose parents have vocational qualifications are less likely to be in time education at 17/18 and more likely to be doing anything else;
- Girls are more likely to continue on in full-time education but girls who do enter the labour market at an early age are most likely to end up in jobs without training.

In our models we were also able to look at the attitudes and aspirations of young people and indeed their parents at age 14, before the majority of decisions about post-16 choices are likely to have been made. We found the following:

- At age 17/18 the attitudes of parents are associated with the transitions made by young people. Young people whose parents think it is important to get a job with a “trade” or an apprenticeship or vocational training are much more likely to take a job with training than those whose parents do not think this is important;
- The young person’s own attitudes are important too. Those who do continue on in full-time education (whether combined with work or not) exhibited consistently more positive educational attitudes and aspirations whilst at school;
- Young people who have some work experience (i.e. undertake work *before* the age of 16) are more likely to be in work post-16. The direction of causality here is unclear however. It may be that young people who can find work whilst in school are in areas where it is easier to find a job post-16 too. Indeed we do find that those who combine education and work – either full-time education and work or a job with some college – are from less deprived areas, possibly reflecting the impact of local labour market conditions on the ability of young people to find work during and after leaving school.

We repeated the analysis for outcomes at age 18/19 (wave 6). Many of the results were similar to those found at age 17/18. However, there were some differences. Specifically, we found:

- Unsurprisingly, young people who go onto university at age 18/19 are higher achieving than those who do not, in terms of their prior achievement (as measured by KS2 scores);
- The social grading of young people’s labour market choices is still evident at age 18. Those with graduate parents are more likely to continue in education and less likely to take a job with or without training. Families from an intermediate SES group are more likely to have children who pursue jobs with training;
- Young people who move from a two parent to a single parent household are less likely to go to university and more likely to pursue any other kind of economic activity, an issue which merits further investigation since it implies that a family or economic shock



during the teen years may influence young people's choices at a critical time in their lives. Whilst policy may not be able to ameliorate the emotional impact of a family shock, if the financial impact of divorce is driving this result that may be more amenable to policy intervention;

- Young people who do not go onto university are more likely to come from areas with higher levels of deprivation, again highlighting the social grading of young people's labour market choices;
- As we found at age 17/18 those who had a job during compulsory schooling are more likely to be in full-time work by age 18/19 (with or without training);
- As we found at age 17/18, attitudes of both parents and young people continue to influence the choices they make at age 18/19. Specifically, parental aspirations remain an important predictor of young people's decisions, particularly the decision to take a job with training. Equally we found that those young people who do not go on to university had more negative educational attitudes and aspirations than other groups, with the exception of those who go into jobs with training who were not significantly different. The attitudes of those in jobs without training were more negative than those in jobs with training.

### **4.3 Job characteristics of those in jobs with and without training**

The previous section used the richness of the LSYPE data to provide a detailed analysis of the characteristics of young people in different labour market states. In this section, we use the detail of the LFS data to provide some descriptive evidence on the *types of jobs* that young people move into. In particular, we focus on young people in jobs with and without training, at ages 16/17 to 18/19 between 1993 and 2008, and consider wages, hours worked, sector and occupation.

Table 2 presents these results. It shows that young people in jobs with training work, on average, 3 hours more per week than young people in jobs without training; they also tend to earn nearly £1.60 less per hour (in 2008 prices). As mentioned earlier, this may reflect the fact that some of these individuals are doing an apprenticeship and are likely to be earning a lower training wage. These findings are corroborated by the more recent LSYPE cohort, shown in Table 3 below, which suggests that in the short run those in jobs without training and indeed those at university earn somewhat more than those in jobs with training or those combining full-time education and work.

The LFS also enables us to consider which sectors and occupations young people work in. Table 2 shows that there is considerable variation in the extent to which young people have access to training by both sector and occupation. It is not always the case that young people in jobs with training are in high wage sectors or occupations. We do find that young people in jobs with training are significantly more likely to work in the construction industry – and significantly less likely to work in the retail and catering industry – than young people in jobs without training. In terms of occupations, young people in jobs with training are substantially (nearly 30 percentage points) more likely to work in a skilled trades occupation than young people in jobs without training. By contrast, they are significantly less likely to work in sales, customer services or in unskilled manufacturing occupations. To the extent

that jobs in skilled trades lead to higher wages in the future than service sector jobs, one might expect our wage analysis to show better labour market outcomes for individuals who take jobs with training. However, there is a lot of heterogeneity in the jobs that young workers take and pay is not systematically higher in the skilled trade jobs over time. Clearly where a job with training leads to an economically valuable qualification, such as HND/HNC, this *is* likely to have a positive impact on the individual’s wages but this is not an issue we consider in this report.

**Table 2 Job characteristics of young people aged 16/17 to 18/19 in the LFS**

Characteristic	Job with training	Job without training	Difference
Usual hours of work per week (excluding overtime)	36.24	33.138	3.102**
Real hourly wage rate	5.038	6.664	-1.626**
Sector: manufacturing	0.17	0.183	-0.013
Sector: construction	0.189	0.065	0.124**
Sector: retail & catering	0.271	0.406	-0.135**
Sector: business & finance	0.079	0.107	-0.028**
Sector: other services	0.205	0.138	0.066**
Sector: other	0.086	0.1	-0.014*
Occupation: Managers and professional occupations	0.066	0.04	0.026**
Occupation: Administrative and secretarial	0.14	0.15	-0.01
Occupation: Skilled trades occupations	0.401	0.108	0.293**
Occupation: Personal service occupations	0.176	0.111	0.065**
Occupation: Sales and customer service occupations	0.089	0.237	-0.148**
Occupation: Process plant and machine operatives	0.038	0.107	-0.070**
Occupation: Elementary occupations	0.09	0.246	-0.156**
Observations	4,938	6,258	

**Table 3 Wages and hours of young people age 18/19 in the LSYPE by activity status**

	University	FT education only	FT education & work	FTPT job w training	FTPT job w/o training	NEET
Hourly wages (£)	5.98	n/a	5.87	5.74	6.00	n/a
Hours worked per week	16	n/a	14	36	31	n/a

In the preceding sections, we go on to consider whether young people’s initial labour market status affects their subsequent transitions, in the short (Section 4), medium (Section 6) and longer (Section 7) term. We will also consider whether the differences in wages between those in jobs with and without training (highlighted above) still hold in a multivariate regression context, once we take account of differences in other characteristics between these young people.

## 5. Short-term transitions

This section explores young people’s short-term (1 year) transitions into the labour market. As discussed, we present data from both the LSYPE to provide a picture for the current generation of school leavers and from the LFS to provide an analysis of slightly older workers, as well as a broader picture amongst multiple cohorts over time.

### 5.1 Transition matrices

#### 5.1.1 LSYPE

Table 4 shows the transitions made by individuals between age 16/17 (wave 4) and 17/18 (wave 5) in LSYPE. Again we are mindful that the data here are telling us about the labour market experiences and decisions of a cohort facing a difficult labour market situation as the impact of the 2007/8 credit crunch begins to affect the UK economy. The data will not therefore necessarily be generalisable to other time periods.

The matrix is based on a sample of 10,212 individuals and indicates how the same individuals move from their state at age 16/17 (left column) to a potentially different state at age 17/18 (top row). The total column reports the total proportion of young people in each category at age 16/17 and the total row reports the total proportion in each category at age 17/18. Hence we see that 38% of the cohort is in full-time education only at age 16/17 and a further 34% combine full-time education and work. By age 17/18, 27% are in full-time education only and a further 26% are combining full-time education and work.

**Table 4 Transition matrix of labour market states between ages 16/17 and 17/18 in LSYPE**

		<i>Main activity at 17/18</i>						
		<i>FT education only</i>	<i>FT education &amp; work</i>	<i>J w T</i>	<i>J w/o T, no college</i>	<i>J w/o T, some college</i>	<i>NEET</i>	
<i>Main activity at 16/17:</i>		<b>TOTAL %</b>	<b>27</b>	<b>26</b>	<b>18</b>	<b>14</b>	<b>4</b>	<b>11</b>
<i>FT education only</i>	<b>38</b>	54	18	8	6	3	11	
<i>FT education &amp; work</i>	<b>34</b>	12	51	13	13	7	4	
<i>FTPT job w training</i>	<b>11</b>	4	4	56	25	2	9	
<i>FTPT job w/o training &amp; no college</i>	<b>2</b>	19	11	34	18	5	13	
<i>FTPT job w/o training &amp; some college</i>	<b>5</b>	5	4	38	38	2	13	
<i>Not in work or training</i>	<b>9</b>	15	3	21	21	2	40	

Total N = 10,212

Source: LSYPE waves 4 & 5

Shaded boxes show category persistence over time

The rest of the table can tell us about the most likely transitions between these two ages, with the shaded boxes on the diagonal showing the degree of persistence in a particular employment state over time.<sup>9</sup> This highlights a considerable amount of stability in young people’s choices over time. As noted above, in the year immediately following compulsory

<sup>9</sup> Each row sums to 100%, representing the total number of individuals in the age 16/17 category.

education, the majority of young people remain in full-time education and there is clear continuity in the activity of those who stayed on in school after the age of 16. Over half (54%) of those who were in full-time education only at age 16/17 remain in this category a year later, with a further 18% taking on some work alongside their studies. Around half (51%) of those who combine full-time education with some work at age 16/17 continue to do so at age 17/18. That said, there is also movement between the different categories, both within education and employment routes as well as between them.

For example, a third (13%+13%+7%) of those who at age 16/17 were in full-time education combined with some part-time work have moved into some form of employment a year later, compared with just 17% (8%+6%+3%) of those who pursued full-time education alone at 16/17. The majority of those in full-time education at age 16/17 were in full-time education at 17/18; considering those in full-time education only at 16/17, 72% (54%+18%) were in full-time education (with or without work) at 17/18 compared to only 63% of those who were in full-time education and work at 16/17.

Note also that a far greater proportion of those who started in the full-time education only category are classified as NEET at age 17/18 (11%) compared to those who combined their studies with work (4%). This may be mechanical in the sense that someone who is doing some work alongside their full-time education and who then leaves full-time education is likely to keep their job and hence be more likely to be in employment than someone who did not have a job alongside their full-time study. That said, this evidence does suggest that those who combine full-time education and work have a high probability of finding employment when they do leave education, a result we confirm below using multivariate regression analysis.

There is also considerable movement between different types of jobs. Of those who were in a job without training at age 16/17 and undertaking any college study, 34% moved to a job with training by age 17/18 (or started training in their existing job). Equally of those who were in a job with training at age 16/17, one quarter moved on to a job without training (or lost the training component of their existing job). Movement from jobs without training into jobs with training was even more extensive. Hence there is movement across job types and some fluidity in the groups we have for those on the employment track between the ages of 16/17 and 17/18.

Given the high numbers of those staying on in education and the potential difficulties faced by those who enter the labour market at an early age, it is useful to further summarise Table 4 by focusing on the 28% of young people in this sample who choose to leave school directly after the end of compulsory schooling at age 16/17. Table 5 shows what this group of early labour market entrants are doing one year after leaving full-time education. (Note that all percentages relate only to the subset of individuals who left school at age 16/17 so, for example, Table 5 shows that, of the group who leave full-time education at age 16/17, 42% move into a job with training – 11% of the total population of 16/17 year olds.)

Analysis of these short-run transitions shows that as well as the stability in education choices for those who remain in school after the age of 16, there is also some persistence over time in the activities of young people who choose to leave school at the earliest possible opportunity. For example, of those young people who have left school by age 16/17, a high proportion are in a job with training a year later at age 17/18 (39%) although

over a quarter are in a job without training. Interestingly, 13% (9%+4%) of those who had left full-time education by age 16/17 have returned to full-time education by age 17/18 and in the data we observe many of these individuals to be undertaking GCSEs, presumably as retakes.

The most persistence is seen in the NEET category however. Of those who ended up NEET at age 16/17, 40% remain NEET at age 17/18. Some young people who start out NEET do make good transitions however. 40% of the NEET group at age 16/17 end up in a job with (21%) or without training (23%) by age 17/18. There also appears to be more persistence for those who left school and entered a job with training at age 16/17 compared to those who took jobs without training, indicating greater stability in jobs with training. This issue is explored in a multivariate context below to control for other characteristics of individuals that may influence their transitions.

**Table 5 Transition matrix of labour market states between ages 16/17 and 17/18 in the LSYPE for the sample who left full-time education at age 16/17**

		<i>Main activity at 17/18</i>					
		<i>FT education only</i>	<i>FT education &amp; work</i>	<i>J w T</i>	<i>J w/o T, no college</i>	<i>J w/o T, some college</i>	<i>NEET</i>
<b><i>Main activity at 16/17:</i></b>	<b>TOTAL %</b>	<b>9</b>	<b>4</b>	<b>39</b>	<b>26</b>	<b>2</b>	<b>20</b>
<i>FTPT job w training</i>	<b>42</b>	4	4	56	25	2	9
<i>FTPT job w/o training &amp; no college</i>	<b>8</b>	19	11	34	18	5	13
<i>FTPT job w/o training &amp; some college</i>	<b>19</b>	5	4	38	38	2	13
<i>Not in work or training</i>	<b>32</b>	15	3	21	21	2	40

Total N = 2,048

Source: LSYPE waves 4 & 5

Shaded boxes show category persistence over time

In Table 6 we examine the transition between age 17/18 and 18/19, i.e. wave 5 and 6 of LSYPE. This also shows levels of persistence i.e. once an individual makes a particular transition at age 17/18 they are more likely to continue on that path at age 18/19 and hence early choices are important. Of those in full-time education only at age 17/18, 41% went on to university whilst nearly a quarter went on to some other type of full-time education. Thus two thirds of those who were in full-time education only at age 17/18 remained in that state at age 18/19. There is also evidence of persistence in jobs with and without training between ages 17/18 and 18/19 (45% and 49% respectively remained in this state). Those who take a job without training alongside some college had a wider range of destinations, with almost a third going to university and just under 30% completing or dropping the college component associated with their job.

