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Discussion Papers in Economics and Econometrics

2000

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Participation in Further Education and Training:

How Much Do Gender and Race Matter?

by

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June 2000

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Abstract

This paper examines the differences in participation rates in further education and training that persist across Britain's ethnic groups, and between males and females within a given group. A statistical model of choice of post-16 activity is estimated using data on a large sample of 16 year-olds in England and Wales. The analysis shows that a significant part of the gender gap in participation rates in further education is attributable to compositional differences, in particular differences in the distribution of academic attainment levels. However, differences in participation rates between the White majority group and the ethnic minority groups in Great Britain are primarily a result of differences in the behaviour of otherwise identical individuals.

JEL Classification: J24, I21
Key words: Human capital, further education and training, ethnic groups, gender.

"The best defence against social exclusion is having a job, and the best way to get a job is to have a good education with the right training and experience". Tony Blair, July 1999[1]

1. Introduction

Broadening participation in education and training has been a key policy objective of successive British governments of the last two decades. A considerable measure of success has been achieved. In the late seventies, further education remained the preserve of an academic minority with less than 40% of 16 year olds continuing in full-time education following compulsory schooling. Twenty years later, nearly three-quarters of the age cohort entered full-time further education to study for a broad range of academic and vocational qualifications. Over the same period, there has been considerable expansion in the provision of government subsidised work-based training, providing young people with an alternative route to a recognised vocational qualification. Yet it remains the case that significant numbers of 16 year-olds, some 16% of the age cohort in 1997, do not receive any education or training following compulsory schooling (DfEE (1999), Table 1a). Many of these young people are without any recognised full-time activity, while the remainder is employed in poor quality, low-level jobs with no opportunities to acquire additional qualifications. Recently, concern has focused on the social marginalisation of this group, as the skills gap between them and their better-qualified counterparts widens. Particular attention has been paid to the persistent gender gap in further education. After more than a decade of rapid growth, the participation rate among young males remains some 10 percentage points behind that for their female counterparts. Less widely reported are the marked variations in participation rates among Britain's ethnic groups with participation rates among young Whites lagging behind those for the ethnic minority groups.

This paper examines the routes chosen by young people on completion of their compulsory schooling and the factors that influence the individual's decision. Differences in observed outcomes across demographic groups - gender or race - may arise from two sources. They may reflect differences in the composition of groups with respect to factors such as educational background or socio-economic composition. For example, the higher rate of participation in further education among members of the ethnic minority groups may result from superior levels of academic attainment. Alternatively, outcomes may vary because otherwise identical students from different ethnic backgrounds behave differently. If the members of ethnic minority groups believe that they face discrimination in the labour market then this may lead them to attach a higher value to additional qualifications than similarly qualified individuals from the White majority group. The statistical analysis undetaken in this paper disentangles these two effects.

To address these issues, we estimate a statistical model the individual's choice of activity following compulsory schooling. The analysis focuses on the choice between further education, government-supported work-based training and direct entry into the labour market - a set of outcomes that may reasonably be regarded as demand determined. For these purposes, data on the post-school activities and background characteristics of a large sample of 16 year-olds in England and Wales is derived from successive Youth Cohort Studies over the period 1989 to 1992. The information from the YCS is supplemented by data relating to the conditions prevailing in the individual's local labour market.

It is evident from the empirical analysis that differences in the educational and social composition of the groups can account for very little of the observed differences in outcomes across Britain's ethnic groups. Of greater significance are ethnic differences in the effects of educational background on the individual's decision. The choice of post-16 activity by young Whites, particularly White males, appears to be markedly more sensitive to their level of

academic attainment than is the case for members of other ethnic groups. Thus, all other things being equal, young Whites males with modest GCSE qualifications are far more likely to choose to enter the labour market directly rather than undertake further education or training to improve their qualification levels.

Before discussing the empirical analysis in detail, we briefly review the options available to our sample of 16 year-olds on their completion of compulsory schooling. The specification of the model of individual choice between the alternative activities is described in detail in Section 3 of the paper, followed by a discussion of data and estimation methods in Section 4. In Sections 5 and 6, we discuss the results obtained and explore the implications for participation rates in further education and training across ethnic groups.

2. Further Education and Training in the 1990s.

In the past, the system of further education in Great Britain has been much criticised for eschewing education and training for the majority of 16 to 18 year olds in favour of the demands of a small academic elite (Finegold and Soskice (1988)). Symptomatic of this was the emphasis placed on the A-level qualification with its narrowly defined academic syllabus. The provision of vocational qualifications was fragmented and the qualifications lacked in prestige. The introduction of the General National Vocational Qualification (GNVQ) based on two years of full-time study following compulsory schooling sought to address these problems.[2] The advanced level of GNVQ aims at "parity of esteem" with A-levels and is intended as a recognised route to higher education, as well as employment. At the same time, the introduction pre-vocational and foundation level courses provided access to further education for those completing schooling with weak academic qualifications.

From a figure of less than 50% in the mid-1980s, the proportion of 16 year-olds in full-time further education rose to a peak of 73% in 1993/94, since when it has fallen back

somewhat, remaining stable at around 70% for the last five years. Participation rate in further education are not expected to rise significantly above this figure in the medium term. It is widely recognised that the remaining 30 percent of the age cohort includes many with very negative experiences of schooling, intent on leaving the education system at the first opportunity (Steedman and Green (1996), p.13)). For this group, government-supported Youth Training offers an alternative route to a recognised vocational qualification through a programme of work-based training.

Government involvement in the provision of work-based training for young people dates from the late 1970s, when a plethora of special measures were introduced in response to rapidly growing unemployment among school leavers. The introduction of the Youth Training Scheme in 1983 marked a shift in emphasis in government policy from the alleviation of youth unemployment to the promotion of youth training (Jones (1988), p.58). Initially, YTS offered one year of basic vocational training to unemployed 16 year olds. In 1986, the period of training was increased to two years, and eligibility was extended to all 16 year-olds, not just those unable to find work. Youth Training superseded YTS in 1990 and the requirement that all trainees undertake a National Vocational Qualification (NVQ) was introduced to counter long-standing criticisms of the quality of training provision.[3] More recently, the development of Modern Apprenticeships and National Traineeships has led to greater emphasis being placed on the acquisition of recognised vocational qualifications.[4]

Government-supported training schemes have become the main provider of work-based training for young persons in the 1990s, with some four-fifths of all 16 year-olds in training funded under the programme. It is widely acknowledged that the quality of the training offered has improved significantly since the introduction of Youth Training. Greater efforts are made to monitor the quality of the training provision, and the requirement for trainees to undertake a NVQ has led to a greater emphasis on the development of specific

skills. However, concerns continue to be voiced about poor rates of completion and qualification among trainees, although these have improved in recent years (Steedman and Green (1996), p.27).

To some extent, the low completion rates for Youth Training reflect the fact that many employers use the scheme as a screening device for recognised apprenticeships or permanent employment with the firm. By incorporating Youth Training as the first two years of an apprenticeship scheme, firms gain a significant subsidy towards their training costs. According to Payne (1995), some two-thirds of 16 year-olds undertaking recognised apprenticeships in 1992 were enrolled in Youth Training for the first year. In this respect, Youth Training has become the primary route into skilled craft occupations for young persons, and the Modern Apprenticeship Scheme is designed to build further on this.

With the development of government-supported training programmes, training provision outside of such schemes is increasingly limited to informal on-the-job training. Estimates for 1997/98 indicate that less than 2% of 16 year-olds were undertaking employer-funded training outside of a government-supported scheme (DfEE (1999), Table 1a). For the majority of those who enter the labour market directly, employment is "increasingly insecure, part-time, poorly paid and lacking in training or prospects" (Social Exclusion Unit (1999), p.18). A substantial number fail to find regular full-time employment, and being ineligible for state benefits, become in effect economically inactive, their participation limited to casual employment in the informal sector. A recent study estimates that some 8% of the cohort of 16 year-olds belonged to this category in 1998 (DfEE 2000), Table 1); a proportion that, according to Steedman and Green (1997) , “has remained stubbornly constant over the last ten years” (p. 1).

A picture emerges of a tiered system of education and training provision for 16 year olds in Great Britain in the 1990s. At the top level, full-time further education offers advanced qualifications, academic and vocational, and provides the prerequisites for entry into higher education. Below this, government-supported training schemes provide an alternative work-based route to a recognised vocational qualification. These schemes have largely assumed the role of traditional apprenticeship schemes in providing a structured programme of work-based training for young people and a route into skilled employment. Finally, there is direct entry into the labour market; a route that offers at best low skilled employment with little prospect of improving skills or acquiring additional qualifications.

3. The Statistical Model of Choice of Activity.

The purpose of this paper is to identify the factors that influence the decisions made by young people regarding their activities following schooling. The statistical analysis focuses on the individual's choice between further education, government-supported work-based training and direct entry into the labour market - a set of outcomes that may reasonably be regarded as demand determined. With the introduction of pre-vocational and foundation courses, academic entry requirements for further education were effectively removed, and there is evidence of excess capacity in the sector in Great Britain for much of the last decade (Foskett and Hesketh (1996)). Moreover, all 16 year-olds not in full-time education have been guaranteed a place on a government-supported training scheme since 1986. So for recent years at least, the assumption that entry to further education and work-based training schemes is demand-determined appears tenable. Disaggregating outcomes further, for example distinguishing between academic and vocational further education, this assumption is less likely to be satisfied.

The statistical model assumes that each of the three activities yields an expected net benefit to the individual in the form of an increment to her stock of human capital as a result

of education, training or work experience, plus income and/or consumption benefits. The individual chooses the activity that offers her the largest expected net benefit. For the purposes of empirical analysis, it is necessary to quantify the expected net benefits to the ith activity (i=1,2,3,) for the individuals in the sample in terms of observable variables. The sample is made up of a number of cohorts of individuals aged 16 years, where a cohort is defined in terms of its geographical location and year of completion of compulsory schooling. For example, a cohort consists of individuals aged 16 years who completed compulsory schooling in 1987 and are located in the Hampshire local education authority. In general terms, the expected net benefits to a given activity for the kth individual in the jth cohort may be regarded as a function of two sets of variables. The first of these consists of individual attributes that are related to their skills and ability, and also to tastes and preferences. Included in this set of variables are measures of the individual's academic performance at age 16 years, and also indicators of their educational and socio-economic background. The second set of variables to be considered may be broadly described as 'market' variables that influence the expected benefits to an activity for all members of a given cohort. These include, for example, measures of demand conditions in the local labour market, which affect the expected income streams associated with each of the activities available.

Thus, for the purposes of the empirical analysis, the expected net benefit to activity i for the kth individual in the jth cohort of the sample may be described by a function of the general form

$$B_{kj}^{i} = B^{i}(\mathbf{x}_{kj}, \mathbf{z}_{j}, u_{kj}^{i}) \qquad \text{for i=1,2,3} \qquad (1)$$

where $\mathbf{x}_{kj}$ denotes a vector of observable attributes of the individual; $\mathbf{z}_{j}$ denotes a vector of observable variables which reflect the 'market' conditions facing members of the jth cohort. u_{kj} is a random error term capturing the effects of unobservable variables on the expected net benefits of a given activity for the kth individual in the jth cohort.