**Table 6 Transition matrix of labour market states between ages 17/18 and 18/19 in LSYPE**

	<i>Main activity at 18/19</i>						
<i>Main activity at 17/18:</i>	<i>University</i>	<i>FT education only</i>	<i>FT education &amp; work</i>	<i>J w T</i>	<i>J w/o T, no college</i>	<i>J w/o T, some college</i>	<i>NEET</i>
<b>TOTAL</b>	<b>29</b>	<b>10</b>	<b>7</b>	<b>17</b>	<b>21</b>	<b>2</b>	<b>15</b>
<i>FT education only</i>	41	24	4	6	9	1	15
<i>FT education &amp; work</i>	47	5	16	10	16	3	4
<i>FTPT job w training</i>	7	3	3	45	27	2	13
<i>FTPT job w/o training &amp; no college</i>	12	2	3	18	49	2	15
<i>FTPT job w/o training &amp; some college</i>	31	3	9	14	28	9	7
<i>Not in work or training</i>	13	8	1	14	16	1	49

Total N = 9,316

Source: LSYPE waves 5 & 6

Shaded boxes show category persistence over time

Around half of those who were NEET at 17/18 remained NEET at 18/19. Thus the problem that being NEET makes you far more likely to remain NEET continues several years after the end of compulsory schooling. Young people in full-time education and doing some work or indeed in a job and doing some college have a much lower probability of being NEET than those initially in full-time education or taking a job with or without training.

### 5.1.2 LFS

We now move on to analyse young people's transitions into the labour market using Labour Force Survey data, focusing on short-term transitions over a period of five quarters. This allows us to provide a picture of the short-run (1 year) movements into and out of different labour market states of young people over the period 1993-2008.<sup>10</sup> (We might therefore expect these results to be less affected by the current economic situation than the LSYPE results presented in the previous section.) These results are therefore comparable to the one year transitions that we considered in the LSYPE though we are able to use seven activity categories rather than the six we used for LSYPE, separating out a small group that does part-time education only with no work. We can also consider a later transition, namely age 18/19 to 19/20, using LFS data. We do this to confirm whether the patterns we observe at 16/17-18/19 persist at later ages. Tables 7 to 9 illustrate the changing status of 16/17, 17/18 and 18/19 year olds over the course of a year.

<sup>10</sup> These patterns have remained remarkably constant over time and hence we do not present tables broken down by year.

**Table 7 Transition matrix of labour market states between ages 16/17 and 17/18 in LFS**

		<i>Main activity at 17/18</i>						
		<i>FT education only</i>	<i>PT education only</i>	<i>FT education &amp; work</i>	<i>FTPT job with training</i>	<i>FTPT job w/or training or college</i>	<i>FTPT job w/o training but some college</i>	<i>NEET</i>
<b><i>Main activity at 16/17:</i></b>								
	<b>TOTAL %</b>	<b>28</b>	<b>2</b>	<b>32</b>	<b>14</b>	<b>14</b>	<b>1</b>	<b>9</b>
<i>FT education only</i>	<b>48</b>	49	2	30	5	7	1	6
<i>PT education only</i>	<b>2</b>	35	8	17	13	12	2	13
<i>FT education &amp; work</i>	<b>24</b>	11	1	66	6	12	2	2
<i>FTPT job with training</i>	<b>11</b>	2	1	4	71	13	1	9
<i>FTPT job w/o training or college</i>	<b>7</b>	3	1	6	17	59	1	13
<i>FTPT job w/o training but some college</i>	<b>1</b>	7	2	18	27	32	8	6
<i>NEET</i>	<b>7</b>	14	2	5	10	24	1	44

Total N = 14,590

Source: LFS 1993-2008

Shaded boxes show category persistence over time

Young people in all three age-groups exhibit a high degree of state dependence in the sense that they are most likely to remain in the same activity state over this period, consistent with the previous results for the current cohort using LSYPE. This is particularly true of those in employment – either with or without training. For example, 59% of those in a job without training at age 16/17 were also in a job without training a year later, though interestingly a higher proportion of the group initially in a job without training but doing some college ended up NEET one year later as compared to the group initially in a job without training and no college. 71% of those in a job with training at 16/17 were still in a job with training a year later. These results are similar for 17/18 and 18/19 year olds, with even more persistence (around 70%) evident for those in jobs without training. The persistence observed in these LFS analyses is greater than shown for the current cohort in LSYPE data (see Tables 4 and 6 above), indicating that perhaps job stability may have reduced somewhat for the current cohort (though of course we consider job types rather than specific jobs and so individuals may be changing their job but not their job type throughout this period).

**Table 8 Transition matrix of labour market states between ages 17/18 and 18/19 in LFS**

		<b>Main activity at 18/19</b>						
		<i>FT education only</i>	<i>PT education only</i>	<i>FT education &amp; work</i>	<i>FTPT job with training</i>	<i>FTPT job w/or training or college</i>	<i>FTPT job w/o training but some college</i>	<i>NEET</i>
<b>Main activity at 17/18:</b>								
	<b>TOTAL %</b>	<b>23</b>	<b>2</b>	<b>19</b>	<b>16</b>	<b>27</b>	<b>2</b>	<b>11</b>
<i>FT education only</i>	<b>35</b>	46	3	20	5	15	2	9
<i>PT education only</i>	<b>2</b>	27	10	12	7	22	5	18
<i>FT education &amp; work</i>	<b>24</b>	22	1	40	8	23	3	3
<i>FTPT job with training</i>	<b>14</b>	2	0	2	70	16	1	9
<i>FTPT job w/o training or college</i>	<b>14</b>	3	1	5	12	69	2	8
<i>FTPT job w/o training but some college</i>	<b>1</b>	8	2	21	19	36	9	5
<i>NEET</i>	<b>9</b>	9	3	5	7	29	2	45

Total N = 12,291

Source: LFS 1993-2008

Shaded boxes show category persistence over time

**Table 9 Transition matrix of labour market states between ages 18/19 and 19/20 in LFS**

		<b>Main activity at 19/20</b>						
		<i>FT education only</i>	<i>PT education only</i>	<i>FT education &amp; work</i>	<i>FTPT job with training</i>	<i>FTPT job w/or training or college</i>	<i>FTPT job w/o training but some college</i>	<i>NEET</i>
<b>Main activity at 18/19:</b>								
	<b>TOTAL %</b>	<b>17</b>	<b>2</b>	<b>13</b>	<b>19</b>	<b>35</b>	<b>2</b>	<b>13</b>
<i>FT education only</i>	<b>20</b>	51	3	21	4	12	1	9
<i>PT education only</i>	<b>3</b>	26	18	7	9	14	4	22
<i>FT education &amp; work</i>	<b>13</b>	19	1	47	5	23	3	3
<i>FTPT job with training</i>	<b>17</b>	2	1	3	72	15	1	6
<i>FTPT job w/o training or college</i>	<b>31</b>	5	1	4	12	70	2	7
<i>FTPT job w/o training but some college</i>	<b>3</b>	14	1	20	20	35	7	3
<i>NEET</i>	<b>15</b>	10	3	2	6	28	1	50

Total N = 9,551

Source: LFS 1993-2008

Shaded boxes show category persistence over time

The probability of becoming NEET if you have a job without training is relatively low for 17/18 and 18/19 year olds (8% and 7% risk respectively) and this is similar to the probability of becoming NEET if initially you take a job with training (9% and 6% risk for 17/18 and 18/19 year olds respectively). Hence the results from the LFS over time do confirm our general finding that employment, regardless of whether there is a training element, is likely to help protect a young person from becoming NEET a year later. The picture is slightly different for 16/17 year olds though: for these individuals, jobs with training are associated



with a lower risk of becoming NEET at age 17/18 than jobs without training, suggesting that jobs with a training element may be particularly valuable for young school leavers.

While persistence in activity state is obviously a benefit to those in employment, it is also clear from the above tables that in all age groups young people who are NEET in the first quarter in which we observe them (wave 1) are also highly likely to be NEET a year later: almost half of young people in all age groups who were NEET in wave 1 are still NEET a year later, again consistent with the evidence from the LSYPE for the current cohort. Of course, we cannot discount the possibility that those young people who become NEET have characteristics that make them more likely to be NEET in the future, and we attempt to account for this in our multivariate regression analysis below. However, we do observe over a long period there has been clear persistence in negative as well as positive youth transitions which suggests that the initial transitions made by young people are particularly important to their longer term success.

Although Tables 7 to 9 do illustrate a relatively high degree of persistence in a particular activity state, as one might expect 16/17 year olds are slightly more likely to change state during the course of the year, particularly those in jobs without training. As described above, while 60% of 16/17 year olds in jobs without training remain in that state after a year, over 70% of 17/18 and 18/19 year olds do the same. Those 16/17 year olds who do change status are most likely to move into a job with training or obtain training in the job they are already in – just under half of the 16/17 year olds who change status are observed to be in a job with training. However, 16/17 year olds in jobs without training are also at a higher risk of becoming NEET than their older counterparts: of those 16/17 year olds in a job without training, 13% become NEET a year later, compared with 8% of 17/18 year olds in a job without training and 7% of 18/19 year olds in the same situation. The fact that the one year transitions at age 16/17 are different to those for older age groups might indicate that those in jobs without training take longer to acquire the necessary skills and experience to improve their longer-term outcomes, but we cannot prove this.

In addition to considering the persistence of individuals' labour market outcomes one year apart, we can also consider the extent to which individuals remain in the same state *across all 5 quarters in which we observe them*. In fact we find that of those in a job without training in the first quarter in which we observe them (wave 1); half remain in a job without training in each of the subsequent four quarters (though not necessarily the same job). Of those that “churn” into another state, just under 40% have been NEET for at least one quarter and just over half have been in a job with training for at least one quarter.

Table 10 compares the characteristics of individuals who remain in a job without training in all 5 quarters with those who are:

- a) In a job without training in wave 1 but for less than 5 quarters (Column 1);
- b) In a job without training in wave 1 and have at least one NEET spell (Column 2);
- c) In a job without training in wave 1 and have at least one spell in a job with training (Column 3).

It shows that 17/18 and 18/19 year olds are significantly less likely to churn (significantly more likely to stay in a job without training for all 5 quarters) than 16/17 year olds. It also shows that individuals who started in a job without training but had at least a Level 2

qualification are significantly less likely to spend at least one period NEET and significantly more likely to spend at least one period in a job with training compared to individuals with lower qualifications. Finally, Table 10 shows that individuals in households with higher average annual earnings are more likely to spend at least one period in a job with training, while males are less likely to churn than females, particularly to jobs with training.

**Table 10 Characteristics of individuals initially in jobs without training who churn**

	In a JWoT in W1 but for less than 5 waves vs. in a JWoT for full 5 waves	In a JWoT in W1 and have at least one NEET spell vs. in a JWoT for full 5 waves	In a JWoT in W1 and have at least one spell in a job with training vs. in a JWoT for 5 waves
Male	-0.0234*	0.0220	-0.0375**
Non-white	0.0644	0.0307	-0.0128
Highest qualification L1	0.0211	-0.0122	0.0442
Highest qualification L2	0.0325	-0.0542**	0.0742***
Highest qualification L3	0.146***	-0.0301	0.151***
Annual household earnings (1000s)	0.00185***	0.000441	0.00245***
Father in work	-0.0311	-0.0584**	-0.00201
Mother in work	-0.0337*	-0.0359*	-0.0179
Father's highest qualification L2-3	0.0362**	-0.00189	0.0555***
Father's highest qualification L4-5	0.106***	0.0973***	0.0454
Mother's highest qualification L2-3	0.0634***	0.00743	0.0661***
Mother's highest qualification L4-5	0.151***	0.0751**	0.101***
Age 17/18	-0.105***	-0.107***	-0.0809***
Age 18/19	-0.165***	-0.151***	-0.130***
Observations	5,793	3,981	4,445

Note: base case is indicated in column headings.

In summary, the above analysis has highlighted two key things. First there is persistence in state. In particular being NEET in one year means you are far more likely to be NEET the next. The transition matrices have also tentatively suggested that taking a job with or without training does not lead to markedly different transitions at ages 17/18 to 19/20. However, we also observed that, in terms of one year transitions, those in jobs without training at age 16/17 did not appear to do as well as those in jobs with training, even though over the longer period young people appear to have a similar likelihood of being NEET whether they start in jobs with or without training. This analysis is purely descriptive, however, and the fact that those in a job without training at age 16/17 are more likely to be NEET one year later may be attributable to other factors. Hence we now seek to confirm these findings using multivariate regression analysis.

## 5.2 Predictors of short-term transitions

As the above tables illustrated, there is a high degree of persistence in activity status in the short term. This is a particular cause for concern for those young people who become NEET. Furthermore, young people in certain states appear to be in more danger of becoming NEET than others. Of course, it may be the case that factors other than the young person's initial state are driving these relationships. For example, it may be that young people with low levels of educational attainment are more likely to become NEET initially and are also more

likely to be NEET in subsequent years because they do not possess adequate qualifications to get a job. Hence these tables cannot be taken as evidence that being NEET at age 16/17 (for example) *causes* a young person to be more likely to be NEET in the future. We can, however, test the robustness of the findings from the previous section using multivariate regression analysis that enables us to account for both the effect of the young person's initial state, as well as allow for other variables which may influence their labour market success.

We start by looking at the current LSYPE cohort before moving on to consider this relationship over time using the LFS data.

### 5.2.1 LSYPE

Table 11 below shows the relationship between initial activity status at age 16/17 (wave 4) and the probability of being in any particular activity state at age 17/18 (wave 5). The model used here is a multinomial logistic model which, although complex, has the advantage of enabling us to simultaneously model the effects of pupils' characteristics and their employment status at age 16/17 on their subsequent employment status at age 17/18. The model controls for a rich range of factors described in Appendix A and full results are available in Appendix B (Table B3). The table cannot be read like a usual Ordinary Least Squares regression. **Crucially** a coefficient greater than one and emboldened indicates a positive significant relationship, a coefficient less than one and emboldened indicates a negative significant relationship. The base group consists of those pupils in full-time education only at the beginning of the period and who continue on in full-time education only for the second period and all other transitions are compared to this. For example, those who are combining full-time education and work at age 16/17 are significantly more likely to be combining full-time education and work at age 17/18 than those who were in full-time education only at age 16/17 (coefficient is greater than one and significant).

One key finding here is that even allowing for individual characteristics and a rich set of factors influencing young people's choices, we continue to find that young people who are NEET at age 16/17 are significantly more likely to be NEET at age 17/18. In other words when looking at the final column of the table at the factors associated with being NEET at age 17/18, we note that the coefficient on the NEET at age 16/17 variable is greater than one and significant. This indicates that individuals have a higher probability of being NEET at age 17/18 if they were NEET at age 16/17, as compared to a person who was in full-time education at age 16/17. This pattern is also found when we look at the age 17/18 to 18/19 transitions, again using multivariate analysis (not shown). Hence the persistence of being NEET does not appear to be attributable to other characteristics of individuals that we observe. Young people who become NEET are at greater risk of future spells of NEET, even after taking into account a rich set of other characteristics likely to influence labour market outcomes; this is clearly an issue of policy concern. Although interestingly, those who are in a job without training and some college at age 16/17 are also more likely to be NEET at age 17/18, by a similar order of magnitude to those who are initially NEET at age 16/17. Further investigations suggested that the group doing a job without training and some college is particularly low achieving (in terms of GCSE results) which may explain this result, i.e. they are doing retakes and other college courses alongside their job but are not properly engaged with the labour market.

In Table 11 we are also able to consider the association between taking a job without training initially and the probability of being NEET one year later, controlling for other factors. Those who start in a job without training (with or without college) at age 16/17 have a significantly higher probability of being NEET at age 18/19 than those who were in full-time education at age 16/17.

Equally looking at the final column where we consider the likelihood of being NEET at age 17/18, the coefficient on being in a job with training at age 16/17 is positive and significant and of the same order of magnitude as the coefficient on being in a job without training but with some college at age 16/17. This implies that individuals in jobs with training and those in jobs without training but some college have a similarly higher probability of being NEET at age 17/18, as compared to those initially in full-time education at age 16/17. The coefficient on being in a job without training with no college at age 16/17 is also positive and significant but smaller, suggesting that these young people are also more likely to be NEET one year later than those who were in full-time education at age 16/17 but if anything being in a job without training and no college at age 16/17 is associated with a lower probability of being NEET at age 17/18, as compared to both someone who initially takes a job without training and some college and indeed someone who takes a job with training at age 16/17.

In summary, once we control for other factors, those who take a job without training at age 16/17 do **not** have a higher probability of being NEET one year later as compared to those who take a job with training at that age.

**Table 11 Predictors of NEET status at age 17/18 in the LSYPE**

<i>Relative to those in full-time education</i>	FT education & work	FTPT job w training	FTPT job w/o training & no college	FTPT job w/o training & some college	NEET
FT education & work	<b>8.78</b> (0.72)	5.66 (0.62)	<b>7.89</b> (0.89)	<b>8.66</b> (1.38)	<b>1.75</b> (0.25)
FTPT job with training	<b>2.50</b> (0.68)	<b>53.52</b> (10.33)	<b>32.89</b> (6.86)	<b>7.08</b> (2.28)	<b>7.31</b> (1.63)
FTPT w/o training & no college	1.77 (0.62)	<b>7.11</b> (1.95)	<b>5.73</b> (1.76)	<b>4.27</b> (2.05)	<b>2.36</b> (0.78)
FTPT w/o training & some college	2.30 (0.98)	<b>31.00</b> (9.57)	<b>42.65</b> (13.65)	<b>4.88</b> (2.34)	<b>7.59</b> (2.78)
NEET	<b>0.50</b> (0.16)	<b>6.02</b> (1.10)	<b>8.38</b> (1.59)	1.90 (0.70)	<b>6.95</b> (1.17)

*Based on LSYPE data. Model of employment status in wave 5 (age 17/18) on employment status in the previous year (age 16/17). Bold indicates significance at the 5% level. Standard errors are shown in parentheses. Models also include controls listed in Appendix B. Base case full-time education only.*

From a policy perspective, the risk of becoming NEET one year on is similar or even lower for those who start in a job without training as compared to those taking jobs with training, though both groups have a higher probability of being NEET than those initially in full-time education. We also find evidence that those who combine full-time education and work at age 16/17 are significantly more likely to be in some kind of work (either work with training,

work without training or a job with some college) by age 17/18 as compared to those who just do full-time education at age 16/17.

### 5.2.2 LFS

The above analysis focused on the current generation of young people using the rich LSYPE data set. This particular cohort is of course attempting to enter the labour market during economically difficult times. We therefore consider more broadly the short run employment outcomes of young people over a longer time period using LFS. In this section we focus simply on the likelihood of being NEET at ages 16/17, 17/18 and 18/19, as the results above suggest this may be a key outcome of interest for policymakers.

We model the relationship between whether or not a young person is NEET or not in wave 5 (the final quarter in which we observe young people) of the LFS on their labour market status a year earlier (in wave 1). We do so using a probit model in which our dependent variable is a binary indicator which takes the value of 1 if the individual is NEET in wave 5 and 0 otherwise. Our main explanatory variables of interest are dummy variables representing each young person's employment status in wave 1. We also include controls for a range of background characteristics that might affect labour market status. These controls are not as rich as those available in the LSYPE but nonetheless enable us to allow for a reasonably wide range of factors that might influence short run outcomes, particularly educational qualifications, plus gender, ethnicity, household income, and parents' education and work status. In this way we can examine the relationship between individuals' status in wave 1 and the likelihood that they will be NEET in wave 5, *over and above* the effect of their background characteristics. (We also control for broad region, plus year and quarter of interview.)

Table 12 shows the results from this multivariate regression analysis. Note that the results illustrate the association between individuals' status in wave 1 compared with the default (omitted) category of being in full-time education in wave 1. For example column 1 of Table 12 shows that 16/17 year olds in part-time education in wave 1 are 4.2 percentage points more likely to be NEET a year later than 16/17 year olds in full-time education in wave 1.

As Table 12 shows, even after controlling for background characteristics, there is strong evidence that those young people who are NEET or indeed in part-time education at age 16/17-18/19 are more likely to be NEET (rather than in any other state) one year later, i.e. we again confirm our finding that NEET status is persistent even after allowing for a range of other factors that influence whether a young person becomes NEET. For example, being NEET in wave 1 increases a young person's propensity to be NEET a year later by 24.3 percentage points for 16/17 year olds, 21.5 percentage points for 17/18 year olds and 24.1 percentage points for 18/19 year olds. This implies that being NEET in wave 1 is a significant predictor of being NEET in wave 5, even after allowing for differences in young people's family background, educational attainment, gender and ethnicity. It may be that there are so called "signalling effects" here, i.e. that being NEET may signal to employers that an individual is somehow not suitable for employment. Equally, as discussed in the LSYPE analysis above, there may be unobserved factors associated with being NEET in both waves that are driving the results. For example young people who are NEET in both waves 1 and 5 may simply suffer from a lack of motivation to find a job or may have low ability; as we do

not observe motivation or ability in our data we are unable to capture their effects in our model. This means that we cannot be certain that the relationship we have uncovered is a *causal* one. However, our model does suggest that being NEET on leaving school puts individuals at risk of further periods of being NEET in future.

**Table 12 Predictors of NEET status in Wave 5 amongst 16/17-18/19 year olds in the LFS, including status in Wave 1 (1 year earlier)**

	age 16/17	age 17/18	age 18/19
W1: PT education only	0.042* [0.017]	0.055* [0.022]	0.077** [0.025]
W1: FT education & work	-0.034** [0.005]	-0.052** [0.006]	-0.056** [0.008]
W1: FTPT job with training	0.010 [0.007]	-0.020** [0.007]	-0.046** [0.008]
W1: FTPT job w/o training or college	0.041** [0.010]	-0.026** [0.007]	-0.037** [0.008]
W1: FTPT job w/o training but some college	-0.004 [0.022]	-0.034* [0.017]	-0.049** [0.013]
W1: NEET	0.243** [0.016]	0.215** [0.016]	0.241** [0.019]
Observations	14,767	12,421	9,627

*Based on LFS data from 1993-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, highest educational qualification, mother's and father's work status and education, household income, region and year and quarter of observation. All controls are based on observations from wave 1. Base case full-time education only.*

Table 12 also shows that, for 17/18 and 18/19 year olds, work of *any kind* is associated with a lower probability of being NEET one year later: being in a job with or without training in wave 1 is associated with an individual being less likely to be NEET in wave 5. This is not true for 16/17 year-olds, however, where being in a job without training is positively associated with being NEET in wave 5 and being in a job with training is not associated with a higher probability of being NEET (as compared to those in full-time education only). We do note that this finding differs from our LSYPE results which indicated that for 16/17 year olds, being in a job with or without training had a similar risk of being NEET one year later. There are a number of possible reasons for this and clearly this evidence is not conclusive. It may be that the enhanced risk of being NEET for the LSYPE cohort as a whole, due to economic conditions, has changed the association between initial employment status and the likelihood of being NEET one year later. It could be due to the fact that approximately one in five LSYPE respondents complete their surveys in the summer and therefore it may be ambiguous as to whether they are genuinely NEET or actually waiting for a new term to start. It may also be that the richness of the LSYPE data enables us to better allow for other factors that influence labour market outcomes. We cannot determine exactly why the results differ but we simply note that for 17/18 and 18/19 year olds, the evidence is clearer.

Taking a job with or without training is associated with a reduced probability of being NEET one year later, and by quite a similar amount.<sup>11</sup>

The analysis in Table 12 also suggests that those combining full-time education and work have a lower probability of becoming NEET in the short term compared to those who are in full-time education only, by 3-6 percentage points. This too is an interesting point for policy-makers to consider when designing policy to enhance young people's transitions into work. However, we must be mindful that in a mechanical sense young people undertaking two activities (work and study) may be more likely to retain at least one of them over a given period. Hence someone with a term time job may be more likely to keep that job whilst they look for a full-time job and are therefore less likely to be classified as NEET.

As well as an individual's initial state, it is also of interest to examine the relationship between the length of time an individual spends in one state and his or her likelihood of becoming NEET subsequently. Table 13 presents the results from several analyses of the relationship between time spent in a particular state and subsequent short run outcomes.<sup>12</sup>

**Table 13 Predictors of NEET status in Wave 5 amongst 16/17-18/19 year olds in the LFS, including number of quarters spent in different states over past year**

	age 16/17	age 17/18	age 18/19
1 quarter NEET	0.690** [0.124]	0.724** [0.221]	0.634** [0.0184]
2 quarters NEET	0.922** [0.052]	0.969** [0.046]	0.890** [0.011]
3 quarters NEET	0.963** [0.029]	0.988** [0.021]	0.938** [0.007]
4 quarters NEET	0.997** [0.003]	0.999** [0.002]	0.992** [0.002]
Number of quarters in full-time education	-0.015** [0.001]	-0.015** [0.002]	-0.018** [0.003]
Number of quarters in part-time education	0.004 [0.005]	-0.0004 [0.006]	-0.005 [0.006]
Number of quarters in full-time education and work	-0.031** [0.001]	-0.041** [0.002]	-0.050** [0.004]
Number of quarters in a job with training	-0.018** [0.002]	-0.029** [0.002]	-0.046** [0.003]
Number of quarters in a job without training	-0.010** [0.002]	-0.031** [0.002]	-0.044** [0.002]
Observations	14,767	12,421	9,627

*Based on LFS data from 1993-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, highest educational qualification, mother's and father's work status and education, household income, region and year and quarter of observation. All controls are based on observations from wave 1. Base case no quarter of being NEET.*

<sup>11</sup> We also considered how these relationships varied between 1993 and 2008 (not shown) and our analysis suggests that, if anything, the association between taking a job with or without training and being in work a year later is stronger during periods of economic growth.

<sup>12</sup> Note that Table 13 considers the influence of length of time spent in each state separately (by running a series of different models), rather than by controlling for such measures simultaneously in a single model.

The results show, perhaps unsurprisingly, that the more time (or quarters) a youth spends NEET, the more likely he or she is to be NEET in wave 5. What is more interesting, perhaps, is the fact that this relationship is highly non-linear. Table 13 shows that being NEET for just a single period increases your chances of being NEET in Wave 5 by around 70 percentage points compared to experiencing no periods of being NEET. It is also interesting to note that young people who spend two or more periods NEET are over 90 percentage points more likely to be NEET in wave 5 than individuals who have never been NEET. This suggests that a policy which is able to successfully prevent individuals from becoming NEET at all might be a highly valuable strategy for policymakers to pursue, though we remind the reader that we cannot definitively establish causality in these relationships.

The number of quarters spent in states apart from being NEET typically has a more linear relationship with the chances of being NEET in wave 5. Table 13 shows that an additional quarter spent in almost all other activities apart from being NEET (and part-time education) is associated with a reduction in the likelihood of being NEET in Wave 5. This effect is largest for quarters spent in full-time education and work. Moreover, the relationship between the time spent in a job with or without training and the reduced likelihood of being NEET increases with age, which confirms our earlier findings.

Another advantage of using the LFS data is that it includes information on young people's sector of work and sufficient sample sizes to enable us to allow for this potentially important factor in our regressions. Table 14 adds controls for sector of employment (relative to manufacturing) and hours of work (full-time relative to part-time) to our set of explanatory variables. This allows us to examine the types of work that may be associated with a reduced likelihood of being NEET a year later. Note that we are only considering those in employment in wave 1 in this more detailed breakdown, where the omitted category is being in a job with training.