For the kth member of the jth cohort, we can define an indicator function, A_{kj} with the property that A_{kj} takes the value i if the individual chooses activity i on completion of compulsory schooling, and takes the value 0 otherwise. It follows that

$$\Pr(A_{kj} = \mathbf{i}) \equiv \Pr[B^i(\boldsymbol{x}_{kj}, \boldsymbol{z}_j, \mathbf{u}^i_{kj}) \geq B^h(\boldsymbol{x}_{kj}, \boldsymbol{z}_j, \mathbf{u}^h_{kj}) \quad and \quad B^i(\boldsymbol{x}_{kj}, \boldsymbol{z}_j, \mathbf{u}^i_{kj}) \geq B^f(\boldsymbol{x}_{kj}, \boldsymbol{z}_j, \mathbf{u}^f_{kj})]$$
$$for\ f,h \neq i;\ f,h,i = 1,2,3$$

Adopting a linear approximation for the net benefits function B(.), and assuming that the random errors are identically and independently distributed with a Weibull density, we derive a multinomial logit model where

$$\Pr(A_{kj} = i) \equiv P_i = \frac{exp(\boldsymbol{x}'_{kj}.\boldsymbol{\alpha}_i + \boldsymbol{z}'_j.\boldsymbol{\beta}_i)}{\sum_{h=1}^{3} exp(\boldsymbol{x}'_{kj}.\boldsymbol{\alpha}_h + \boldsymbol{z}'_j.\boldsymbol{\beta}_h)} \qquad for\ i = 1,2,3 \qquad (2)$$

with $\boldsymbol{\alpha}_1 = \boldsymbol{\beta}_1 = \mathbf{0}$, and hence the log-odds ratios are given by

$$\ln \frac{P_{\mathbf{i}}}{P_1} = \boldsymbol{x}'_{kj}.\boldsymbol{\alpha}_i + \boldsymbol{z}'_j.\boldsymbol{\beta}_i \qquad for\ i = 2,3 \qquad (3)$$

Differentiating (2), the marginal effect of the attributes on the probabilities is given by

$$\frac{\delta P_i}{\delta \boldsymbol{x}_{kj}} = P_i\left[\boldsymbol{\alpha}_i - \sum_{h=1}^{3} P_h \boldsymbol{\alpha}_h\right] \qquad for\ i = 1,2,3 \qquad (4)$$

The sample consists of N individuals of age 16; M_1 individuals proceed to full-time further education upon completion of their compulsory schooling, M_2 join a government supported training scheme, and the remaining $N\text{-}M_1\text{-}M_2$ members of the sample enter the labour market

directly. Estimates of the parameters α_i and β_i for i=2,3 are obtained by maximising the likelihood value of the sample conditional upon the sample values of x_{kj} and z_j.

4. Youth Cohort Study for England and Wales

Information on individuals and their activities following compulsory schooling is obtained from the Youth Cohort Studies (YCS) for England and Wales, a longitudinal study of education, employment and training for a sample of those aged 16 to 19 years. The information is collected by postal questionnaire sent to a representative sample of 16/17 year-olds in the March of the year following their completion of compulsory schooling, with follow-up studies over the succeeding two years. The data used in this study is taken from studies 4, 5 and 6, and relate to individuals aged 16/17 years who completed their compulsory schooling in the year 1988, 1990 and 1991 respectively. Combining the three studies provides us with a very large sample - 24,533 males and 27,366 females - spanning a period of substantial change in education, training and the youth labour market in Great Britain.

For the purposes of this analysis, an individual in the sample is assigned to one of three categories according to their stated activities at the time of the survey:

A_{kj}=1 - the individual is currently engaged in full-time further education, or is waiting to take up a place in full-time further education.

A_{kj}=2 - the individual is undertaking government-supported training, or is waiting to take up a place on such a scheme; or is seeking a place on such a scheme.

A_{kj}=3 - the individual is in employment, either full-time or part-time, or without employment and seeking a job.

Table 1 shows the proportion of those aged 16 years engaged in each of the three activities in each of the surveys.[5] The sample spans a period of exceptional growth in participation in further education for both males and females, although a gender gap of some 10-percentage points was maintained. As further education expanded, the proportion of the cohort opting

both for Youth Training and for direct entry to the labour market declined, with the former experiencing the larger reduction.

Disaggregating by ethnic group, the differences in the pattern of activities between young people from the minority ethnic groups and those from the White majority are apparent. Participation rates in full-time further education are significantly lower for young Whites, male and female, than for young people from other ethnic backgrounds. The gender gap in participation rates is evident among young people from White and Afro-Caribbean ethnic groups, but negligible by comparison for those from Asian backgrounds. Among those who choose not to remain in full-time education, ethnic differences in outcomes are less apparent, but, there is some evidence that young Afro-Caribbeans are rather more likely to opt for Youth Training than members of other ethnic groups.

The rapid growth in participation rates in further education during this period is widely attributed to the improvement in levels of attainment that followed the introduction of a new unified system of the school examinations, the General Certificate of Secondary Education (GCSE) in the late 1980s.(see Ashford et al (1993), Gray et al (1993)??). The proportion of the cohort completing schooling with no formal qualifications fell from 14 percent in 1986 to less than 5 percent in 1995, while the proportion achieving 5 or more higher grade passes increased over the same period from 28 percent to 44 percent. The individual's performance in the GCSE is generally regarded to be a key indicator of the individual's ability to successfully complete a course of further education. To the extent that the level of effort and the choice of post-16 activity are jointly determined, GCSE attainment levels are not exogenous. However, this problem is mitigated by the fact that GCSEs are assessed over the two-year period prior to completion of schooling.

In the YCS sample, 61% of males and 58% of females who undertake further education have 5 or more GCSEs at grade C or higher, and only 1% of this group have no GCSE qualifications. As one would expect, attainment levels among those who choose to not continue in full-time education are markedly lower on average than for this group. Comparing those who enter youth training schemes and those who opt for direct labour market entry, the distributions by GCSE attainment level appear broadly similar, with the latter including a greater proportion of young people in the tails of the distribution. It is evident from Table 2 that differences in levels of academic attainment provide at best a partial explanation for the differences in outcomes by gender and by ethnic group. Indeed, GCSE attainment levels are markedly weaker among young people from Afro-Caribbean and Pakistani/Bangladeshi backgrounds than for those from the white majority.

Academic attainment at age 16 years is not the only aspect of the individual's educational experience to influence their choice of post-16 activity. The type of institution attended – private or state, selective or comprehensive - may contribute to the individual's skills and abilities in ways not fully captured by GCSE grades. Added to this, the institution may influence the individual's preferences for alternative activities through, for example, the type of career guidance and support provided. Additional information on preferences is considered in the form of the individual's school attendance record and their stated attitudes to schooling.

Considerable evidence exists that having controlled for the individual's educational background, socio-economic factors exert a significant independent effect on the individual's choice of post-16 activity. Previous studies have found that, all other things being equal, the children of those in non-manual occupations, more especially professional occupations, are significantly more likely to continue to further education than those with parents in manual occupations (see for example). This reflects in part the influence of family background on

the young person's preferences across alternative activities. Moreover in this case of the YCS, there is no direct information relating to the wealth or income, and so in this case, socio-economic group serves as a crude proxy for the permanent income of the family. On this basis, we consider also indicators of the current working status of each parent and of household composition.

To date the discussion has focussed on the attributes of the individual, but the expected return to an investment in human capital depends also on the market conditions that the individual faces. The levels of earnings currently prevailing in different types of occupations influence the individual's expectations regarding the future income stream arising from an investment in further education or training. Occupations may be categorised according to the educational levels required at entry as follows:

(i) Professional and related occupations – occupations that require at least a first degree or an equivalent level vocational qualification;

(ii) Intermediate occupations – occupations that require a good standard of general education, and some additional vocational training;

(iii) Manual occupations – occupations that require basic formal education plus some on-the-job or work-based training.

With further education a necessary condition for entry to occupations in the professional and related category, an increase in the relative earnings of these occupations implies a higher expected return to an investment in further education. Similarly, increases in earnings within the intermediate category relative to those for manual occupations are expected to reduce the incentives to enter the labour market directly following compulsory schooling. Measures of the present value of average lifetime earnings for each occupational category are computed from using data on earnings by age and occupation from the New Earnings Surveys. (For further details see the Data Appendix).

A large part of the costs of undertaking further education or training are foregone earnings, and hence a higher rate of unemployment in the local labour market, by reducing the expected level of earnings foregone in the short-run, implies a higher rate of return to the investment. Against this, it has been suggested that higher levels of unemployment lead to greater uncertainty regarding future income streams, and so tend to discourage investment in human capital (Micklewright (1989)). The empirical evidence to date is mixed. Studies based on time-series data confirm that the proportion of the age cohort entering further education following compulsory schooling is positively correlated with the unemployment rate (McVicar and Rice (2000), Pissarides (1981), Whitfield and Wilson (1981)). The evidence from studies of individual behaviour using micro-level data is more ambiguous. A number of earlier studies using the data from the Youth Cohort Studies for England and Wales have failed to identify any significant unemployment effects in the data (e.g. Gray, Jesson, Tranmer (1994)). Rice (1999), using a more flexible model specification, finds evidence that higher rates of unemployment in the local labour market increase the probability of undertaking further education, particularly for young males with lower academic attainment levels.

In this study, local unemployment is measured by the number of males in the local education authority who are wholly unemployed and claiming benefit as a proportion of the total male workforce. Male unemployment rates are used in preference to a gender-specific measure of unemployment because of the limitations of the female claimant count. This measure of unemployment fluctuates markedly over the four-year period spanned by the YCS sample. In June 1988, as the individuals in YCS4 approached the end of their compulsory schooling, the British economy was recovering from a prolonged recession. The average male unemployment rate remained high at 8.5%, but was declining rapidly. The labour market looked rather different for those completing their compulsory schooling two years later. By June 1990, the economy had peaked and unemployment, while still relatively low at

5.7%, was increasing once again. The next twelve months saw a substantial increase in unemployment as the economy moved into deep recession. By June 1991, when the young persons in YCS6 completed their schooling, the unemployment rate averaged 10.4% for males and still rising. In order to allow for these dynamics, the annual change in the unemployment rate, as well as the unemployment rate itself, is included in the model. Finally, the proportion of local employment accounted for by the main "white collar" sectors of banking and finance, and public administration, health and education is included in the model to allow for differences in the composition of local labour demand.

An objective of the statistical analysis is to identify the source of the differences in participation rates by gender and ethnic group highlighted in Table 1. To do this, we maintain separate multinomial logit models for males and for females throughout. However, it is not feasible to estimate separate models for each of the identified ethnic groups because of the relatively small sample sizes for the ethnic minority groups.[6] Instead, the statistical analysis focuses on two possible sources of differences in attitudes and behaviour across ethnic groups. The first is in the relationship between the individual's choice of activity and aspects of their educational experience to age 16 years. Secondly, we investigate interactions between ethnic group, academic attainment levels and local employment conditions.

4. Choice of Activity at Age 16 years – Estimates of the Multinomial Logit Model.

Estimates of the parameters of the multinomial logit model (2) are obtained by maximising the likelihood function of the sample by Newton-Raphson methods using Stata 6. Assuming the multinomial logit model is a correct specification, the maximum likelihood estimates have the usual asymptotic properties. However, in this particular application, there are specific estimation problems arising from the data. First, the achieved YCS sample is known to over-represent certain groups in the population, most notably those in full-time further education, and ignoring this would lead to significant biases in the sample estimates of the

relevant population parameters. [7] To mitigate this problem, the sample is weighted so that it matches the relevant population in respect of known characteristics such as gender, region, school type, GCSE attainment levels and activities undertaken following schooling.[8] The use of sampling weights in estimation affects both the point estimates of the parameters and their variance-covariance matrix. An estimate of the latter is obtained using the 'robust estimator' of Huber and White (White (1982)).

The second estimation issue arises from the fact that all individuals in a given cohort (as defined by the year of completion of schooling and the local education authority) face the same local labour market conditions, i.e. the same set of values for the vector $\mathbf{z}_j$. Given this, the assumption that the random errors, u_{kj} , are independent for all k and j is unlikely to be satisfied. Observations from the same cohort have correlated errors, although the assumption of independence across cohorts is tenable. This clustering of observations affects the variance of the maximum likelihood estimates, and the Huber-White robust estimator takes this into account.

The full set of parameter estimates for the multinomial logit model together with their 'robust' standard errors are reported in Table A1 of the Appendix. The Appendix provides also detailed definitions of the variables included in the model, along with the descriptive statistics for the sample. Given the parameter estimates, the predicted probability of participation in each of the three identified activities, conditional on a particular set of values for the individual characteristics, **x** and the market variables, **z**, may be computed from (2). For each individual in the sample, a predicted outcome is assigned on the basis that the individual chooses the activity with the greatest predicted probability. Some further evidence of the "goodness-of-fit" of the model is provided by a comparison of the actual and predicted outcomes reported in Table A1.

5. Ethnicity, Gender and Educational Background

The maximum likelihood estimates provide support for the hypothesis that the effects of educational background on the individual's decision vary systematically both by gender and by ethnic group. In general, the ethnic differences are more pronounced and better determined among young males than is the case for females. The implications of these results may be better understood by considering the impact on the predicted probability of each outcome. To do this, we compute a predicted probability for each individual in the sample conditional on the presence of a particular characteristic(s) and then average across the sample. Average predicted probabilities conditional on a given level of educational attainment, and ethnic group are reported in Table 3. For example, assuming that all females in the sample are White with 5 or more higher grade GCSEs, the average predicted probability of further education is 0.86; with 5 or more GCSEs, 1-4 at higher grade, the average predicted probability is 0.656. The difference between two predicted probabilities is an estimate of the effect of the change in GCSE attainment level for young women from the White ethnic group.

It is evident from Table 3 that the decision to undertake further education is considerably more sensitive to GCSE attainment level in the case of young Whites, particularly White males, than for their counterparts from the ethnic minority groups. For young males with 5+ higher grade GCSEs, differences in predicted probabilities attributable to ethnic group are small. The predicted probability of undertaking further education is lower on average for Whites than for males from Asian backgrounds, but exceeds that for Afro-Caribbeans. It is among young males in the middle range of GCSE attainment levels – those with 5+ GCSEs but few or no higher grades - that the ethnic differences are most marked. Among the ethnic minorities, young males in these attainment groups are only slightly less likely to opt for further education than their better-qualified counterparts. By contrast, the decline in attainment level produces a substantial reduction in the predicted probability of

undertaking further education for those from the White majority group. These effects are clearly illustrated in Figure 1.

Attitudes to government supported training schemes appear to differ also across the ethnic groups. All other things being equal, Afro-Caribbean males are significantly more likely to opt for Youth Training in preference to direct entry to the labour market than their counterparts in other ethnic groups. A comparison of the White and the Afro-Caribbean groups is revealing. Well-qualified White males are twice as likely to opt for direct entry to the labour market in preference to joining a youth training scheme. As the level of educational attainment declines, the odds of choosing the youth training option increases, but at all levels of attainment, White males are more likely to enter the labour market directly than undertake Youth Training. Among those from Afro-Caribbean backgrounds, the reverse is true. There is a marked preference for youth training over direct entry to the labour force at all levels of academic attainment.

Comparing males and females, it is evident that the gender gap in participation rates in further education observed in Table 1 arises only in part from differences in levels of attainment at GCSE. Among young people from the White and Afro-Caribbean ethnic groups, the predicted probability of undertaking further education for females exceeds that for males at all levels of GCSE attainment. This gender gap tends to widen as the level of GCSE attainment declines, particularly in the case of young Whites. In the case of those from Asian backgrounds, a gender gap is apparent only among those with weaker academic qualifications, and in these cases, it is males, rather than females, which are the more likely to continue in full-time education.

In addition to academic attainment, we investigate the effects of a number of other aspects of the individual's educational background. As one might expect, those with a record

of persistent truancy during schooling are significantly less likely to choose to continue in full-time education, opting instead to enter the labour market directly. Truancy tends to have a greater impact on the choice of post-16 activity for males than for females. Further, there is some evidence that the effects are less strong for males from Asian backgrounds than is the case for the white or Afro-Caribbean groups.

More striking are the effects of work experience on the young person's choice of post-16 activity. For young Whites, participation in a programme of work experience leads to a small, but significant, increase in the probability of choosing a work-related alternative in preference to full-time further education. This suggests that for this group work experience has a positive impact on attitudes to work and, in addition, may assist in obtaining access to employment or a training scheme. By comparison, the experience for young males from Afro-Caribbean backgrounds would appear to be strongly negative. For members of this group, participation in a work experience scheme is associated with a marked reduction in the probability of choosing a work-related activity on completion of their compulsory schooling. The predicted probability of undertaking Youth Training is reduced from an average of 0.33 to 0.17, while the probability of direct entry to the labour market decreases from 0.15 to 0.11.

6. Gender, Ethnicity and Local Unemployment

Economic theory suggests that higher rates of unemployment, by reducing the opportunity cost to individuals of postponing their entry to the labour market, encourage greater participation in full-time further education and/or government-supported training. In general, this is what we find to be the case. In the case of young Whites, a higher rate of unemployment in their local area leads to a lower probability of direct entry to the labour market, and higher probabilities for both further education and government-subsidised training. Furthermore, young people are more likely to opt for further education in preference to either youth training or direct entry to the labour market where local

unemployment is increasing more rapidly. This may reflect a belief that under these circumstances, the expected waiting time to entry to a training scheme is greater.

As in previous work (Rice 1999), we find evidence that the effect of local employment conditions on the choice of post-16 activity among young males varies significantly with level of attainment at GCSE. The impact of the local unemployment rate, both the level and the change, on outcome probabilities tends to increase as the GCSE attainment level declines, with the exception of the lowest qualified group. The pattern of effects among females is not dissimilar, but the parameter estimates tend to be smaller in magnitude and not as well-determined.

The implied relationships between the local unemployment rate and the predicted probabilities of each outcome are illustrated in Figure 2 for males at different GCSE attainment levels. For those in the highest attainment category, the effects of changes in local unemployment, while statistically significant, are very small in absolute terms. In general, among young persons who complete their schooling with a good range of GCSE qualifications, the choice of post-16 activity is largely unresponsive to short-run changes in local labour demand. The picture is rather different in the case of young males, with weak academic qualifications. For those with just a small number of low grade GCSEs, the predicted probability of direct entry to the labour market falls sharply as the local unemployment rate increases. In the face of less favourable conditions in the local market, young men postpone labour market entry and choose instead to improve their qualifications through work-based training, and to a lesser extent, further education.

If young people from ethnic minority groups face discrimination in the job market then their response to a deterioration in the demand for labour might be expected to differ from that of members of the majority ethnic group. We find some evidence that this is the

case although in general these ethnic differences are not well determined. The estimation difficulties associated with the relatively small samples for the ethnic minority groups are here compounded by the fact that the ethnic minorities tend to be concentrated in a relatively small number of LEAs. These limitations should be borne in mind when considering the relationships between the local unemployment rate and the predicted probabilities of each outcome for young males from the ethnic minority groups illustrated in Figure 3. It is evident that irrespective of the level of unemployment, these young males are far less likely than their white counterparts to opt for direct entry to the labour market. For these groups, the main effect of higher rates of unemployment is to encourage a switch from work-based Youth Training to further education.

6. Conclusions

Despite the many initiatives in further education and training of the last decade, a significant number of young people in great Britain continue to enter the labour market directly on completion of their compulsory schooling. While some are successful in finding stable employment with opportunities to improve their skills and qualifications through formal training, for the majority this route provides at best poor quality low skilled employment with little training of any type. This paper has focused on the role played by family and educational background, together with local labour market conditions, in determining this key step in the transition from school to work.

An analysis of the activities of a large sample of young people who have recently completed their schooling reveal marked differences in behaviour across ethnic groups. In the introduction to this paper, we posed the question to what extent are these differences attributable to the composition of the groups, rather than a reflection of gender/ethnic differences per se. Table 5 provides an answer to this question. It reports the average predicted probability of an outcome for each of the demographic groups, on the assumption

that the groups have the same composition with respect to educational and family background and labour market conditions. The figures in parentheses are the predicted probabilities conditional on the actual composition of the groups in the sample.

What we can see from Table 5 is that compositional differences do account for a significant part of the gender gap in participation rates in further education apparent among those from White and Afro-Caribbean backgrounds. A gap of 11 percentage points between White males and females would be reduced to 6 percentage points if the two groups had the same composition. In this case, the important compositional differences are in the distribution of attainment levels at GCSE.

By contrast, very little of the observed differences in participation rates across the different ethnic groups can be attributed to compositional differences. The exception is the gap between the Indian and the Pakistani/Bangladeshi groups, where eliminating compositional differences closes the gap of 6 percentage points in participation rates in further education among young males. As far as the gap between young Whites and their counterparts in the ethnic minority groups are concerned, compositional differences can explain only a very small part of the differences in participation rates highlighted in Table 1. These arise mainly from differences in the behaviour of otherwise identical students. The analysis of section 5 shows that these differences are most pronounced among young males with relatively weak academic qualifications.

Why do young White males display such a marked preference for entering the labour market directly at age 16? A plausible explanation is that discrimination against ethnic minorities remains prevalent in the market for unskilled labour and young White males continue to enjoy an advantage over similarly qualified young people from the ethnic minorities in gaining employment. A recent government study found that among young

persons who are not in full-time education or training, White males are more likely to be in employment than females or members of the ethnic minority groups (DfEE (2000)). However, these figures do not control for levels of academic attainments and, as shown in this paper, white males who opt for direct entry to the labour market are on average better qualified than their counterparts from other groups. Young white males perceive correctly that the short-run opportunity costs of undertaking work-based training or further education are higher for them than for their counterparts among the ethnic minorities. The problem is that, as we have seen, the types of employment to which they have access offer few opportunities to extend their skill and qualifications. Over time, this group is likely to find itself at a growing disadvantage in the labour market as the skills gap between them and their better qualified counterparts widens. The challenge is to devise policies that convince this group of young people that their interests are better served in the longer term by investing in additional human capital.

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[1] "Bridging the Gap: New Opportunities for 16-18 year olds not in Education, Employment or Training" Cmnd 4405, July 1999.

[2] The National Council for Vocational Qualifications was established in 1986 with responsibility to develop and administer a national system of vocational qualifications, for both full-time education and work-based training. The GNVQ was introduced nationally in 1993.

[3] The NVQ is the work-based counterpart to the GNVQ developed by the National Council for Vocational Qualifications.

[4] National Traineeships replaced Youth training in 1997. Under both schemes, young persons are offered two years of subsidised work-based training leading to a vocational qualification at level 2. Modern Apprenticeships, introduced in 1995, provides three years of subsidised training aimed at achieving a level 3 vocational qualification.

[5] The reported sample proportions are based on a weighted sample where the weights are chosen to match with population proportions for the variables gender, region, school type, GCSE examinations results, and participation rate in full-time education.

[6] Small sample sizes for ethnic minority groups mean that certain categories in the multinomial logit models have zero observations; e.g. there are no Afro-Carribeans who attended private schools undertaking youth training in the sample. Consequently, it is not possible to obtain a separate estimate for Afro-Caribbeans of the effect of this variable on choice of activity.

[7] The original YCS sample is representative of the population of 16 year-olds but the average repsosne rate is only around 70%. For further details of YCS response rates see Courtenay and McAleese (1993a,1993b).

[8] For details of the construction of the sampling weights see Courtenay and McAleese (1993a,1993b).

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Table 1: Participation Rates in Activities Following Schooling.