**Table 14 Relationship between type of work in Wave 1 and NEET status in Wave 5 (1 year later) amongst 16/17-18/19 year olds in the LFS**

	age 16/17	age 17/18	age 18/19
W1: FT education & work	-0.040** [0.011]	-0.026** [0.010]	-0.017 [0.009]
W1: Job w/o training or college	0.030** [0.010]	0.008 [0.008]	0.020** [0.007]
W1: Job w/o training but some college	-0.004 [0.016]	-0.005 [0.016]	-0.008 [0.015]
Full-time work	-0.001 [0.007]	-0.014 [0.008]	-0.028** [0.009]
Construction	0.006 [0.012]	-0.026** [0.007]	-0.0004 [0.012]
Retail and catering	0.002 [0.008]	-0.015 [0.009]	-0.010 [0.008]
Business and finance	-0.003 [0.012]	-0.001 [0.012]	-0.012 [0.009]
Other services	0.013 [0.012]	-0.009 [0.009]	-0.003 [0.010]
Other (including agriculture /transport)	-0.007 [0.010]	-0.0006 [0.012]	-0.018* [0.009]
Observations	5,298	5,663	5,295

*Based on LFS data from 1993-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, highest educational qualification, mother's and father's work status and education, household income, region and year and quarter of observation. All controls are based on observations from wave 1. Note base case is being in a job with training.*

Table 14 shows that being in full-time work is associated with a lower probability of being NEET compared to being in part-time work for 18/19 year olds only (by 2.8 percentage points). The inclusion of a separate indicator for full-time work in this model means that the indicators of wave 1 status now refer to the effects of part-time rather than full-time work. Those in a part time job without training at age 17/18 are 2 percentage points more likely to be NEET one year later as compared to those in a part-time job with training (the base case). This implies some protective benefit of taking a job with training for part-time workers. By contrast, those in full-time work without training or college at age 17/18 are then by age 18/19 0.8 percentage points less likely to be NEET (calculated as 2.0-2.8=-0.8) than those initially in a part-time job with training. They are of course still 2 percentage points more likely to be NEET than an individual initially in a full-time job with training. This suggests an important point. Being in a full-time job with or without training is associated with a lower probability of becoming NEET. Equally there appear to be some protective effects from taking a job with training too. These results do not differ systematically by sector of employment.

Overall, the results discussed in this section have highlighted the association between being in work and having a lower probability of being NEET in the future, at least for 17/18 and 18/19 year olds. Whilst 16/17 year olds in jobs without training may have a higher probability of becoming NEET one year later than their older counterparts, the more time they spend in a job without training, the lower is their risk of becoming NEET.

## 5.3 Predictors of wages

As well as looking at the employment outcomes of young people, we also examined the wages they earned in the short term and specifically the association between initial employment status and the wages of those in work a year later. Our strategy in all our wage regressions is to allow for pupils' initial characteristics, but not to allow for intervening experiences. So, for example, we look at the relationship between being NEET and subsequent wages, allowing for gender, ethnicity and family background characteristics. We do not, however, allow for factors that may themselves be an outcome of a person's initial employment status, such as total work experience or attitudes a year later. For instance, if being in a job with training makes you more likely to gain a qualification, we do not then allow separately for acquiring an additional qualification. This is because we want to estimate the total maximum effect of initial employment status on wages, ignoring exactly how that initial status influences wages. In other words, we want our models to measure the total effect of being in a particular initial state, including any impact that initial state may have on a) qualifications acquired and b) total years of work experience. That said, we have checked the robustness of our results to the inclusion of measures of total months of work experience and the coefficients on initial status in our models are not significantly different from those presented here.

### 5.3.1 LSYPE

We start by looking at the association between initial employment status and wages one and two years later using LSYPE data in Table 15. The comparator group in every instance is those in full-time education only. Specifically we look at the relationship between employment status at age 16/17 and wages at age 17/18 (column 1); employment status at age 16/17 and wages two years later at age 18/19 (column 2) and employment status at age 17/18 and wages one year later at age 18/19 (column 3). Full results are in Appendix B.

Table 15 shows that those who take a job with training at age 16/17 have wages that are 6% higher one year later, as compared to those who were in full-time education only at age 16/17. This implies that those who leave school at the end of compulsory schooling and get a job with training earn significantly more than those observed in work after an additional year of education, perhaps because the latter are likely to have less work experience (see below). It also implies that those in a job with training at age 16/17 have significantly higher wages at age 17/18 than those who were initially in a job without training. By age 18/19 however, the situation is quite different. Those who were in jobs *without* training at age 16/17 go on to have higher wages two years later at age 18/19 than those who were in full-time education or indeed those who took a job with training at age 16/17. Thus over a two year period it appears that those who take a job without training do significantly better than those who take a job with training in terms of wages. We also looked at those in jobs without training at age 17/18 and they too go on to have higher earnings one year later (age 18/19) as compared to those who were initially in full-time education at age 17/18. By contrast, those who took jobs *with* training at age 17/18 then earn somewhat less one year later than those who were in full-time education.

**Table 15 Predictors of wages for 17/18 and 18/19 year olds in the LSYPE**

	Wages at age 17/18 (on age 16/17 status)	Wages at age 18/19 (on age 16/17 status)	Wages at age 18/19 (on age 17/18 status)
<b>JWT status (default: FT education only)</b>			
FT education and work	-.02 (.02)	.02 (.01)	.02 (.01)
FTPT job with training	.06 † (.03)	.00 (.02)	-.03 * (.02)
FTPT job without training, no college	-.03 (.06)	.08 ** (.03)	.05 ** (.02)
FTPT job without training, some college	.01 (.03)	.04 * (.02)	.02 (.02)
NEET	.06 (.04)	.01 (.02)	.02 (.03)

Based on LSYPE data. \*\* indicates significance at the 1% level; \* at the 5% level and at the 10% level †. Standard errors are shown in parentheses. Models also include controls listed in Appendix A. Full results are shown in Appendix B. Base case full time education only.

In summary, Table 15 indicates that those taking jobs without training at age 16/17 or 17/18 are not earning significantly less than those who stayed in full-time education or who took jobs with training by age 18/19. We need to be cautious in how we interpret these results however. Individuals in jobs with training may earn less, for example, if workers share the cost of training with employers, earn a training wage or may have been eligible for the lower minimum wage for apprentices. Indeed, we might expect workers who have been trained to go on to reap higher wages in the longer term, an issue we consider in Sections 7 and 8.

### 5.3.2 LFS

We now consider the short-term wage effects of young people’s labour market choices in the LFS. Table 16 shows the relationship between status in Wave 1 and wages a year later for 16/17-18/19 year olds. Note that we restrict our sample to those young people who were in jobs with or without training in Wave 5. Again we control for all available individual and background characteristics from Wave 1, but nothing thereafter, to ensure that we capture the maximum possible effect of status in Wave 1.

**Table 16 Predictors of wages in Wave 5 for 16/17-18/19 year olds in the LFS**

	age 16/17	Age 17/18	age 18/19
W1: PT education only	-0.154 [0.145]	0.007 [0.101]	0.018 [0.097]
W1: FT education & work	0.136* [0.053]	0.151** [0.039]	0.121* [0.058]
W1: FTPT job with training	-0.149** [0.049]	-0.063 [0.038]	0.046 [0.049]
W1: FTPT job w/o training or college	0.085 [0.053]	0.077* [0.038]	0.108* [0.047]
W1: FTPT job w/o training but some college	-0.182 [0.145]	-0.045 [0.089]	0.109 [0.072]
W1: NEET	-0.059 [0.072]	-0.002 [0.055]	0.086 [0.058]
Observations	1,035	1,478	1,505

*Based on LFS data from 1993-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, highest educational qualification, mother's and father's work status and education, household income, region and year and quarter of observation. All controls are based on observations from wave 1. Base case is individuals in full-time education at wave 1.*

Table 16 shows that individuals who were in full-time education with some work in wave 1 tend to be paid more a year later than those who were in full-time education only (the base group). This finding applies at all ages and the wage premium ranges from 12-15%. Further, we see that those in a job without training (and no college) at age 17/18 or 18/19 earn significantly more one year later as compared to those who were initially in full-time education and those in jobs with training at those ages. (Note that this finding holds regardless of whether or not we include those undertaking apprenticeships in the first quarter in our jobs with training category, which suggests that apprentices do not have materially different wage outcomes one year later compared to young people in other types of jobs with training.) This evidence therefore broadly supports the findings from the earlier LSYPE analysis that there is no wage penalty for taking a job without training in the first few years of individuals' careers.

Interestingly, Table 16 also shows that individuals who were NEET in wave 1 do not appear to be paid less on finding a job than individuals who were in full-time education, even controlling for background characteristics including education level. This may be because our sample comprises only those individuals for whom we observe a wage in Wave 5, so this is the effect of being NEET amongst a group of individuals who we know to have successfully exited from being NEET (the minority). We might therefore expect these individuals to be more similar to those in full-time education only who leave and find a job than the NEET group as a whole. This finding is also borne out by the LSYPE analysis discussed above. In any case, at this age there is likely to be less variation in wages due to the fact that many are paid around the level of the minimum wage.

## 5.4 Summary

In this section of the report, we have considered the short-run transitions of young people aged 16/17-18/19 using very rich data on a single recent cohort (the LSYPE) and somewhat less rich data for multiple cohorts over a longer time period (the LFS).

Our analysis consistently points to the detrimental effects of being NEET, both as an initial state, but also the negative impact of accumulating NEET spells. By contrast, we found rather more mixed evidence in terms of the importance of training in the short run. On the one hand there appears to be more persistence for those who left school and entered a job with training by age 16/17 as compared to those who took jobs without training, indicating greater stability in jobs with training. Yet individuals in jobs with or without training faced a similar risk of becoming NEET in the short term (though this did not hold in the LFS data for those who took jobs without training at age 16/17, who had a slightly higher probability of being NEET one year later than those in jobs with training). In general, though, we did not find that those who initially took jobs without training had significantly worse outcomes (employment or wages) than those who took jobs with training. Further those who initially do full-time education alongside work are less likely to be NEET and more likely to be in work than those who do full-time education only.

## 6. Medium term transitions

We now consider medium term transitions (up to three years after the end of compulsory schooling) using data from the LSYPE. (The LFS only follows individuals for 1 year.) This period covers the start of the recent economic recession and hence we must be mindful that generalising from these LSYPE results to other periods may be problematic.

### 6.1 Labour market choices on leaving post-compulsory education

Using LSYPE data, we can focus on the extent to which individuals move between different activities in the medium term, i.e. we can follow students month by month through their first few years after leaving full-time education. We begin our analysis by examining the monthly snapshot histories of young people in the LSYPE over a three year period, as this provides evidence on changes over time in the economic activity status following compulsory education. The classification of young people's labour market choices used here (based on the Department's own classification) is slightly different to the definition that we adopt throughout the rest of our analysis, as it does not distinguish between those in full-time education who work and those in full-time education who do not, and also identifies young people in apprenticeships as a separate category.

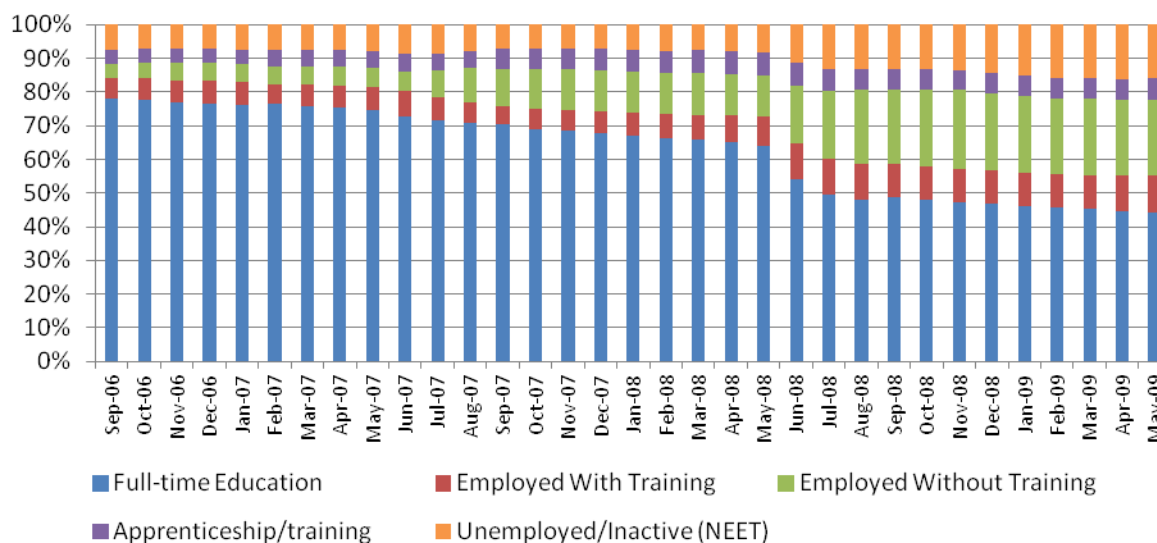
Figure 7 shows young people's main activities from September 2006, the first September following the end of compulsory schooling, i.e. the beginning of Year 12 when they are aged 16/17, through to May 2009, when the majority will be 18/19, the equivalent of the end of the first year of university for those following an academic track. The data reveal that while the majority of young people remain in full-time education in the September immediately

following the end of compulsory schooling (78%), less than half (48%) are still in education two years later in September 2008.

The patterns we observe in Figure 7 suggest that three quarters of the cohort do remain in full-time education after the end of compulsory schooling and many remain in full-time education for around one to two years. Notice, for example, the marked drop in the proportion of young people participating in full-time education between May (64%) and June (54%) 2008, and the corresponding rise in the numbers entering work, particularly jobs without training. This suggests that many people stay on in full-time education to complete their A-levels (or equivalents) and then enter the labour market. Figure 7 also indicates that while the proportion of young people in apprenticeships and other government-supported training (GST) remains fairly constant as the cohort ages, the numbers of young people classified as NEET or in jobs without training increases considerably as they move out of education, particularly from June 2008 (age 17/18) onwards. Some of this is potentially attributable to young people taking gap years.

When young people do attempt to make their entry into the labour market one to two years after the end of compulsory schooling, some do still encounter difficulties, as is evident from the fact that there is also an increase of more than 25% in the numbers becoming NEET in this period. The extent to which this is simply a temporary phenomenon caused by issues such as gap years (people being inactive through choice) or the recession is not clear from these data, though as has been said these patterns of transition are consistent with the prolonging of adolescence and the idea of a new normative stage of 'emerging adulthood' (Arnett, 2000), wherein young people engage in an extended phase of role exploration before making the step into committed adult roles. The high NEET rate at 17/18 to 18/19 might suggest that young people continue to find it difficult to enter the labour market even when they postpone entry, though of course the causality may run the other way, such that young people expect to find it difficult to find a job and hence remain in school longer in an attempt to improve their labour market prospects. This issue is explored further in the analysis below.