	Females				Males			
All ethnic Groups	**Further educ. %**	**Youth training %**	**Direct entry to labour market %**	**Total Sample size**	**Further educ. %**	**Youth training %**	**Direct entry to labour market %**	**Total Sample size**
1989	53.5	23.2	23.3	7174	43.8	27.9	28.3	6527
1991	65.8	14.4	19.8	7303	54.7	19.4	25.9	6771
1992	73.4	12.2	14.4	12889	62.9	16.7	20.4	11235

	Females				Males			
All years: 1989-92	**Further educ. %**	**Youth training %**	**Direct entry to labour market %**	**Total Sample Size**	**Further educ. %**	**Youth training %**	**Direct entry to labour market %**	**Total Sample size**
White	65.1	16.2	18.7	25723	54.0	21.1	24.9	22991
Afro-Caribbean	79.6	10.5	9.9	444	68.5	16.5	15.0	329
Indian	84.2	7.5	8.4	533	84.3	8.2	7.5	500
Pakistani/ Bangladesh	76.0	10.1	13.9	426	78.9	9.3	11.8	459
Other Asian	87.1	5.4	7.5	240	88.9	6.0	5.1	254

Table 2: GCSE Attainment Levels by Post 16 Activity and Ethnic Group

	Females				Males			
All years: 1988-91	**Further educ. %**	**Youth training %**	**Direct entry to labour market %**	**All %**	**Further educ %**	**Youth training %**	**Direct entry to labour market %**	**All %**
5+ GCSEs 5+ ABC grades.	53.2	7.6	12.7	38.7	52.5	5.1	8.2	32.2
5+ GCSEs 1-4 ABC grades.	30.3	31.2	31.0	30.6	29.7	24.8	26.2	27.9
5+ GCSEs no ABC grades.	10.9	30.2	23.4	16.2	11.8	31.7	26.1	19.2
1-4 GCSEs	4.5	21.2	20.9	10.1	4.6	26.8	23.5	13.7
No GCSEs	1.1	9.8	12.0	4.4	1.4	11.6	16.0	7.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

	Females					Males				
All years: 1989-92	**5 + GCSEs 5 + A,B,C Grades %**	**5 + GCSEs 1-4 A,B,C grades %**	**5 + GCSEs no grades A,B,C %**	**1-4 GCSEs %**	**No GCSEs %**	**5 + GCSEs 5 + A,B,C grades %**	**5 + GCSEs 1-4 A,B,C grades %**	**5 + GCSEs No grades A,B,C %**	**1-4 GCSEs %**	**No GCSEs %**
White	39.3	30.2	16.2	9.8	4.5	32.5	27.7	19.4	13.5	7.0
Afro-Caribbean	23.2	39.5	17.4	15.7	4.2	21.0	31.8	20.9	15.5	10.8
Indian	33.7	34.4	18.8	11.0	2.1	35.3	30.7	19.7	11.2	3.1
Pakistani/ Bangladesh	20.5	38.6	16.8	17.3	6.8	20.0	32.5	16.7	21.0	9.8
Other Asian	47.9	29.0	11.1	10.1	1.9	43.7	26.1	12.9	14.2	3.2

Table 3: Predicted Probabilities conditional on GCSE Attainment Levels by Ethnic Group.[a]

	Females					Males				
	5 + GCSEs 5 + A,B,C Grades %	5 + GCSEs 1-4 A,B,C grades %	5 + GCSEs no grades A,B,C %	1-4 GCSEs %	No GCSEs %	5 + GCSEs 5 + A,B,C grades %	5 + GCSEs 1-4 A,B,C grades %	5 + GCSEs No grades A,B,C %	1-4 GCSEs %	No GCSEs %
White										
FE	0.864	0.656	0.496	0.378	0.245	0.842	0.578	0.383	0.246	0.169
YT	0.044	0.158	0.259	0.293	0.323	0.051	0.187	0.307	0.367	0.326
LM	0.092	0.184	0.245	0.329	0.432	0.107	0.235	0.311	0.386	0.505
Afro-Caribbean										
FE	0.950	0.817	0.596	0.632	0.525	0.780	0.712	0.708	0.437	0.344
YT	0.018	0.086	0.301	0.240	0.059	0.191	0.136	0.184	0.407	0.448
LM	0.032	0.097	0.100	0.128	0.416	0.050	0.152	0.108	0.156	0.208
Indian/ OtherAsian										
FE	0.972	0.888	0.767	0.628	0.390	0.964	0.883	0.818	0.598	0.595
YT	0.012	0.051	0.131	0.159	0.259	0.020	0.065	0.089	0.271	0.225
LM	0.016	0.061	0.102	0.213	0.351	0.016	0.052	0.092	0.131	0.180
Pakistani/ Bangladesh										
FE	0.924	0.820	0.791	0.586	0.301	0.934	0.916	0.825	0.714	0.429
YT	0.028	0.085	0.071	0.210	0.373	0.007	0.019	0.066	0.199	0.247
LM	0.047	0.094	0.137	0.204	0.326	0.059	0.065	0.110	0.087	0.324

(a) The predicted probability conditional on a given attainment level and given ethnic group is obtained by computing a predicted probability for each individual in the sample on the basis that (s)he has the particular characteristics and then averaging across the sample.

Table 4: Predicted Probabilities conditional on (a) Work Experience and (b) Truancy by Ethnic Group.[a]

	Work experience				Truancy			
	Females		Males		Females		Males	
	Work exp.	No work exp.	Work exp.	No work exp.	Truancy	No truancy	Truancy	No truancy
White								
FE	0.623	0.639	0.555	0.580	0.507	0.647	0.445	0.578
YT	0.182	0.164	0.201	0.184	0.194	0.176	0.211	0.198
LM	0.195	0.197	0.243	0.235	0.299	0.177	0.344	0.224
Afro-Caribbean								
FE	0.758	0.759	0.724	0.530	0.662	0.780	0.569	0.690
YT	0.137	0.141	0.168	0.321	0.147	0.138	0.226	0.211
LM	0.104	0.100	0.107	0.148	0.191	0.082	0.205	0.099
Indian/ OtherAsian								
FE	0.808	0.837	0.833	0.829	0.778	0.825	0.838	0.831
YT	0.083	0.107	0.090	0.110	0.088	0.091	0.091	0.098
LM	0.109	0.056	0.077	0.061	0.133	0.084	0.072	0.072
Pakistani/ Bangladesh								
FE	0.777	0.778	0.835	0.854	0.721	0.788	0.784	0.852
YT	0.119	0.080	0.054	0.093	0.171	0.092	0.068	0.065
LM	0.103	0.142	0.111	0.053	0.109	0.119	0.147	0.082

(a) The predicted probability conditional on a given set of characteristics is obtained by computing a predicted probability for each individual in the sample on the basis that (s)he has the particular characteristics and then averaging across the sample.

Table 5: Participation in Further Education and Training: The Effects of Gender and Ethnic Background.

	Females			Males		
	$A_{kj}=1$ Further Education	$A_{kj}=2$ Youth training	$A_{kj}=3$ Direct entry to labour market	$A_{kj}=1$ Further education	$A_{kj}=2$ Youth training	$A_{kj}=3$ Direct entry to labour market
White	0.627	0.177	0.196	0.562	0.197	0.241
	(0.651)	(0.162)	(0.187)	(0.540)	(0.211)	(0.249)
Afro-Caribbean	0.758	0.138	0.103	0.673	0.210	0.117
	(0.796)	(0.104)	(0.099)	(0.686)	(0.165)	(0.150)
Indian/other Asian	0.816	0.089	0.095	0.832	0.096	0.072
	(0.850)	(0.068)	(0.081)	(0.858)	(0.075)	(0.067)
Pakistani/ Bangladeshi	0.777	0.108	0.115	0.840	0.065	0.094
	(0.760)	(0.101)	(0.139)	(0.789)	(0.093)	(0.118)

Data Appendix.

Definitions of Variables

Individual Attributes.

The following set of variables are derived from information contained in the Youth Cohort Study (YCS), The reader is referred to the survey questionnaire for further information if required.

Individual's activity at age 16 years.

Respondents are asked to provide information on their activities at the time of survey, i.e. Spring of the year following completion of compulsory schooling. On the basis of this information, an individual is assigned to one of three categories.

A_{kj}=1 - the individual is currently engaged in full-time further education, or is waiting to take up a place in full-time further education.

A_{kj}=2 - the individual is undertaking Youth Training or a related government-supported training scheme, or is waiting to take up a place on such a scheme; or is seeking a place on such a scheme.

A_{kj}=3 - the individual is in employment, either full-time or part-time, or without employment and seeking a job.

Individuals whose stated activities are such that they cannot be coded into one of these categories are excluded from the sample.

Race/ethnic group

Respondents are asked to which ethnic group they belong. The five are identified in the initial estimation, as follows

(a) white,

(b) Afro-caribbean

(c) Indian,

(d) Pakistani or Bangladeshi,

(e) Other Asian,

Father/ Mother's SEG.

Respondents are asked to provide information about their parents (or step parents) current jobs, or, if they are not working at the moment, their most recent job. On the basis of this information the father/mother's job is assigned a 2-digit S.E.G. code. In the initial estimation, 12 categories are identified:

(a) Professional, employed and own account (SEG 3,4);

(b) Employers/managers (large) (SEG 1);

(c)Employers/managers (small), including farmers (SEG 2,13);

(d) Intermediate non-manual (SEG 5);

(e) Junior non-manual (SEG 6);

(f) Personal service workers (SEG 7);

(g) Intermediate manual workers, including foremen and supervisors, own account workers manual workers, own account farmers (SEG 8,12,14);

(h) Skilled manual workers (SEG 9);

(i) Semi-skilled manual workers, including agricultural workers (SEG 10,15);

(j) Unskilled manual workers (SEG 11);

(k) Armed Forces (SEG 16);

(l) Not Known (SEG 17).

Parent's current employment status.

Respondents are asked whether their father /mother is in employment at the time of the survey. For each parent, three categories are identified:

(a) father/mother in employment;

(b) father/mother not in employment;

(c) father/mother's employment status unknown.

Household composition.

Respondents are requested for information on who is resident in their household. The following categories are identified:

(a) both parents resident in household;

(b) father only is resident in the household;

(c) mother only is resident in the household;

(e) parents are not resident in household;

(f) household composition not known.

In addition, separate variables are defined for (i) the number of siblings living in the household; (ii) the number of other persons living in the household.

GCSE qualifications:

Respondents are requested to provided comprehensive information relating to their GCSE qualifications. The following attainment levels are identified:

(a) 5+ grades, 5+ ABCs;

(b) 5+ grades, 1-4 ABCs;

(c) 5+ grades, no ABCs;

(d) 1-4 grades;

(e) no grades;

A small number of respondents who failed to provide any information on the GCSE qualifications were excluded form the sample.

Type of School Attended:

Information is provided on the type of school attended by the respondent in year 11 (final year) of compulsory schooling. 4 categories are considered

(a) state comprehensive;

(b) state grammar (selective);

(c) independent (private);

(d) other

Persistent truancy

The variable takes the value one for individuals who report that they played truant from school for several days at a time, and has the value zero otherwise.

Attitudes to schooling

Respondents are asked to state whether they agree or disagree with number of statements regarding the benefits of schooling. The individual is classified as having positive, neutral or negative attitudes on the basis of their responses.

Work experience

The variable takes the value one for individuals who report that they participated in a work experience scheme during year 11 of school, and has the value zero otherwise.

Local Labour Market Variables.

The data on local labour market variable is taken from other sources and matched to the data on individual characteristics derived from the YCS. For the purposes of this matching, each individual is assigned to a local labour market on the basis of their LEA code in the YCS. It is assumed that the majority of individuals responding to the YCS in Spring of a given year had chosen their current activity at the end of the previous academic year, and hence the labour market conditions prevailing during the previous summer was taken as the relevant measure.

Unemployment rate

The number of persons wholly unemployed and claiming unemployment benefit as a percentage of the total work force (i.e. employees in employment, the self-employed, members of the armed forces, participants on government work related schemes and the unemployed) as recorded in the June prior to the YCS survey date. The data on unemployment rates in local labour markets is derived from the NOMIS data set "WPN: Ward-based unemployed claimants - stocks". Data on unemployment rates is available on the basis of 'travel-to-work' areas and so a mapping is constructed from 'travel-to-work' areas as described in NOMIS to LEAs as given in YCS.

Annual Change in Unemployment Rate

The change in the local unemployment rate, as described above, during the twelve-month period to June.

Employment Composition

The percentage of total employment in the local area in 'professional services' i.e. SIC80 classes 81-85,91,93-97. The data is derived from the NOMIS data set "CE80 - Census of Employment by 1980 Standard Industrial Classification. As above, the data for LEAs is constructed from data for counties and 'travel-to-work' areas. Census of Employment data is available for the years 1987,1989 and 1991 only.

Relative Lifetime Earnings for professional and related, intermediate and manual occupational categories.

For a given occupational category, the estimate of the PDV of future earnings is calculated as follows

$$\mathbf{PV} = \sum_{\tau} \frac{\mathbf{w(\tau)\lambda(\tau)}}{\mathbf{\delta(\tau)}}$$

where $w(\tau)$ is the average weekly earnings for members of the given occupation in age category; $\lambda(\tau)$ is the range of the age category in terms of number of weeks; $\delta(\tau)$ is the discount factor applied based on an annual discount rate of 0.05%

The age categories for males are

21-24 yrs: $\tau=1$; $\lambda(1) = 4*52$; $\delta(1) = (1+0.05)$

25-29 yrs: $\tau=2$; $\lambda(2) = 5*52$; $\delta(2) = (1+0.05)$

30-39 yrs: $\tau=3$; $\lambda(3) = 10*52$; $\delta(3) = (1+0.05)$

40-49 yrs: τ=4; $\lambda(4) = 10*52$; $\delta(4) = (1+0.05)$

50-59 yrs: τ=5; $\lambda(5) = 10*52$; $\delta(5) = (1+0.05)$

60-64 yrs: τ=6; $\lambda(6) = 10*52$; $\delta(6) = (1+0.05)$.

In the case of females only age categories 1-5 are considered.

Data on earnings by age and occupation are taken from the NES for the year prior to the survey date. Until 1990, information on average weekly earnings by age category is provided for the eighteen major occupation groups of the KOS based classification; from 1991 onwards the occupational breakdown is based on the nine major groups of the SOC classification. The major occupation groups identified in the NES are aggregated to obtain broad occupational categories compatible with both the KOS-based and the SOC-based classifications and with similar requirements for further education. Following a certain amount of experimentation, three categories were considered:

(i) Professional and related occupations - occupations requiring at least a first degree (or its equivalent) or a high level of vocational training. SOC-based major groups 1-3; KOS-based major occupation groups 1-6.

(ii) Intermediate occupations - occupations requiring a good standard of general education and in some cases further additional vocational training. SOC-based major groups 4,6,7; KOS-based major occupation groups 7,8,9.

(iii) Manual occupations - occupations requiring a basic level of formal education together with a period of on-the-job training or work-based training. SOC-based major groups 5,8,9; KOS-based major occupation groups 10-18.

Table A1: Multinomial Logit Model of Choice of Activity – Parameter Estimates.

	Females				Males			
	A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market		A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market	
Individual characteristics.[a]								
Race/ ethnic group								
Afro-Caribbean	-4.254	(1.667)	-0.909	(1.425)	3.161	(1.326)	-1.006	(1.657)
Indian/Other Asian	-0.734	(0.783)	-3.216	(1.563)	0.010	(1.206)	-2.166	(1.010)
Pakistani/Bangladeshi	1.057	(1.455)	0.136	(1.167)	-0.050	(1.468)	-1.349	(1.891)
Father's SEG								
Professional	-0.545	(0.134)	-0.914	(0.129)	-0.950	(0.171)	-0.905	(0.143)
Employer/manager (large); intermediate non-manual.	-0.523	(0.089)	-0.314	(0.072)	-0.599	(0.085)	-0.677	(0.071)
Employer/manager (small); junior non-manual; personal service worker.	-0.238	(0.069)	-0.180	(0.059)	-0.310	(0.079)	-0.240	(0.053)
Semi-skilled/unskilled manual worker.	0.286	0.068)	0.173	(0.055)	0.246	(0.086)	0.321	(0.080)
Mother's SEG								
Professional; employer/manager (large); intermediate non-manual.	-0.468	(0.082)	-0.429	(0.078)	-0.364	(0.085)	-0.469	(0.072)
Personal service;skilled/ semi-skilled/unskilled manual worker.	0.143	(0.061)	0.248	(0.065)	0.383	(0.068)	0.300	(0.059)
Father not currently employed	-0.072	(0.067)	0.066	(0.072)	-0.124	(0.100)	0.020	(0.102)
Mother not currently employed	0.023	(0.052)	-0.073	(0.050)	-0.090	(0.060)	-0.095	(0.051)
Household composition								
Father only present.	0.121	(0.156)	0.003	(0.141)	-0.126	(0.166)	0.057	(0.122)
Mother only present.	-0.241	(0.087)	-0.132	(0.093)	-0.260	(0.100)	-0.071	(0.079)
No parent in household.	0.768	(0.164)	1.009	(0.153)	0.564	(0.241)	0.769	(0.211)
No. of siblings in h'hold.	-0.001	(0.022)	0.011	(0.019)	0.012	(0.023)	0.002	(0.028)
No. of other persons in h'hold.	0.068	(0.046)	0.085	(0.041)	-0.029	(0.044)	0.106	(0.050)

(a) In addition to the variables listed here, the model includes indicator variables for no information on parent's occupation, and for regions and metropolitan areas.

	Females				Males			
	A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market		A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market	
GCSE Qualifications								
5+ GCSEs, 1-4 A-C grades	1.777	(0.370)	1.297	(0.278)	2.011	(0.374)	1.813	(0.295)
***Afro-Caribbean**	0.134	(1.013)	0.264	(0.692)	-2.103	(0.642)	-0.095	(0.603)
***Indian/Other Asian**	-0.071	(0.648)	0.358	(0.473)	-0.526	(0.663)	-0.066	(0.746)
***Pakistani/Bangladeshi**	-0.382	(0.483)	-0.217	(0.655)	-0.791	(1.188)	-1.228	(0.582)
5+ GCSEs, no A-C grades	2.760	(0.488)	1.651	(0.351)	3.070	(0.545)	2.881	(0.354)
***Afro-Caribbean**	1.146	(0.902)	-0.076	(0.706)	-2.849	(0.653)	-1.281	(0.752)
***Indian/Other Asian**	0.214	(0.660)	0.402	(0.522)	-1.172	(0.516)	-0.209	(0.678)
***Pakistani/Bangladeshi**	-1.382	(0.767)	-0.392	(0.726)	-0.453	(1.162)	-1.389	(0.597)
1-4 GCSEs	3.370	(0.567)	2.800	(0.363)	4.117	(0.572)	4.565	(0.412)
***Afro-Caribbean**	0.304	(0.903)	-0.457	(0.753)	-2.092	(0.790)	-1.013	(0.795)
***Indian/Other Asian**	0.181	(0.856)	0.816	(0.636)	-0.356	(0.690)	-0.206	(0.577)
***Pakistani/Bangladeshi**	-0.326	(0.713)	-0.259	(0.588)	0.127	(1.101)	-2.238	(0.626)
No GCSEs	4.410	(0.926)	3.765	(0.744)	3.557	(0.614)	3.595	(0.531)
***Afro-Caribbean**	-1.797	(1.363)	0.398	(0.953)	-1.999	(0.866)	-1.160	(0.830)
***Indian/Other Asian**	0.633	(1.230)	1.115	(0.863)	-0.864	(0.651)	-0.575	(0.834)
***Pakistani/Bangladeshi**	0.502	(0.942)	0.270	(0.705)	0.697	(1.164)	-0.924	(0.594)
Persistent truancy	0.598	(0.058)	1.015	(0.065)	0.660	(0.079)	1.004	(0.064)
***Afro-Caribbean**	-0.250	(0.417)	0.276	(0.534)	-0.252	(0.768)	0.072	(0.428)
***Indian/Other Asian**	-0.477	(0.472)	-0.354	(0.517)	-0.761	(0.663)	-1.033	(0.476)
***Pakistani/Bangladeshi**	0.293	(0.583)	-0.895	(0.470)	-0.392	(0.305)	-0.217	(0.523)
Participation in work experience scheme	0.170	(0.056)	0.042	(0.061)	0.204	(0.064)	0.145	(0.057)
***Afro-Caribbean**	-0.201	(0.286)	0.015	(0.422)	-1.425	(0.496)	-1.026	(0.379)
***Indian/Other Asian**	-0.323	(0.435)	0.793	(0.423)	-0.420	(0.385)	0.074	(0.428)
***Pakistani/Bangladeshi**	0.286	(0.451)	-0.351	(0.339)	-0.755	(0.425)	0.674	(0.499)
Type of school attended								
Grammar	-0.695	(0.261)	-0.354	(0.170)	-0.141	(0.231)	0.130	(0.158)
Independent	-1.549	(0.272)	-1.127	(0.181)	-1.580	(0.233)	-1.509	(0.183)
Other school	-0.122	(0.139)	0.213	(0.130)	0.193	(0.148)	0.222	(0.135)

	Females				Males			
	A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market		A_{kj}=2 Youth training		A_{kj}=3 Direct entry to labour market	
Positive attitudes to schooling.	-0.233	(0.044)	-0.366	(0.045)	-0.219	(0.045)	-0.349	(0.054)
Negative attitudes to schooling.	0.324	(0.102)	0.377	(0.093)	0.394	(0.125)	0.607	(0.123)
Local labour market variables.								
Unemployment rate	0.415	(0.181)	-0.665	(0.144)	0.037	(0.180)	-0.304	(0.116)
***Afro-Caribbean**	1.523	(0.631)	-0.360	(0.602)	-0.411	(0.529)	0.375	(0.728)
***Indian/Other Asian**	-0.152	(0.340)	0.216	(0.620)	-0.364	(0.469)	0.128	(0.501)
***Pakistani/Bangladeshi**	-0.682	(0.582)	-0.212	(0.461)	-0.789	(0.572)	0.031	(0.830)
***5+ GCSEs,1-4 A-C grades**	-0.037	(0.167)	-0.094	(0.135)	-0.057	(0.167)	-0.205	(0.132)
***5+ GCSEs, no A-C grades**	-0.094	(0.218)	0.015	(0.168)	-0.046	(0.242)	-0.307	(0.162)
***1-4 GCSEs**	-0.142	(0.254)	-0.185	(0.163)	-0.155	(0.255)	-0.709	(0.192)
***No GCSEs**	-0.328	(0.385)	-0.279	(0.329)	0.238	(0.277)	0.047	(0.239)
Annual change of unemployment rate	-0.326	(0.184)	-0.841	(0.150)	-0.282	(0.198)	-0.410	(0.193)
***Afro-Caribbean**	-0.045	(0.600)	1.492	(0.669)	1.319	(0.477)	1.662	(0.596)
***Indian/Other Asian**	1.209	(0.644)	1.628	(0.526)	0.256	(0.569)	-0.635	(0.553)
***Pakistani/Bangladeshi**	-0.098	(0.790)	-0.596	(0.594)	0.604	(0.707)	0.418	(1.226)
***5+ GCSEs,1-4 A-C grades**	-0.204	(0.214)	0.011	(0.151)	-0.220	(0.219)	-0.179	(0.179)
***5+ GCSEs, no A-C grades**	-0.243	(0.227)	0.458	(0.177)	-0.342	(0.269)	-0.276	(0.197)
***1-4 GCSEs**	-0.488	(0.262)	-0.078	(0.203)	-0.708	(0.296)	-0.590	(0.239)
***No GCSEs**	-0.761	(0.418)	0.110	(0.432)	-0.415	(0.316)	0.116	(0.286)
Employment composition.	-2.307	(0.432)	-0.185	(0.380)	-0.664	(0.213)	-0.122	(0.160)
Relative lifetime earnings - professional/intermediate	-3.532	(1.178)	-2.122	(1.161)	-8.521	(1.392)	-4.139	(1.266)
Relative lifetime earnings - intermediate/manual	-4.010	(1.462)	-0.411	(1.020)	-6.144	(1.267)	-1.989	(1.071)
Constant	6.946	(1.785)	0.658	(1.530)	1.971	(0.787)	0.219	(0.600)
Log-likelihood value	-18680.897				-17935.298			
Pseudo R-squared stat.	0.220				0.264			
Number of observations	27366				24533			

Table A1: Multinomial Logit Model of Choice of Activity.