**Figure 7 Monthly activity histories from the three years following post-compulsory schooling amongst individuals in the LSYPE**



*Source: LSYPE Activity Histories (DfE Statistical Bulletins report May figures)*

The analysis of these monthly work history data also highlights some movement into and out of different categories, particularly amongst those who do not pursue full-time education beyond 16. For example, between the ages of 16/17 and 18/19, 61% of all young people have never been in a job without training compared to 66% who have never been in a job with training and 71% who have never been classified as NEET. Between May 2006 and 2008 – the period after compulsory schooling - for those young people who did pursue a job with training, the average number of months in this state was 9.5, with 1 in 10 young people spending more than 19 months in a job without training. Our analysis merely records the type of work that the young person is doing however, so it is possible that a spell of 19 months in a job without training could encompass a number of job changes. For those who remain in full-time education there is much more stability unsurprisingly.

## 6.2 Individual transitions over time

The persistence that we saw in terms of short term outcomes over one year is also evident over the medium term. This is particularly the case for those young people who are NEET. Table 17 shows a transition matrix between activities at age 16/17 (wave 4) and age 18/19 (wave 6), i.e. following the same individuals over a three year period. Over a longer time period, we unsurprisingly see less persistence in some states.

**Table 17 Transition matrix of labour market states between ages 16/17 and 18/19 in the LSYPE**

		<i>Main activity at 18/19:</i>						
		<i>University</i>	<i>FT education only</i>	<i>FT education &amp; work</i>	<i>J w T</i>	<i>J w/o T, no college</i>	<i>J w/o T, some college</i>	<i>NEET</i>
<i>Main activity at 16/17:</i>	<i>Total</i>							
	<b>100</b>	<b>28</b>	<b>9</b>	<b>6</b>	<b>17</b>	<b>21</b>	<b>2</b>	<b>16</b>
<i>FT education only</i>	<b>38</b>	<b>37</b>	<b>17</b>	6	9	14	2	16
<i>FT education &amp; work</i>	<b>35</b>	40	4	<b>10</b>	16	21	2	7
<i>FTPT job w training</i>	<b>11</b>	2	3	4	<b>42</b>	<b>33</b>	2	14
<i>FTPT job w/o training &amp; no college</i>	<b>2</b>	5	13	4	30	<b>29</b>	2	18
<i>FTPT job w/o training &amp; some college</i>	<b>5</b>	1	4	3	24	42	<b>1</b>	24
<i>Not in work or training</i>	<b>9</b>	1	11	1	16	23	2	<b>47</b>

Total N = 9,596

Source: LSYPE waves 4 & 6

Shaded boxes show category persistence over time

Of those who are initially in full-time education without any work at 16/17, we observe at age 18/19 that 37% are at university, 17% are in other types of full-time education only and 6% remain in full-time education and also work. For those who initially combined full-time education and work at age 16/17, we observe by age 18/19 that an even higher proportion are in university (40%), 4% are doing other types of full-time education and 10% continue to combine other full-time education and work. Individuals who were in full-time education with some work at age 16/17 have a particularly low probability of being NEET by age 18/19 (only 7%) compared to 16% for those in full-time education only.

Unsurprisingly, perhaps, we once again observe that being NEET initially (9% of the cohort at age 16/17) is associated with a much higher risk in terms of being NEET at age 18/19, with nearly 50% of young people who were NEET at age 16/17 still NEET at age 18/19.

Our main focus, however, is the medium term outcomes of those who initially take jobs without training as compared to those who take jobs with training. Of those who take jobs with training at 16/17 (11% of the cohort), most remain in work with 42% in a job with training and 33% in a job without training. Of those who take jobs without training and no college at age 16/17 (just 2% of the cohort), most remain in work with 30% in a job with training, 29% in a job without training and just 2% in a job without training and some college. Of those who take a job without training and some college at age 16/17 (5% of the cohort) most are in work at age 18/19 with 24% taking a job with training and 42% taking a job without training. Thus those who take a job without training (whether with some college or not) do have a somewhat lower probability of securing a job with training by age 18/19. They are also slightly more likely to become NEET, particularly those who undertake some college alongside their job.

This analysis suggests that those who take a job with training have a lower probability of being NEET by age 18/19 and that those who are initially NEET face an extremely high risk of being NEET two years later. However, these results may partly be driven by differences in other characteristics and hence we seek to confirm these results using multivariate analysis.



Table 18 shows the relationship between initial activity status at age 16/17 (wave 4) and status at age 18/19 (wave 6) two years later. The model used here is a multinomial logistic model which enables us to simultaneously model the relationship between pupils' characteristics and their employment status at age 16/17 on their subsequent employment status at age 18/19. The model controls for the rich range of factors described in Appendix A and full results are available in Appendix B. A coefficient greater than one and emboldened indicates a positive significant relationship, a coefficient less than one and emboldened indicates a negative significant relationship.

**Table 18 Predictors of employment status at age 18/19 amongst individuals in the LSYPE**

<i>Relative to those in full-time education</i>	<b>FT education &amp; work</b>	<b>FTPT job w training</b>	<b>FTPT job w/o training &amp; no college</b>	<b>FTPT job w/o training &amp; some college</b>	<b>NEET</b>
<b>Main activity at 16/17:</b>					
FT education & work	<b>0.38</b> (0.04)	<b>1.70</b> (0.17)	<b>1.51</b> (0.13)	<b>1.54</b> (0.12)	<b>0.60</b> (0.06)
FTPT job with training	<b>2.38</b> (0.74)	<b>7.48</b> (2.28)	<b>37.74</b> (9.63)	<b>19.64</b> (5.00)	<b>9.28</b> (2.48)
FTPT w/o training & no college	3.74 (1.71)	<b>3.61</b> (1.98)	<b>13.03</b> (5.58)	<b>9.35</b> (3.95)	<b>6.31</b> (2.77)
FTPT w/o training & some college	4.43 (2.35)	<b>8.57</b> (4.71)	<b>37.96</b> (17.88)	<b>37.06</b> (17.22)	<b>23.39</b> (11.06)
NEET	<b>9.35</b> (3.82)	<b>2.32</b> (1.38)	<b>27.48</b> (11.06)	<b>26.79</b> (10.58)	<b>37.09</b> (14.58)

*Based on LSYPE data. Model of employment status in wave 5 (age 18/19) on employment status two years previously (age 16/17). Base case is those in full-time education. Bold indicates significance at the 5% level. Standard errors are shown in parentheses. Models also include controls listed in Appendix A.*

Broadly the table confirms the results shown in the transition matrix above (Table 17). Specifically we find that, even after taking account of other factors:

- Individuals who are NEET at age 16/17 are significantly more likely to be in any state other than full-time education only at age 18/19. Individuals who are NEET at age 16/17 are particularly likely to be NEET at age 18/19 and are also significantly more likely to be doing a job without training (with or without some college), as we found when considering the simple transition matrix (Table 17).
- Table 17 suggested that those taking a job without training at age 16/17 were more likely to be NEET two years later than those taking a job with training. The multivariate analysis suggests a more complex story. Those who take a job with training or without training but no college at age 16/17 are more likely to be NEET at age 18/19 than someone in full-time education at age 16/17 but the risk of being NEET is broadly similar in both cases. Those who take a job without training but who also do some college alongside it are in fact significantly more likely to be NEET at age 18/19 than those in either jobs with training or jobs without training and no college. It is not clear why doing

some college alongside a job without training would be detrimental. This result may therefore be attributable to the unobserved characteristics of this group and, as we have already mentioned, this group had particularly low key stage 2 scores. Perhaps those who have secured only poor quality jobs without training are more likely to decide to attend college and also have a higher probability of becoming NEET. However, this is not something we can confirm in our analysis.

### 6.3 Predictors of wages

We now consider the relationship over a two year period between a person's initial employment status at age 16/17 and their wages at age 18/19. Specifically we regress wages at age 18/19 (wave 6) on initial employment status at age 16/17 (wave 4). As we did when we looked at one year outcomes in Section 6, we control for the full range of factors observed by age 16/17 that might influence a person's wages at age 18/19, but do not control for intervening influences. Hence we are able to ask whether individuals who take different types of jobs (with or without training) have lower or higher wages by age 18/19, allowing for differences in wages that arise due to family background and other pupil characteristics. These results are the equivalent of those presented in Table 15 for one year outcomes and the full set of coefficients are reported in Appendix B.

Table 19 shows that:

- By age 18/19 those who at age 16/17 were in a) full-time education with some work b) doing jobs without training with some college or c) NEET earn no more (or less) than those initially in full-time education at age 16/17;
- By age 18/19 young people who start in jobs without training or college at age 16/17 earn significantly more than those who start in jobs with training at age 16/17. Specifically these young people earn around 5% more than those who were in full-time education at age 16/17 and up to 8% more than those who started in jobs with training at age 16/17. Hence by age 18/19 young people who take a job with training at age 16/17 are still earning less than those who were in full-time education at age 16/17 (by around 3%);

This analysis suggests that, far from there being a wage penalty for taking a job without training, by age 18/19 such young people actually appear to earn a premium compared to those in jobs with training. This result is robust to allowing for years of work experience in the model and hence is not entirely attributable to the fact that those in jobs accumulate more work experience. However, we need to be cautious. Firstly, this result may be partly driven by the fact that young people in jobs with training share the costs of that training in the form of lower wages, but they might expect to reap the benefit of this investment over a longer time period. Further, those doing apprenticeships may earn a lower training wage or, depending on the year, be eligible for the (lower) minimum apprenticeship wage and so by definition will have lower wages. One therefore needs to consider such students' longer term outcomes before we conclude that there is no advantage to taking a job with training initially and we do that in the next section.

**Table 19 Predictors of wages at age 18/19 in the LSYPE**

	Wages at age 18/19
FT education and work	0.02 [0.01]
FTPT job with training	-0.03* [0.02]
FTPT job without training and no college	0.05** [0.02]
FTPT job without training and some college	0.02 [0.02]
NEET	0.02 [0.03]

*Based on LSYPE data. Wages at wave 6 (age 18/19) regressed on employment status in wave 4 (age 16/17). \*\* indicates significance at the 1% level; \* at the 5% level. Base case those in full-time education at age 16/17. Standard errors are shown in parentheses. Models also include controls listed in Appendix A. Full results in Appendix B.*

## 6.4 Summary

First and foremost, these results suggest that those who are initially NEET on leaving compulsory schooling (i.e. at age 16/17) have a much higher probability of being NEET two years later. Individuals who are NEET at age 16/17 are also more likely to be doing a job without training by age 18/19 than to be doing a job with training. Those who take a job with training or a job without training (no college) at age 16/17 have a similar risk of being NEET two years later. Those who take a job without training but who also do some college alongside it are in fact more likely to be NEET at age 18/19, though we suggested that this group may have characteristics that are associated with worse labour market outcomes. In terms of wages, those who take jobs without training at age 16/17 have significantly higher earnings at age 18/19 than both those who start initially at age 16/17 in a job with training or who are in full-time education at age 16/17. We argued that this result may be because those taking jobs with training share the costs of their training with their employers by accepting lower wages and that we need to look at longer run wage outcomes to corroborate this result (which we do in the next section). Finally, combining full-time education and work is associated with a higher likelihood of being in work two years later compared to full-time education only (Table 18), but this does not appear to have a positive effect on wages at age 18/19.

## 7. Longer-term transitions

The final section of this report considers the relationship between young people's education and labour market choices in their late teenage years, and their labour market outcomes five and ten years down the line, in their mid to late twenties. We carry out this analysis using data from the British Household Panel Survey (BHPS).

We start by considering job, occupation and sector churn for these individuals. Churn is defined here as movement into or out of a specific job, sector or occupation. In general, we

find evidence of *substantial* job churn, *significant* occupation churn and *moderate* sector churn. More specifically, we find that:

- Of the 479 individuals aged 20-25 in 1998 who are present in the survey for the next ten years, about 50% are working in every period, with the remaining 50% spending some time in unemployment or education (mostly unemployment);
- Those who have higher level academic qualifications, and those who are older, are more likely to be working in all 11 periods (1998 to 2008 inclusive), while those with a vocational qualification are less likely to be working in all 11 periods, and are more likely to experience periods of unemployment;
- Looking at the 237 individuals who are in work (and for whom we observe sector and occupation information) for all periods between 1998 and 2008, we find that individuals change jobs, on average, 3.5 times over this period: 9% never change their job, 23% change their job one to two times and the remaining two thirds change job at least three times;
- Individuals are less likely to change their occupation than their job: on average, individuals change occupation 2.5 times over this 11 year period and 20% of individuals never change occupation;
- Individuals are even less likely to change their sector than their job or occupation. On average, individuals change sectors 1.8 times over 11 periods of work and 35% of individuals never change sector. The majority of individuals are employed in either retail or manufacturing, meaning that there is a lot of churn between these two sectors;
- Looking at the characteristics of churners: likeliness to change job, occupation or sector does not appear to be related to age, prior academic achievement or gender. However, those with a vocational qualification are less likely to change jobs (though they are not less likely to change occupation or sector if they do change jobs) than those without a vocational qualification. Of course, it is not clear whether this finding reflects the fact that those with vocational qualifications cannot change jobs as easily or whether they actually don't want to/have to change jobs as often;
- Those who are not in work in every period are clearly less likely to change jobs, since they are working for a smaller number of periods. However, as a proportion of years working, those with an unemployment spell have a higher number of job changes than those who do not experience any unemployment. The number of job changes an individual has as a proportion of years in work increases with unemployment spells - e.g. those with no unemployment spells experience 3 job changes in ten years; those with five unemployment spells experience 5 job changes in ten years. Those with unemployment spells are less likely to change occupation and sector however.

## 7.1 Predictors of NEET

We now move on to consider whether young people's education and labour market choices at ages 16-19 may have potentially long-term consequences in terms of their likelihood of becoming NEET. We run a simple multivariate regression analysis using a probit model

where our dependent variable is a binary indicator taking value 1 if the individual is unemployed some five or ten years after we observe the individual at ages 16/17, 17/18 or 18/19 respectively and 0 otherwise. Our primary explanatory variables of interest are the young person's labour market status five and ten years earlier; we also control for a range of background characteristics that might be expected to affect labour market status. These controls are slightly richer than those used in our LFS analysis (in particular, we have better measures of the individual's GCSE results, which we expect to play a key role in determining their labour market status), but not as rich as those used in our LSYPE analysis. Table 20 presents these results separately for those observed initially at ages 16/17, 17/18 and 18/19 years old. Our primary interest is in how the individual's initial labour market status at age 16-19 is associated with their labour market outcomes five to ten years later. The base case is a student who was initially in full-time education. The model therefore tells us whether individuals in a particular activity state at an early age, such as a job without training, have a higher or lower probability of being unemployed 5 or 10 years later compared to someone who was in full-time education at an early age.

Our work considering short and medium-term transitions using the LFS and LSYPE data found a high degree of persistence in the likelihood of young people being NEET from one year to the next, even after taking into account individual and family background characteristics. Table 20 provides evidence that this relationship persists even further. Specifically, it shows that those individuals who are NEET at age 16/17, 17/18 or 18/19 are significantly more likely to be NEET five years later. This relationship is not as strong for outcomes ten years later. For example, young people who are NEET at age 18/19 are 27.5 percentage points more likely to be NEET five years later and 20 percentage points more likely to be NEET ten years later, as compared to those who were in full-time education at these ages. This effect varies by the age that we observe the individual to be NEET. For instance, individuals who are NEET at age 16/17 are just 7.5 percentage points more likely to be NEET five years later and they are not significantly more likely to be NEET ten years later.

This evidence is consistent with some short and medium term "scarring" effects associated with being NEET; young peoples may appear less appealing to employers if they have been unemployed in the past. However, we must be careful not to draw overly strong conclusions on the basis of this analysis alone, as we may not be observing causal relationships. It might be that those who are NEET at age 18/19 are a particularly selected group who have unobserved characteristics that make them more likely to have negative labour market outcomes.

There is no evidence from Table 20 to suggest that young people who leave school and enter jobs without training at age 16/17, 17/18 or 18/19 are at greater risk of being NEET five or ten years down the line as compared to either young people who stay on in full-time education (without work), or indeed young people who move into jobs with training. This provides further evidence to support the view, presented earlier, that there do not appear to be any significant detrimental effects associated with moving into a job without training immediately after leaving school, at least in terms of the likelihood of becoming NEET. We are mindful of course that this analysis comes from data on cohorts who left school some time ago and we must be cautious before using these findings to predict the outcomes of current cohorts of young people.

**Table 20 Predictors of unemployment status 5 and 10 years later for 16/17-18/19 year olds in BHPS**

	Initial state at age 16/17	Initial state at age 17/18	Initial state at age 18/19
Five year outcomes			
W1: PT education only	0.126 [0.105]	0.132* [0.065]	0.189* [0.077]
W1: FT education & work	-0.041** [0.014]	-0.019 [0.018]	-0.058** [0.019]
W1: FTPT job with training	-0.019 [0.017]	-0.011 [0.021]	-0.010 [0.024]
W1: FTPT job w/o training or college	-0.016 [0.018]	0.016 [0.025]	0.041 [0.028]
W1: FTPT job w/o training but some college	-0.027 [0.025]	-0.042* [0.022]	0.027 [0.033]
W1: NEET	0.075* [0.035]	0.201** [0.055]	0.275** [0.052]
Observations	1,768	1,648	1,641
Ten year outcomes			
W1: PT education only	0.016 [0.118]	0.142 [0.109]	0.019 [0.071]
W1: FT education & work	-0.036 [0.029]	-0.022 [0.031]	-0.022 [0.037]
W1: FTPT job with training	-0.089** [0.021]	-0.046 [0.030]	0.017 [0.042]
W1: FTPT job w/o training or college	-0.002 [0.043]	-0.104** [0.019]	0.049 [0.049]
W1: FTPT job w/o training but some college	-0.011 [0.059]	-0.042 [0.041]	-0.010 [0.045]
W1: NEET	0.085 [0.075]	0.082 [0.076]	0.198* [0.078]
Observations	620	652	681

*Based on BHPS data from 1991-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, household income, mother's and father's highest qualification and work status, housing tenure, whether young person attended a private school, GCSE attainment, highest educational qualification, region and year of observation. All controls are based on observations from age 16/17, 17/18 or 18/19 respectively. Outcomes are measured 5 and 10 years later. Base case full-time education only.*

Table 20 also shows that there is some evidence of a positive relationship between having early work experience (e.g. working whilst in full-time education) and outcomes five (but not ten) years down the line. For example, 16/17 (18/19) year olds who combine full-time education and work are 4.1 (5.8) percentage points less likely to be NEET five years later than 16/17 (18/19) year olds who are in full-time education only. There is no evidence to suggest that this relationship persists to ten years though.

## 7.2 Predictors of wages

We now move on to consider whether young people's education and labour market choices at ages 16-19 also affect their wages five and ten years down the line. Our outcome of interest here is log hourly wages and we use a simple OLS regression model. As with our analysis of short and medium-term outcomes, we only control for young people's initial background characteristics and do not additionally control for intervening experiences that may themselves be outcomes of an individual's initial employment status, such as subsequent educational attainment or job tenure. The results from these models are shown separately for 16/17, 17/18 and 18/19 year olds in Table 21.

**Table 21 Predictors of wages five and ten years later for 16/17-18/19 year olds in BHPS**

	Initial state at age 16/17	Initial state at age 17/18	Initial state at age 18/19
5 year outcomes			
W1: PT education only	-0.025 [0.141]	-0.011 [0.106]	-0.122 [0.073]
W1: FT education & work	-0.068 [0.040]	0.082 [0.042]	-0.024 [0.047]
W1: FTPT job with training	0.035 [0.052]	0.098* [0.039]	0.020 [0.044]
W1: FTPT job w/o training or college	0.063 [0.049]	0.053 [0.043]	0.009 [0.046]
W1: FTPT job w/o training but some college	0.031 [0.063]	0.074 [0.050]	-0.042 [0.052]
W1: NEET	0.035 [0.065]	-0.048 [0.074]	-0.164* [0.078]
Observations	961	1,093	1,145
10 year outcomes			
W1: PT education only	-0.208 [0.114]	-0.039 [0.188]	-0.290* [0.117]
W1: FT education & work	0.021 [0.044]	-0.032 [0.051]	0.025 [0.061]
W1: FTPT job with training	0.054 [0.080]	-0.021 [0.075]	0.034 [0.063]
W1: FTPT job w/o training or college	0.018 [0.072]	-0.069 [0.074]	-0.068 [0.070]
W1: FTPT job w/o training but some college	0.091 [0.133]	-0.096 [0.092]	-0.082 [0.074]
W1: NEET	-0.160 [0.154]	-0.301** [0.101]	-0.304** [0.093]
Observations	488	499	504

*Based on BHPS data from 1991-2008. \*\* indicates significance at the 1% level; \* at the 5% level. Standard errors are shown in parentheses. Models also include controls for gender, ethnicity, household income, mother's and father's highest qualification and work status, housing tenure, whether young person attended a private school, GCSE attainment, highest educational qualification, region and year of observation. Base case is those in full-time education only at each initial age. All controls are based on observations from age 16/17, 17/18 or 18/19 respectively.*

These results provide relatively little in the way of consistent evidence of the long-term relationship between young people's education and labour market choices at age 16-19 and their wages five and ten years later<sup>13</sup>. We do however find the following:

- There is some evidence of a negative relationship between NEET status at ages 17/18 and 18/19 and wages up to ten years later;
- Individuals who take jobs without training at ages 16-19 do not earn significantly more or less than those who take jobs with training or those who remain in full-time education at that age. We are mindful however, that large standard errors produce a degree of uncertainty around this result.

We do know from other evidence of course that those who progress to obtain some higher level vocational and academic qualifications (e.g. degrees of HNC/HNDs) will earn significantly more than those who do not gain such qualifications. We are not, however, considering educational progression in this report. We merely note that to the extent that taking a job with training leads to higher levels of qualifications this may have beneficial effects but that on average those who enter the labour market at 16-19 into jobs with or without training do not appear to do significantly better or worse than one another up to ten years later.

### 7.3 Summary

Our assessment of longer run outcomes suggests, once again, that an initial spell of being NEET at age 16-19 puts a young person at increased risk of further spells of being unemployed, when compared to the base case of a student who was initially in full-time education at 16-19. These effects persist for at least five years (although this may not necessarily be a causal relationship). Taking a job without training at age 16-19 does not, however, increase a young person's risk of unemployment over a five to ten year period relative to someone who was initially in full-time education at 16-19. Likewise, whilst we find some evidence of a negative long run relationship between being NEET at ages 16-19 and wages five and ten years later, we do not find in the long run that individuals who take a job without training at age 16-19 have lower (or higher) wages than individuals who were in full-time education (without work) at that time.

## 8. Conclusions

This report examines the short and longer term employment prospects of those young people who enter the labour market at age 16-19. We were interested in a number of issues. Firstly, we wanted to understand the outcomes of those who take a job without training, specifically how their short and long run employment and wage outcomes compare to those who a) remain in full-time education longer and b) take jobs with training.

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<sup>13</sup> The standard errors are large in these models and hence it is difficult to detect statistically significant relationships and the coefficients are not systematically signed by and large.



Secondly, we were interested in those who combine full-time study and work and how their longer term outcomes compared to those who remain in full-time study without work. Lastly, we focused on negative transitions, such as becoming NEET, and the consequences of this in the longer term.

Overall, our results have shown strong evidence of persistence in negative as well as positive youth transitions, which suggests that the initial transitions made by young people are particularly important to their longer term success.

We find evidence that those who take a job without training do not have significantly worse outcomes, in terms of employment or wages, compared to those who take jobs with training, even in the longer term. This is partly because we observe a lot of persistence in the youth labour market, and most of those who start in a job without training remain in work in the short, medium and longer term. We did find some evidence that at age 16/17 there was more stability in jobs with training but in general those who take jobs without training at age 16-19 do not do significantly worse than those who take jobs with training. However, we do not consider educational progression in this report. To the extent that taking a job with training leads to higher levels of qualifications this may have beneficial effects. Here we assess on average whether young people who take different routes (regardless of whether they make further educational progress) go on to have better or worse labour market outcomes and we find that outcomes are similar in the medium and long term for those who take jobs with and without training at age 16-19.

Those who combine full-time education and work at age 16/17 are no more likely to be NEET at age 17/18 than those who remain in full-time education with no work and they are significantly more likely to be in some kind of work (either work with training, work without training or a job with some college). There is also some evidence from the LFS that those who combine full-time education and work are actually less likely to be NEET than those who do full-time education only at 16-19.

Those who become NEET at 16-19 are significantly more likely to remain NEET and go on to have worse outcomes in the medium and longer term, in terms of employment and wages. This persistence implies that what young people need to avoid is being NEET, which we show is significantly associated with short and longer term negative effects on a young person's outcomes. Since those who are engaged in any work at all (whether with training or not) have a lower probability of subsequently being NEET, this implies that we should encourage young people to both remain in full-time education and to gain work experience (including work experience alongside full-time study) to reduce the chances of becoming NEET. Further, a young person who is NEET is most likely to get a job without training if they get work at all. Hence such jobs may play a role as a stepping stone for this at risk group to get them into the world of work.

We are acutely aware that we cannot prove causality in many of the relationships we observe in this report and we did find evidence that young people sort themselves into different post-16 options according to their family background and aspirations. For example, choices are socially graded, with more advantaged young people choosing the university route and young people from unskilled families more likely to become NEET. Equally, pupils who enjoyed school, and who may have unobserved qualities that make them better employees, were unsurprisingly more likely to stay in full-time education longer. This sorting

may mean that because different types of student take different options, it is these unobserved characteristics of young people that determine the wage and employment differences we observe, rather than the effect of being in a particular initial employment state. Hence policy-makers should view these findings as providing indicators of the risk factors that can help us to identify young people most likely to have difficulty making the transition into work.

In summary, our evidence indicates that young people who become NEET are likely to have negative long term outcomes. Taking a job (particularly a full-time one) with or without training is associated with a lower probability of becoming NEET and hence may be viewed as beneficial. Further, young people who combine work with full-time education are significantly less likely to become NEET. Thus policy aimed at engaging young people with the labour market and securing them genuine work experience is potentially valuable as a means of minimising the risk of becoming NEET and consequently having negative long term outcomes. It does not appear that young people taking jobs without training at 16-19 are at a particular disadvantage in the labour market in the longer term compared to those taking jobs with training and they are likely to be far better off than those who become NEET. With UK youth unemployment rates at an historically high level (over 17% or 700,000 of 18-24 year olds in summer 2010), we must be most concerned, on the basis of this evidence, about the detrimental effect on this generation of young people of having an early (potentially extended) spell of being NEET.

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## Appendix A:

### Details of individual and family level characteristics in the LSYPE

#### Individual characteristics

Gender. Coded 0 for males and 1 for females.

KS2 average points score. Key Stage 2 average points score using fine grading, ranging from 15 to 36.

YP Truants regularly. Binary indicator of whether young person truants frequently or not, measured at wave 1.

YP does paid work during term time. Binary indicator of whether young person has a part-time job during term time measured at wave 1.

YP wants to stay on. Binary indicator of whether the young person wants to stay on in full-time education after compulsory schooling.

School attitude. This is a score based on summed answers to 12 attitudinal questions about how the young person feels about school. Questions include: I am happy at school; school work is worth doing; I work as hard as I can at school; the work I do in lessons is interesting to me; I get good marks for my work. The higher the score, the more positive the young person's attitude to school.

Likelihood of applying to HE is fairly/very likely. Young person's self-report of whether they are fairly or very likely to apply to Higher Education.

#### Family characteristics

Highest household education. The measure of parents' educational qualifications is based on main parent-reported mother and father/partner highest level of educational qualifications coded on a scale from 0 to 3: less than Level 2 academic and vocational qualifications; O-level/GCSE/Level 2 vocational qualifications; A-levels/Level 3 vocational qualifications; university degree and higher. Highest household education is the combination of both parents' highest level of qualification on the same. If either parent is absent (or missing), coding is based on the present parent's data.

Highest household social class. The LSYPE social class data is based on the National Statistics Socio-economic Classification (NSSEC). Family social class is coded as the higher of the

mother or father/partner.<sup>14</sup> This variable is coded as 0: Technical, semi-routine and routine occupations; 1: Intermediate occupations and small employers and own account workers; Managerial and Professional Occupation.

Either parent has vocational qualifications. Is a dichotomous variable of whether or not either parent has any vocational qualifications.

Income. Weekly income was reported by the main parent at wave 1. Where wave 1 data is missing, wave 2 weekly income was used.