Predicted Probabilities.

Predicted Probabilities	Females			Males		
	$A_{kj}=1$ Further education	$A_{kj}=2$ Youth training	$A_{kj}=3$ Direct entry to labour market	$A_{kj}=1$ Further education	$A_{kj}=2$ Youth training	$A_{kj}=3$ Direct entry to labour market
Sample average	0.661	0.157	0.182	0.556	0.204	0.239
Standard dev.	0.268	0.144	0.155	0.321	0.173	0.184

Actual and Predicted Outcomes.

Females		Predicted Activity			
		Further education	Youth training	Labour market	Total
Actual Activity	Further education	17864	548	532	18944
	Youth training	2695	1192	605	4492
	Labour market	2354	616	960	3930
Total		22913	2356	2097	27366

Males		Predicted Activity			
		Further education	Youth training	Labour market	Total
Actual Activity	Further education	13820	646	736	15202
	Youth training	2233	1798	1003	5034
	Labour market	1699	1073	1525	4297
Total		17752	3517	3264	24533

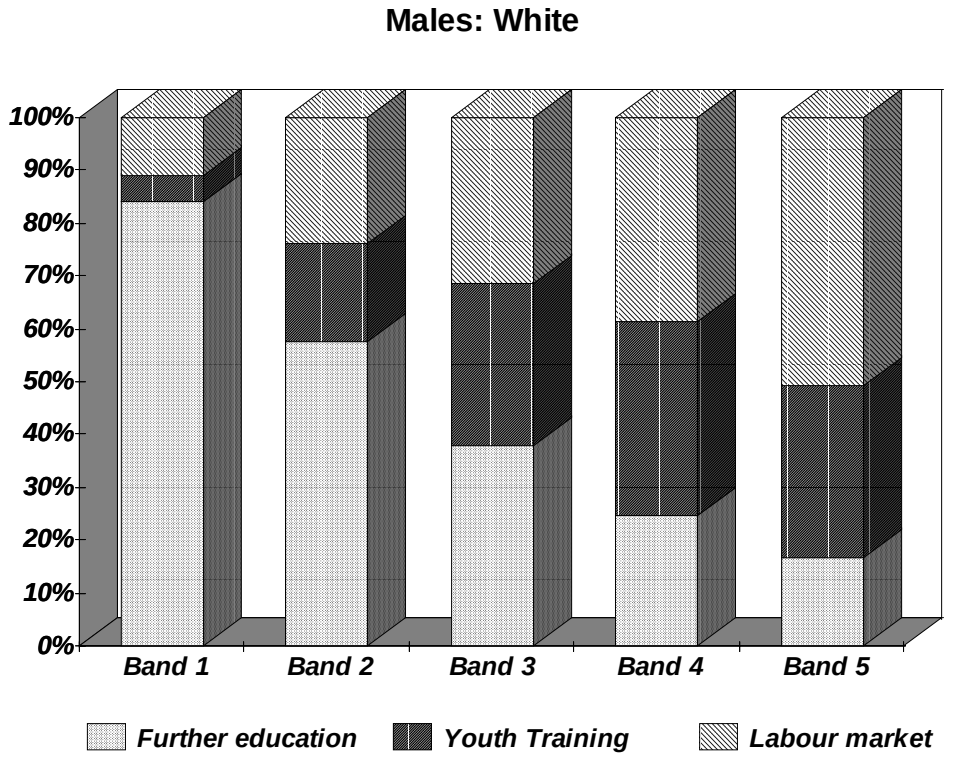
Table A2: Descriptive Statistics: sample means and proportions (weighted sample)

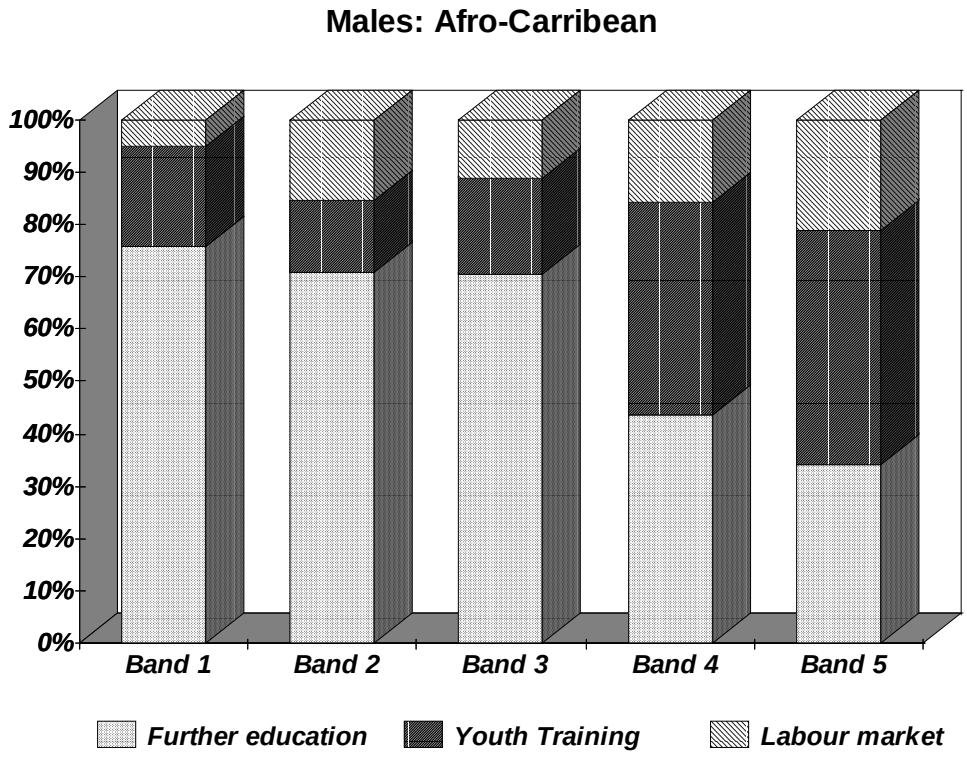
	Females			Males		
	A_{kj}=1 Further educ.	A_{kj}=2 Youth training	A_{kj}=3 Direct entry to labour market	A_{kj}=1 Further educ.	A_{kj}=2 Youth training	A_{kj}=3 Direct entry to labour market
Individual characteristics.[a]						
Race/ ethnic group						
White %	92.69	97.05	96.84	91.58	97.09	97.28
Afro-Caribbean %	1.97	0.81	0.85	1.58	1.07	0.85
Indian/Other Asian %	3.59	1.12	1.07	4.38	1.07	0.83
Pakistani/Bangladeshi %	1.74	1.02	1.25	2.46	0.77	1.03
Father's SEG						
Professional %	8.61	2.29	2.07	10.67	1.93	2.52
Employer/manager (large); intermed non-manual. %	16.43	5.57	6.92	19.44	6.70	6.69
Employer/manager (small); junior non-manual; personal service worker. %	18.02	12.44	13.96	18.29	12.98	15.08
Intermediate manual; skilled manual. %						
Semi-skilled/unskilled manual worker. %	7.93	14.45	13.11	7.08	14.24	13.61
Mother's SEG						
Professional; employer/manager (large) Intermed non-manual. %	20.04	7.05	7.44	22.08	7.45	8.10
Employers/anagers (small); junior non-manual; intermediate manual. %						
Personal service;skilled/ semi-skilled/unskilled manual worker. %	18.00	30.46	30.59	14.39	28.58	26.52
Father not currently working. %	10.74	15.50	14.92	9.98	13.31	13.25
Mother not currently working %	44.81	43.74	42.12	43.84	40.86	40.56

	Females			Males		
	A_{kj}=1 Further educ.	A_{kj}=2 Youth training	A_{kj}=3 Direct entry to labour market	A_{kj}=1 Further educ.	A_{kj}=2 Youth training	A_{kj}=3 Direct entry to labour market
Household composition						
Both parents in h'hold %						
Father only present %	1.88	2.57	2.77	2.29	2.88	3.48
Mother only present %	11.52	11.40	12.49	9.57	9.84	11.88
No parent in household %	1.20	4.73	7.08	0.85	2.23	3.79
No. of siblings in h'hold	1.266	1.280	1.255	1.236	1.263	1.235
No. of other persons in h'hold	0.113	0.201	0.277	0.094	0.117	0.189
GCSE Qualifications						
5+ GCSEs, 5+ A-C %	58.40	15.36	9.29	60.73	7.70	11.97
5+ GCSEs, 1-4 A-C %	28.69	35.49	37.33	26.23	30.18	32.22
5+ GCSEs, no A-C %	8.36	17.81	23.13	8.71	26.90	20.92
1-4 GCSEs %	3.56	17.85	18.73	3.30	22.13	18.83
No GCSEs %	0.99	13.49	11.53	1.03	13.08	16.05
Persistent truancy %	6.66	21.02	28.90	5.25	18.29	25.30
Positive attitudes to schooling. %	41.23	29.87	26.09	41.64	29.16	25.37
Negative attitudes to schooling. %	1.56	6.28	7.35	1.60	6.79	9.30
Participation in work experience scheme %	73.76	76.03	73.86	66.57	71.70	70.90
Type of school attended						
Comprehensive %	85.36	96.06	93.39	81.43	95.02	93.29
Grammar %	3.85	0.36	0.85	4.09	0.58	1.15
Independent %	8.08	0.53	1.14	12.03	0.58	0.85
Other %	2.71	3.05	4.63	2.45	3.82	4.71

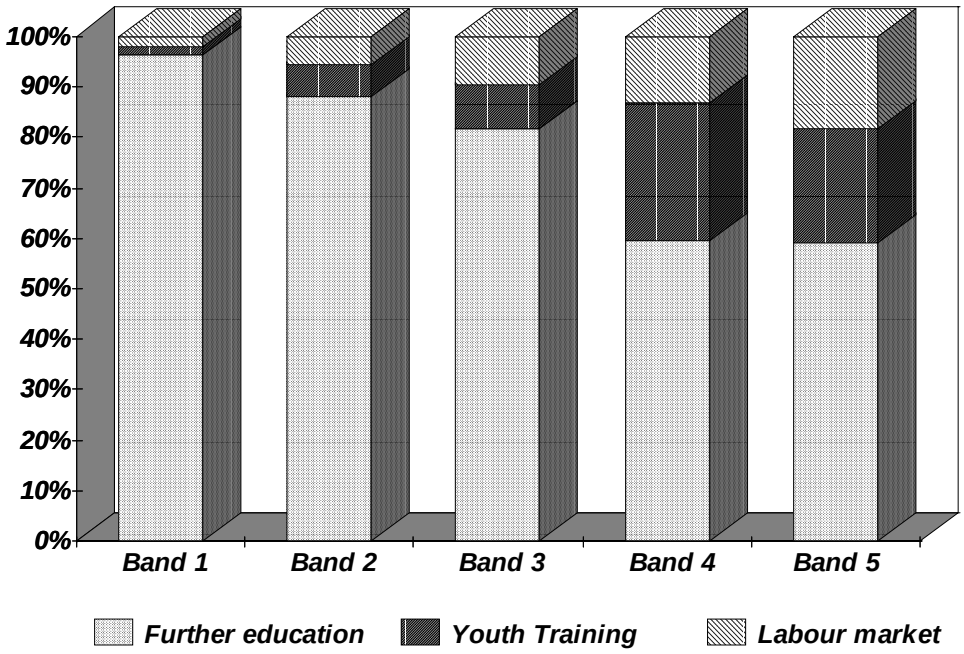
	Females			Males		
	A_{kj}=1 Further educ.	**A_{kj}=2 Youth training**	**A_{kj}=3 Direct entry to labour market**	**A_{kj}=1 Further educ.**	**A_{kj}=2 Youth training**	**A_{kj}=3 Direct entry to labour market**
Local labour market variables						
Unemployment rate	8.338	9.556	8.067	8.184	9.253	8.181
Annual change in unemployment rate	1.196	1.060	1.129	1.205	1.068	1.138
Employment composition	49.55	48.87	49.55	25.89	23.86	25.06
Relative lifetime earnings - professional/intermediate	1.486	1.487	1.478	1.423	1.394	1.409
Relative lifetime earnings - intermediate/manual	1.132	1.105	1.123	0.995	0.985	0.992