FSM eligibility. Pupils are coded: 0 = not eligible for free school meals; 1 = eligible for free school meals in Wave 1.

Family type: YP lives in a two parent household. Binary indicator of whether young person lives in a two parent household at wave 1.

Family type: YP has moved from a 2 parent household to single parent household. Binary indicator of whether young person has moved from a two parent household into a single parent household between waves 1 and 4.

## Parental aspirations

Main parent: Wants YP to stay on in education after 16. Binary indicator of whether main parent wants their child to stay on in education after age 16, measured at wave 1.

Main parent: Wants YP to do an apprenticeship /learn trade. Binary indicator of whether main parent wants their child to leave school and start an apprenticeship or learn a trade after age 16, measured at wave 1.

## Local area and regional information

IDACI score. The Income Deprivation Affecting Children Index shows the percentage of children in each Super Output Area (SOA) that live in families that are income deprived (i.e. in receipt of Income Support, Income based Jobseeker's Allowance, Working Families' Tax Credit or Disabled Person's Tax Credit below a given threshold). An IDACI score of, for example 0.24 means that 24% of children aged less than 16 in that SOA are living in families that are income deprived.

Government Office Area. Summary of region young person lives in: North East; North West; Yorkshire and The Humber; East Midlands; West Midlands; East of England; London; South East; South West

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<sup>14</sup> If mother's class is missing, then it is coded to the father's class, and vice versa. If the mother has 'no partner', then it is coded to the mother's class.

YP lives in an urban area. Binary indicator of whether young person lives in an urban area.



**Appendix B Table B1: Multinomial logistic regression of age 17/18 (wave 5) main economic activity on individual and family characteristics, IDACI and regional controls**

<b>(Base group: Full-time education only)</b>	<b>FT education &amp; work</b>	<b>FTPT job w training</b>	<b>FTPT job w/o training &amp; no college</b>	<b>FTPT job w/o training &amp; some college</b>	<b>Not in work or training</b>
KS2 average points score	1.10 ***	1.00	1.02	1.04 †	.98
<i>Highest household education (ref: No qualifications):</i>					
GCSEs A to C & other qualifications	1.41 **	1.37 *	1.08	.97	.97
A levels or equiv	1.24	1.17	.76 †	.74	.91
Degree + / Other HE	1.06	.74 *	.51 ***	.68 †	.54 ***
<i>Household NSSEC (ref: Low )</i>					
Intermediate	1.22 *	1.46 ***	1.50 ***	1.52	1.02
Higher managerial/professional	1.09	1.07	1.17	.95	.84
Income	.99971 †	.99943 **	1.00	.99944 †	1.00
Either parent has vocational qualifications	1.51 ***	1.80 ***	1.62 ***	2.16 ***	1.52 ***
Girl	1.81 ***	.92	1.18 *	1.65 ***	.94
Eligible for FSM	.80 †	.82	.78	.60	.88
Family type: YP lives in a two parent household	1.36	1.03	1.02	1.31	.85
Family type: YP moved from 2 parent to single parent household	.82	1.25	1.60 **	1.09	1.90 ***
Wave 1: Truants regularly	.85	1.33 *	1.18	1.24	1.55 **
Wave 1: YP does paid work during term time	2.18 ***	2.59 ***	2.04 ***	2.29 ***	1.63 ***
YP wants to stay on in education after 16	.99	.68 ***	.71 **	.67 *	.49 ***
School attitude	1.00	.97 ***	.97 ***	.98 *	.95 ***
Main parent: Wants YP to stay on in education after 16	1.55 †	.81	.56 *	1.16	.88
Main parent: Wants YP to do apprenticeship / learn trade	1.33	1.75 *	.87	1.12	.93
Likelihood of applying to HE is fairly/very likely	1.05	.67 ***	.67 ***	.94	.80 *
IDACI score	.33 ***	.78	.85	.29 *	1.38

**Table notes:** †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Source: LSYPE. Table reports relative risk ratios (standard errors excluded owing to space limitations but available on request). All models include regional indicators. Data included missing dummies.

**Appendix B Table B2: Multinomial logistic regression of age 18/19 (wave 6) main economic activity on individual and family characteristics, IDACI and regional controls**

<b>(Base group: Full-time education only)</b>	<b>FT education only</b>		<b>FT education &amp; work</b>		<b>FTPT job w training</b>		<b>FTPT job w/o training</b>		<b>Not in work or training</b>	
KS2 average points score	.73	***	.81	***	.85	***	.83	***	.79	***
<i>Highest household education (ref: No qualifications):</i>										
GCSEs A to C & other qualifications	.99		1.12		1.00		.89		.89	
A levels or equiv	1.22		.97		.98		.82		.77	
Degree + / Other HE	1.03		.90		.55	***	.68	**	.78	
<i>Household NSSEC (ref: Low )</i>										
Intermediate	.85		.91		1.24	*	1.19		.83	
Higher managerial/professional	.72	*	.78		1.13		.94		.83	
Income	1.00		1.00		1.00		1.00		1.00	
Either parent has vocational qualifications	.94		1.10		1.38	***	1.15		1.03	
Girl	.63	***	1.09		.68	***	.87	†	.74	**
Eligible for FSM	1.16		.83		.93		.84		1.06	
Family type: YP lives in a two parent household	.50	***	.73		.80		.75	*	.50	***
Family type: YP moved from 2 parent to single parent household	1.98	**	1.94	**	1.83	***	2.21	***	3.34	***
Wave 1: Truants regularly	1.32		1.47	*	1.67	***	1.77	***	2.27	***
Wave 1: YP does paid work during term time	.73	*	1.19		1.43	***	1.36	***	1.03	
YP wants to stay on in education after 16	.91		1.00		.58	***	.67	**	.50	***
School attitude	.96	***	.98	*	.96	***	.96	***	.95	***
Main parent: Wants YP to stay on in education after 16	.59		.93		.65		.47	**	.57	†
Main parent: Wants YP to do apprenticeship / learn trade	1.26		1.63		2.20	*	1.61		1.46	
Likelihood of applying to HE is fairly/very likely	.47	***	.48	***	.36	***	.37	***	.38	***
IDACI score	6.58	***	3.09	**	3.70	***	4.49	***	10.33	***

**Table notes:** †  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . Source: LSYPE. Table reports relative risk ratios (standard errors excluded owing to space limitations but available on request). All models include regional indicators. Data included missing dummies. Note here, given the small sample sizes, we also combine the two Jobs without Training categories.

**Appendix B Table B3: Multinomial logistic regression of age 17/18 (wave 5) main economic activity on individual and family characteristics and initial wave 4 employment status**

<i>(Base group: Full-time education only)</i>	FT education & work			FTPT job w training			FTPT job w/o training & no college			FTPT job w/o training & some college			Not in work or training		
Previous status at Wave 4 <i>(Default: Full-time education only)</i>															
FT education & work	<b>8.78</b>	<b>(.72)</b>	<b>26.67</b>	<b>5.66</b>	<b>(.62)</b>	<b>15.77</b>	<b>7.89</b>	<b>(.89)</b>	<b>18.27</b>	<b>8.66</b>	<b>(1.38)</b>	<b>13.6</b>	<b>1.75</b>	<b>(.25)</b>	<b>3.91</b>
FTPT job with training	<b>2.50</b>	<b>(.68)</b>	<b>3.38</b>	<b>53.52</b>	<b>(10.33)</b>	<b>20.63</b>	<b>32.89</b>	<b>(6.86)</b>	<b>16.75</b>	<b>7.08</b>	<b>(2.28)</b>	<b>6.07</b>	<b>7.31</b>	<b>(1.63)</b>	<b>8.94</b>
FTPT w/o training & no college	1.77	(.62)	1.64	<b>7.11</b>	<b>(1.95)</b>	<b>7.15</b>	<b>5.73</b>	<b>(1.76)</b>	<b>5.69</b>	<b>4.27</b>	<b>(2.05)</b>	<b>3.03</b>	<b>2.36</b>	<b>(.78)</b>	<b>2.6</b>
FTPT w/o training & some college	2.30	(.98)	1.95	<b>31.00</b>	<b>(9.57)</b>	<b>11.13</b>	<b>42.65</b>	<b>(13.65)</b>	<b>11.73</b>	<b>4.88</b>	<b>(2.34)</b>	<b>3.31</b>	<b>7.59</b>	<b>(2.78)</b>	<b>5.54</b>
NEET	<b>.50</b>	<b>(.16)</b>	<b>-2.17</b>	<b>6.02</b>	<b>(1.10)</b>	<b>9.78</b>	<b>8.38</b>	<b>(1.59)</b>	<b>11.21</b>	1.90	(.70)	1.76	<b>6.95</b>	<b>(1.17)</b>	<b>11.54</b>
KS2 average points score	<b>1.07</b>	<b>(.01)</b>	<b>5.11</b>	1.00	(.01)	0.27	1.01	(.02)	0.94	1.02	(.02)	0.84	.99	(.01)	-0.58
<i>Highest household education (ref: No quals):</i>															
GCSEs A to C & other quals	<b>1.23</b>	<b>(.15)</b>	<b>1.68</b>	<b>1.40</b>	<b>(.18)</b>	<b>2.61</b>	1.02	(.14)	0.15	.87	(.18)	0.66	1.02	(.14)	0.15
A levels or equiv	1.12	(.15)	0.82	1.31	(.21)	1.66	.81	(.14)	-1.27	.70	(.17)	1.52	1.02	(.17)	0.09
Degree + / Other HE	1.01	(.13)	0.05	.94	(.14)	-0.43	<b>.59</b>	<b>(.09)</b>	<b>-3.58</b>	<b>.69</b>	<b>(.15)</b>	<b>1.69</b>	<b>.62</b>	<b>(.11)</b>	<b>-2.79</b>
<i>Household NSSEC (ref: Low )</i>															
Intermediate	1.17	(.12)	1.62	<b>1.30</b>	<b>(.15)</b>	<b>2.3</b>	<b>1.40</b>	<b>(.17)</b>	<b>2.82</b>	<b>1.44</b>	<b>(.26)</b>	<b>2.06</b>	1.01	(.13)	0.06
Higher managerial/professional	1.05	(.11)	0.41	1.01	(.14)	0.1	1.16	(.16)	1.04	.90	(.18)	0.53	.89	(.13)	-0.83
Income	1.00	(.00)	-1.04	<b>1.00</b>	<b>(.00)</b>	<b>-2.6</b>	1.00	(.00)	-0.43	1.00	(.00)	1.62	1.00	(.00)	-0.39
Either parent has vocational qualifications	<b>1.37</b>	<b>(.12)</b>	<b>3.56</b>	<b>1.48</b>	<b>(.15)</b>	<b>3.77</b>	<b>1.40</b>	<b>(.15)</b>	<b>3.14</b>	<b>1.94</b>	<b>(.33)</b>	<b>3.94</b>	<b>1.38</b>	<b>(.17)</b>	<b>2.59</b>
Girl	<b>1.51</b>	<b>(.10)</b>	<b>6.36</b>	.91	(.08)	-1.06	1.10	(.10)	1.09	<b>1.42</b>	<b>(.19)</b>	<b>2.65</b>	.89	(.09)	-1.18
Eligible for FSM	.88	(.12)	-0.92	.86	(.14)	-0.91	.79	(.13)	-1.47	.63	(.18)	1.67	.94	(.15)	-0.39
Family type: YP lives in a two parent household	<b>1.27</b>	<b>(.17)</b>	<b>1.84</b>	.98	(.14)	-0.14	.96	(.14)	-0.28	1.26	(.29)	1.01	.87	(.14)	-0.84

Family type: YP has moved from a 2 parent h/hold to single parent h/hold	.89	(.14)	-0.79	1.32	(.22)	1.66	<b>1.72</b>	<b>(.31)</b>	<b>3.04</b>	1.17	(.27)	0.67	<b>1.72</b>	<b>(.31)</b>	<b>2.98</b>
Wave 1: Truants regularly	.85	(.11)	-1.24	1.08	(.15)	0.54	.94	(.13)	-0.46	1.18	(.24)	0.8	<b>1.29</b>	<b>(.19)</b>	<b>1.77</b>
Wave 1: YP does paid work during term time	<b>1.60</b>	<b>(.15)</b>	<b>5.14</b>	<b>1.96</b>	<b>(.21)</b>	<b>6.44</b>	<b>1.55</b>	<b>(.18)</b>	<b>3.85</b>	<b>1.72</b>	<b>(.26)</b>	<b>3.55</b>	<b>1.47</b>	<b>(.20)</b>	<b>2.79</b>
YP wants to stay	.90	(.11)	-0.93	.82	(.10)	-1.63	.85	(.12)	-1.18	<b>.65</b>	<b>(.13)</b>	<b>-2.1</b>	<b>.55</b>	<b>(.07)</b>	<b>-4.4</b>
												-			
School attitude	1.00	(.01)	-0.37	<b>.98</b>	<b>(.01)</b>	<b>-2.24</b>	<b>.97</b>	<b>(.01)</b>	<b>-3.86</b>	<b>.98</b>	<b>(.01)</b>	<b>1.98</b>	<b>.97</b>	<b>(.01)</b>	<b>-4.67</b>
Main parent: Wants YP to stay on in education after 16	1.47	(.41)	1.37	.96	(.25)	-0.14	.66	(.18)	-1.54	1.13	(.50)	0.29	.94	(.29)	-0.21
Main parent: Wants YP to do an apprenticeship / learn trade	1.24	(.37)	0.72	1.47	(.40)	1.43	.74	(.21)	-1.08	1.02	(.47)	0.03	.81	(.26)	-0.65
Likelihood of applying to HE is fairly/very likely	1.02	(.11)	0.17	<b>.75</b>	<b>(.08)</b>	<b>-2.63</b>	<b>.73</b>	<b>(.08)</b>	<b>-2.7</b>	.93	(.14)	-0.5	.85	(.11)	-1.3
												-			
IDACI score	<b>.52</b>	<b>(.15)</b>	<b>-2.34</b>	.80	(.23)	-0.77	.97	(.31)	-0.09	<b>.40</b>	<b>(.19)</b>	<b>1.91</b>	1.18	(.36)	0.53
Government Office Area ( <i>default group: North East</i> )															
North West	1.23	(.26)	0.99	.84	(.17)	-0.87	.90	(.22)	-0.42	1.31	(.47)	0.74	.71	(.15)	-1.62
Yorkshire and The Humber	1.35	(.29)	1.42	1.01	(.20)	0.07	.93	(.23)	-0.3	1.56	(.56)	1.23	<b>.64</b>	<b>(.14)</b>	<b>-1.96</b>
East Midlands	1.31	(.29)	1.21	1.07	(.23)	0.31	1.20	(.31)	0.69	<b>1.94</b>	<b>(.72)</b>	<b>1.79</b>	.71	(.16)	-1.51
West Midlands	1.16	(.25)	0.7	.79	(.17)	-1.12	1.18	(.29)	0.69	1.72	(.60)	1.54	.85	(.18)	-0.77
East of England	<b>1.60</b>	<b>(.34)</b>	<b>2.22</b>	.97	(.20)	-0.15	1.33	(.32)	1.19	1.71	(.67)	1.38	.74	(.16)	-1.41
London	.86	(.18)	-0.73	<b>.65</b>	<b>(.14)</b>	<b>-1.94</b>	.77	(.19)	-1.07	1.16	(.44)	0.38	<b>.66</b>	<b>(.14)</b>	<b>-1.95</b>
South East	1.35	(.29)	1.43	.88	(.17)	-0.68	1.21	(.29)	0.82	1.46	(.51)	1.08	<b>.54</b>	<b>(.12)</b>	<b>-2.66</b>
South West	<b>1.65</b>	<b>(.39)</b>	<b>2.16</b>	.89	(.19)	-0.54	1.26	(.33)	0.88	1.79	(.74)	1.41	.79	(.20)	-0.93
												-			
YP lives in an urban area	1.01	(.10)	0.13	1.13	(.14)	0.99	.91	(.11)	-0.78	.88	(.14)	0.84	1.19	(.17)	1.25

Source: LSYPE wave 5 regressed on wave 4.