Figure 1

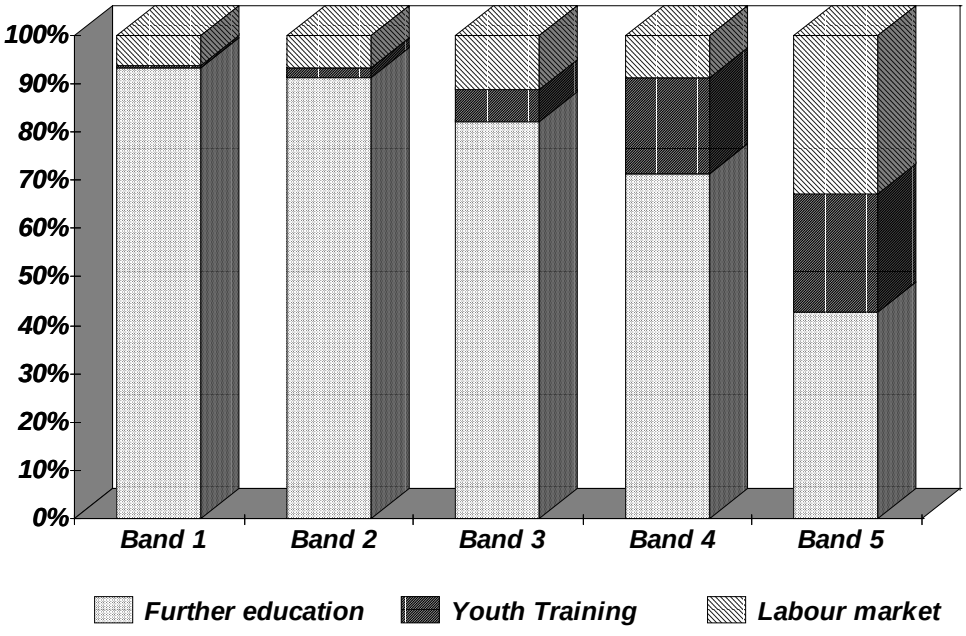

Males: White
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Band 1
Band 2
Band 3
Band 4
Band 5
Further education
Youth Training
Labour market


Males: Afro-Carribean
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Band 1
Band 2
Band 3
Band 4
Band 5
Further education
Youth Training
Labour market

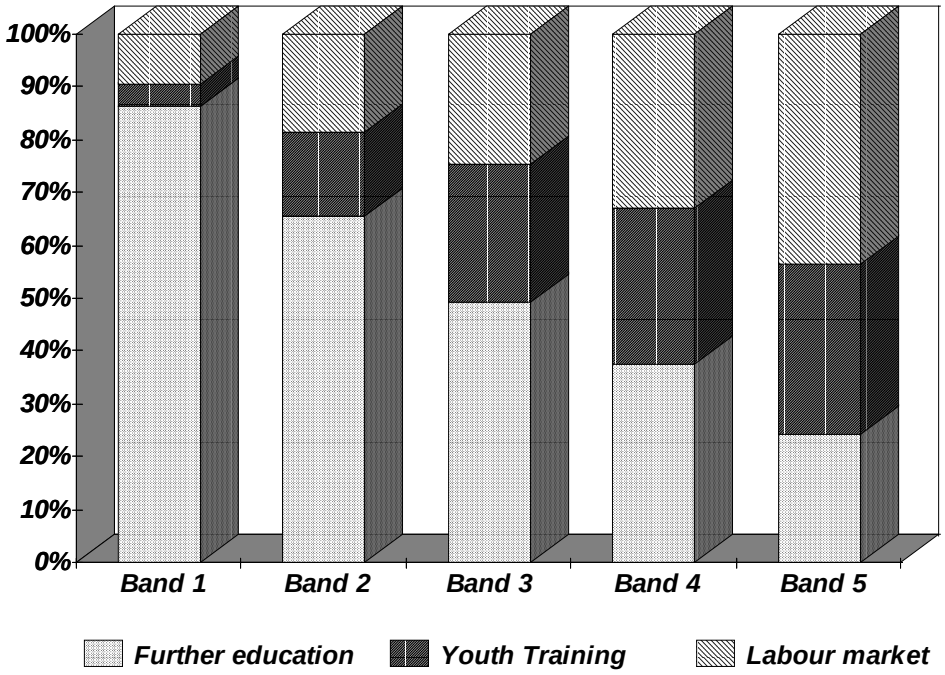
Males: Indian/Other Asian



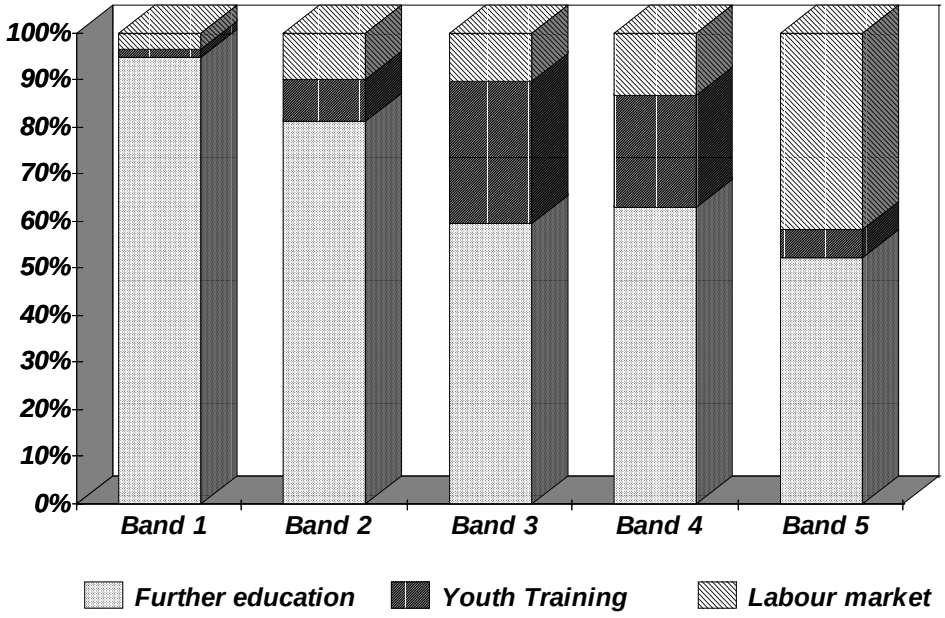
Males: Pakistani/Bangladeshi



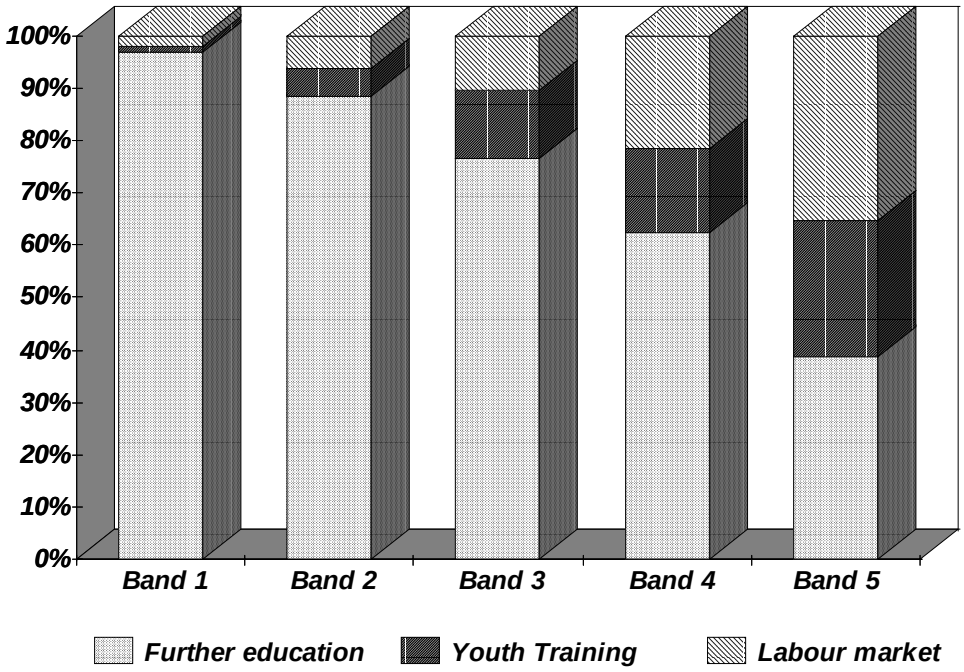
Females: White



Females: Afro-Carribean



Females: Indian/Other Asian



Females: Pakistani/Bangaldeshi

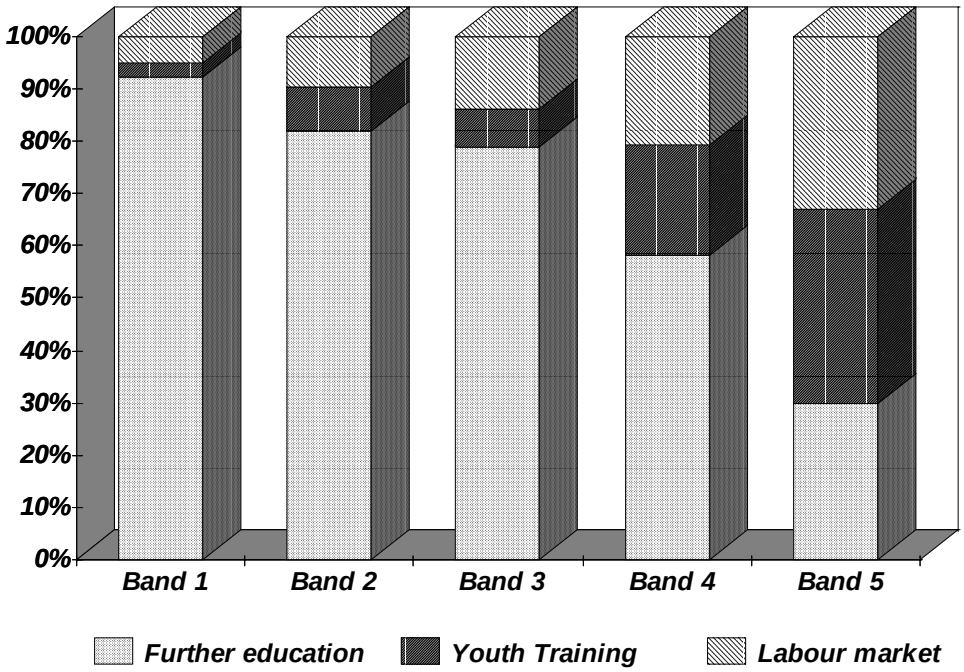
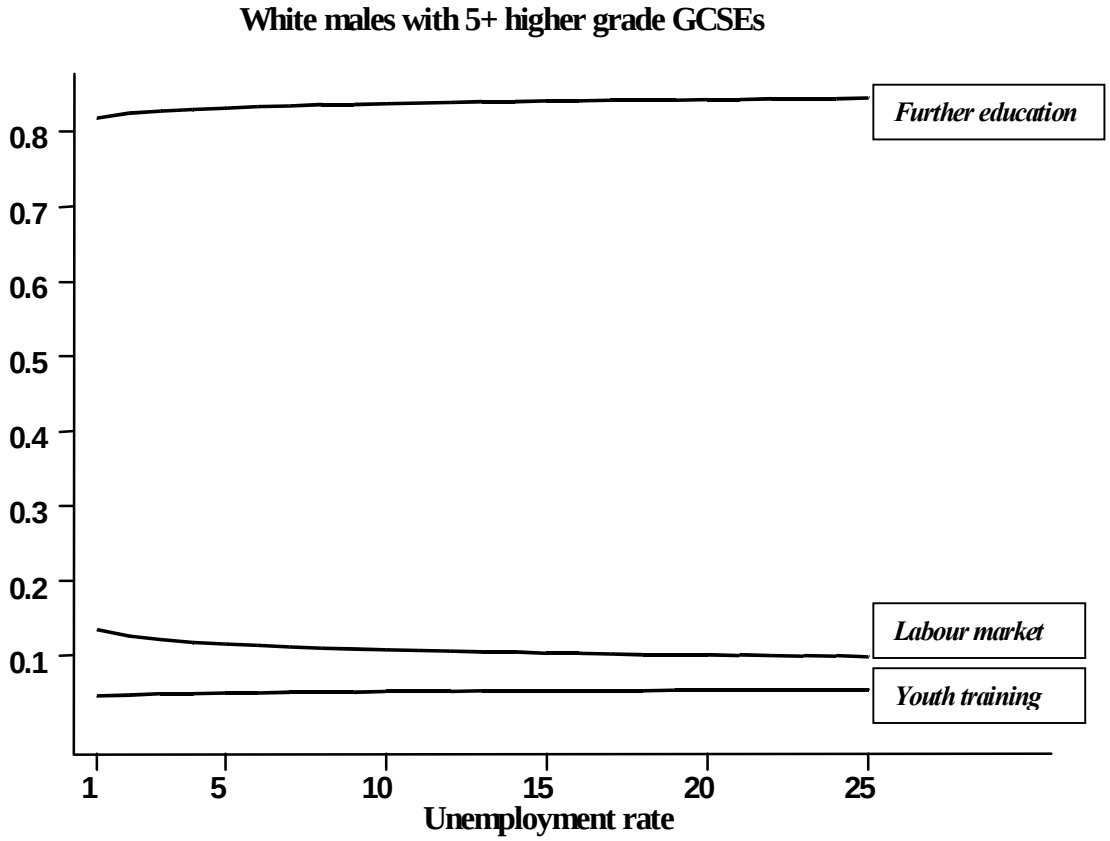


Figure 2


White males with 5+ higher grade GCSEs
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Further education
Labour market
Youth training
1
5
10
15
20
25
Unemployment rate

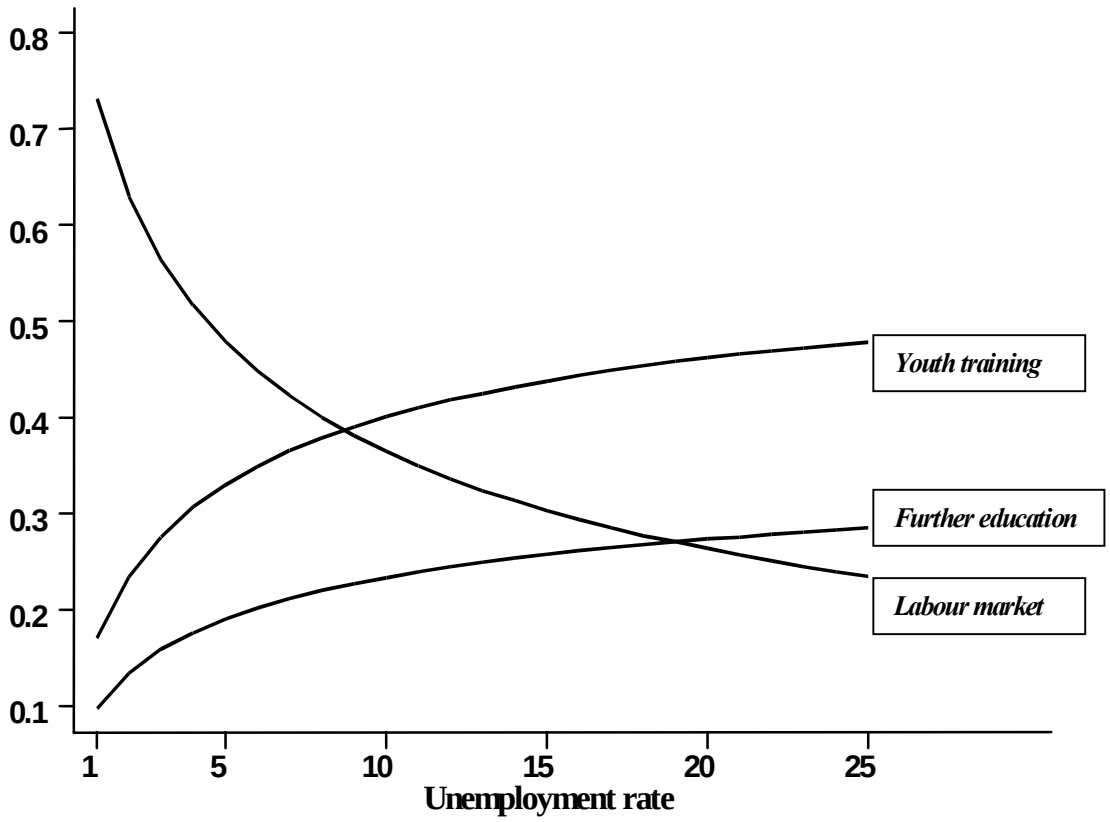
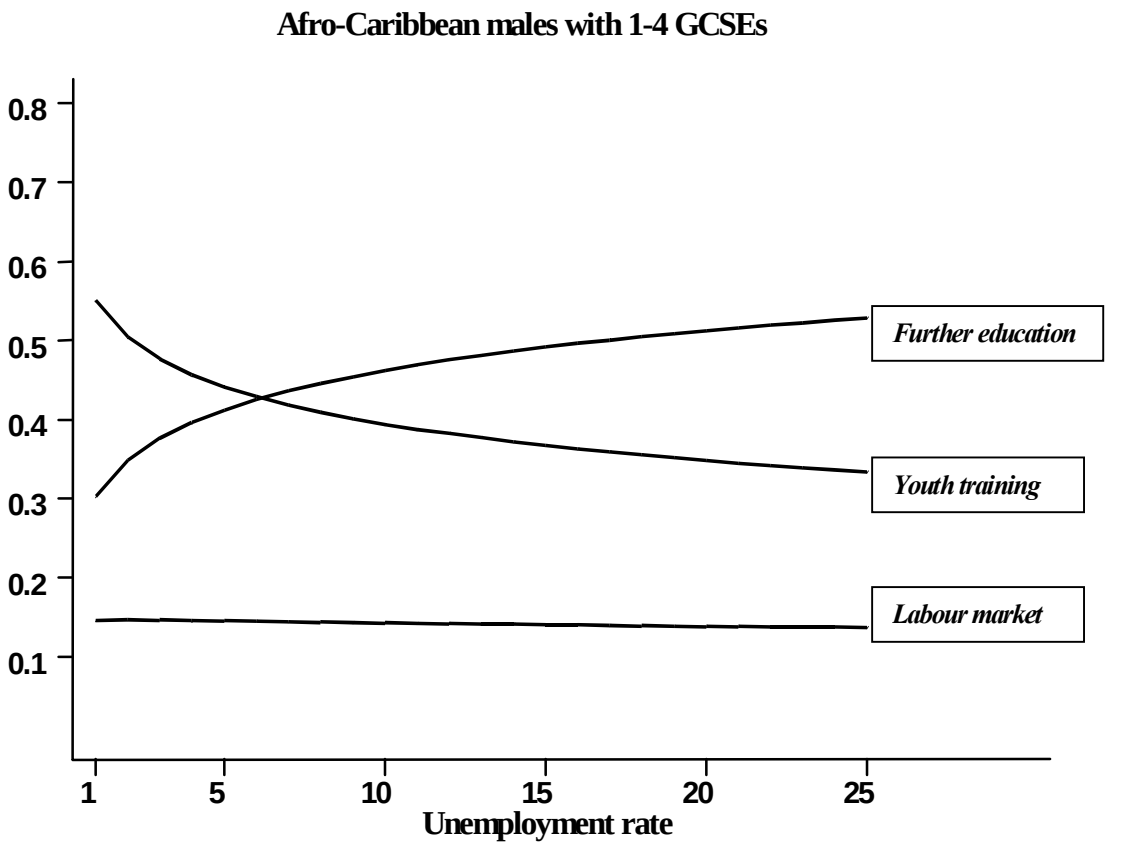

White males with 1-4 GCSEs
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Youth training
Further education
Labour market
1
5
10
15
20
25
Unemployment rate

Figure 3


Afro-Caribbean males with 1-4 GCSEs
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Further education
Youth training
Labour market
1
5
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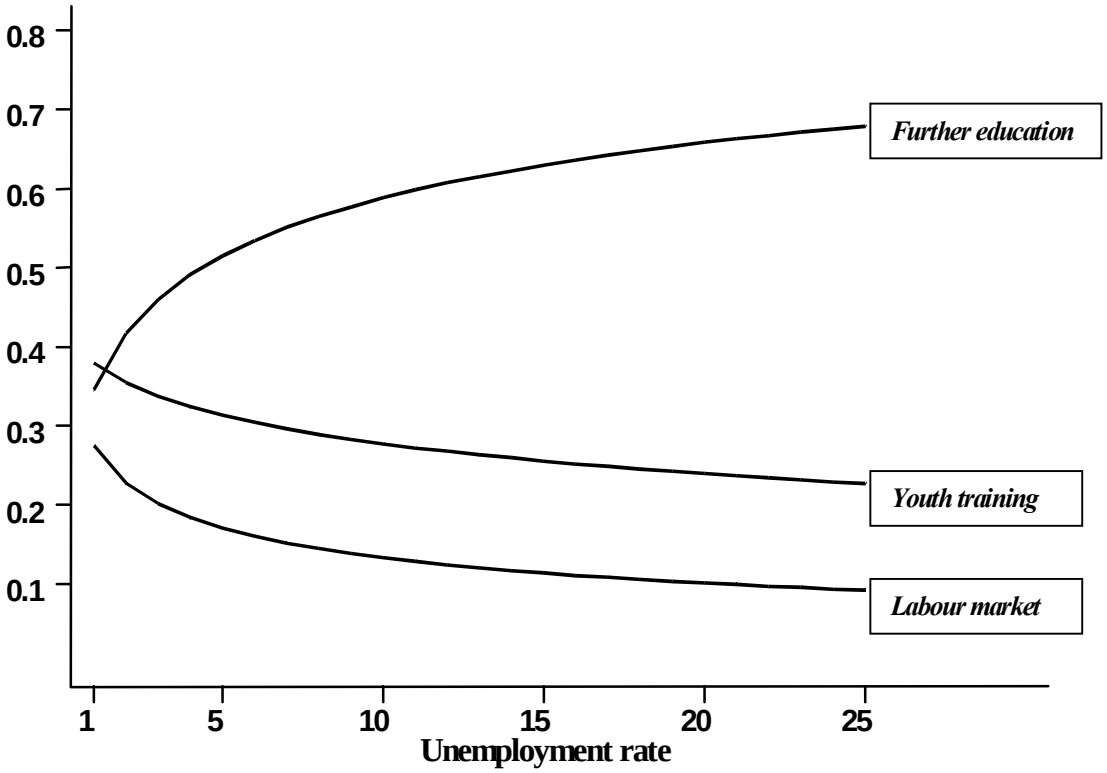
15
20
25
Unemployment rate


Indian/other Asian males with 1-4 GCSEs
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Further education
Youth training
Labour market
1
5
10
15
20
25
Unemployment rate

Pakistani/Bangladeshi males with 1-4 GCSEs