**Appendix B Table B4: Wage regression of age 17/18 (wave 5) and age 18/19 (wave 6) wages against employment status one or two years earlier**

	Wave 6 (logged) Hourly wage JWT status at wave 4			Wave 6 (logged) Hourly wage JWT status at wave 5			Wave 5 (logged) Hourly wage JWT status at wave 4		
<i>Previous status (default: FT education only)</i>									
FT education and work	.02	(.01)	1.25	.02	(.01)	1.56	.00	(.01)	-0.02
FTPT job with training	.00	(.02)	-0.15	<b>-.03</b>	<b>(.02)</b>	<b>-2</b>	<b>.05</b>	<b>(.02)</b>	<b>2.23</b>
FTPT job without training and no college	<b>.08</b>	<b>(.03)</b>	<b>2.61</b>	<b>.05</b>	<b>(.02)</b>	<b>2.65</b>	-.03	(.03)	-0.98
FTPT job without training and some college	<b>.04</b>	<b>(.02)</b>	<b>1.96</b>	.02	(.02)	0.96	<b>.05</b>	<b>(.02)</b>	<b>2.4</b>
NEET	.01	(.02)	0.44	.02	(.03)	0.85	<b>.07</b>	<b>(.03)</b>	<b>2.66</b>
KS2 average points score	<b>.01</b>	<b>(.00)</b>	<b>2.88</b>	<b>.00</b>	<b>(.00)</b>	<b>2.82</b>	.00	(.00)	0.65
<i>Highest household education (ref: No quals):</i>									
GCSEs A to C & other quals	-.01	(.01)	-0.43	.00	(.01)	-0.05	.02	(.02)	1.07
A levels or equiv	.00	(.02)	0.01	.01	(.02)	0.32	.00	(.02)	0.03
Degree + / Other HE	.01	(.02)	0.47	.01	(.02)	0.7	.00	(.02)	-0.26
<i>Household NSSEC (ref:Low )</i>									
Intermediate	.01	(.01)	0.55	.01	(.01)	0.67	-.01	(.01)	-0.45
Higher managerial/professional	.00	(.01)	0.38	.01	(.01)	0.42	.00	(.01)	-0.36
Income	.00	(.00)	-1.63	<b>.00</b>	<b>(.00)</b>	<b>-1.83</b>	.00	(.00)	-0.64
Either parent has vocational qualifications	.00	(.01)	0.21	.00	(.01)	0.39	.01	(.01)	1.04
Girl	<b>-.03</b>	<b>(.01)</b>	<b>-3.55</b>	<b>-.03</b>	<b>(.01)</b>	<b>-3.93</b>	.00	(.01)	0.31
Eligible for FSM	.01	(.02)	0.31	.01	(.02)	0.25	-.01	(.02)	-0.33
Family type: YP lives in a two parent household	.00	(.02)	-0.26	-.01	(.02)	-0.34	-.01	(.02)	-0.78
Family type: YP has moved from a 2 parent h/hold to single parent h/hold	.02	(.02)	1.11	.02	(.02)	0.96	.02	(.02)	1.19
Wave 1: Truants regularly	<b>.03</b>	<b>(.02)</b>	<b>1.83</b>	<b>.04</b>	<b>(.02)</b>	<b>2.25</b>	.02	(.01)	1.33
Wave 1: YP does paid work during term time	-.01	(.01)	-0.64	.00	(.01)	-0.23	.01	(.01)	1.12

YP wants to stay	-0.01	(.01)	-0.43	-0.01	(.01)	-0.52	.03	(.01)	1.95
School attitude	<b>.00</b>	<b>(.00)</b>	<b>2.32</b>	<b>.00</b>	<b>(.00)</b>	<b>2.47</b>	.00	(.00)	-0.03
Main parent: Wants YP to stay on in education after 16	.04	(.03)	1.32	.05	(.03)	1.49	-.03	(.04)	-0.66
Main parent: Wants YP to do an apprenticeship / learn trade	.01	(.04)	0.15	.02	(.04)	0.55	-.04	(.04)	-1.07
Likelihood of applying to HE is fairly/very likely	.00	(.01)	-0.26	-.01	(.01)	-0.5	-.02	(.01)	-1.43
IDACI score	-.02	(.03)	-0.67	-.02	(.03)	-0.64	-.02	(.03)	-0.76
Government Office Area ( <i>default group: North East</i> )									
North West	.00	(.02)	0.05	.00	(.02)	0.03	.00	(.03)	-0.08
Yorkshire and The Humber	.02	(.02)	1.09	.02	(.02)	1	-.02	(.03)	-0.57
East Midlands	.00	(.02)	0.03	.00	(.02)	-0.09	-.03	(.03)	-1.13
West Midlands	.02	(.02)	0.89	.02	(.02)	0.76	-.01	(.03)	-0.25
East of England	<b>.07</b>	<b>(.02)</b>	<b>3.37</b>	<b>.06</b>	<b>(.02)</b>	<b>3.13</b>	.01	(.03)	0.27
London	<b>.07</b>	<b>(.02)</b>	<b>2.86</b>	<b>.07</b>	<b>(.02)</b>	<b>2.76</b>	<b>.09</b>	<b>(.03)</b>	<b>3.29</b>
South East	<b>.06</b>	<b>(.02)</b>	<b>3.03</b>	<b>.06</b>	<b>(.02)</b>	<b>2.89</b>	.02	(.03)	0.88
South West	<b>.04</b>	<b>(.02)</b>	<b>1.93</b>	.03	(.02)	1.65	.00	(.03)	-0.14
YP lives in an urban area	.01	(.01)	0.58	.01	(.01)	0.7	.01	(.01)	0.82
Source: LSYPE wave 6 regressed on wave 4.									

**Appendix B Table B5: Multinomial logistic regression of age 18/19 (wave 6) main economic activity on individual and family characteristics and initial wave 4 employment status**

	FT education only		FT education & work		FTPT job w training		FTPT job w/o training		Not in work or training						
Previous status at Wave 4 ( <i>Default: Full-time education only</i> )															
FT education & work	.38	(.04)	-8.68	1.70	(.17)	5.26	1.51	(.13)	4.65	1.54	(.12)	5.77	.60	(.06)	-5.32
FTPT job with training	2.38	(.74)	2.78	7.48	(2.28)	6.62	37.74	(9.63)	14.23	19.64	(5.00)	11.7	9.28	(2.48)	8.35
FTPT w/o training & no college	3.74	(1.71)	2.88	3.61	(1.98)	2.33	13.03	(5.58)	5.99	9.35	(3.95)	5.29	6.31	(2.77)	4.19
FTPT w/o training & some college	4.43	(2.35)	2.8	8.57	(4.71)	3.91	37.96	(17.88)	7.72	37.06	(17.22)	7.78	23.39	(11.06)	6.67
NEET	9.35	(3.82)	5.47	2.32	(1.38)	1.42	27.48	(11.06)	8.23	26.79	(10.58)	8.33	37.09	(14.58)	9.19
			-			-						-			-
KS2 average points score	.76	(.01)	21.47	.82	(.01)	13.79	.87	(.01)	-10.8	.86	(.01)	13.21	.82	(.01)	16.04
<i>Highest household education (ref: No quals):</i>															
GCSEs A to C & other quals	1.05	(.13)	0.38	1.25	(.18)	1.55	1.21	(.15)	1.55	1.05	(.11)	0.5	1.05	(.13)	0.43
A levels or equiv	1.21	(.19)	1.2	1.05	(.18)	0.29	1.19	(.17)	1.23	.98	(.12)	-0.15	.96	(.14)	-0.29
Degree + / Other HE	1.01	(.14)	0.06	1.05	(.16)	0.28	.76	(.10)	-2.04	.87	(.10)	-1.26	.92	(.12)	-0.6
<i>Household NSSEC (ref:Low )</i>															
Intermediate	.83	(.09)	-1.63	.91	(.11)	-0.72	1.14	(.12)	1.22	1.06	(.10)	0.65	.87	(.09)	-1.34
Higher managerial/professional	.78	(.10)	-1.95	.73	(.10)	-2.23	1.14	(.13)	1.13	.94	(.10)	-0.65	.89	(.11)	-0.96
Income	1.00	(.00)	0.54	1.00	(.00)	0.44	1.00	(.00)	-1.35	1.00	(.00)	-0.56	1.00	(.00)	0.57
Either parent has vocational qualifications	.95	(.11)	-0.43	1.06	(.12)	0.54	1.24	(.11)	2.34	1.08	(.09)	0.91	1.05	(.11)	0.53
Girl	.66	(.06)	-4.93	.91	(.08)	-1.02	.73	(.05)	-4.27	.87	(.06)	-2.05	.77	(.06)	-3.42
Eligible for FSM	1.15	(.15)	1.08	.86	(.15)	-0.86	.89	(.13)	-0.8	.85	(.11)	-1.25	1.21	(.15)	1.53
Family type: YP lives in a two parent household	.61	(.08)	-3.6	.84	(.13)	-1.09	.80	(.10)	-1.77	.77	(.09)	-2.32	.61	(.08)	-3.78
Family type: YP has moved from a 2 parent h/hold to single parent h/hold	2.00	(.35)	3.89	1.81	(.35)	3.06	1.86	(.30)	3.87	2.07	(.29)	5.11	2.79	(.43)	6.62
Wave 1: Truants regularly	1.10	(.16)	0.67	1.54	(.23)	2.85	1.34	(.17)	2.28	1.32	(.15)	2.37	1.61	(.20)	3.85
Wave 1: YP does paid work during term time	.93	(.12)	-0.56	1.07	(.12)	0.55	1.43	(.13)	3.99	1.26	(.10)	2.81	1.15	(.12)	1.32
YP wants to stay	.86	(.13)	-1	.96	(.16)	-0.26	.65	(.08)	-3.34	.71	(.09)	-2.75	.53	(.07)	-4.79
School attitude	.96	(.01)	-5.88	.99	(.01)	-1.97	.97	(.01)	-4.93	.96	(.01)	-6.68	.96	(.01)	-6.96
Main parent: Wants YP to stay on in education after 16	.68	(.22)	-1.19	1.10	(.46)	0.24	.71	(.20)	-1.22	.58	(.15)	-2.09	.65	(.19)	-1.5

Main parent: Wants YP to do an apprenticeship / learn trade	1.21	(.43)	0.53	1.51	(.69)	0.9	1.54	(.49)	1.36	1.41	(.42)	1.17	1.17	(.37)	0.5
Likelihood of applying to HE is fairly/very likely	.50	(.06)	-5.65	.53	(.07)	-4.71	.38	(.04)	-8.91	.38	(.04)	-9.76	.47	(.05)	-6.78
IDACI score	3.56	(.93)	4.85	2.81	(.88)	3.32	2.15	(.56)	2.92	2.57	(.59)	4.09	3.38	(.85)	4.81
Government Office Area ( <i>default group: North East</i> )															
North West	.79	(.17)	-1.08	1.52	(.45)	1.4	.66	(.13)	-2.18	.99	(.19)	-0.03	.75	(.15)	-1.43
Yorkshire and The Humber	.82	(.19)	-0.86	2.01	(.60)	2.32	.78	(.15)	-1.28	1.07	(.21)	0.37	.79	(.16)	-1.12
East Midlands	.73	(.18)	-1.32	1.97	(.61)	2.19	.83	(.17)	-0.92	1.19	(.24)	0.89	.68	(.15)	-1.72
West Midlands	1.05	(.23)	0.23	1.68	(.51)	1.71	.90	(.18)	-0.54	1.26	(.24)	1.23	.94	(.19)	-0.32
East of England	.77	(.18)	-1.08	2.48	(.75)	3.02	.99	(.20)	-0.06	1.76	(.34)	2.96	.87	(.19)	-0.65
London	.73	(.15)	-1.52	1.13	(.34)	0.4	.37	(.08)	-4.89	.76	(.14)	-1.48	.49	(.10)	-3.62
South East	.96	(.22)	-0.18	2.46	(.73)	3.04	1.08	(.21)	0.39	1.70	(.32)	2.84	.90	(.19)	-0.49
South West	.88	(.24)	-0.49	3.23	(1.00)	3.78	1.25	(.26)	1.08	2.33	(.47)	4.21	1.27	(.29)	1.06
YP lives in an urban area	1.29	(.19)	1.74	1.00	(.12)	0.02	1.04	(.10)	0.41	.98	(.09)	-0.21	1.07	(.12)	0.6

Source: LSYPE wave 6 regressed on wave 4.



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